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Discovering new ways in the World of Geriatrics

5 to 7 October 2016, **Lisbon, Portugal**

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Oral presentations

Area: Frailty and geriatric syndromes

O-01
Quantitative calcaneal ultrasonometry: normative data and age-related changes for stiffness index in the Italian population

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Objectives: Quantitative ultrasound (QUS) is a reliable technique to evaluate skeletal status and estimate fracture risk. The aims of this study were to generate QUS normative data for the Italian population (Lunar Achilles Express-II), and to evaluate QUS usefulness in defining osteoporosis prevalence.
Methods: This is an ongoing, cross-sectional study undertaken in nine Regions from the North, Centre and South of Italy, in subjects aged ≥20 years. The recruitment was made by general practitioners and pharmacists. The QUS parameter Stiffness Index (SI) was measured. T-scores and Z-scores were calculated using manufacturers' software. We studied age-dependent changes in SI, and proportions of subjects presenting with T-score < –2.5.
Results: We enrolled 26,619 subjects (1,084 males). Mean age ± SD was 60 ± 11 years (age range 20–89). Mean value of SI was greater in males compared to females (P < .001). In the overall population, the mean SI decreased progressively with age by 30,5% (31,6% in females). An inverse correlation between SI and age was found (r = –0.373, P < .001) in the overall population, as well as in subgroups defined by gender. The 16% of females and 12% of males presented with a T-score < –2.5. The respective figures in subjects aged >50 years were 19% and 14%. The prevalence of T-score < –2.5 peaked in the sixth decade in females and in the seventh decade in males.
Conclusions: The results of this ongoing study may serve as reference normative data for the Italian population. These results confirm the usefulness of QUS measurements as a screening tool for detecting individuals at risk of fractures.

O-02
Risk of cardiovascular disease morbidity and mortality in frail and pre-frail elderly people: results from a meta-analysis

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Objectives: Frailty is common in the elderly, but its risk factor status for cardiovascular disease (CVD) morbidity remains debated. We aimed to perform a systematic review and meta-analysis summarizing the evidence of frailty and pre-frailty as possible risk factors for CVD in the elderly.
Methods: A major databases search was conducted for studies comparing data about CVD prevalence or incidence between frail or pre-frail vs. robust, or frail vs. pre-frail/robust. Data were extracted by 2 independent reviewers for a random-effects meta-analyses, calculating odds ratios (ORs) ±95% confidence intervals (CIs) for CVD prevalence from cross-sectional studies, or pooling the most adjusted hazard ratios (HRs) for time until CVD in longitudinal studies (obtained from study authors according to a pre-defined list of covariates). The primary outcomes were the prevalence and incidence of CVD by frailty status. As secondary outcomes, specific CVDs and CV mortality were considered.
Results: Out of 8,953 hits, 19 studies (n = 31,734, age = 75.4 ± 6.5 years: frail = 4,536, pre-frail = 7,529, robust = 6,964) were meta-analyzed. Compared to robust participants, frail (studies = 11; OR = 3.30; 95% CI = 2.35–4.63, I2 = 78%) and pre-frail participants (studies = 11; OR = 1.56; 95%CI = 1.27–1.92, I2 = 72%) had a significant higher prevalence of CVD in cross-sectional studies. Similarly, frail had higher CVD risk than pre-frail/robust participants (studies = 17; OR = 2.04; 95% CI = 1.52–2.75, I2 = 89%). After a median follow-up of 4.4 (range = 1–11.4) years, five studies reported a shorter time to CVD onset for frailty (HR = 1.64; 95%CI: 1.18–2.26; I2 = 55%) and pre-frailty (HR = 1.29; 95%CI = 1.06–1.56; I2 = 58%) as well as time to CVD mortality compared to robustness.
Conclusions: Frailty and pre-frailty constitute addressable risk factor for CVD in older people.

O-03
Frailty associates with accumulation of geriatric syndromes and progresses with walking unsteadiness

K. Kozaki, M. Tanaka, H. Koshiba, K. Nagai. *Department of Geriatric Medicine, Kyorin University School of Medicine, Tokyo, Japan*

Objectives: Edmonton Frail Scale (EFS, Age Ageing 2006) is a well-balanced frail measure, which is composed of 9 domains, 17 points in total. In this study, we evaluated EFS in the outpatients to the memory clinic to identify the characteristics of the frailty and find out the progression factor of frailty.
Methods: Subjects were outpatients to the memory clinic of Kyorin University Hospital (n = 332, average age 80.5 y/o). We evaluated EFS, presence of geriatric syndromes (14 items), physical&functional measures such as handgrip strength, gait speed and balance ability, MMSE, and others.
Results: The average EFS point was 4.0 ± 2.3 (Mean ± SD). EFS paralleled positively with age (r = 0.20), timed up&go (r = 0.49), and negatively with MMSE (r = –0.26), handgrip strength (r = –0.21), gait speed (r = –0.38). When we graded the EFS 5 levels (I to V), the prevalence was I 56%, II 29%, III 12%, IV and V 3%. In the grade analysis, we found that the number of geriatric syndromes increased stepwise with the EFS grade. In the longitudinal study, 32 patients (54%), whose initial EFS grade was I or II, were found to have made a progress in the EFS grade. Between the EFS progressed (PR) and not progressed (NP) group, tandem gait was poorer in the PR group (3.2 ± 3.0 vs 5.5 ± 3.4 steps), which was statistically significant by the logistic regression analysis after adjusting for other gait parameters (odds ratio = 0.66).

Conclusion: Geriatric syndrome accumulates with the progression of frailty. Body unsteadiness appears a significant determinant for predicting the progression of frailty.

O-04
Impact of dysphagia and undernutrition on mortality and hospitalization in community-dwelling disabled older people

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Objectives: This study aimed to examine whether the presence of malnutrition or dysphagia is an independent predictor of mortality or hospitalization among community-dwelling disabled older people.
Methods: A 2 years prospective study of 1,142 community-dwelling disabled older people (81.2 ± 8.7 years) from KANAGAWA-AICHI Disabled Elderly Cohort (KAIDEC) study was conducted. Data included the participants' demographic characteristics, nutritional status (Mini Nutritional Assessment short-form: MNA-SF) and dysphagia severity (Dysphagia Severity scale: DSS). Kaplan-Meier method and multivariate Cox proportional hazards models were used to assess the association between malnutrition or dysphagia and poor outcomes including mortality or hospitalization.
Results: Among the 1,142 participants, 171 dies or 464 were hospitalized during the 2-year follow-up period. Although the malnutrition was associated with mortality and hospitalization, no apparent association was observed between the swallowing difficulty and these events after adjusting for confounding factors.
Conclusion: The results highlight the need to prevent the undernutrition among community-dwelling dependent older people.

O-05
Cognitive impairment and physical frailty in older adults: impact on survival

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Introduction: The presence of both physical frailty and cognitive impairment has been recently proposed as a distinctive entity. We investigated the effect of physical frailty and cognitive impairment on survival among elderly.
Methods: Study participants included 2,251 dementia-free people aged 60+ years enrolled in the Swedish National study on Aging and Care in Kungsholmen, Stockholm. Physical frailty was defined according to Fried's phenotype (weight loss, weakness, exhaustion, slowness, low physical activity). Cognitive Impairment Non Dementia (CIND) was defined on the basis of an extensive neuropsychological battery. We investigated the impact of CIND and physical frailty alone and the combination of these two conditions on survival. Survival was assessed in terms of mortality rate at 5 and 10 years of follow-up (Cox models) and differences in median age at death (Laplace regression).
Results: The strongest association with short and long survival was found among people with both CIND and physical frailty. Those people, after 5 years, had three times higher mortality rate (HR: 3.1; 95% CI: 1.8–5.4) and 4.2 years shorter life compared to robust subjects (neither CIND nor physical frail). People with only physical fraility but cognitively intact had an HR of 1.8 (95% CI: 1.1–2.8) as compared with robust ones. Isolated CIND was not associated with mortality. After 10 years, similar results were observed, although attenuated (for CIND+ physical frailty: HR: 2.1; 95% CI: 1.3–3.2).
Conclusion: Subjects with both physical frailty and cognitive impairment represent a special frail and complex population that deserves ad hoc assessments and care.

O-06
Circumstances and consequences of falls in pre-frail community-dwelling older adults

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Introduction: Pre-frail older adults appear to be at risk for falls and injuries. The aim of this study was to describe the circumstances and consequences of occurred falls the first year of a fall prevention study and to describe activities according to the International classification of functioning, disability and health (ICF) at the time of the falls.
Methods: Fall frequencies were self-reported via a calendar and were followed up by a standardized telephone interview. Activities in the fall situation were classified according to ICF. Of the pre-frail community-dwelling older adults ≥75 yrs (n = 175, M = 83 yrs) 74 individuals (42%), 50 females and 24 males, fell during their first year in the study, M = 1.1 falls/y/person.
Results: Falls were most common indoors at home (bedroom and living room). Perceived causes of the falls were e.g. stumbling, balance deficits, and inattention. Injuries were reported in 82 (44.3%) of the 185 fall incidents where seven (3.8%) resulted in fractures. Six-teen falls (8.7%) required outpatient care and seven falls (3.8%) required hospital stay. The falls mostly occurred in connection with the ICF-classified activities "Moving around within the home" and "Standing" (rising up from sitting). There was no difference in type of activity in the fall situations resulting in an injury or not.
Conclusion: Injuries were most common while moving around within the home or rising to an upright position. This indicates that in fall prevention special attention on those activities might be of importance in pre-frail older adults

O-07
Relationship between the nutritional status of institutionalized elderly people with the risk of falling

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Introduction: The elderly represent group that is vulnerable numerous changes that can compromise nutritional status, which is likely to worsen when admitted at the hospital. The risk of falls is one of the consequences that frequently occur when elder people, with deterioration of nutritional status, are hospitalized. The aim of this study is to evaluate the relationship between nutritional status and the risk of falls in elderly admitted in general medicine service of a hospital located in Lisbon.
Methods: Nutritional Status was assessed by the application of the Mini Nutritional Assessment (MNA®), body mass index (BMI), arm circumference (AC), calf circumference (CC), triceps skinfold (TSF), arm muscle area (AMA); albumin, hemoglobin, hematocrit, lymphocytes and C-reactive protein (CRP). The risk of falling by Morse Scale.
Results: A total of 57 elderly people admitted in general medicine service were evaluated. The risk of falls only showed a negative correlation with MNA® ($r_s = -0.285$, $p = 0.042$).
Conclusions: The MNA® identified 63.1% of patients with malnutrition installed and/or risk of malnutrition, emphasizing the importance of evaluation of nutritional risk in this age group in hospital. This instrument allowed to relate malnutrition with the risk of falls, concluding that patients classified with normal nutritional status by MNA® (n = 21) had a lower risk of falling representing 76.16%. Protocols for nutritional risk identification and nutritional status evaluation must be created, so that the dietitian can step in appropriately and in a timely manner, reducing the risk of complications associated with hospitalized elderly, such as falls.

Area: Diabetes and nutrition

O-08
The importance of HDL cholesterol levels in diabetic individuals

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Introduction: The risk factors for ischemic heart disease (IHD) or cerebrovascular accident (CVA) in elderly diabetic individuals with type IIb dyslipidemia are not fully known. Therefore, we investigated the relationship between lipid levels and IHD and CVA in diabetic individuals with type IIb dyslipidemia.
Methods: The Japan Cholesterol and Diabetes Mellitus Study is a prospective cohort study of 4,014 type 2 diabetic patients (1,936 women; age 67.4 ± 9.5 years) with 9.2 years of follow-up. The primary end points were the onset of IHD or CVA. Lipid and glucose levels and other factors were investigated in relation to the occurrence of IHD or CVA. 483 subjects were included in the group of patients with type IIb dyslipidemia.
Results: 218 cases of IHD and 138 cases of CVA occurred over 9.2 years. In this study, we focused on type IIb dyslipidemia. 483 diabetic participants with type IIb dyslipidemia were divided into those who were aged <65 years, 65–74 years, and ≧75 years (n = 175, 202, and 106, respectively). HDL-cholesterol (HDL-C) was significantly associated with risk of CVA in diabetic individuals with type IIb dyslipidemia who were aged <65 years. Risk factors for cardiovascular events appear to change with advancing age.
Conclusions: HDL-C was an important risk factor for CVA in diabetic individuals with type IIb dyslipidemia who were aged <65 years. The importance of HDL-C is different for each age-group. This result is important for developing individualized strategies to prevent atherosclerotic disease.

O-09
Nutritional follow-up in malnourished geriatric patients after discharge: does the follow-up method influence the number of readmissions to hospital?

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Introduction: Disease-related malnutrition affects older individuals negatively after discharge from hospital. Objective Comparison of the effect of two nutritional follow-up intervention methods (home visit or telephone consultation) with no follow-up, on readmissions to hospital 30 days after discharge.
Material and methods: The study is a randomized clinical trial. Inclusion: Malnourishment or risk of malnutrition, age 75+ years, home-dwelling, and living alone. Exclusion: Terminal illness, cognitive impairment, and nursing home residency. At discharge the participants were randomized to "home visit" (HV), "telephone consultation" (TG), or "control group" (CG). The intervention was individualized nutritional counseling one, two, and four weeks after discharge. The risk of readmission was analysed as intention-to-treat (ITT) and as per-protocol (PP) using the Cox proportional hazard regression model.
Results: 208 patients were randomized and included in the ITT-analysis (HV = 73, TG = 68, CG = 67). HV had a lower risk of readmission to hospital compared to CG (HR = 0.4; 95% CI:0.2–0.9, p = 0.03). No difference was detected between TG and CG (HR = 0.6, 95% CI:0.3–1.3, p = 0.18). 166 patients completed the full intervention and were included in the PP-analysis (HV = 52, TG = 51, CG = 54). HV had a lower risk of readmission to hospital compared to CG (HR = 0.1; 95% CI:0.03–0.6, p < 0.01). TG also had a lower risk of readmission compared to CG (HR = 0.2, 95% CI:0.07–0.8, p = 0.02).
Conclusion: Individualized nutritional follow-up performed as home visits reduces readmission to hospital 30 days after discharge in malnourished geriatric patients who live alone. Nutritional counselling given over the telephone may reduce readmission to hospital, but only when patients receive the full intervention programme.

O-010
Specialized oral nutritional supplement (ONS) improves handgrip strength in hospitalized, malnourished older patients with cardiovascular and pulmonary disease

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Objectives: ONS has been used to treat malnutrition and improve clinical outcomes in malnourished patients. Poor handgrip strength (HGS) is associated with increased risk of mortality, disability and other health complications. This study examined the effect of an ONS containing high protein and beta-hydroxy-beta-methylbutyrate (HP-HMB) on HGS and its relationship to nutritional status in hospitalized, older patients with malnutrition.
Methods: We enrolled older (≥65 years), malnourished (Subjective Global Assessment [SGA] class B/C) patients hospitalized for congestive heart failure, acute myocardial infarction, pneumonia, or chronic obstructive pulmonary disease in a randomized, placebo-controlled, double-blind trial (NOURISH study [1]). During hospitalization and until 90 days after discharge, patients received standard-of-care plus HP-HMB (n = 328) or a placebo supplement (n = 324) 2/day. HGS was evaluated by dynamometer at baseline, hospital discharge, day (d) 30, d60, and d90 post-discharge.
Results: Post hoc, repeated measures analysis of data at discharge, d30, d60, and d90 showed significantly higher HGS in the HP-HMB vs. the placebo group (p = 0.043). At d90, there was a significant positive association between HGS and nutritional status (SGA). 49% of patients with increased HGS from discharge (change >0) had improved nutritional status over 31% with unchanged or decreased HGS (p = 0.003).
Conclusions: A specialized high protein/HMB containing ONS provided during hospitalization and up to 90 days post-discharge improves HGS in malnourished older patients following cardiovascular and pulmonary events.

References

[1] Deutz *et al. Clin Nutr.* 2016;35(1):18–26.

O-011
Near visual activity loss and major eye diseases in relation to diabetes in older people. The 3 City study

M. Danet-Lamasou[1], K. Pérès[2,3], F. Matharan[2,3], C. Delcourt[2,3], C. Berr[4,5], I. Carrière[5,6], J-F. Dartigues[3,4], I. Bourdel-Marchasson[1,6]. *[1]CHU of Bordeaux, Clinical Gerontology, F-33604 Pessac Cedex, [2]ISPED, INSERM U897-Epidemiologie-Biostatistique, [3]University of Bordeaux, ISPED, INSERM U897-Epidemiologie-Biostatistique, F-33000 Bordeaux, [4]Inserm, U1061, [5]University of Montpellier, Montpellier, [6]CNRS, RMSB, UMR 5536, F-33000 Bordeaux, France*

Introduction: Prevalence of diabetes (DM) and visual impairment increase with ageing but few is known in the oldest. We aimed to describe near visual impairment in relation with DM in people older than 65 y.
Methods: The study included 8,412 subjects of the 3C-study. Glucose metabolism status (DM, undiagnosed DM, Impaired Fasting Glucose (IFG), others) was determined according to self-reported diabetes, antidiabetic treatment and fasting blood glucose determination. Near visual acuity was measured with the Parinaud scale (Jaeger-like reading test) at baseline, 2, 4 and 7 years after baseline. Cross-sectional and longitudinal analyses investigated diabetes and near vision loss association.

Results: At baseline near vision loss was present in 17.4% of subjects with DM, 21.4% of those with undiagnosed DM, 17.6% with IFG and 12.6% in others. In cross-sectional analyses controlled for socio-economic, lifestyle and comorbidity variables (fully adjusted model), the risk of near vision loss was higher in subjects with diagnosed DM and with IFG (OR = 1.38, 95% CI 1.08–1.76, p = 0.01 and OR = 1.50, 95% CI 1.07–2.11, p = 0.02) compared to others. DM was also significantly associated with a higher risk of incidence of near vision loss when controlling for socio-economic factors (RR = 1.29; 95% CI 1.05–1.56, p = 0.02) but not in the fully adjusted model (RR = 1.21; 95% CI 0.98–1.49, p = 0.08). In a sub-sample of subjects with diagnosis of major eye diseases recorded at the 7-year follow-up visit, people with DM presented more often retinopathy (p < 0.001) and near uncorrected refractive errors than their counterparts (p = 0.01).
Conclusion: Association between DM and near vision impairment is confirmed in the older people. Ophthalmological care has to be maintained or reinforced in the oldest people with diabetes.

O-012
Malnutrition and hospital healthcare costs: The FRADEA Study

M. Martínez-Reig[1], I. Aranda-Reneo[2], L.M. Peña-Longobardo[2], J. Oliva-Moreno[2], N. Barcons-Vilardell[3], P. Abizanda[1]. *[1]Geriatrics Department of the Complejo Hospitalario Universitario de Albacete, Albacete, [2]Department of Economic Analysis and Finance, Universidad de Castilla-La Mancha, Toledo, [3]Medical Affairs Department. Nestlé Health Science, Barcelona, Spain*

Objectives: To analyze the relationship between nutritional markers and hospital healthcare costs.
Methods: Population-based prospective cohort study. 827 participants aged 70 years or older from Albacete city (Spain), stratified by age and sex. Body mass index (BMI), biochemical parameters (total cholesterol, total proteins and albumin), and the Mini Nutritional Assessment®-Short Form (MNA®-SF) were collected at baseline (2007–2009). Follow-up visits were conducted in 2012–2013. Generalized Linear Models adjusted for age, sex, comorbidity, disability, and polypharmacy, were constructed to estimate the impact of malnutrition on hospital healthcare costs per person and year of follow-up (€).
Results: Mean age 78 (Range 70–102), 492 women (59.5%). Mean follow-up 1,044 days (Range 115–2007). Mean annual total healthcare cost per person was 1,922€. The cost associated to hospitalization was 1,292€/year of follow-up, associated to emergency visits 83€/year, and associated with specialist visits 544€/year. Lower MNA®-SF scores (p < 0.001), lower albumin values (p < 0.001) and lower cholesterol levels (p < 0.05) were associated with higher hospital costs. Older adults with malnutrition or at nutritional risk (MNA®-SF < 12) presented a mean adjusted healthcare cost 714€/year (95%CI 155–1,274€/year; p < 0.05) higher with respect to those with normonutrition. Those with albumin < 4.0 gr/dL presented a mean adjusted healthcare cost 1,159€/year (95%CI 407–1,910 €/year; p < 0.05) higher. No relationship was found with cholesterol, proteins and BMI.
Conclusions: Worse nutritional status measured with the MNA®-SF, and low albumin levels are associated with higher hospital healthcare costs in older adults.

O-013
The efficacy on the prevention of cardiovascular attack of the guidelines for elderly diabetics: lessons from 9.2 years study of 4014 diabetic patients including 1016 elderly older than 75 y.o.

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Background: Elderly diabetic individuals are drastically increasing all over the world, and the guideline for them were porposed by major diabetic academic societies such as IDF (International Diabetes Federation) and JDS (Japan Diabetes Society). However, those are recently decided, and the efficacy has not been determined. Further, elderly's risk of stroke is not well-known.
Methods: We performed a prospective cohort study (Japan Cholesterol and Diabetes Mellitus Study). A total of 4,014 type 2 diabetics without previous IHD or CVA (1,936 women; 30–80 years, 67.4 ± 9.5 years, ≥75 years, n = 1,016) were recruited from 40 Japanese hospitals in 2004. Lipids, glucose and other risk factors were investigated annually.
Results: Two hundred eighteen IHD cases and 138 CVAs (7.8 and 5.7/1,000 people/year) occurred over 9.2 years. 134 patients died. Hemoglobin A1C(HbA1C) on registration was correlated with IHD in patients <75 years (p < 0.05), LDL-C in patients <65 and >75 years (HR:1.028, 1.014), and HDL-C in all patients >65 years. Contrastly, fasting plasma glucose (FPG) and HDL-C were correlated with CVA in all generations. HbA1C was correlated with CVA in patients <75 years. For severe nephropathy and proliferative retinopathy, FPG and HDL-C were risk for patients >75 years. Guidelines by IDF was applied. The patient controlled of their blood glucose within IDF guideline significantly decreased IHD between 65 and 75 years and stroke older than 65 years, however there are no evident guideline's effect of for IHD older than 75 years. The results on JDS is almost same as IDF.
Conclusion: IHD and CVA in late elderly diabetics were predicted by LDL-C or HDL-C. HDL-C also affects microangiopathies in elderly. These age-dependent differences in risk and the guideline by IDF and/or JDS are important for developing individualized strategies to prevent diabetic complications.
Trial Registration: UMIN-CTR:UMIN00000516

O-014
Exploring psychosocial factors associated with nutritional status among elderly living in nursing homes: Preliminary results from the PEN-3S project

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Introduction: A comprehensive assessment of nutritional status comprises psychosocial dimensions and these are essential for the promotion and maintenance of healthy aging. Understanding the interactions between nutritional status and psychosocial factors can support the development of health protection policies and health care equity in this age group.
Methods: This nationally representative cross-sectional study collected data through face-to-face structured interviews and anthropometric measurements. Nursing homes were randomly selected. All older adults (65 years and over) without severe dementia and not bedridden were interviewed. Nutritional status was assessed with the Mini Nutritional Assessment (MNA®), depression with the Geriatric Depression Scale 15, instrumental activities (functionality) with the Lawton Scale and loneliness through the UCLA Loneliness Scale.
Results: 654 individuals (mean age 84.3 ± 6.9 years) have already taken part in the study (60% of the target sample size). Undernutrition is present in 5.6% (95% CI: 3.9–7.4%) and 38.9% (95% CI: 35.2–42.7%) are at risk of undernutrition. Nutritional status is associated with depression, loneliness perception and functionality (p-values <0.001). In multiple linear regression analysis, lower functionality and depression (but not loneliness) are predictors of worse nutritional status, adjusting for age (β = 0.367 and 0.272 respectively, R2 = 0.261, p-values <0.001).

Key conclusions: Preliminary results show a high percentage of elderly living in nursing homes at risk of undernutrition and this is associated with lower functionality and depression. This study highlights the importance of promoting autonomy and investing in mental health promotion, as well as in supporting an adequate nutrition in nursing home residents.

Area: Cardio-geriatrics

O-015
Stop vasodepressor drugs in reflex syncope: a randomized controlled trial

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Objectives: Most elderly patients affected by reflex vasodepressor syncope take one or more hypotensive drugs. The role of these drugs in causing syncope has not yet been established. The objective of the study is to investigate the clinical effects of discontinuing vasoactive drugs in patients affected by vasodepressor reflex syncope.
Methods: Randomized, parallel, prospective, safety/efficacy study conducted from January 2014 to December 2015 in 4 general hospitals. Of 328 initially screened participants, 58 patients (mean [SD] age 74 ± 11 years) affected by vasodepressor reflex syncope, which was reproduced by tilt testing (#54) or carotid sinus massage (#4), were enrolled (247 were excluded by inclusion/exclusion criteria; 23 declined to participate).
Results: Of the 58 patients enrolled, 32 were randomized to stop/reduce and 26 to continue vasoactive drugs therapy. Of these, 55 participants completed the trial. After 1 month, systolic blood pressure was significantly higher in the "stop/reduce" group than in the "continue" group, in both supine (141 ± 13 mmHg vs 128 ± 14 mmHg; p = 0.004) and standing (133 ± 13 mmHg vs 122 ± 15 mmHg; p = 0.02) positions. During a mean follow-up of 9 ± 7 months, the primary combined end-point occurred in 6 "stop/reduce" patients (19%): 2 had syncope, 3 pre-syncope and 1 heart failure. Conversely, it occurred in 12 "continue" patients (50%): 9 had syncope, 2 pre-syncope and 1 cerebral transient ischemic attack. The hazard ratio was 0.37 (95% CI 0.14–0.95).
Conclusion: Recurrence of syncope and pre-syncope can be safely prevented by discontinuing/reducing vasoactive therapy in most elderly patients affected by reflex vasodepressor syncope.

O-016
Recommendations for non-pharmacological interventions for chronic heart failure in older patients. Applying the GRADE approach

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Introduction: Explicit and transparent recommendations were developed for non-pharmacological interventions for chronic heart failure in older adults based on the Grading of Recommendations, Assessment, Development and Evaluation (GRADE) approach to rating the quality of evidence and the strength of recommendations.
Methods: A multidisciplinary panel was constituted comprising geriatricians, nurses and a clinical epidemiologist. The evidence was compiled from a systematic search of reviews published from 2010 to October 2015. A Delphi method was used to establish critical and important outcomes. The GRADE approach was used to rate the evidence and to formulate recommendations.
Results: The critical outcomes, determined through the Delphi method, were all-cause mortality, all-cause hospital admission/rehospitalization and health-related quality of life. The most frequent non-pharmacological intervention was exercise-based cardiac rehabilitation followed by telemonitoring. Based on moderate quality evidence, the panel formulated a strong recommendation for exercise-based cardiac rehabilitation to reduce hospitalization (15 RCTs; 1,328 participants; RR = 0.75, 95% CI 0.62–0.92) and a weak recommendation (low quality evidence) against exercise-based cardiac rehabilitation to reduce mortality (24 RCTs; 1,871 participants; RR = 0.93, 95% CI 0.69–1.27). A strong recommendation (moderate quality evidence) was generated for the use of telemonitoring to reduce mortality (17 RCTs; 3,740 participants; RR = 0.80, 95% CI 0.68–0.94) and a weak recommendation (low quality evidence) against this intervention to reduce hospitalization (13 RCTs; 3,332 participants; RR = 0.95, 95% CI 0.89–1.01).
Conclusions: The panel developed the most recent, systematic and transparent recommendations for non-pharmacological interventions for chronic heart failure.
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O-017
Delayed BP recovery on standing is associated with unexplained and injurious falls

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Introduction: Cardiovascular disorders are recognised as important modifiable risk factors for falls. However the association between falls and orthostatic hypotension (OH) remains ambivalent, particularly because of poor measurement methods of previous studies. Our goal was to determine for the first time to what extent OH (and variants) are risk factors for incident falls, unexplained falls (UF), injurious falls (IF) and syncope using dynamic blood pressure (BP) measurements in a population study.
Methods: Community dwelling adults resident in Ireland aged ≥50 years were recruited to waves 1 and 2 of the Irish Longitudinal Study on Ageing (TILDA). Continuous BP recordings measured during active stands were analysed. Persistent OH and variants (initial OH and impaired orthostatic BP stabilization OH(40)) were defined using dynamic BP measurements. Associations with the number of falls, UF, IF and syncope reported two years later were assessed using negative binomial and modified Poisson regression.
Results: 4,128 participants were studied, mean age 61.5(8.1) years, 52.9% female. OH(40) was associated with increased relative risk of UF (RR:1.51 95%CI:1.02–2.24). Persistent OH was associated with all-cause falls (IRR:1.41 95%CI:1.01–1.97), UF (RR:1.81 95%CI:1.06–3.09), and IF (RR:1.57 95%CI:1.11–2.23) and increases the absolute risk of IF by 5%.
Conclusion: Impairments in orthostatic BP control are clinically relevant independent risk factors for falls, UF, and IF. Impaired BP stabilisation and persistent OH are easily measurable biomarkers and should be considered in the future assessment of falls risk in older adults.

O-018
Survival analysis of older patients with new diagnosis of heart failure hospitalized in an acute care unit

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Introduction: The purpose of this study is to define survival rates and the associated factors since the onset of Heart Failure (HF) and describe demographic, clinical and functional characteristics.
Methods: Observational cohort study. Patients hospitalized with HF diagnosis (incident cases) between January, 2012 and December, 2014. The follow-up period lasted until February, 2016. Variables included: age, sex, cardiovascular risk factors, comorbidity, New York Heart Association functional class (NYHA), functional status, geriatric syndromes, medication, trigger factors, left ventricular ejection function, date of death/last contact date. Statistical analysis: SPSS version 23.0.
Results: N:225, 127(56.4%) died (65.1% with HF exacerbation). 13.3% died during the first hospitalization. 48 months of follow-up. 30-day survival 79.1%, 6 months 66%, 1 year 58.2%, 2 years 43.5%. Characteristics: Average age: 89 (SD 5), women 72%, median Charlson Comorbidity Index 5.7 (IQR 3–7). Risk factors: arterial hypertension 83.1%, anemia 28.9%, atrial fibrillation 33.8%, kidney failure 26.2%, Diabetes Mellitus 23.1%. Geriatric syndromes: double incontinence 25.8%, cognitive impairment 53.8%, immobility 29.3%, polypharmacy 38.1%, Barthel Index<60: 50.4%. KATZ index <2: 33.9%, Preserved ejection fraction 89%. Median length of hospital stay 12 days (IQR 8–21). Cox regression analysis: Age (Hazard Ratio (HR) 1.037; confidence interval 95%(1–1.08), male gender (HR: 1.62; CI: 1.08–2.44), urea levels (HR: 1.004; CI:1–1.007), KATZ index <2 (HR: 2.26; CI:1.49–3.4).
Conclusion: Old patients with new diagnosis of HF had a one-year survival of 58%. Age, male gender, worse functional status and high urea are related to lower survival rates. Acute decompensated HF was the main cause of death.

O-019
Impact of strategy and complete revascularization on prognosis and quality of life in octogenarian patients with non-ST-elevation myocardial infarction

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Objetives: Management of elderly patients with with non-ST-elevation myocardial infarction (NSTE-ACS) is challenging and they are usually uder-represented in trials. Our aim was to assess the impact of therapeutic strategies and complete revascularization on long-term prognosis and quality of life (QoL) in octogenarians in our community.
Methods: We analyzed data of 224 octogenarian patients with NSTE-ACS from 2014–2015 according to conservative strategy (CS) vs invasive strategy (IS). Mean follow up was 24.7 ± 5.7 months. Primary endpoints were death, MACEs. QoL was determined with QoL questionnaire (EuroQol 5D and EQ-5D-5L) through telephone survey. We compared baseline characteristics, MACEs, readmissions, death and QoL among IS group, dividing them into 2 subgroups according to complete (CR) or not complete revascularization (NCR).
Results: 113 patients were managed using a conservative approach. IS was associated with longer average stay (11 ± 8 vs 8 ± 9 d, p < 0.001). There was a higher prevalence of prior stroke, chronic respiratory disease, cognitive impairment, Charlson index, renal failure (RF) and dependence among CS group (p < 0.05). There was a lower incidence of in-hospital mortality (8.1% vs 18.6%, p = 0.017), HF (24.3% vs 40.7%; p = 0.004), survival rate (27.9% vs 57.5%, p < 0.001), MACE (36.9% IS vs 64, 3% CS, p < 0.001) an better QoL (EQ-5D-5L: 0.79 ± 0.15 IS vs 0.72 ± 0.15 CS; p = 0.014) in IS group. There was lower mortality in patients with Hb >12 g/dL (HR 0.217 (95% CI 0.074 to 0.638, p = 0.005)). Revascularization was complete in 50.5% patients. RF was significantly better among CR subgroup (≥3 CKD 48.3% vs 68.6% p = 0.013) but there was not significant worsening of renal function in any group. NCR group had higher rate of total readmissions (CR 1,39 ± 1,6 vs NCR 0,83 ± 1,2; p = 0.031) and readmissions in the first 6 months (CR 0.8 ± 1,33 vs NCR 0.27 ± 0.55; p = 0.012). No statistically significant differences was found neither in mortality (CR 23.3% vs 37.3%), in the composite event of death and major events (CR 30% vs NCR 45.1%), nor in cardiogenic shock, HF, average stay or QoL. (EQ-5D-5L CR 0,79 ± 0,16 vs NCR 0,8 ± 0,145).
Conclusion: An invasive strategy in octogenarians with NSTE-ACS is associated with reduced rates of mortality and major events and a better QoL. CR was correlated with lower rate of readmissions but there were no differences in major events, mortality or QoL.

O-020
Parathormone may influence on skin thermal flows among elderly patients with heart failure

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Objective of the study was the assessment of contributors of skin thermal flows among elderly patients with heart failure.
Methods: Blood pressure (BP) measurements, echocardiography, N-terminal pro-B-type natriuretic peptide (NTproBNP), C reactive protein (hsCRP), interleukin-6 (IL-6) and interleukin-18 (IL-18), pentraxin-3 (PPTX-3), Vitamin D (vit.D) and parathormone (PTH) were performed in patients over 60 years with heart failure. Skin microcirculation was assessed by laser Doppler flowmetry. Resting (RF) and thermal flow (TF) were registered. Data were analyzed in 2 groups with NYHA I and II (group I) and NYHA III (group II).
Results: Study population consisted of 94 persons (I – 43 and II – 51 subjects) aged 70,8 ± 8,6 years, 62,8% men. Both groups were similar according to age, BP values, hsCRP, IL-18, PPTX-3, vit.D, PTH levels and resting flows. Group I had higher ejection fraction (EF) than group II (53,5 ± 15,0 vs 27,2 ± 11,2%, p < 0,001), lower NT proBNP (528 ± 839 vs 3093 ± 3260 pg/mL, p < 0,001), IL-6 (4,2 ± 3,2 vs 7,0 ± 5,9 pg/mL, p < 0,05) and thermal flows (p < 0,002). Use of ACE inhibitors was similar in both groups, but beta-blockers (64,7% vs 86,0%, p < 0,02) and diuretics (58,8% vs 90,7%, p < 0,001) were more frequently used in group II than group I. TF correlated positively with EF (r = 0,3) and negatively with NTproBNP (r = –0,29). In regression analysis EF (beta = 0,47, p < 0,008) was only predictive variable for RF, but TF depended on PTH (beta = 0,57, p < 0,002), Il-6 (beta = –0,5, p < 0,007) and use of beta-blockers (beta = –0,39, p = 0,03).
Conclusions: Thermal flow properties in skin microcirculation among elderly patients with heart failure may be related to parathormone level.

O-021
The role of arterial stiffness and blood pressure variations in morbidity and mortality in very old frail subjects. The PARTAGE study

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We have previously reported in persons over 80 years old living in nursing homes (PARTAGE study) that low pulse pressure amplification (PPA) an marker of arterial stiffness, was associated with total mortality and the major cardiovascular (CV) events. In subsequent analyses we have shown that the group of subjects with systolic blood pressure (SBP) < 130 mmHg, under >1 antihypertensive drugs, had a greater risk of mortality as compared to all other subjects. More recently, we have demonstrated that changes in BP between supine and upright position in both directions (orthostatic hypotension or orthostatic hypertension) were associated with higher risk for major CV events The aim of the present analysis was to study the combined effects of all these 3 arterial parameters on total mortality and major CV events.
Method: This analysis was performed in the subjects of the PARTAGE study with follow-up for 2 years. The parameters were studied by using the cutoff points which according to the results of the previous

analyses in this cohort: PPA < 18.8% (LowPPA); SBP < 130 mmHg under >1 antihypertensive drug (TtSBP < 130); changes in systolic BP (both an increase or a decrease of >20 mmHg) between supine and upright position (DeltaSBP>20). Were included in the analysis the subjects (n = 883) with measurements of all these 3 arterial parameters. Age and gender were added in all multivariate models.
Results: Low PPA, TtSBP < 130 and DeltaSBP>20 were observed in 33%, 38% and 21% of patients respectively. "LowPPA" (HR 1.52 (1.13–2.05); p = 0.006) and "TtSBP < 130"(HR 1.71 (1.24–2.35); p = 0.001) were independent determinants of total mortality and major CV events whereas "DeltaSBP>20" was a independent determinant for major CV events only (HR 1.40 (1.05–1.89); p = 0.02). In addition, combination of >1 of these arterial parameters significantly increases the risk of total mortality and major CV events (HR for 2 vs none, 2.12 (1.42–3.16); and HR for 3 vs 0, 2.90 (1.46–5.75)).
Conclusions: People presenting a vascular profile characterized by high arterial stiffness expressed by low PPA, low BP under combination anti-Htn treatment and significant variability in SBP between supine and upright position were at much higher risk for total mortality and major CV events. All these 3 conditions are independent indicators of failed circulatory homeostasis potentially leading to tissue hypo-perfusion with subsequent consequences in morbidity and mortality

Area: Sarcopenia and frailty

O-022
Cut-off points associated with different sarcopenic muscle mass definitions in Turkish population

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Aim: For sarcopenic low muscle mass definition, different muscle mass assesment methods and units have been suggested by different groups. Baumgartner et al. suggest measurement of muscle mass in unit height (kg/m^2), Janssen et al. suggest muscle mass in unit total body weight (%) FNIH group suggest muscle mass in unit body mass index (BMI). The most common application in literature for sarcopenic muscle mass is Baumgartner definition, although in the last years it's suggested that other muscle mass units may be more successfull for predicting sarcopenic muscle mass. In this study, determination of sarcopenic cut-off points associated with Janssen and FNIH definitions was targeted.
Methods: Healthy young adults between 18 and 39 years of age with no known chronic disease and chronic drug usage and elder individuals Community-dwelling, at 60–99 years of age were included into the study. Body composition was assessed with bioimpedance analysis (BIA) using a Tanita BC 532 model body analysis monitor. Sarcopenic muscle mass was defined as a mean of −1 SD (class 1 sarcopenia) from the healthy young adults muscle mass value and a mean of −2 SD(class 2 sarcopenia) for Janssen definition; mean −2 SD for FNIH definitiation. In addition, as suggestied by FNIH, muscle mass cut-off point in elder people that predicts low muscle strength was calculated with ROC analysis. Low muscle strength cut-off points were <32 kg, for men, and <22 kg for women according to national data.
Results: 301 Healthy young adults (187 male,114 female) and 992 elder individuals were included into the study. Mean age for young adult reference group was 26,5 ± 4,6 years and mean age for older adults was 74,7 ± 7,1 yıl. (SMMI index was 11 ± 0,9 ve 9 ± 0.8 kg/m^2 in young adults and 10,9 ± 1,1 and 10,1 ± 1,2 kg/m^2 in older subjects) Class 1 sarcopenia cut-off points were %40,4 and %37,2 respectively for male and female acording to Janssen definition; class 2 sarcopenia cut-off point were %37,4 and %33,6 (table). for males cutpoint was 1,05 kg/BMI; for female 0,82 kg/BMI acording to FNIH defination. The muscle mass cut-off point that best predicts the low grip strength was 1,02 kg/BMI for males, 0,68 kg/BMI for females associated FNIH definition.
Conclusion: Sarcopenic muscle mass cut-off points, muscle mass assesment methods and values show diversity. Muscle mass cut-off points that were detected by other units were higher in Turkish population than other populations as like muscle mass cut-off points in our study that were associated with Baumgartner (kg/m^2) suggested by EWGSOP.

O-023
Quality of life in sarcopenia: impact of the use of different diagnosis definitions

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Introduction: Recently, the SarQoL®, a 22-question quality of life questionnaire specific to sarcopenia (score from 0 to 100), has been developed and validated. The purpose of this study was to compare quality of life (QoL) of subjects identified as sarcopenic with that of non-sarcopenic ones when using 6 different operational definitions of sarcopenia.
Methods: Among the 6 definitions used, two were based on low lean mass alone (Baumgartner, Delmonico) and four required both low muscle mass and decreased performance in a functional test (EWGSOP, FNIH, IWGS, Morley).
Results: A total of 387 subjects from the SarcoPhAge study completed the SarQoL questionnaire. Prevalence of sarcopenia varied widely across definitions (highest prevalence found with Delmonico's definition –32.8% – lowest found with Morley's definition –4.39%). Using the SarQoL®, a lower QoL was found for sarcopenic subjects when using the definition of the EWGSOP (56.3 ± 13.4 vs 68.0 ± 15.2, p < 0.001), the FNIH (51.1 ± 14.5 vs 68.2 ± 14.6, p < 0.001), the IWGS (53.8 ± 12.0 vs 68.3 ± 15.1, p < 0.001), as well as with the definition proposed by Morley (53.3 ± 12.5 vs 67.1 ± 15.3, p < 0.001) and by Delmonico (64.2 ± 15.2 vs 67.6 ± 15.5, p = 0.04). No QoL difference between sarcopenic and non-sarcopenic subjects was found when using the definition of Baumgartner (64.6 ± 15.8 vs 67.2 ± 15.3, p = 0.14).
Key conclusions: The SarQoL® is able to discriminate sarcopenic from non-sarcopenic subjects in regard of their QoL, whatever the definition used for the diagnosis as long as the definition includes an assessment of both muscle mass and muscle function. Poorer QoL seems therefore more related to muscle function than to muscle mass.

O-024
The role of vitamin D and exercises in correction of age-related skeletal muscle changes in postmenopausal women

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The aim of the study was to evaluate the role of vitamin D and exercises in correction of age-related skeletal muscle changes in postmenopausal women.
Materials and methods: 38 postmenopausal women aged 53–82 years (mean age – 67.00 ± 7.08 yrs; mean height – 160.31 ± 6.83 cm; mean weight – 63.25 ± 8.59 kg, body mass index – 24.62 ± 3.09 kg/m^2) were examined. All subjects were free of systemic disorders (endocrine, renal, hepatic etc.) and did not take any medications known to affect skeletal and muscle metabolism. The women were divided into the following groups: A – control group (n = 10), B – women who took an individually-targeted vitamin D therapy (n = 11), C – women who took an individually-targeted vitamin D therapy and OTAGO Exercise Programme (http://www.hfwcny.org/Tools/BroadCaster/Upload/Project13/Docs/Otago_Exercise_Programme.pdf) during 12 months. The assessment of the examined women was conducted every 3 months at the medical center. We used the following questionnaires: SARC-F, IADL-questionnaire, frailty scale, Desmond fall risk questionnaire. For evaluation of skeletal muscle function and strength, we

assessed the usual gait speed and used hand dynamometry. 25(OH)D total and iPTH levels were measured by electrochemiluminescent method i.e. Elecsys 2010 analytical system (Roche Diagnostics, Germany) and test-systems cobas. The lean mass was measured by the DXA method (Prodigy, GEHC Lunar, Madison, WI, USA). "Statistika 6.0" © StatSoft, Inc. was used for the data processing purposes.
Results: At the baseline, the groups of examined women did not differ in their age, anthropometric characteristics, 25(OH)D values, data of skeletal muscle mass, strength and function. In women of the control group, the mean 25(OH)D level significantly increased after 9 months of observation (9 months – $p = 0.03$) purportedly due to the seasonal factors. In women of 2nd and 3rd groups, the 25(OH)D level significantly increased after 3, 6, 9 and 12 months of observations (2nd group: 3 months – $p = 0.009$, 6 months – $p = 0.007$, 9 months – $p = 0.005$, 12 months – $p = 0.003$; 3rd group: 3 months – $p < 0.001$, 6 months – $p < 0.001$, 9 months – $p < 0.001$, 12 months – $p < 0.001$). The data of SARC-F, IADL-questionnaires did not change during 12 months of observation in women of 1st and 2nd groups; however, in the 3rd group the SARC-F data significantly decreased after 12 months ($p = 0.02$) while the IADL data – significantly increased after 9 ($p = 0.04$) and 12 months ($p = 0.05$). The data of frailty scale and Desmond fall risk questionnaire did not differ in all groups during 12 months. The muscle strength significantly increased after 9 months ($p = 0.01$) in women of 3rd group while in women of 1st and 2nd group this parameter did not change. The usual gait speed and lean mass assessed by DXA did not change in all groups during 12 months. The fall frequency in women of 1st group significantly increased after 12 months, in women of 2nd group it did not change while in women of 3rd group the fall frequency significantly decreased.
Conclusion: Using individually-targeted vitamin D therapy and OTAGO Exercise Programme during 12 months significantly improves daily activity, muscle strength and decreases the fall frequency in postmenopausal women.

O-025
Is sarcopenia associated with independent ageing? A report from the Uppsala Longitudinal Study of Adult Men (ULSAM)

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Introduction: The maintained integrity of muscle is crucial for physical function and independency in daily activities during ageing. We investigated the cross-sectional relationship between sarcopenia and independent ageing in old Swedish men.
Methods: At the age of 85–89 years 290 participants of The Uppsala Longitudinal Study of Adult Men (ULSAM) underwent dual energy X-ray absorptiometry (DXA) and measurements of gait speed (GS) and handgrip strength (HGS). Sarcopenia was defined according to the criteria suggested by the European Working Group on Sarcopenia in Older People (EWGSOP), i.e. Skeletal Muscle Index (SMI) ≤ 7.26 kg/m^2 and either GS ≤ 0.8 m/s or HGS <30 kg. Independent ageing was defined as not living in an institution, no diagnosis of dementia, Mini Mental State Examination ≥ 25 out of 30 possible points, independency in personal care and being able to walk outdoors without assistance.
Results: The prevalence of sarcopenia and independent ageing were 21% (62/290) and 83% (241/290), respectively. There was no association between sarcopenia and independent ageing (odds ratio (OR) 1.25, 95% confidence interval (CI) 0.57–2.75). GS ≤ 0.8 m/s was inversely associated with independent ageing (OR 0.12, 95% CI 0.044–0.35) while no association was seen with HGS <30 kg (OR 0.84, 95% CI 0.45–1.56) or SMI ≤ 7.26 kg/m^2 (OR 1.20, 95% CI 0.63–2.29).
Conclusions: There was no cross-sectional association between sarcopenia and independent ageing. However, high physical performance, measured as gait speed, was associated with independent ageing, i.e. preserved activities of daily living and cognitive functions in men at high age.

O-026
Short physical performance battery and all-cause mortality: a systematic review and meta-analysis

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Objectives: The Short Physical Performance Battery (SPPB) is a well-established physical performance measure predictive of negative outcomes. Its predictive capacity for all-cause mortality has been sparsely reported, but never formally confirmed in studies adequately powered. We perform a meta-analysis investigating the relationship between SPPB score and all-cause mortality.
Methods: Articles were searched in MEDLINE, Cochrane Library, Google Scholar and Biomed Central between July and September 2015 and updated in January 2016. Inclusion criteria for study selection were: observational studies; >50 participants; stratification of population according to SPPB value; data on all-cause mortality; English language. Twenty-four articles were selected from available evidence. Data of interest were retrieved from the articles and/or obtained by the study authors.
Results: Standardized data were obtained for 17 studies (n = 16,534, mean ages 76 ± 3 years). As compared to SPPB score 10–12, values of 0–3 (OR 3.25, 95%CI 2.86–3.79), 4–6 (OR 2.14, 95%CI 1.92–2.39) and 7–9 (OR 1.50, 95%CI 1.32–1.71) were associated with an increased risk of all-cause mortality. This finding was consistent across different clinical subsets (general population vs. outpatient vs. hospitalized patients), different geographical areas (Europe vs. North America) and, furthermore, it was not related to the presence of cardiovascular or cerebrovascular disease.
Conclusion: In this meta-analysis SPPB has an inverse graded association with the risk of death, with score lower than 10 being predictive of all-cause mortality. The systematic implementation of SPPB in clinical practice as prognostic tool might support physicians in the decision-making process.

O-027
Effect of 8 weeks' supplementation of β-hydroxy-β-methylbutyric acid (HMB) on muscle mass and physical function in older people participating in the healthy aging class

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Introduction: HMB is known as a nutritional supplement increases muscle mass and muscle strength in human, especially in combination with resistance training. However, it's still unknown whether this supplement affect muscle mass and physical performance in the elderly without specific exercise training. The aim of this study was to elucidate the effect of HMB supplementation on muscle mass and physical performance in older people participated in the healthy aging class in our hospital.
Methods: Subjects were 18 independent seniors (men/women = 9/9) aged 65 years or older. They were assigned into two groups with or without 8 weeks' HMB supplementation after the instructions on lifestyle modifications. We measured muscle mass by bioelectrical impedance analysis and assessed several physical functions, such as gait speed, grip strength (GS), knee extension strength, knee flexion strength, ankle dorsiflexion strength (ADS), and ankle planter flexion strength before and after the intervention. We compared the changes in muscle mass and physical functions by using the Two-way repeated measures ANOVA or Wilcoxon signed rank test.
Result: Mean age and BMI were 79.9 years old and 21.6 kg/m^2, respectively. HMB supplementation significantly increased GS (23.9 ± 6.2→25.3 ± 5.8 with HMB vs. 25.0 ± 5.7→24.7 ± 6.1 without HMB,

p = .002) and ADS (12.7 ± 4.7→14.0 ± 5.6 with HMB vs. 13.7 ± 4.6→12.7 ± 4.6 without HMB, p = .026) compared to the control, but not muscle mass.
Conclusions: This study indicates that 8 weeks' supplementation of HMB potentially improves physical functions in older people without specific exercise training.

O-028
Protein intake at elderly breakfast and association with body mass index

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Introduction: Sarcopenia is an important geriatric syndrome. Low intake and inadequate distribution of protein in meals is related to this condition. A minimal of 20 g of protein at breakfast is recommended. The objective of this study was to analyze the protein intake at breakfast in elderly according to body mass index (BMI).
Methods: Random review of 210 medical records from a geriatric outpatient clinic. The protein intake at breakfast was collected from the 24-hour dietary recall, applied at the first consultation. Weight and height data were collected from medical records. Kolmogorov-Smirnov test was used to evaluate normality and determine the appropriate statistical test. P-values <0.05 were considered statistically significant.
Results: 217 elderly patients (65–87 years), 76.5% female, with a median (25,75 percentiles) of protein consumption at breakfast of 8.52 g (4.09,10.53). Only two individuals consumed more than 20 g of protein and 54,4% showed consumption below 10 g. The sample was divided into 4 groups according to BMI: 32.8% low-weight (BMI <22 Kg/m^2), 19.9% normal weight (BMI 22–27 Kg/m^2), 10.8% overweight (BMI 27.1–30 kg/m^2) and 36.6% obese (BMI ≥30 kg/m^2). The median (25,75 percentiles) of protein consumption according these 4 groups were respectively 9.75 g (4.09,10.53), 8.48 g (4.09,10,53), 9.52 g (6.44,10.53), and 9.75 g (4.09,10.53) with no statistical difference between groups (p = 0,466).
Conclusion: Protein consumption at breakfast was insufficient in all groups independent of BMI, which may contribute to increased risk of sarcopenia. Attention to protein intake at breakfast is highly recommended for elderly.

Area: Comorbidities and polymedication

O-029
Analysis of hemoglobin values in older patients: Results of a cross sectional study on hematologic laboratory parameters among outpatients aged >= 60 years

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Objectives: Negative impact of low hemoglobin (Hb) levels on clinical outcome in older patients is recognized, but the lower limit of what is considered the Hb cut-off for being anemic is still controversial. Most studies on anemia in the aged apply WHO criteria despite controversial validity of these reference values for older patients. Beside ethnical and gender associated aspects, enrichments of food (e.g. folic acid) may also impact on the Hb level. Due to lack of German data on hematologic parameters among aged patients the working group laboratory diagnostics of the German Society of Hematology and Oncology initiates a cross sectional study of hematologic laboratory parameters among outpatients aged > = 60 years.
Methods: Cross sectional study of outpatient laboratory data of 2015 from a German countrywide working laboratory company; inclusion criteria were age ≥60 years, normal CRP, transferrinsaturation, reticulocytes, LDH, haptoglobin and soluble transferrin receptor; exclusion criteria: GFR <60 mL/min, lack of inclusion criteria; primary objective was the assessment of the mean hemoglobin value, secondary objectives were the assessment of the mean values of anemia related parameters.
Preliminary results: Of 32,532 patients(p) between 60 and 99 years 19,496 met with inclusion criteria; age groups were 60–70 (10,689p), 71–80 (7,222p), 81–90 (1,515p), >90 (70p); mean Hb was 14.2 g/dL; a gender independent significant decline with rising age was shown for Hb, erythrocytes, hematocrit and MCHC.
Conclusion: Preliminary results suggest an age associated change of red blood values; completed data evaluation will be presented at EUGMS2016.

O-030
Development of a core outcome set for clinical trials of medication review in multimorbid elderly with polypharmacy

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Introduction: Comparison of clinical trial findings in systematic reviews can be hindered by heterogeneity of outcomes reported in clinical trials. Moreover, the outcomes that matter most to patients might be underreported. A core outcome set (COS) can address this issue as it defines a minimum set of outcomes that should be reported in all clinical trials of a field of research. This work, as part of the European Commission-funded OPERAM project, aimed to develop a COS for clinical trials of medication review in older patients.
Methods: Firstly, eligible outcomes were identified through a systematic review of trials of medication review in older patients and 15 interviews with older patients. Secondly, an international Delphi survey with patients, healthcare professionals, and experts was conducted to validate outcomes to be included in the COS. Consensus meetings were conducted to validate the results.
Results: 64 eligible outcomes were extracted from 47 articles, 32 clinical trial protocols and from interviews. Among 164 participants invited to the Delphi survey, 150 responded to Round 1 and 129 to all three Rounds. Consensus was achieved on 9 outcomes. Seven outcomes were considered feasible in all trials: drug-related hospital admissions; clinically significant drug-drug interactions; drug overuse; drug underuse; potentially inappropriate medications; health-related quality of life; improvement of pain. Feasibility issues were raised for two outcomes: serious adverse drug reactions and suitability of drug dosage according to renal function.
Conclusion: The outcomes included in this COS can be recommended for use in future trials of medication review in older patients.

O-031
The relationship between nicotine dependence and physical activity level among elderly subjects

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Objectives: Biological effects of motivate smoking in elderly and among elderly individuals especially those in the 70–79 year age bracket high nicotine dependence was found to be very common. It is known that as a result of many factors the physical activity level decrease with aging. The aim of this study was to assess the relationship between nicotine dependence and physical activity level (PAL) of elderly subjects.

Methods: One hundred and twelve smoking elderly subjects in Denizli/Turkey were included into the study. The Fagerström Nicotine Dependence Scale (FNDS) was used to assess nicotine dependence and the PAL of subjects was assessed by using International Physical Activity Questionnaire (IPAQ).
Results: The average age of subjects was 70.08 ± 7.89 year and the average duration and amount of smoking was 16.89 ± 4.32 packet/years. Thirty-eight subjects (33.92%) had high nicotine dependence (FNDS score ≥ 5) and 74 subjects (66.08%) had low to moderate dependence (FNDS score < 4). The average PAL of subjects was found as 2,374.32 ± 311.76 MET-minute/weeks (low level of physical activity). When the PAL of subjects were compared according to their nicotine dependence, there was a significant difference between high nicotine dependent (PAL: 1,024.76 ± 135.67) and low to moderate dependent subjects (PAL: 2,649.23 ± 234.56) ($p < 0.05$).
Conclusions: In the results of this study the PAL of smoking elderly subjects were lower in the high nicotine dependent group. We think that high nicotine dependency may be related to depression which also can be a reason for lower PAL. Further researches are needed.

O-032
Is there a geriatric patient hidden behind the spousal caregiver?

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Background: Evidence suggests that providing care for a disabled elderly may represent a risk for the health of the caregiver (decreased immunity, hypertension, depression). In this context, health assessment of old caregivers is important.
Methods: Community-dwelling spousal caregivers of old patients were recruited, mainly by the geriatric outpatient clinic. Data collected were: mini nutritional assessment-short Form (MNA-SF), short physical performance battery (SPPB), frailty phenotype (Fried), geriatric depression scale (GDS-15) and clock test.
Results: Among 80 caregivers, 44 were women's, mean age and Charlson comorbidity index were respectively 79.6 ± 5.4 and 0.79 ± 0.98. Among care-receiver (mean age 81.4 ± 5.2) 81% had cognitive impairment. Caregivers were at risk of frailty in 60% of cases and at risk of malnutrition in 33% of cases. 62% had low or intermediate physical performance (<9). 31% of caregivers were at risk of depression and 25% took antidepressive drugs. Half of the caregivers had a pathologic clock test.
Conclusions: One third of spousal caregivers of disabled elderly are at risk for malnutrition and depression, two-thirds at risk of frailty. Caregivers should benefit from screenings to prevent health problems so that old patients can stay home longer with good quality of life.

O-033
Association of atypical femoral fracture and osteonecrosis of the jaw in bisphosphonate users

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Introduction: Treatment with bisphosphonates is associated with two serious adverse drug reactions (ADRs): atypical femoral fracture (AFF) and osteonecrosis of the jaw (OJ). Both complications in the same patient are unusual. Our purpose is to describe some cases of patients diagnosed with AFF and OJ after bisphosphonates treatment and to estimate the prevalence of these ADRs in the population treated with bisphosphonates attending our hospital between 2011 and 2015.
Methods: A retrospective search of patients was conducted by combining the terms (in Spanish): atypical fracture, diaphysary fracture, external cortical fracture, femur, jaw, maxilar, osteonecrosis, biphosphonates. In order to make an estimation of the prevalence of both ADRs, the number of patients on bisphosphonates from the hospital catchment area was obtained from the Madrid health authority database.
Results: Four women were diagnosed with AFF (mean age 68.3). One of them (25%) had AFF in both femurs. Two of them (50%) were also diagnosed with OJ, whose diagnoses of both conditions were separated by a few days. A fifth patient was diagnosed with OJ and swollen cortical subcapital fracture (not declared as atypical) of the femur. Out of the total number of patients treated with bisphosphonates (13,666), a prevalence of 0.029% was estimated for AFF and of 0.39% for OJ. Prevalence of both concomitant ADRs was 0.014%.
Conclusions: Half of the patients treated with bisphosphonates diagnosed with AFF also presented OJ. Despite the prevalence of AFF and OJ being very low, they are very serious ADRs. Whenever patients are diagnosed with one of these conditions, it seems wise to discontinue bisphosphonate treatment and to start a close follow-up.

O-034
Relationship between drugs with anticholinergic properties and functional and cognitive status in elderly: results from the CRIME Study

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Objectives: Medications with anticholinergic properties, although widely used, may negatively affect cognitive and functional status in older patients. We investigated the relationship between use of these drugs and cognitive and functional impairment in a sample of Italian older hospitalized patients.
Methods: Cross-sectional and longitudinal analysis of 1,123 elderly enrolled in CRIME study. Cognitive performance and functional status were evaluated at hospital discharge and over the follow-up (3, 6, 12 months) using the MMSE score and 5 basic ADLs, respectively. We assessed anticholinergic burden with Anticholinergic Burden (ACB) and Anticholinergic Risk Scale (ARS).
Results: Mean age of study population was 81 ± 7.5 years, 33.9% had ACB = 1 and 31% ACB ≥ 2. When compared, ACB and ARS classifications showed a moderate correlation (Spearman's rho = 0.39). Adjusting for potential confounders, there were significant associations between MMSE score at discharge with both home (ACB ≥ 2: $\beta = -1.85$, $p = 0.002$; ARS ≥ 1: $\beta = -2.42$, $p < 0.001$) and hospital therapy (ACB ≥ 2: $\beta = -1.25$, $p = 0.041$; ARS ≥ 1: $\beta = -1.83$, $p = 0.001$). Similarly, there were significant relations between likelihood of disability with home and hospital anticholinergic burden, respectively for ACB ≥ 2 O.R. = 1.69 (95%C.I.: 1.10–2.57) and 2.15 (95%C.I.: 1.40–3.32) and for ARS ≥ 1 O.R. = 3.29 (95%C.I.: 2.05–5.27) and 2.06 (95%C.I.: 1.39–3.06). Higher anticholinergic burden (ARS ≥ 1) was significantly associated with a steeper monthly decline in MMSE score over time ($p = 0.042$); similarly patients with ACB ≥ 1 were at higher risk of new disability over the follow-up (O.R. = 2.09, 95%C.I.: 1.09–4.01).
Conclusion: Use of drugs with anticholinergic properties in elderly is independently associated with cognitive and functional decline, suggesting the need of particular care in their prescription in patients assuming complex polypharmacotherapy.

O-035
Usefulness of a computer-based tool to reduce inappropriate drug prescriptions in hospitalized older patients

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Objectives: Aging is associated with an increased prevalence of chronic diseases and polypharmacy, with consequent major risks of potentially inappropriate drug prescriptions (PIPs). Aim of this study was to evaluate the efficacy of a computer-based tool to reduce PIPs in hospitalized older patients.
Methods: Subjects aged 65+ years admitted to the Geriatrics Unit of the Galliera Hospital in Genoa for any acute illness were enrolled. Therapies at admission and at discharge were collected. Then a validated computer-based tool was used in order to detect any PIPs according to the Screening Tool of Older People's Prescription (STOPP) criteria and Micromedex® system was used to detect major drug interactions. All identified PIPs have been then discussed by the multidisciplinary geriatric team (MGT) that included geriatricians, pharmacist and nurses to consider possible modifications of the potentially inappropriate drug prescriptions. In all patients the Medication Appropriateness Index (MAI) at admission and at discharge has been calculated.
Results: 166 patients were enrolled (mean age 87 ± 5.4 years, females 72% and males 28%) with an average number of 6 ± 2.9 drugs at admission. Between admission and discharge the number of detected STOPP criteria decreased by 32.7% while the number of drug interactions decreased by 65.5%. The median value of MAI score decreased from admission to discharge [2 (IQR 0–4) to 1 (IQR 0–2) respectively, ($p < 0.01$)].
Conclusion: Prescriptive appropriateness in older patients could be improved during hospitalization by using a computerized system that detects PIPs and the pharmacist's involvement in the MGT.

Area: Cognitive disorders

O-036
Psychotropic drug use and mortality in old people with dementia: a gender-sensitive analysis

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Objectives: Psychotropic drugs are common among old people with dementia, and have been associated with increased mortality. Previous studies have not investigated gender differences in this risk. This study was conducted to analyse associations between the use of antipsychotics, antidepressants, and benzodiazepines and 2-year mortality in old people with dementia, and to investigate gender differences therein.
Methods: In total, 1,037 participants (74% women; mean age, 89 years) with dementia were included from four cohort studies and followed for 2 years. Data were collected through home visits and medical records. Cox proportional hazard regression models were used to analyse associations between ongoing baseline drug use and mortality. Multiple possible confounders were evaluated and adjusted for.
Results: In fully adjusted models including data from the whole population, no association between baseline psychotropic drug use and increased 2-year mortality was seen. Significant gender differences were found in mortality associated with antidepressant use, which was protective in men, but not in women (hazard ratio [HR] 0.61, 95% confidence interval [CI] 0.40–0.92 and HR 1.09, 95% CI 0.87–1.38, respectively). The interaction term for sex was significant in analyses of benzodiazepine use, with a higher mortality risk among men than among women.
Conclusions: Among old people with dementia, ongoing psychotropic drug use at baseline was not associated with increased mortality in analyses adjusted for multiple confounders. Gender differences in mortality risk associated with antidepressant and benzodiazepine use were seen, highlighting the need for further investigation of the impact of gender.

O-037
Can we influence hospital readmission for people with dementia?

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Introduction: 90% of people with dementia in Leeds have at least one other significant co-morbid medical problem. As a result they are at great risk of frequent admission to hospital. We have undertaken an audit to determine the health and social factors contributing to readmission in people with dementia to try and identify potential strategies to prevent avoidable re-admissions.
Methods: We undertook a retrospective case note audit of patients aged ≥65 years with an ICD code of dementia with 4 or more emergency admissions to Leeds Teaching Hospitals in the year following an initial admission in 2013. We devised an audit tool to identify the factors contributing to each admission.
Results: 72 patients had 4 or more readmissions within a year. 14 patients were omitted due to missing data. The remaining 58 patients were admitted a total of 264 times. 57% of admissions were to Elderly Medicine, the mean length of stay was 11 days. The majority of admissions were attributed to health (73%) rather than social factors. Only 16% of admissions were from 24 hour care. Involvement of mental health teams was poor (8% of admissions) and communication with carers was lacking.
Conclusions: Contrary to our expectations, people with dementia were readmitted to hospital principally for medical rather than social reasons. Given the relative paucity of admissions from care homes, their admissions may be influenced by social factors or "risk". Many admissions were for relatively "soft" medical problems potentially lending themselves to "unplanned admission strategies' in primary care.

O-038
Differences in prevalence and treatment of atrial fibrillation in dementia disorders: data from the Swedish Dementia Registry

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Introduction: Emerging evidence shows an association between atrial fibrillation (AF) and dementia. Treatment for AF in patients with dementia has been suggested to be lower than for patients without dementia due to a higher risk of bleeding. Studies have not included all types of dementia disorders. Aims: This study aimed to find the prevalence of AF in different dementia disorders and to assess prevalence of warfarin use in dementia disorders.
Material and methods: A register based, cross-sectional study, combining data from several registries. Patients from the Swedish Dementia Registry (n = 29,630) within 2007–2012 were included.
Results: In the total study cohort, prevalence of AF was 19%. AF was more prevalent in mixed dementia (MD) (OR 1.1; 95% CI 1.0–1.3) and vascular dementia (VD) (OR 1.3; 95% CI 1.1–1.4) and more associated with MD and VD than Alzheimer's disease (AD) even after adjustment for confounders. Forty percent of individuals with AF got treated with warfarin. Warfarin use was more associated with MD (OR 1.2; 95% CI 1.0–1.4) and VD (OR 1.3; 95% CI 1.1–1.5) than AD, after controlling for confounders.
Conclusions: The burden of AF is high in dementia patients. The burden is highest in patients with MD and VD, disorders possibly partially caused by AF. Warfarin treatment is more often associated with MD and VD than other dementia diagnoses, probably due to a higher risk of stroke.

O-039

Blood pressure circadian rhythm and prognosis of older subjects with cognitive impairment

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Introduction: The loss of physiological blood pressure (BP) drop during nighttime (BP dipping) is associated with cardiovascular mortality. Few data exists about prognostic meaning of BP dipping in cognitively impaired older subjects. Aim of this study is to evaluate the prognostic effect of BP values and dipping pattern in older subjects with dementia or Mild Cognitive Impairment (MCI) referred to two memory clinics.
Methods: All subjects underwent ambulatory blood pressure monitoring (ABPM).
According to the rate of decline of systolic BP during nighttime compared with daytime, circadian rhythm was defined as dipping (D, −10% or less), non dipping (ND, between −9% and 0), or reverse dipping (RD, >0).
Results: We included 185 patients (mean age 79, mean MMSE score 22,7, 72% with high BP). After a median follow-up time of 3 years, survival was significantly shorter in subjects with RD ($n = 49$) in comparison with ND ($n = 79$) ($p = 0.002$) and D ($n = 57$) ($p = 0.021$). The association between RD and mortality risk increased with decreasing levels of daytime systolic BP. In a multivariable Cox regression model, mortality risk was independently associated both with daytime SBP>144 mmHg (OR 3.04; 95%CI 1.26, 7.36) and with RD (=R 3.11; 95%CI 1.33, 7.28). Among 124 survivors, MMSE score change did not differ significantly according to dipping status.
Key conclusions: In cognitively impaired older subjects high BP and inversion of physiological nighttime dipping were both associated with mortality risk. The prognostic effect of RD was stronger in those with lower daytime BP. These results might partly be explained by autonomic failure.

O-040

Comparison of cognitive functioning in spousal dementia caregivers with two demographically matched control groups: results from the DeStress study

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Objectives: Recent population studies indicate that informal caregiving is associated with better health and cognition, supporting the healthy caregiver hypothesis. However, caring for a spouse with dementia is recognised as a chronic stressor, which may negatively impact cognition. Evidence supporting the stress-cognition link in caregivers includes self-selecting reference groups, which may outperform groups selected by other methods.
Methods: We compared cognitive function in 253 spousal dementia caregivers with two demographically matched non-caregiving control groups drawn from (1) a recent Irish population study and (2) a self-selecting sample. Comparable cognitive measures in all groups included global cognitive functioning, processing speed, reaction time and verbal fluency. Analysis of covariance was employed to control for demographics, medications and dementia risk factors such as obesity, smoking and physical inactivity.
Results: Caregivers outperformed control groups on processing speed ($p < .001$ and .02 respectively) and reaction time ($p < .001$ and .04); these differences were present despite more prevalent depressive symptoms, stress, hypertension, and emotional problems in caregivers (all p's < .001). However, caregivers performed more poorly on verbal fluency compared with the population control group ($p < 0.01$). When depression was entered as a covariate in the analyses only the association with verbal fluency was no longer significant.
Conclusion: Our results support the healthy caregiver hypothesis for domain specific cognitive outcomes. However, spousal dementia caregivers display a decrement in executive function associated with greater depression.

O-041

Increased mortality and hospital readmission risk in patients with dementia and a history of cardiovascular disease: results from a nationwide registry linkage study

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Introduction: To evaluate the impact of cardiovascular disease (CVD) on mortality and risk of hospital readmission in patients with dementia.
Methods: A prospective hospital-based cohort of 59,194 patients with dementia (admitted to a hospital or visiting a dayclinic) was constructed from 2000 through 2010. Patients (38.7% men, mean age 81.4 years (SD 7.0)), were divided in those with and those without a history of CVD (total CVD; coronary heart disease (CHD), heart failure (HF), stroke, atrial fibrillation (AF) or other CVD). Absolute mortality risks (ARs) were investigated and median survival times were calculated using Kaplan-Meier curves. Hazard ratios (HRs) for mortality and readmission (adjusted for age, sex, comorbidity) were investigated using Cox analyses.
Results: Three-year ARs were higher (45.1% versus 36.8%) and median survival times were shorter (40.5 months, 95%CI 39.0–42.0 versus 50.0 months, 95%CI 48.7–51.3, $p < 0.001$) among patients visiting a dayclinic with a history of CVD than in those without. Differences were less pronounced for inpatients. Among dayclinic patients, a history of CVD (HR for total CVD 1.25, 95%CI 1.19–1.32, HF 1.97, 95%CI 1.63–2.39, stroke 1.39, 95%CI 1.16–1.66, AF 1.19, 95%CI 1.02–1.39, and other CVD 1.14, 95%CI 1.04–1.25) increased three-year mortality risk. There were no differences in mortality for inpatients with/without a history of CVD. Risk for readmission was further increased in the presence of CVD in both patients groups.
Conclusion: Mortality and readmission risks are significantly higher in hospitalized dementia patients with a history of CVD than in those without. This was most pronounced in dayclinic patients.

O-042

Delirium as a non-traumatic brain injury: older patients with delirium have similar biomarker profiles to patients with isolated traumatic brain injury

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Introduction: Delirium is an acute, severe neuropsychiatric syndrome associated with poor outcomes. Delirium is associated with a central inflammatory response, usually due to a precipitating peripheral inflammatory insult. However the pathophysiology remains poorly understood. Traumatic brain injury (TBI) is also common, associated with poor outcome. It mirrors delirium as it is associated with a peripheral inflammatory response secondary to a precipitating central inflammatory insult. As such investigating peripheral serum biomarkers of neuronal injury in both conditions may provide insights into their pathophysiology.
Methods: Peripheral serum biomarkers of neuronal injury (S100β, neurone specific enolase [NSE], eotaxin and glial fibrillary acidic protein [GFAP]) were analysed by ELISA and multiplex. These were then compared in patients with delirium and isolated TBI, and healthy controls. Relationships between these biomarkers with delirium outcome and motoric subtype were also explored.
Results: Delirium ($n = 62$, age = 85.6 ± 0.8 yrs) and TBI ($n = 8$, age = 37.1 ± 3.41 yrs) were associated with significantly higher serum S100β, NSE and GFAP compared with controls (all $p < 0.05$). There was no

difference with eotaxin. Serum NSE (p = 0.002) and GFAP (p = 0.01) were significantly higher in TBI compared with delirium. NSE was higher in non-survivors (p = 0.04) and no serum biomarker was associated with delirium motor subtype.
Conclusions: Neuronal injury, as expressed in peripheral biomarkers, is present in both delirium and TBI. However these markers are generally higher in TBI. These findings suggest delirium pathophysiology may be similar to mild traumatic brain injury. Future research using TBI as a "mirror model" of delirium are therefore justified.

Area: Infections and vaccines, longevity

O-043
Age-dependent telomere attrition, short telomeres and atherosclerosis

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Context: Short leukocyte telomere length (LTL) is associated with atherosclerosis in adults and with diminished survival in the elderly. The prevailing view is that LTL is associated with accelerated aging, since it serves as a biomarker of the cumulative burden of inflammation and oxidative stress during adult life. However, recent studies show that LTL in adult life is defined mainly by LTL at birth, and attrition during childhood. Therefore, we can suggest that short LTL might precede clinical expression of atherosclerosis in most individuals. Objective: To examine whether age-dependent LTL attrition during adulthood can substantially affect an individual's LTL ranking and the development of atherosclerotic lesions.
Methods: LTL was measured by Terminal Restriction Fragment Southern Blot in samples collected at baseline (BL) and at follow-up (FU) visits (9 years later on average) in 257 men and women belonging to two French cohorts (ADELAHYDE and ERA), aged 41 to 80 years at the inclusion and recruited on the basis of their hypertension status.
Results: BL and FU LTL were highly correlated ($r = 0.96$, $p < 0.0001$). In 88% of the subjects LTL ranking by deciles was the same ±1 decile during the BL and FU visits. After adjusting for age and gender, subjects without carotid atherosclerotic plaques (CAP) had a LTL at 6.50 ± 0.04 Kb; those with CAP only at the FU visit had a LTL at 6.46 ± 0.06 Kb and those with CAP in both the BL and the FU visits had a LTL at 6.27 ± 0.06 (ANOVA $p = 0.027$). By contrast LTL attrition over the 9-year period was the same in these 3 groups.
Conclusions: LTL attrition in adulthood is not influenced by the presence of atheroma and does not play a significant role in LTL ranking. By contrast, LTL seems to precede carotid atheroma and patients with shorter telomeres present atherosclerotic lesions earlier in life.

O-044
Frailty and genetic longevity markers in centenarians offsprings; preliminary results of a case-control study in La Ribera county (Valencia, Spain)

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Introduction: Clinical and genetic variables associated with humans increased longevity have been studied. First-degree offsprings of centenarian subjects can be considered genetically enriched for extreme longevity. Observational studies are needed to verify these associations and explore its relationship with variables that reflect the functional status of the elderly.
Objective: To determine if the elders offsprings of centenarians have a lower frailty prevalence.
Method: A case-control study was designed. 68 subjects were enrolled between January 2nd, 2014 and June 30th, 2015 in La Ribera county (Valencia, Spain). Cases were subjects with first-degree offsprings of centenarians and controls were subjects without this familiar characteristic matched for gender, place of birth and age ±5 years.
Results: Preliminary sample was composed by 34 subjects in each group (case and control groups). 59,8% of the sample were women, and average age was 69,6 (SD 4,1) years old. Frailty risk relative in first-degree offsprings of centenarians was 0,33 (95%IC 0.11–0.98, p value = 0.045).
Conclusion: Genetics can play a role in transmission of functional status in elderly people. Our provisional results suggest that elderly theoretically genetically enriched for extreme longevity have a more beneficial functional profile, which would suggest an heritable component.

O-045
The global status of recommendations, reimbursement policies and impact on the uptake of herpes zoster (HZ) vaccine

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Introduction: A live, attenuated varicella-zoster virus vaccine, ZOSTAVAX™, was registered as a single-dose vaccine in the US and Europe in 2006 to prevent zoster in individuals >60. In most countries outside the US, ZOSTAVAX is approved for the prevention of zoster and Post Herpetic Neuralgia and the reduction of the Burden of Illness in individuals >50.
Objective: The purpose of this analysis was to assess the uptake of zoster vaccine in adults relative to reimbursement, funding policies and promotional campaigns.
Methods: Dates of ZOSTAVAX regulatory approval, commercial launch, promotional campaigns and country recommendations were obtained from Merck and its affiliates. Countries with countrywide commercialization for 4 or more years by end of 2015 were included. Six countries in 4 global regions met the inclusion criteria.
Results: Vaccine uptake was higher in countries where there was partial or complete government funding and where there had been promotional campaigns. The most recent US national data show ~28% uptake in the >60 population. In the UK, which has full funding, the uptake in the eligible population in 2014 was ~58%. In countries where there was no government funding (100% self-pay), uptake ranged from ~1% to 2% (Australia, Chile (>50)) to 8% (S. Korea (>50)) to ~18% (Canada (>60)).
Conclusions: There are a breadth of recommendations, funding and reimbursement policies supporting zoster vaccination. Promotional campaigns, funding of vaccine and administrative costs directly impact vaccine uptake. Reimbursement of full costs is necessary but not sufficient to improve vaccination rates in adult populations.

O-046
Nutritional follow-up after discharge in malnourished geriatric patients: does the follow-up method influence the number of readmissions to hospital?

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Introduction: Disease-related malnutrition affects older individuals negatively after discharge from hospital.
Objective: To compare the effect of two nutritional follow-up intervention methods (home visit or telephone consultation) with no follow-up, on readmission to hospital 30 after discharge.
Material and methods: The study is a randomized clinical trial. Inclusion: Malnourishment or risk of malnutrition, 75+ years, home-dwelling, and living alone. Exclusion: Terminal illness, cognitive impairment, and nursing home residency. At discharge the

participants were randomized to "home visit" (HV), "telephone consultation" (TG), or "control group" (CG). The intervention was individualized nutritional counseling one, two, and four weeks after discharge. The risk of readmission was analysed as intention-to-treat (ITT) and as per-protocol (PP) using the Cox proportional hazard regression model.
Results: 208 patients were randomized (HV = 73, TG = 68, CG = 67) and included in the ITT-analysis. HV had a lower risk of readmission to hospital compared to CG (HR = 0.4; 95% CI: 0.2–0.9, p = 0.03). No difference was detected between TG and CG (HR = 0.6, 95% CI: 0.3–1.3, p = 0.18). 166 patients completed the full intervention and were included in the PP-analysis (HV = 53, TG = 46, CG = 67). HV had a lower risk of readmission to hospital compared to CG (HR = 0.1; 95% CI: 0.03–0.6, p < 0.01). TG had also lower risk of readmission compared to CG (HR = 0.2, 95% CI: 0.07–0.8, p = 0.02).
Conclusion: Individualized nutritional follow-up performed as home visits reduces readmission to hospital 30 after discharge in malnourished geriatric patients who live alone. Nutritional counselling performed over the telephone can reduce readmission to hospital, but only among patients who receive the full intervention.

O-047
Adults 70–89 with heart disease, lung disease or diabetes mellitus have an antibody response comparable to healthy adults 70–89 after receiving 23-valent pneumococcal polysaccharide vaccine

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Introduction: Many countries recommend that adults with chronic disease be vaccinated with pneumococcal polysaccharide vaccine (PPSV23) because of their increased risk for pneumococcal disease. To explore the immunogenicity of PPSV23 in these patients we examined antibody responses in adults age 70–89 with chronic disease after primary vaccination and revaccination compared to healthy adults in this same age group.
Methods: We measured serotype-specific IgG geometric mean concentrations (GMC, 14 serotypes) and opsonophagocytic activity titers (OPA, 6 serotypes) 4 weeks after vaccination in a community-based cohort vaccinated >=5 years earlier (N = 161) or never vaccinated (N = 81) with PPSV23.
Results: For each serotype the GMC and OPA titers did not differ significantly between each of the groups with co-morbid conditions and the group without any of those conditions, with the exception of significantly higher GMC titers against serotype 7F in the revaccination groups with lung disease and heart disease, and serotype 3 in the revaccination group with heart disease. The GMC also were not significantly different between those with 0, 1 and 2–3 of these conditions.
Key conclusions: GMC and OPA responses to PPSV23 vaccination and revaccination in older patients with heart disease, lung disease or diabetes mellitus were not significantly different from older patients without these conditions, even if they had more than one of these condition or if they had been previously vaccinated. These results support the recommendation to vaccinate these patients at increased risk with PPSV23.

O-048
Norovirus disease leads to higher healthcare usage in older adults with chronic medical conditions

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Introduction: Global estimates suggest that each year norovirus infections cause over 200,000 deaths and US$65 billion in costs, mostly affecting elderly adults and young children. It is also estimated that over 80% of US adults over 65 years suffer from at least one chronic medical condition. We assessed the impact of norovirus acute gastroenteritis (NGE) on health care utilization by US adults with a range of chronic underlying conditions.
Methods: We performed a retrospective cohort study using MarketScan data from 2002 to 2013, comparing rates of emergency department visits, outpatient visits and hospitalizations for NGE among patients with chronic conditions (renal, cardiovascular, respiratory, immunocompromising, gastrointestinal, hepatic/pancreatic and neurological conditions and diabetes) with a healthy age-matched population. We estimated the rates of these outcomes due to NGE using an indirect modeling approach, stratified by 65–74, 75–84 and 85+ year-old age groups.
Results: 82.2% of elderly adults had one or more chronic condition. Hospitalization rates for NGE were higher in all-risk groups compared with otherwise healthy subjects. Highest rates were observed among those with renal conditions (23.9–40.3 episodes per 10,000 person-years across the increasing age groups) and chronic gastro-intestinal conditions (12.6–62.8 episodes per 10,000 person-years), compared to 2.9–11.5 episodes per 10,000 person-years among those without chronic conditions. Outpatient visits for NGE were also increased in persons with chronic gastrointestinal or immunocompromising conditions.
Conclusions: Norovirus gastroenteritis leads to significantly higher rates of healthcare utilization in older adults with a chronic medical condition compared with otherwise healthy older adults.

O-049
Ageing with HIV: a huge challenge due to a high prevalence of chronic comorbidities in a French population over 75

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Introduction: HIV-infected adults on successful antiretroviral therapy (ART) are expected to have close to normal lifespans, but will increasingly develop age-associated comorbidities. Few data are available in a geriatric HIV population.
Methods: From the DatAIDS cohort, we selected patients with at least one visit since 2004 and aged over 75 at the latest visit (geriatric group). Their characteristics and comorbidities were described at the censoring date (01/09/2014) and compared with the elderly population, aged 50 to 75 (elderly group).
Results: Characteristics of the 430 patients over 75 were as follow: median age 78 years, 72% male, 37% homosexual contamination, 9% hepatitis B or C co-infected, BMI < 18 in 22%, 34% at CDC stage C (AIDS), with a median age at HIV diagnosis of 62 years (age > 75 at diagnosis in 8%) and a median duration of HIV infection of 17 years. Median nadir CD4 and current CD4 were 144 and 494/mm^3, respectively; 98% of the subjects were on ART, virologically controlled in 89%. Most frequent comorbidities were diabetes 22.3%, hypertension 42.3%, dyslipidemia 27.9%, cardiovascular disease 20.7%, neoplasia 22.6%, renal failure 14% and depression 15.1%. The geriatric group had significantly more frequent comorbidities than the elderly group: 40.2% vs. 24.7% had 2 or 3 comorbidities and 14% vs. 4.3% had more than 4 comorbidities (all p < 0.05).
Conclusion: Comorbidities dramatically increased in the geriatric HIV population. New strategies are required for providing integrated HIV and geriatric care to meet the long term and complex needs of older HIV adults and to deal with drug-drug interactions.

O-050
Light physical activity predicts longevity in the Swedish older population

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Introduction: Physical activity gains health. It is positively related to cognitive functions, good sleeping habits, muscle strength and cardiovascular functions. In older ages, light physical activity is most gainful. Since longevity is multi-determined, physical activity habits

were related to longevity taking multiple potential confounders into account in this study.
Methods: The sample was drawn from the Swedish National study on Aging and Care (SNAC), which includes representative data on Swedish inhabitants aged 60 to 96 years. The participants (N = 6,986) were followed from 2002 to 2011. Data was collected including age, physical activity, body mass index (BMI), muscle strength, smoking, living alone or not, household economy, education, and cognition. Cox regression analyses were performed in order to estimate the relative risk of dying, given differences in physical activity, all included variables taken into account.
Results: During the follow up period, 4,447 participants (64%) survived. Light physical activity were the strongest predictor of survival, decreasing the relative risk of death with 21% (P < .001. 95% CI = 0.74–0.93). Other significant predictors were muscle strength, which decreased the relative risk with 19% (P < .05. 95%CI = 1.04–1.35) and smoking, increasing the relative risk with 11% (P < .001. 95% CI = 0.86–0.95). In addition, higher age decreased the relative risk of death with 2% for each year of age (P < .001.95%CI = 1.02–1.03).
Key conclusions: Physical activity is an important predictor of longevity in an older population. Even as low activity level as 3 times every month seem to be protective.

O-051
A healthy lifestyle in old age and prospective change in four domains of functioning

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Introduction: Healthy lifestyle is considered an important tool to prevent chronic conditions and institutionalization in older adults. The associations between a healthy lifestyle in old age, according to official, international recommendations, and long-term decline in physical, psychological, cognitive, and social functioning were studied.
Methods: A population-based sample of 3,107 Dutch men and women aged 55–85 years at baseline (1992/1993), participants of the Longitudinal Aging Study Amsterdam, was used with five follow-up examinations covering 17 years. Lifestyle score, based on smoking status, alcohol consumption, physical activity and BMI, ranged from 0 (unhealthy) to 4 (healthy). The outcomes included gait speed (m/s), depressive symptoms (CESD score), cognitive status (MMSE score) and social contacts (number of social network members with at least monthly contact). Linear mixed-models with a 3-year time lag were used to test the associations.
Results: Persons with an overall healthy lifestyle had a 9.9% slower rate of decline in gait speed (0.04 m/s (95% CI 0.02, 0.05)), 11.3% slower rate of increase in depressive symptoms (−1.11 (−1.80, −0.43)), a 2.1% slower rate of decline in cognitive functioning (0.56 (0.30, 0.82)), and a 5.8% slower rate of decline in social contacts (0.68 (0.05, 1.31)) as compared to persons with no or one healthy lifestyle factor.
Key conclusions: A healthy lifestyle benefits physical, psychological, cognitive and social functioning up to very old age.

Area: Comprehensive geriatric assessment and organ disease

O-052
Comprehensive geriatric assessment for prevention of delirium post hip fracture: a systematic review of randomised controlled trials

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Introduction: Hip fracture is common, affecting 70,000 people annually in the UK [1]. The clinical course is often complicated by delirium, which is associated with poorer outcomes [2,3]. A systematic review of the evidence was performed to assess comprehensive geriatric assessment (CGA) for prevention of delirium in this population.
Methods: MEDLINE, EMBASE, CINAHL and psychINFO databases were searched to identify randomised controlled trials with CGA (defined pre-search) as an intervention and occurrence of delirium as a primary or secondary outcome. Papers were screened by two investigators. Reference lists from full text articles were reviewed. Length of stay, delirium severity, institutionalisation, long term cognition and mortality were pre-defined as secondary outcomes. Duration of delirium was included as an outcome post hoc.
Results: Four trials (three European, one US; 973 participants) were identified. Two assessed ward based interventions and two team based.
There was a significant reduction in delirium overall (relative risk (RR) 0.81; 95% confidence interval (CI) 0.69–0.94). Post hoc subgroup analysis found this effect to be preserved in the team based intervention group (RR 0.77; 95%CI 0.61–0.98), but not the ward based group.
No significant effect was observed on any secondary outcome.
Key conclusions: This is the first systematic review on this topic and demonstrates that CGA reduces the incidence of delirium post hip fracture. This is in keeping with results of non-RCTs and trials in other populations. In contrast to one previous review [4], team based interventions appeared superior but it is likely that heterogeneity in interventions impacted on this.

References

[1] National Institute for Health and Clinical Excellence. *Management of hip fracture in adults commissioning guide*. CG124. London 2012
[2] Holmes JD, House AO. Psychiatric illness in hip fracture. *Age and Ageing* 2000;29(6):537–46.
[3] McCusker J, Cole M, Abrahamowicz M, Primeau F, Belzile E. Delirium predicts 12-month mortality. *Archives of Internal Medicine* 2002;162(4):457–63.
[4] Ellis G, Whitehead MA, Robinson D, O'Neill D, Langhorne P. Comprehensive geriatric assessment for older adults admitted to hospital: meta-analysis of randomised controlled trials. *BMJ* 2011;343:d6553.

O-053
Transcatheter aortic valve implantation registry with comprehensive geriatric assessment

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Objectives: Transcatheter aortic valve implantation (TAVI) has become a viable alternative to surgical aortic valve implantation in high-risk and inoperable patients. Procedural results and medium term outcomes are, however, strongly affected by the overall health state of an individual patient and this is not sufficiently covered by a standardized cardiology assessment. For this reason we aimed to investigate the impact of a comprehensive geriatric assessment (CGA) on the accuracy of the prognosis and the clinical benefits of TAVI in this population.

Methods: Multicentre, multinational registry in patients undergoing TAVI. Co-primary objectives are to establish predictive value of CGA (Multidimensional-Prognostic-Index [MPI], short-physical-performance-battery [SPPB], SilverCode) for mortality and/or hospitalization and to demonstrate changes in the CGA after TAVI.
Results: A total of 72 patients with a mean age of 85.4 ± 2.9 years and a EuroScore II of 9.7 ± 8.3% were enrolled. Three months after TAVI 94.8% were classed NYHA I/II (18.8% at baseline; $p < 0.001$), the MPI was 0.29 ± 0.12, SPPB 7.6 ± 2.9 ($p < 0.001$), and SilverCode 21.1 ± 7.9 (vs. 0.32 ± 0.10, 5.6 ± 3.3 and 22.0 ± 7.3 at baseline). Eight patients reached the combined endpoint of death/stroke within 3 months. These patients had a higher MPI and a lower SPPB at baseline, compared to those without (MPI: 0.103 [95%CI, 0.031 to 0.176; p=0.006]; SPPB: −3.962 [95%CI, −6.228 to −1.696%; $p = 0.001$]). In the multivariate analysis, a high SPPB at baseline was associated with a reduced risk for stroke and/or death within 3 months after TAVI.
Conclusion: The results suggest that it might by beneficial to include CGA into the pre-TAVI assessment to improve outcomes. Lower SPPB performance appears to best predict poor outcomes within 3 months after TAVI.

O-054
Outpatient comprehensive geriatric assessment: effects on frailty

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Objectives: The prevention and treatment of frailty is a great challenge to health care in the future. Elderly receiving Comprehensive Geriatric Assessment (CGA) as hospital inpatients have decreased institutionalization and mortality. This study aimed to analyze the effects of outpatient CGA on frailty in community dwelling elderly people with multimorbidity.
Methods: The Ambulatory Geriatric Assessment – Frailty Intervention Trial (AGe-FIT) was a randomized controlled trial with an intervention group (n = 208) and a control group (n = 174). Frailty was one of the secondary outcomes. Participants were community dwelling elderly people with multimorbidity (N = 382). Inclusion criteria were: age ≥75 years, ≥3 diagnoses per ICD-10, and ≥3 inpatient admissions during 12 months prior to study inclusion. The intervention group received CGA-based care in an Ambulatory Geriatric Unit by a multidisciplinary team. The control group received usual care. Frailty was classified with the criteria from the Cardiovascular Health Study (CHS) at baseline and at 24 months.
Results: After 24 months, there was a significant difference in proportion of patients classified as pre-frail between the intervention group and control group, $p = 0.029$. The mortality was high, 18.8% (n = 39) in the intervention group and 27% (n = 47) in the control group. This was expected considering the high risk of mortality related to old age, multimorbidity and frailty.
Conclusion: These results suggest that outpatient CGA and subsequent interventions could have an important role in delaying development of frailty.

O-055
Multidimensional prognostic index in hospitalized elderly patients across Europe and Australia: a prospective multicenter study of the European MPI_AGE project

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Background: The Mutidimensional Prognostic Index_Age (MPI_AGE) is a multicenter project funded by the EU in the frame of the European Innovation Partnership on Active and Healthy Ageing, Second Health Programme (2008–2013) with the aim to implement the use of MPIs to improve cost-effectiveness of interventions in multimorbid frail older persons.
Objective: The objective of this study (Work Package 6) was to improve resource allocation in hospitalized older patients by using the MPI, a validated predictive tool for mortality based on the Comprehensive Geriatric Assessment (CGA).
Methods: 1,017 individuals aged 65 years and over admitted to nine acute Geriatrics Units in Italy, France, Germany, Spain, Czech Republic, The Netherlands and Australia were included in the study. In all patients clinical and multidimensional information, including the CGA-based MPI, were collected on admission and on discharge.
Results: On admission all patients (mean age 84.7 ± 7.6 years and prevalently females, 60.3% vs. 39.7%, $p = 0.0001$) were classified according to the MPI score. The median MPI score improved significantly from admission to discharge 0.63 vs 0.56, paired t test = 0.004, respectively. Overall, the MPI score on discharge improved in 35.25% of patients (mean age 83.81 ± 7.76 years), did not change in 38.13% of patients (mean age 84.43 ± 7.55 years) and worsened in 26.62% patients (mean age 86.20 ± 7.28 years), p for trend <0.001. No significant differences were observed between men and women in terms of improvement and worsening (Pearson Chi squared test, $p = 0.14$).
Conclusions: During hospitalization MPI score changes in most of patients; these changes are age-related.

O-056
Dysphagia among the community dwelling elderly people: how often? How we aware?

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Aim: Dysphagia is described a geriartric syndrome that occurs more frequently with aging. This clinical problem is associated with deterioration in functionality, malnutrition, infections, increase in mortality and usually ignored. The prevalence of dysphagia in the elderly among have been reported dysphagia is described a geriartric syndrome that occurs more frequently with aging. This clinical problem is associated with deterioration in functionality, malnutrition, infections, increase in mortality and usually ignored. The prevalence of dysphagia among elderly in many different populations have been reported between 13,8% and 23,4%. In our country, a study investigating the incidence of dysphagia have not been reported. In this study, our aim is screening the prevalance of dysphagia among elderly living in the community in our country.
Materials and methods: The study includes patients admitted to our clinic between July 2015 and March 2016, the patients ages were between 60 and 98 years old and they were prospectively and consecutively included in study. Dysphagia screening was done by scanning the EAT-10 questionnaire. 2 separate threshold for EAT-10 score of dysphagia, threshold (3 or 15) was used. The patients' age, gender, total disease, the total number of drug were noted. Dysphagia awareness was investigated in patients with detected dysphagia. For this purpose, dysphagia complaints, the patients were asked if they would express dysphagia complaints when there is no screening questionnaire.

Results: The study included 959 elderly patients (272 male, 687 female). Mean age was 74.21 ± 7.4 years. The total number of diseases, the total number of drugs; EAT-10 total score and distribution by and gender are shown in Table 1. In the study population EAT-10 threshold 3 and threshold 15 detected by positive dysphagia screening by prevalence and gender distribution are summarized in Table 2. Patiens with EAT-10 score ≥3 said symptoms without prompting symptoms of dysphagia with a percentage of 32.7%, while this percentage for patients with EAT-10 score >15 was 51.5 (Table 2). In EAT-10 questionnaire, the article which has the highest positivity and the highest score was the item questioning dysphagia with liquids that "I am making extra effort to swallow liquids" (Table 3). Factors independently associated with advanced age and EAT-10 score in linear regression analysis was established as advanced age (p = 0.007), female gender (p < 0.001) and the high number of drugs (p < 0.001).
Conclusions: In our study, screening the elderly outpatient prevalence of dysphagia; it was found with a significant incidence (64.8%) of dysphagia with threshold EAT-10 score ≥3; when it was 7.1 for thresholds EAT 10 > 15. Dysphagia in the elderly living in the community is a common problem in our country. Close to half of patients with significant dysphagia does not express dysphagia without query. Female sex and drugs excess number are risk factors for dysphagia. Our results suggest the need for performing dysphagia screening in the elderly.

O-057
Prognostic value of estimated glomerular filtration rate in older patients admitted in an internal medicine ward at 6 and 12 months follow-up

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Introduction: Kidney physiological ageing usually results in a decline of glomerular filtration. Chronic kidney disease is associated with increased morbi-mortality of older patients. Our aim was to analyze outcomes at 6 and 12 months (6 M and 12 M) of a cohort of patients ≥75 years admitted in an Internal Medicine Ward according estimated glomerular filtration rate (eGFR).
Methods: Prospective longitudinal cohort study of 100 patients. Comprehensive geriatric assessment at baseline. Body composition assessed by bioimpedance. eGFR calculated by Cockcroft-Gault equation (CGeq). Survival and hospital readmission at 6 and 12 M assessed by phone contact and hospital record analysis.
Results: One patient lost during follow-up. Average age 83.7 years, 63% males, average Cumulative Illness Rating Scale Geriatrics 11.2, average baseline Barthel score 63.6, 70% malnourished. Cumulative mortality: 6 M 48.4%, 12 M 53.5%. Average eGFR 57.8 ± 58.3 mL/min/1.73 m^2. Lower eGFR was statistically significantly associated with emergency department admission at 6 M (p 0.008) and 12 M (p 0.011) and rehospitalisation at 12 M (p 0.042). Lower serum creatinine was associated to lower Free-Fat Mass (FFM) according Deurenberg equation (p 0.001). Consequently, lower FFM was associated with higher eGFR (p < 0.001). This "higher eGFR" should be carefully understood as it results from reduced muscle mass and not from preservation of kidney excretory function. Association between eGFR calculated by CGeq and mortality was not detected.
Conclusion: CGeq results strongly depend on FFM and therefore might not be accurate to estimate kidney function in sarcopenic older people. Nevertheless, decline in kidney function seems to be related to increased hospital readmission.

O-058
Indications, safety, and diagnostic efficacy of balloon-assisted enteroscopy in the elderly: a systematic review and meta-analysis

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Background: Balloon-assisted enteroscopy (BE) are commonly used for investigation of small bowel diseases. Currently, there are limited data on the safety and efficacy of BE in the elderly. Therefore, we performed meta-analysis to assess the safety and diagnostic efficacy of balloon-assisted enteroscopy in the elderly compared to those in the younger.
Methods: We searched PubMed, Medline, Elsevier ScienceDirect and EMBASE databases until May, 2016, for articles assessing the safety and efficacy of balloon-assisted enteroscopy in the elderly. Data were extracted and assessed to evaluate the pooled complication rate and diagnostic yield of BE in the elderly compared to those in the younger patients.
Results: Seven articles involving 1,161 patients (1490 procedures) were included. The elderly were with high co-morbidity rate (74.7%). Obscure gastrointestinal bleeding was the most common indication (87.7%), and angioectasia was the most frequently final detected abnormality (40.1%). The pooled diagnostic yield of BE in the elderly group was 0.67(95% CI: 0.56, 0.77). The pooled relative diagnostic yield of BE in the elderly group compared to the younger group was 1.51 (95% CI: 1.14, 2.00; P = 0.004). The pooled complication rate of BE in the elderly group was 0.03(95% CI: 0.01, 0.04). The pooled relative complication rate of BE in the elderly group compared to the younger group was 0.88 (95% CI: 0.33, 2.32; P = 0.79).
Conclusion: Our study demonstrates that the complication rate is not higher in the elderly compared to the younger, and the elderly are more likely to a have higher diagnostic yield than that in the younger.

O-059
The psychosocial status of community dwelling elderly (65–75 years)

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Introduction: Aging increases the chance of frailty [1]. Frailty can be understood as the loss of functioning and independence [2]. The Groningen Frailty Indicator (GFI) is valid measurement instrument to asses frailty [3,4]. The GFI has 8 domains; mobility, wellbeing, vision, hearing, weight, comorbidity, cognition and psychosocial functioning. The aim of this study is to provide an overview of the psychosocial status of community dwelling elderly (65–75 years).
Methods: As part of the PERSSILAA-project (FP7-ICT-610359), elderly (65–75 years) were asked to complete various assessment instruments, including the GFI. The GFI consists of 15 items. The maximal score on the GFI is 15 and a score above 4 can be seen as frail [3].
Results: At this moment, 3,199 elderly (48% male and average age 70.0 SD 4.0 years) participated and completed the GFI. The mean score on the GFI was 2.2 (SD 2.3) and 24.7% of the elderly were categorized as frail. Considering the frail elderly, 72.9% experienced emptiness, 76.3% missed people around them, 53.7% felt abandoned, 74.3% felt sad or depressed and 54.6% felt nervous or anxious. Of the frail elderly, 96.1% suffered from at least one of these problems, 74.1% suffered from at least 3 of these problems and 17.5% suffered from all of these problems.
Key conclusions: Compared to the other domains of the GFI, psychosocial functioning plays an important role in frailty. Therefore, the role of psychosocial functioning should not be underestimated and intervention to prevent frailty should focus on improving the psychosocial status of elderly.

References

[1] Pel-Little R.E., Schuurmans M.J., Emmelot-Vonk M.H., Verhaar H.J. (2009). Frailty: defining and measuring of a concept. *The Journal of Nutrition Health and Aging*, 13(4):390–394.
[2] Slaets J.P.J. (2006). Vulnerability in the Elderly: Frailty. *The Medical Clinics of North America* 90(4):593–601.
[3] Schuurmans H., Steverink N., Lindenberg S., Frieswijk N., Slaets J.P. J. (2004). Old or frail: what tells us more? *Journals of Gerontology series A: Biological Sciences and Medical Sciences*, 59(9):M962–965.
[4] Steverink N., Slaets J.P.J., Schuurmans H., van Lis M. (2001). Measuring frailty: development and testing of the Groningen Frailty Indicator (GFI). *The Gerontologist*, 41(special issue 1), 236–237.

O-060
The influence of long term iodine deficiency on thyroid function in old age

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Objectives: Thyroid disorders are common in old age. The impact of iodine intake on their occurrence has been detailed for younger individuals. We previously found a high occurrence of thyroid disorders among iodine deficient 68 year olds and now assessed the importance of sustained iodine deficiency for the thyroid at 10-years follow-up.
Methods: A population based study among subjects born 1918–1923. We collected blood and spot urine samples for measurement of thyroglobulin and thyroid function tests. A questionnaire was filled in by 423 Randers dwellers aged 68 years at the first data collection. The 301 living in the same area at the age of 78 years were invited for a 10-year follow-up using identical procedures as was 75–80 year olds in Skagen.
Results: Participation rate was 57%. Urinary iodine (median;25–75%) was 42(29–71)/54(34–95) microgr/L at age 68/78 years in Randers and 160(126,228) microgr/L in Skagen ($p < 0.001$). At the age of 78 years thyroglobulin was 14.6(8.7–31)/15.2(6.0–48) microgr/L in iodine deficient men/women and 6.5(4.0–12)/9.0(5.2–21) in the iodine replete ($p < 0.001/0.02$). Thyroid disorders were more frequent among 78 compared to 68 year olds ($p < 0.001$) with a rise in both hyperthyroidism ($p = 0.01$) and hypothyroidism ($p = 0.03$). Hyper-/eu-/hypotyroidism at ages 68 and 78 years occurred in 9.9/73.8/3.8% and 17.3/54.9/8.1% ($p < 0.001$), and 14% of euthyroid individuals had developed hyperthyroidism and 5% hypothyroidism after 10 years.
Conclusion: Thyroid disorders are found among one in four 78 year olds with long-standing iodine deficiency. Still, it is seen in one out of six with life-long recommended iodine intake but with a different pattern.

Area: Rehabilitation and geriatric education

O-061
Advanced nurse practitioner-led ambulatory care for older people: safe and effective

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Objectives: The Rapid Assessment Consultant Evaluation (RACE) Ambulatory Emergency Clinic (AEC) was set up in April 2015 to address increased emergency activity and relieve acute hospital bed pressures. It aims to assess, diagnose and treat older people, avoiding hospital admission where appropriate. It is managed by a team of 6 Advanced Nurse Practitioners (ANPs) supported by a Consultant, with Comprehensive Geriatric Assessment at its core.
Methods: Quantitative data from the first year of RACE AEC was analysed using Quality Improvement techniques. Qualitative data was extracted from Friends and Family results.
Results: The redesign has led to a 500% increase in clinic capacity. 50% of patients seen would have required hospital admission had the clinic not been available, corresponding to an estimated 292 bed days saved in the first six months. There was a significant reduction in overnight admissions, and trends towards a shorter length-of-stay throughout the department as a whole. In the case of one frequent attender, the clinic's holistic approach reduced presentations to secondary care by 75%. The clinic has attracted excellent feedback from patients and their relatives.
Conclusion: The ambulatory clinic provides comprehensive assessment and investigations that historically would have required at least an overnight admission, with obvious financial and operational benefits. Patient and relative feedback has to date been very positive. Ambulatory care is a useful model for assessing and treating older patients in a timely fashion, as an alternative to hospital admission. ANPs can provide safe and effective ambulatory care for older patients.

O-062
A dilemma in the "protected" hospital discharges for elderly people: our experience

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Introduction: Time after discharges is critical, especially for individuals with complex care needs such as elderly adults. A possible answer is employing care transition programs aimed to guarantee the coordination among healthcare practitioners and continuity of medical care on moving among different settings and different levels of care.
Methods: A number of different health facilities have developed privileged ways for promoting an ideal network service following patient's discharge; in other words we mean the so called "protected discharges". Since 2009 a virtuous route has been promoted between ASP Catanzaro and "Pugliese-Ciaccio" Hospital, in Catanzaro, Italy. Our interfirms and multiprofessional team performed 1.177 assessments between January 2009 and December 2015. Mean age in the assessed patients was 81,19 ± 10,5 years old (women 54%, men 46%).
Results: Our data show a increase in "protected discharges" in the 7-year time 2009–2015. In fact, an increase in the mean for-month "protected discharges" was observed; in particular the mean number increased from 10,18 in 2009 up to 12,16 in 2015 (mean for month 14,01 2009–2015). The individualized health care settings were medicalized nursing home facilities (65,4%), home care (14,6%), rehabilitation facilities (16,9%), other (3,1%).
Conclusions: The continuity of care between hospital and out-of-hospitalcare systems is the most important health care procedure in a working Health Care System. In fact, the continuity of care means a global caring for elderly people, shared by different actors and different services aimed at care management and case management, especially during the vulnerable time which patient passes through.

O-063
Developing a geriatric emergency medicine curriculum

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Introduction: Older people represent a growing proportion of attendees in Emergency Departments across Europe. Traditionally Emergency Departments have not focused on care for older people especially those with frailty. Similarly, geriatric services have not traditionally focused upon the care of older people in Emergency Departments. This work seeks to bring together the two disciplines of Geriatric and Emergency Medicine through a defined and validated curriculum on Geriatric Emergency Medicine.
Methods: Domains and items for inclusion in the curriculum were derived through a combination of literature reviewing and a nominal group workshop. The domains and items underwent validation using a Delphi technique involving the European Societies of Geriatric and Emergency Medicine.

Results: In the development stage, 100 individual learning outcomes were identified, reflecting 16 domains. Following the stage 2 validation process, 98 items remained. All items were approved by the relevant EU societies. In the final validation step, the curriculum was formally approved by the UEMS sections for Geriatric Medicine and Emergency Medicine (responsible for curriculae in the respective disciplines).
Key conclusions: This curriculum was developed as a formal collaboration between EUSEM and EUGMS (European Task Force in GEM) and reflects the need to match the educational development of a workforce with the changing demographic of the patient population. The next challenge is ensuring it is embedded into practice. Future work to address these challenges is underway through the development of a GEM conference, GEM textbook and dissemination of information through journal publication and conference presentations.

O-064
Understanding of the information received at hospital discharge. Improving communication with caregivers

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Objectives: The high prevalence of chronic illnesses suffered by the geriatric patient sometimes makes difficult the understanding of the information by the caregiver. We want to analyze the level of understanding of the information given to the family and their satisfaction.
Methods: This is a descriptive and prospective study with inpatients between October-December 2015. Interview with the main caregiver after the patient's discharge. Knowledge degree of the patient's medical history and consistency with the real pathologies. Satisfaction with given information, used language. SPSS.
Results: 172 patients included, mean age was 86,65. 64,5% women. 5,8% lived on their own, 19,2% with their spouse, 34,9% with offspring, 32,6% in residence. Barthel at discharge: <20: 37,5%, >60: 25,1%. MSQ Pfeiffer >3: 54,5%. Charlson: 6,92. Knowledge degree about patients' medical history: tumor 63,6%, HBP (High Blood Pressure) 67,2%, cardiac insufficiency 54%, COPD (Chronic Obstructive Pulmonary Disease) 71,8%, diabetes 72,2%, renal failure 35,1%, anaemia 62,5%, thyroid disease 25%, arthrosis 32%, stroke 68,8%, dementia 70%, Parkinson disease 75%, depression 11,4%. Type of information: 40,1% wants complete information in colloquial language, 28,5% what the physician considers as appropriate, 14% very simplified, 5,8% in complex medical terms. 4% goes to the Internet. Satisfaction level with the information: 43% very satisfied, 43% satisfied, 7% improvable, 1,2% not satisfied.
Conclusion: Caregiver's satisfaction with the information received in the hospital is adequate, but there is a low knowledge degree about the patient's illnesses. We haven't found a relationship with the main caregiver's profile. It seems necessary to search for strategies that facilitate communication with the family in the hospital settings, after analyzing where the possible opportunities for improvement may be (time, dedication, appropriate language or environment).

O-065
Inter-professional education (IPE) in geriatric medicine: experiences of medical and nursing students from Oxford University Medical School and Oxford Brookes University

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Introduction: There are concerns about effective teamwork between nurses and doctors. Unreadiness for collaboration, poor communication and bullying relationships affect the quality of patient care. Unwell elderly patients with challenging/complex problems have improved health outcomes when they receive collaborative care from multidisciplinary teams (geriatricians, nurses, therapists). However, little is known in geriatrics about the effect of IPE on readiness for collaboration between nurses and doctors. Our study (started in 2015) aims to determine this.
Methods: Medical/nursing students participated in IPE sessions supervised by nurses/geriatricians. The sessions involved discussing cases which highlighted scenarios involving collaboration between healthcare staff. 54 nursing and 50 medical students completed Readiness for Inter-professional Learning (RIPL) questionnaires, before and after sessions. Mean RIPL subscale scores were compared with a Wilcoxson signed-rank test to determine if the IPE intervention changed student's attitudes. A group containing only medical students acted as a control. Free text feedback addressed the roles of nurses/doctors and concerns about learning together.
Results: Nursing students in mixed groups had significant improvements in 2 areas: "negative professional identity" ($P = 0.0143$) and "positive professional identity" ($P = 0.0069$). Medical students in mixed groups had significant improvements in 3 areas, notably "teamwork and collaboration" ($P = 0.0012$), but also both "negative" and "positive professional identity". None showed improvement in the "roles and responsibilities' subscale. The control group had no significant improvement in any subscale scores.
Conclusion: This study continues to demonstrate IPE is an effective teaching method in geriatrics which can improve student's communication/teamwork skills and their perceptions of further shared learning.

O-066
Gait pattern of healthy old people for fast walking condition

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Background: Gait patterns of healthy ageing are needed to allow a comparison with pathological situations. However few data are available. Objective: To present gait pattern of healthy older specially checked to be 'healthy walkers'.
Method: 140 volunteers benefited of a geriatric assessment including clinical and functional evaluations in order to exclude those having neurologic disorders, a history of fall, a previous stroke, neuroleptic drugs or alcohol consumption, mood or cognitive disorders and musculoskeletal complains. Gait data were simultaneously recorded using a tri-axial accelerometer carried on the waist and four 3D markers placed on each foot at the level of the heel and the toe. Volunteers walked at fast self-selected speed. The extracted gait parameters were: gait speed, stride length, stride frequency, regularity and symmetry, swing and stance time, double support time and minimum toe clearance. Gait speed and stride length were normalized to the right leg length. A statistical analysis was carried out using SAS 9.4 version. Results were considered statistically significant at the 5% critical level a ($p\text{-value} < 0.05$).
Results: Data of twelve gait parameters from sixty six "healthy walkers" mean aged of 70 years old (min 65 and max 88 years) were presented according to gender and age. Significant differences were shown according to gender.
Conclusions: This work provides reference gait values from healthy elderly people which can be used by clinicians and researchers.

O-067

Self-reported and measured physical performance among elderly people during the first year in senior house living

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Introduction: People older than 85 years is the fastest growing segment of elderly and at the highest risk for physical disability. Increasing number of older people is moving into senior housing, when no longer able to live independently in their home. Low physical performance is critical to maintaining resident's independence in the new surroundings.
Purpose: The aim of the study is to evaluate self-reported and measured physical performance and its change during the first year in senior housing, and association of self-reported physical performance with IADL-performance, physical activity and hobbies.
Methods: We examined elderly people (n = 81, mean age 81, F = 57/M = 24) who had moved to senior housing 3 months and 12 months after relocation. We used Oldwellactive-self-rated Wellness Profile (including grip-strength and 30-chair stand) and SPPB to measure physical performance. The data was statistically analyzed.
Results: As presumed, measured physical performance was poorer than average in home living population of the same age. Measured walking speed, IADL-performance and dominant hands grip strength decreased significantly but SPPB-scores, 30 s chair stand and left hand grip strength did not change. Self-reported IADL-performance, muscle strength training and hobby activity increased significantly. Self-reported physical activity and various background variables were linked to decreased walking speed and IADL-performance.
Conclusion: The results of this study suggest that although the muscle strength training and hobby activity increases assessment and promotion of physical performance is important among elderly people moving to a senior housing to support their independence and wellbeing.

O-068

Hospital and inactivity, a hazardous combination for the elderly

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Objectives: Hospitalization associated disability is more and more considered as an iatrogenic event which is mostly evitable [1]. Inactivity is an important cause. The objective of this study is to determine the physical activity level (PAL) of elderly patients during hospital stay and to investigate related factors.
Methods: Prospective cohort study on a geriatric ward in a regional hospital. PAL expressed in kilocalories (kcal) was continuously monitored by an accelerometer that is worn on the ankle of the patient during hospital admission. The relationships with frailty, use of assistive device, drip infusion and catheter use were calculated by the Mann-Whitney U Test and with fear of falling by Spearman correlation coefficient.
Results: Forty-three patients were included with mean age 82.7 ± 6.7 years. Median PAL was 77 kcal (IQR 42–112). Frail patients (ISAR-score >4) showed a lower PAL (median 54, IQR 29–80) compared to non-frail patients (median 90 kcal, IQR 63–117)($p < 0.001$). PAL of patients with and without catheter was median 49 kcal (IQR 23–76) and 76 kcal (IQR 36–116), respectively ($p = 0.02$). There was no significant difference between patients with and without assistive device ($p = 0.42$) and patients with and without drip infusion ($p = 0.41$) and no significant correlation with fear of falling (rsp = 0.2; $p = 0.6$).
Conclusion: In this study population patients show a very low PAL. Frailty and catheter use were significantly related factors which can be of use in the guidance of patients who are at risk for functional decline and the development of interventions to improve PAL.

O-069

Effects of cardiac rehabilitation in maintaining physical performance of patients aged >75 years over the long-term period, after an acute coronary syndrome or heart surgery

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Background: There are few data about effectiveness of cardiac rehabilitation (CR) in promoting durable functional recovery and adherence to secondary cardiovascular prevention in elderly. Aim of our study was to evaluate if Home-Based exercise program is more effective than usual care after in-Hospital CR in maintaining long-term effects on physical performance in elderly, after acute coronary syndrome or heart surgery.
Methods: At the end of four weeks CR program, 160 patients aged >75 years were enrolled in the study and were randomized in usual care group (standard follow-up visits at 6 and 12 months) and intervention group (specific set of exercises detailed and recorded in a log book, with a reinforcement session at the CR-centre each month for the first 6 months). The patients were evaluated at the entry and at discharge of CR, at 6- and 12-months follow-up, measuring with VO2peak (cardiopulmonary-exercise-testing), distance walked (6-Minute Walking test) and Torque peak (isokinetic dynamometer).
Results: there were no significant differences between 2 groups with mean age 80 ± 4 ys. After adjustment for age, sex, and test value at the entry in CR program, in ANOVA for repeated measure, all the patients substantially maintained the improvement obtained with CR in all three physical performance indexes at 12 months follow up, and the intervention group had a slightly lower reduction respect to control.
Key conclusions: our findings suggest that elderly treated with a CR program substantially maintain their functional status after a cardiac event, without further significant improvement with our Home-based exercise program.

Area: Ethics and end-of-life pre and post-operative care

O-070

A systematic review on the efficacy of ondansetron in the prevention and treatment of post-operative delirium

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Introduction: Post-operative delirium (POD) affects up to 50% of surgeries. It is associated with higher rates of functional decline and death. Serotonin may play a role in POD. Ondansetron is a serotonin antagonist with a favourable safety profile, and could represent a therapeutic and preventive option in POD.
Methods: We performed a systematic review of MedLine, EMBASE, CENTRAL and PsychINFO from inception to December 2015. Initial screening identified 622 abstracts and three randomized controlled trials (RCTs) met inclusion criteria.
Results: Two RCTs examined ondansetron for the treatment of POD. One study administered haloperidol 5 mg or ondansetron 8 mg intravenously (IV) as a single dose to 80 delirious patients post cardiac surgery (mean age 71). Both had similar reductions in their average delirium score and patients with persistent delirium. Another study administered ondansetron 4 mg or haloperidol 5 mg IV twice daily to 96 postoperative delirious patients for three consecutive days (mean age 31). Both groups had similar delirium rates after administration. However the ondansetron group received a higher total dose of rescue haloperidol. Finally, one RCT examined prophylactic ondansetron versus placebo to prevent POD in 106 orthopedic patients (mean age 71). They administered 8 mg of ondansetron or

placebo IV once daily for five days postoperatively. There were significantly less delirious patients in the ondansetron group starting on day 3 and persisting to day 5.
Key conclusions: Ondansetron appears to be an efficacious agent for the prevention and treatment of POD. Further large RCTs of high quality are needed to confirm these results.

O-071
A cluster randomised trial: comfort around dying in older people

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Introduction: Many older people die in hospitals and the quality of dying in acute hospital settings is often suboptimal. The aim of this study was to assess the effectiveness of the Care Programme for the Last Days of Life (CAREFuL) in improving the patient's comfort in the dying phase of older people in acute geriatric hospital wards. CAREFuL involved a Care Guide for the Last Days of Life, training, supportive documentation and an implementation guide.
Methods: We conducted a cluster randomised controlled trial at ten hospitals in Flanders, Belgium (October 2012–March 2015: one year baseline, six months implementation, one year post-intervention). The primary outcome was comfort around dying measured with the CAD-EOLD by nurses.
Results: Nurses completed post-intervention assessments for 132 (81%) of 164 of those in the intervention group and 109 (92%) in the control group. Implementation of the CAREFuL programme significantly improved comfort (CAD-EOLD) compared with the control (cluster-adjusted mean difference 4.3 [95%CI 2.07 to 6.53]; p<.001, Cohen's d .78). It improved symptoms and care needs (POS) (−2.62 [−4.96 to −.71]; p = .009, d −.51), but decreased satisfaction with care (SWC-EOLD) as assessed by family carers (−4.00[−7.87 to −.12]; p = .04, d −.74).
Key conclusions: The CAREFuL programme resulted in a significant improvement in comfort around dying and in symptoms and care needs in the last days of life, but it also had a negative effect on the satisfaction with care of those close to them mostly explained by a significant improvement in the control group.
(ClinicalTrials.gov nr NCT01890239).

O-072
Use of physical restraints, evaluation of professional practices in a French nursing home

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Introduction: The prevalence of physical restraints was estimated at 88% by direct observation in our long term facility department (including bedside rails), and restraint prescriptions were not revalued and no validated procedure was used at this time. Most commonly used to prevent falls, contain agitation or limit ambulation, the decision of contention wasnot based on an accurate assessment of risk In most cases the restraint is a risky situation which weakens the elderly * Increase the risk of serious falls (x3) * Increase morbidity and mortality * Accelerates the loss of autonomy * Create loss of freedom with psychological and social consequences.
Material and methods: For this evaluation of our professional practices we use the French Health Authority audit method with 9 criteria (1) 1 – Written Prescription stamped and signed by the prescribing physician. This is a medical decision taken with the views of various members of the care team 2 – Emergency criteria, confirmed by a physician as soon as possible 3 – Reasons of physical restraint rated 4 – Requirements made after multidisciplinary assessment of the benefit / risk 5 – Assessment of the risk/benefit noted in the record 6 – Prescribed duration 7 – Hardware prescribed: The use of bed rails refers to the same precautions of use than any other restraint 8 – Scheduled Monitoring risks noted in the record, regularly incorporates the physical, psychological and environmental dimensions 9 – The physical restraint prescription is reevaluated every 24 hours.
Results: After audit and training the prevalence of physical restraints was estimated at 34% A prescription sheet was stamped and signed by the physician. A target was done inthe nurse and nurse helper care chart (To trace patient installationand monitoring of contention). A prevention protocol and monitoring of physical restraints risks was performed. A re-evaluation of indication during multidisciplinary meetings was done. A medical examination was programmed at the end of the prescription. Systematically an alternative to the contention is suggested.
Discussion: Older person and older relatives are not directly involved in the 9 French Authority criteria In nursing home it is very difficult for the physicians to reevaluate physical restraints every 24 h hours.
Conclusion: After our evaluation, safety of the practice was improved, we obtained a multidisciplinary awareness. It was possible to reduce the number of physical restraints without increasing the frequency of serious falls or psychotropic prescription. An improvement of our practices is still needed, using a personal evaluationto find appropriate alternatives case by case, sometimes innovative. From 2015 we use another indicator number of physical restraints with physician prescription /total number of physical restraints
References protocole de l'audit ciblé HAS. Ejaz F K, Jones J A, Rose M S. Falls among nursing home residents: an examination of incident reports before and after restraint reduction programs. J Am GeriatrSoc 1994;42:960–964. Kirkevold Ø, Engedal K. Prevalence of patients subjected to constraint in Norwegian nursing homes. Scand J Caring Sci 2004;18:281–286. Burton L C, German P S, Rovner B W. et al. Mental illness and the use of restraints in nursing homes. Gerontologist 1992;32:164–170. etc.

O-073
Polypharmacy and use of preventative medications in older people near the end of life: choosing wisely?

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Background: To evaluate the frequency of polypharmacy and the prevalence of preventative medication use over the course of the last year of life of older people in Sweden.
Methods: Nationwide, register-based study in the entire Sweden, including all individuals who died at age 66 years or older between January 1, 2007 and December 31, 2013. Linear mixed models were computed to investigate the factors associated with change in medication use.
Results: 511,843 older adults died between 2010 and 2013 met our inclusion criteria. Mean age at time of death was 84.2 years, 31.7% of the individuals were institutionalized, 42.4% had ≥4 chronic conditions and 94.3% (n = 482,593) died from non-sudden causes. Over the course of the last year before death, the average number of medications increased from 7.6 to 9.6 ($p < 0.001$ for trend). During the same period, the proportion of individuals exposed to ≥10 medications rose from 30.7% up to 47.4% (from 24.9% to 36.3% when excluding analgesics). Cancer decedents, community-dwellers and individuals aged 66–74 at time of death were found to have the sharpest increase in their medication use. During the last month before death, 53.8% of older people were exposed to antithrombotic agents (including 44.9% platelet aggregation inhibitors), 41.1% to beta-blockers, 30.6% to agents acting on the renin-angiotensin system (including 21.4% ACE inhibitors), 16.3% to lipid-modifying agents, 15.4% to calcium-channel blockers and 20.5% to mineral supplements.
Conclusion: Polypharmacy and long-term preventative drugs are frequent in older people near the end of life. This raises important questions regarding the adequateness of medication use in a context of limited life-expectancy.

O-074

Shared decision-making in oncology, are patient preferences different in elderly?

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Background: There is still some debate about age-related differences of patient preferences concerning decision-making in oncology. Especially a different acceptance of the modern concept of shared decision-making in the elderly has been discussed.
Methods: To analyze patient preferences a set of vignettes exposing different clinical settings were given to patients attending an oncology clinic. They were asked to rate their preferences. Primary ratings then were examined applying conjoint-analysis. Three factors were included: clinical experience of responsible physician in oncology (2 years vs. 7 years), type of hospital (local hospital vs large oncology center), type of physician-patient interrelation (informed, shared decision-making, paternalism). To test for age related effects, the conjoint-analysis was applied in two independent cohorts: cohort A: patients aged below 65 years; cohort B: patients aged over 70 years.
Results: 71 patients (41 cohort A; 30 cohort B) were included. In both cohorts patient-physician interaction revealed highest preference values compared with type of hospital and physician experience. Subsequent analysis of age on preference-values showed in the elderly significant higher preference values concerning patient-physician interaction (0.72 vs 0.50) and lower values concerning type of hospital (0.13 vs 0.33). Further analysis of preferred type of patient-physician interaction showed in both cohorts highest preference for shared decision making without significant differences (0.36 vs 0.36) but in the elderly significant higher values for paternalistic interrelation (0.33 vs 0.25) and significant lower values for informed type (0.06 vs 0.19).
Discussion: Type of physician-patient interaction could be confirmed as significant aspect in clinical settings in oncology. Both elderly and younger patients prefer the shared-decision making concept in the first place, followed by the classical paternalistic model. Only younger patients show some sympathies to an interaction type leaving decisions predominantly to the patient. Physicians are to be encouraged to use a shared decision type of interaction in general and especially also in elderly oncology patients.

O-075

Elderly medicine liaison service for older people admitted to general surgical wards. Perioperative Care of Older People Undergoing Surgery-Salford General Surgery (Salford POPS-GS)

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Objectives: Access to general surgery reduces drastically in older patients. We describe the feasibility and impact of a proactive, geriatrician-led liaison service targeting older people admitted to a general surgical ward.
Methods: Patients over 74-years of age admitted to general surgery underwent comprehensive geriatric assessment, targeted interventions and timely discharge planning. There was close liaison with surgical colleagues and a weekly multidisciplinary team meeting.
Results: Between 9th September 2014 and 30th November 2015, 373 patients entered our study. Mean age was 81.9 years (70–98) with female preponderance (55.4%). The majority of patients were admitted non-electively (300, 80.4% vs 73, 19.6%); 131 individuals underwent surgery, 27.1% a non-surgical procedure and 141 were managed non-invasively. Most individuals lived in their own home (92.5%), were independent in basic (81.4%) and instrumental (59.7%) activities of daily living and mobilised with no walking aids or using a stick (70.2%). Comorbidity (5.0 ± 2.4 chronic conditions, range 0–14 and 95.1% two or more) and polypharmacy (8.2 ± 4.3) were common. The commonest presenting symptoms were abdominal pain and vomiting (59.3%). Cancer (136, 36.5%), liver and biliary conditions (71, 19%) were the most common diagnoses. Median and mean LOS were 9 days and 13.2 days respectively with a range of 1–207 days.
Conclusions: The deployment of an elderly medicine liaison service is feasible and appears to progressively reduce length of stay in older patients admitted to surgical wards irrespective of whether they have surgery or undergo non-invasive treatment.

O-076

The interaction between preoperative muscle weakness and obesity and recovery after total hip arthroplasty

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Introduction: In practice and literature there is still debate whether preoperative obesity is negatively associated with the outcomes of total hip arthroplasty (THA). Other evidence suggests that obesity and muscle weakness act synergistically causing negative health outcomes. The objective of this study is to investigate if muscle strength modifies the relationship between preoperative obesity and recovery after THA.
Methods: In this prospective cohort study, preoperative obesity (BMI > 30 kg/m^2) and muscle weakness (hand grip strength <20 kg for woman and <30 kg for men) were measured of all patients approximately 6 weeks before THA. Patients with a BMI<18.5 kg/m^2 were excluded. Outcomes were delayed inpatient recovery of functioning (>2 days to reach independence of walking) and "prolonged length of hospital stay" (LOS, >4 days and/or discharge to extended rehabilitation). Univariate and multivariable regression analyses with the independent variables muscle weakness and obesity, and the interaction of both were performed and corrected for possible confounders.
Results: 297 patients were included, 18% were obese and 7% also had muscle weakness. Obesity was not significantly associated with prolonged LOS (OR 1.36, 95%CI 0.75–2.47) or prolonged recovery of functioning (OR 1.77, 95%CI 0.98–3.22). But the obesity-weakness interaction was significantly associated with prolonged LOS ($p = 0.046$). Having both obesity and weakness was significantly associated with prolonged LOS (OR 3.04, 95%CI 1.01–9.11).
Key conclusions: Muscle strength modifies the relationship between preoperative obesity and recovery after THA. The results of this study suggest we should measure muscle strength in addition to BMI (or body composition) to identify patients at risk for prolonged recovery.

O-077

Delaying hip fracture surgery increases perioperative complications

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Introduction: To analyze the differences in clinical outcomes and mortality related to surgical delay (>48 hours) in older patients with hip fracture.
Methods: Prospective study in patients ≥80 with hip fracture admitted to an Orthogeriatric Unit for surgical replacement. Data about social, functional and cognitive status, type of fracture/surgery, time to surgery, length of stay, medical/surgical complications and mortality during hospitalization were collected. The patients were divided into two groups according to surgical delay (before o later than 48 hours from admission) to compare outcomes.
Results: 468 patients. 79% women, mean age 87 ± 5. Barthel 75 ± 25, FAC 4 ± 1. 33% dementia. 22% in nursing homes. MNA:10 ± 2. Mean n° comorbidities: 3 ± 2. Mean n° drugs before admission: 6 ± 3. 58% per/subtrochanteric fractures. 33% were operated in the first 48 hours. Mean time until surgery: 4 ± 3 days. Mean length of stay:14 ± 7 days. Mortality during hospitalization: 4%. Comparing both groups, there

was a higher number of medical complications in patients undergoing surgery after 48 hours (80.9% vs 70.1%, p = 0.009), specially urinary infection (30.3% vs 20.8%, p = 0.03) and pressure sores (14 vs 6.5%, p = 0.017) with a trend for increased frequency of delirium (47.1% vs 39.6%), respiratory infection (15.6% vs 11.7%) and renal failure (15.6% vs 12.3%). This group also had a higher number of comorbidities (3 ± 2, p = 0.002), higher mortality (4.8%vs 2.6%, p = 0.26) and longer length of stay (15.5 vs 11.5 days, p = 0.34).
Conclusions: In our population, the group of patients undergoing surgery later than 48 hours from admission has higher comorbidity and medical complication rates (mainly, urinary infection and pressure sores).

O-078
Osteoporosis treatment after hip fracture: predicting survival with Nottingham scale

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Objectives: As treatments for osteoporosis need time to reduce fracture risk, they should be guaranteed to patients with high survival probability.
Methods: Prospective data were collected from patients admitted for hip fracture surgery. Anayses were conducted using the software package SPSS 15, using Chi-square test and U Mann Whitney when appropiatte P values <0.005 were considered statistically significant.
Results: Among 198 patients over 75 years, 151 (76%) had surgery. Mean age was 87+/−6.5 years, mean Barthel index prior to admission was 69.84+/−28; mean risk of osteoporosis by Q-FRACTURE scale was 5.56+/−2 points; mean preoperative stay was 4.47+/−3 days and mean hospital stay was 11.70+/−6 days In hospital mortality rate was 5.6% (1.32% post surgery) and statistically related with the number of complications, previous mobility (Parker scale) and pre surgery comorbidity (Charlson scale), Mortality rate after 1 month follow up 15% was associated with age, number of complications, Charlson, Barthel index at discharge and Nottingham score. Mortality rate after 1 year follow up 29% was associated with age, Barthel index prior to fracture and at discharge, Charlson, Nottingham and Q-fracture. In multivariate analysis the best predictor of mortality was Nottingham score
Conclusions: 30% 1 year mortality in eldely hip fracture patients is mainly related with functional level and comorbidity. As Nottingham is the best predictor of mortality, all patients with. low scores should receive osteoporosis treatment.

Area: Acute care and healthcare organisation

O-079
Hospital admissions of community-dwellers and residents in long-term care (LTC): Debunking a myth

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Introduction: Hospitalisation rates from nursing homes in UK, Australia and Scandinavia are up to double those of community-dwellers. Hospitalisations from LTC residents are not described for New Zealand. Our aim was to compare hospitalisation rates of LTC residents with those of community-dwelling older people.
Methods: National databases provided information for publicly-funded hospitalisations in Auckland. Age- and gender-specific annual hospitalisation rates for LTC residents were estimated based on residents included in the OPAL survey [1,2], and by subtraction for community-dwelling residents. The Australia Refined Diagnosis Related Groups v5.0 definitions categorized admissions into selected disease groupings.
Results: 73,514 hospitalisations occurred from the population of 129,870 aged 65+ years. Annual age-standardised admission rates for the population aged 65+ were 54.9 [95%CI: 52.1,57.8] per 100 person-years for LTC residents and 60.2 [95%CI: 59.8,60.7] per 100 person-years for community dwellers. Hospitalisation rates rose markedly with age among community-dwellers, but not for LTC residents. Men were admitted more than women across all age groups of community-dwellers, but not for LTC residents. LTC residents were hospitalised less than community-dwellers overall (particularly for surgical or other planned procedures, for ear, nose and throat, and circulatory disorders). For disorders of the urinary tract, respiratory and nervous systems they were hospitalised more often.
Key conclusions: Hospitalisation rates from LTC were lower than community-dwellers, contrasting with overseas reports. Findings from one country may not apply in other health systems; results of intervention studies are therefore not necessarily generalisable.

References

[1] Broad JB *et al. Age Ageing* 2011;40(4):487–94.
[2] Boyd M *et al. J Am Med Dir Assoc* 2011;12(7):535–40.

O-080
Is self-rated health an independent prognostic factor of six-week mortality in older patients hospitalized for an acute condition?

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Purpose: To determine whether self-rated health is a prognostic factor of six-week mortality, independently of other known objective prognostic factors.
Methods: The SAFMA study was a prospective cohort, which recruited patients from the University Hospital of Martinique Acute Care for Elders unit (French West Indies) from January to June 2012. Patients aged 75 or older and hospitalized for an acute condition were eligible. The outcome was time to death within the six-week follow-up.
The main explanatory variable was self-rated health. Sociodemographic and clinical characteristics were considered as covariates. Cox's Proportional Hazards model was used.
Results: Among the 223 patients included, mean age was 85.1 ± 5.5 years. Six-week mortality rate was 14.8%; none were lost to follow-up. In total, 123 claimed "very good to good" health, and 100 "medium to very poor" health. Self-rated health was the only independent prognostic factor associated with six-week mortality (Hazard Ratio: 2.61; 95% Confidence Interval: 1.18–5.77; p = .02), when adjusting for known prognostic factors such as age, and dimensions of the Comprehensive Geriatric Assessment or comorbidity.
Conclusion: The association between self-rated health and short-term mortality could have implications for clinical practice, particularly in helping in the estimation of prognosis in acute care setting.

O-081
Should we reconsider the management of the elderly polytrauma patient?

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Introduction: As the population ages and survivorship of initial traumatic injuries increase, there may a larger group of elderly patients presenting with polytraumatic injury. This prospectively collected, retrospectively analysed study aimed to investigate the incidence, management and outcome of elderly patients presenting with polytraumatic injury.
Methods: Consecutive patients presenting to one major trauma centre in the UK with an injury severity score (ISS) of over 9 were prospectively collected over a 30-month period. Multivariate analysis

was undertaken to investigate the role of ISS, comorbidity and mechanism upon outcome (Glasgow outcome score, 30 day mortality).
Results: 896 patients over the age of 65 years presented with polytrauma and were compared to 1,363 patients under 65 years. The mean age of the elderly group was 80 years (standard deviation (SD) 8.6). Mean ISS was significantly lower in the elderly than the young (16.6; SD 8.1 $p < 0.0001$), but more severe head injuries were seen in the elderly ($p < 0.0001$) The elderly were 2.8 times more likely to die ($p < 0.0001$) in the first 30 days, and 2.6 times more likely to have a worse outcome score ($p < 0.0001$). UK trauma best practice did not improve outcome in the elderly, but did improve outcome in the young. Mechanism of injury, age and comorbidity were also significant predictors of morbidity.
Conclusion: This study proposes that mortality in the elderly polytrauma patient is higher than previously thought. Further work is needed to determine the best practice in early appropriate trauma care in the elderly to improve survival.

O-082
First National Audit of In-patient Falls (NAIF, 2015) in England and Wales

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Introduction: Falls in hospital are the most commonly reported patient safety incidents. They can result in serious injuries, slower recovery and increased costs. Our aim was to assess compliance of policies, protocols and clinical care of older acute hospital patients with evidence-based national clinical guidance on preventing falls/injuries [1,2].
Methods: NAIF is a web-based audit, based on guidance. Questions were piloted for clarity and feasibility. Responses are generally categorical (yes/no). All acute hospitals were invited to participate. Organisational data involved leadership, policies and protocols. The clinical data was a snapshot collected from clinical records and patient level observation of 30 patients aged 65+ on their third hospital day.
Results: 96% (179) of eligible providers participated. Missing data was <2%. All respondents had falls prevention policies: most covered all relevant areas of falls prevention. Falls risk prediction tools were used by 73% although not advised by NICE as they are insufficiently predictive. 90% providers returned clinical data, from 4,846 patients. Overall, there was no association between hospital policies and the documented clinical care. Compliance with falls related assessments and care plans were: delirium 37%, medication reviews 46%, vision 48%, lying and standing blood pressure measurement 16%, continence or toileting care 33%, mobility aid in reach 68%, call bell accessible 82%.
Key conclusions: There is (i) disconnect between institutional intentions and clinical practice, (ii) wide variation in national compliance, and (iii) variation in what individual hospitals succeed in achieving. These results may promote more consistent focus on a standardised evidence-based approach.

References

[1] National Patient Safety Agency. *Slips trips and falls in hospital*. London: NPSA, 2007.
[2] National Institute for Health and Care Excellence. *Falls: assessment and prevention of falls in older people (CG161)*. Manchester: NICE, 2010.

O-083
Correlation between serum heat shock proteins level and the prognoses of elderly ICU patients: a prospective study

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Aim: To investigate the association between serum cardiac markers levels and the prognoses of elderly patients in intensive care unit (ICU).
Method: A total of 428 consecutively hospitalized elderly patients (Age ≥60 years), who were critically ill on admission to Emergency ICU and Elderly ICU were screened for eligibility and followed up during their ICU stay. We collected each patient's baseline characteristics, including their Acute Physiology and Chronic Health Evaluation II (APACHE II) scores, N-terminal pro-brain natriuretic peptide (NT-proBNP), C-reactive protein (CRP), Heat Shock Proteins (HSP), cTnT and CK-MB levels. The primary indicator was the mortality of elderly ICU patients. Multivariate logistic regression analyses were performed to identify independent predictors of ICU mortality. Net reclassification improvement (NRI) and integrated discrimination improvement (IDI) were used to assess the model for predictors of ICU mortality.
Results: Multivariate logistic regression analysis revealed that APACHE-II score, CRP, NT-proBNP, HSP, cTnT, and CK-MB level could independently predict the prognoses of elderly ICU patients. Among them, APACHE II had the greatest power to predict the mortality of elderly patients in ICUs. The maximal Area under Curve (AUC) for CRP level (0.633 ± 0.042) was less than that of NT-proBNP (0.712 ± 0.032) ($p < 0.01$) but greater than that for cTnT (0.704 ± 0.031) ($p < 0.01$). NT-proBNP had the highest power to predict the mortality of elderly patients in ICUs, CRP and cTnT ranked second and third respectively. The addition of HSP, cTnT and NT-proBNP to APACHE-II resulted in an NRI of 19.45% ($p < 0.01$) and an IDI of 9.13% ($p < 0.01$). In the subgroup with infection, the addition of HSP to APACHE-II resulted in increased Cox & Snell R2 and Nagelkerke R2 as well as significantly different NRI and IDI ($p < 0.01$).
Conclusion: Serum cTnT and HSP level could independently predict the mortality of elderly patients in ICUs. The addition of cTnT and HSP level to APACHE-II score led to a significantly higher power to predict the mortality of elderly ICU patients.

O-084
Prevalence of hyponatremia and risk of falls in elderly admitted in Emergency Geriatric Medicine Unit

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Objectives: Hyponatraemia is the most common electrolyte disorder in older adults. Some studies have found that it increases morbidity and mortality. Approximately one in three older adults fall each year. Dysnatremia may predispose to falls and fractures, and serum sodium may influence bone health. Little is known of the association of dysnatremia at Emergency Department (ED) and fall prevalence in elderly admitted at ED. Therefore we are investigating the link between hyponatraemia and risk of falls in elderly admitted in Emergency Geriatric Medicine Unit.
Methods: We conducted a cross sectional study during three months including patients older than 75 years admitted to the Emergency Geriatric Medicine Unit of the University Hospital Center of Limoges (France). Socio-demographic factors, falls event, Comorbidities, Medications, sodium levels were studied (hyponatraemia was considered Na+< 136 mmol/L) and the short-CGA variables including SEGA (frailty score) and ADL.
Results: Of 600 cases recruited, the mean age was $87 \pm 5{,}9$ an 65.3% were women. The prevalence of falls was 24.7% 95% CI (21.5% to 28.5%). The prevalence of hyponatraemia was 7.6% 95% CI (2.9% to 13.1%) in patient without falls and 20% 95%CI (16.5% to 23.5%) in patient admitted for falls. Hyponatremia was associated with falls of $P < 0.001$. The adjusted OR was 3.7 95% CI (1.6–8.3).
Conclusion: Given that hyponatraemia could be considered a risk factor for falls, the inclusion of the determination of sodium level at emergency department would be important for fall prevention strategies in the elderly.

O-085

Are we failing to identify patients at high risk of predictable readmission to hospital?

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Introduction: The United Kingdom's National Tariff Payment System describes the 30 day readmission rule in which commissioners set a threshold above which payment for emergency readmissions is not reimbursed. Reasons for hospital readmission are complex and multifactorial, with little evidence to support cost-effective ways of preventing readmissions.
Methods: A prospective audit of emergency readmissions within 28 days from an admission under our department was carried out. Data were collected for 122 readmission episodes to analyse the events of the initial admission and reasons for readmission to hospital.
Results: 17% of patients had concerns raised by the multidisciplinary team (MDT) at the initial admission as to how they would manage at home; readmission was triggered by the patient, a relative or carer in over 80% of this group. 36% of readmissions were after discharge with increased social support in the community; most of these were discharged to a new address (care home or rehabilitation facility) and the remainder to their own homes with an increased care package. The main reason for readmission was patients/relatives not coping after discharge.
Key conclusions: When we discharge patients with concerns raised by the MDT as to how they will manage in the community this "trial of discharge" is a risk for readmission. Patients and carers are vulnerable due to reduction in functional ability after an inpatient stay, and the capacity and capability of community health and social care teams is insufficient to mitigate risk. Subsequent readmissions are predictable, but not avoidable without available alternatives.

O-086

The healthcare costs associated with transitions in functional disability in community-dwelling older persons: a prospective cohort study

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Introduction: This study aims to determine the association between healthcare costs and transitions in functional disability in community dwelling older persons in the Netherlands.
Methods: Participants (N = 6,679) were community dwelling older persons aged 70 years and older registered at participating GP practices. Based on the difference in KATZ ADL index scores between baseline and 12 months follow up, four categories of functional disability were created: (1) stable independence (2) stable with limitation(s) (3) functional improvement (4) functional decline. Data on hospital admissions and GP care were used to calculate healthcare costs. Multiple linear regression was used to model the association between functional disability states and healthcare costs.
Results: At baseline, the mean age of participants was 77.5 (SD 5.8) years and 55.7% were female. Mean total healthcare costs in stable independent older people were EUR 2,908.8 (95% CI 1,718.9–4,098.7) and EUR 6,494.8 (95% CI 3,828.6–9,161.0) in older people with stable limitations. Older people with functional improvement have mean healthcare costs of EUR 11,426.6 (95% CI 59,489.9–15,363.3) and mean healthcare cost in older people with functional decline are EUR 13,567.2 (95% CI 9,770.1–17,364.3).
Conclusion: Older persons with functional decline or improvement during one year follow up have higher total healthcare costs compared to stable independent older persons. It is therefore important to prevent older persons from functional decline and keep them on a stable functional level without (many) limitations.

O-087

Understanding different approaches to orthopaedic-geriatric collaboration: using the National Hip Fracture Database (NHFD) to develop a system of classification

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Introduction: In recent years increased orthogeriatric collaboration has transformed hip fracture care in the UK, with hospitals developing approaches that reflect historical considerations and the enthusiasms of local clinicians.
Methods: In 2015 the National Hip Fracture Database (NHFD) questioned all 177 hospitals which admit patients with hip fracture in England, Wales and Northern Ireland – to define the nature and intensity of orthogeriatric input and inform the development of a classification system.
Results: All units replied. Six models were identified. Most units described one of two models; 75 (42%) reporting "routine orthogeriatric review" and 78 (44%) "shared care". Seven (4%) admitted patients directly under a geriatrician. Nine (5%) routinely transferred patients to geriatricians post-op. One unit has all care by a hip fracture specialist surgeon. Seven (4%) retain a "traditional model" with orthogeriatric review on request. This dominance of "routine orthogeriatric review" and "shared care" was seen within Wales and Northern Ireland, with these models in ten out of thirteen and all four hospitals respectively. Performance measures were poorer in units with a "traditional model", which tended to be smaller. Only 63.9% of their patients received surgery by the next day, cf. >70% in units with integrated models of orthogeriatric care.
Conclusions: Comparison of performance and outcomes of different approaches requires clarity over the model of the service in each unit. We are using these results to develop a classification that distinguishes between pre-/peri-operative care and post-operative elements of care to support comparisons of services across different countries.

Late Breaking Abstracts – Oral presentations

LB-2

Effects of SMS-guided outdoor walking and strength training after acute stroke – a pilot study

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Introduction: The level of physical activity in community-living individuals after stroke is low and known to decrease with age. The study aimed to achieve the recommended level of physical activity, i.e. at least 150 minutes/week, and to evaluate the effect of an outdoor walking program together with a functional strength exercise in individuals with acute stroke. The training was guided by daily mobile phone text messages (SMS).
Methods: In this experimental pilot study with pre- and post assessments 16 individuals participated (age >18 y, mean 64±13 years, 50% male) with verified acute stroke and sufficient walking capacity, i.e. able to perform the 6-Minutes Walk Test, (6MWT), motor function (Modified Rankin Scale, MRS ≤ 3), cognition (Montreal Assessment Scale, MoCA > 22 points) and with access to a mobile phone. Participants completed a 12-week outdoor walking program together with one strength exercise (chair-rising) that was gradually increased in frequency and intensity. Instructions were delivered daily to their own mobile phone.

The 6MWT was the primary outcome measure and gait speed (the 10-meter walking test, 10mwt), mobility (the Short Physical Performance Battery, SPPB) inclusive chair-rise and the handgrip-strength (Jamar hand dynamometer) were secondary outcome measures.
Results: Within-group analyses revealed that at 3 months the following values were significantly different and improved ($p < 0.05$) from baseline to 12 weeks: the 6MWT (meters, 32%), 10mwt (26%), SPPB (23%) and chair-rise (22%).
Key conclusion: SMS-guided outdoor walking and one strength exercise may be effective in improving walking capacity, gait-speed, mobility and chair-rise after acute stroke.

LB-3
Vitamin D supplementation to prevent depression and poor physical function in older persons: results of the D-Vitaal study, a randomized placebo-controlled trial

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Introduction: Depressive symptoms and declining physical function are interrelated conditions and common in older persons. Previous observational studies suggests that low serum 25-hydroxyvitamin D (25(OH)D) levels are related to both mental and physical functioning. However, results from supplementation trials are inconsistent, possibly due to suboptimal study designs.
Methods: The D-Vitaal study is a randomized, double-blind, placebo-controlled trial using a daily dose of 1,200 IU vitamin D3 versus placebo for 12 months to investigate effects of the supplementation on depressive symptoms, functional limitations and physical performance in older persons at high risk of developing more substantial mental and physical health problems. Subjects (N = 155, age 60–80 years, community dwelling) were included if they had mild depressive symptoms, at least one functional limitation and low vitamin D status (25(OH)D 15–50/70 nmol/L, depending on season). The data were analyzed with linear mixed models analyses.
Results: The supplementation substantially increased serum 25(OH)D levels in the intervention group (mean 25(OH)D after 6 months: 85 (SD: 16) nmol/L versus 40 (SD: 23) nmol/L in the placebo group). Compliance (>80% tablet intake) was 89.7%. Intention-to-treat analyses showed no significant differences between the treatment groups on depressive symptoms and physical performance. Pre-specified subgroup analyses showed that the supplementation marginally improved functional limitations in participants with baseline 25(OH)D levels above 50 nmol/L (ratio: −0.22; 95% CI: −0.42, −0.03), but this effect was attenuated in per-protocol analyses.
Key conclusions: Vitamin D supplementation did not improve depressive symptoms or physical functioning in older persons at risk for declining mental and physical health.

LB-4
Inflammation and frailty in the elderly: a systematic review and meta-analysis

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Introduction: The pathogenesis of frailty and in particular the role of inflammation is poorly understood. We examined the possible association between inflammation and frailty utilizing a systematic review and meta-analysis.
Methods: A systematic literature search of major electronic databases from inception until 05/2016 was conducted including articles providing data on inflammatory biomarkers and frailty. Data were summarized with standardized mean differences (SMDs) comparing information of frail and pre-frail people vs. robust participants in cross-sectional and with odds ratios (ORs) adjusted for the maximum number of potential confounders by inflammatory parameters levels at baseline for longitudinal studies.
Results: From 1,856 initial hits, 35 studies (32 cross-sectional studies n = 3,232 frail, n = 11,483 pre-frail and n = 8,522 robust, and 563 n = pre-frail + robust; 3 longitudinal studies n = 3,402 participants) were meta- analyzed. Cross-sectional studies reported that compared to 6,757 robust participants, both 1,698 frail (SMD = 1.00, 95%CI: 0.40–1.61) and 8,568 pre-frail (SMD = 0.33, 95%CI: 0.04–0.62) participants had significantly higher levels of C reactive protein (CRP). Frailty (n = 1,057; SMD = 1.12, 95%CI: 0.27–2.13) and pre-frailty (n = 4,467; SMD = 0.56, 95%CI: 0.00–1.11) were associated with higher serum levels of IL6 compared to people who were robust (n = 2,392). Frailty and pre frailty were also significantly associated with elevated white blood cell and fibrinogen levels. In three longitudinal studies, higher serum of CRP (OR = 1.06, 95%CI: 0.78–1.44,) and IL 6 (OR = 1.19, 95%CI: 0.87–1.62) were not associated with frailty.
Key conclusions: Frailty and pre-frailty are associated with higher inflammatory parameters and in particular CRP and IL 6, but more longitudinal studies are needed.

LB-5
Development of the EASI-ltc to assist in elder abuse detection in the long-term care setting

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Introduction: The Elder Abuse Suspicion Index (EASI) © is a validated six question tool to facilitate identification of elder abuse (EA) and neglect through enquiry by office-based family physicians of older adults with MMSE scores of ≥24. It is available in nine languages, courtesy of international collaborations. We now report on EASI modification for the more complicated enquiry of residents in long term care (LTC) with similar level of cognitive functioning.
Method: The design was multiphase mixed methods for instrument development and construct validation. This included (1) literature review for acts of omission and commission associated with EA in LTC; (2) on-line survey of Canadian EA experts to rank importance of each act for inclusion in a LTC EA detection tool; (3) incorporation of top-ranked items into EASI, through word modification or new questions; (4) EA expert focus group review of questions for content and word selection; (5) further analysis of questions by a focus group of front-line LTC workers for content and acceptability; and (6) final incorporation of feedback into a tool for LTC, the EASI-ltc.
Results: The literature review generated 56 acts of EA (omission or commission), and through overlap, were reduced to 26 descriptors. 19/26 (73%) EA authorities ranked 11/26 acts consistently highly, and 7/11 (63.6%) were already represented in the EASI. This supported building on the EASI, and the resultant 9 questions in the EASI-ltc were modified twice as a consequence of focus group' input. The tool preamble and instructions for use were also altered to reflect LTC.
Conclusions: The EASI-ltc has been shown to have content validity, and appears appropriate for use in LTC on residents with MMSE ≥24. It is intended to raise suspicion about abuse such that more detailed evaluation would be initiated. These assumptions will be examined in the next phase of our research.

LB-6

Using the IPod to quantify dynamic measures of gait independent of step detection. An innovative way to classify walking performance of young, healthy older and cognitive impaired older adults

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Background: Gait analysis focusing on the dynamics of gait (e.g., variability, predictability), could advantageously reveal underlying mechanisms of decreased gait speed and increase the understanding of the relationship with age-related cognitive decline. Most gait variables, however, are based on step detection, which could hamper their appropriate use in clinical practice. Inaccuracies in automatic step-detection bias these gait variables due to a shuffling gait, whereas monitoring step-moments is time-consuming. Therefore, we propose here gait analysis methods using acceleration signals of an IPod that do not require step-detection.
Methods: Data of 3 min. overground walking of young (n = 25; age 26 ± 5.4), healthy old (n = 25; age 65 ± 5.5) and cognitive impaired old adults (n = 25; age 82 ± 6.3) were recorded with an iPod TouchG4. Measures that quantify amplitude, regularity [1–3], predictably and coupling [4] of 3D trunk accelerations were calculated. Partial Least Square Discriminant Analysis was used to assess if these measures accurately classified the age groups. A Receiver Operating Characteristic curve examined the models sensitivity and specificity.
Results: Four latent factors explained 57% of the variance between the groups. The young, older and cognitive impaired groups were classified with a sensitivity of respectively 88%, 80% and 98% and a specificity of 90%, 86% and 92% showing strong classification power of the model.
Conclusion: Methods that quantify dynamic gait metrics, based on trunk accelerations using a simple device as the IPod, e.g. independent of step-detection, can accurately distinguish population groups and provide insight into how age and cognition affect gait. This enables automatic qualitative comprehensive analysis of walking performance in clinical practice.

References

[1] Kosse N, Vuillerme N, Hortobágyi T, Lamoth CJC, *Gait & Posture*, 2016; 46, 112–117.
[2] Riva F, Toebes MJP, Pijnappels M, Stagni R, van Dieën JH, *Gait & Posture* 2013; 38, 170–174.
[3] Moe-Nilssen R, Helbostad JL. *J of Biomech.* 2004; 37, 121–126.
[4] Bisi MC, Stagni R. *Gait & Posture* 2016; 47, 37–42.

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Poster presentations

Area: Acute care

P-001
Treatment and outcomes of hip fracture in Lithuania, in 2010

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Objectives: To analyze the methods of treatment and outcome of hip fractures in Lithuania.
Methods: This population-based retrospective study was performed collecting the data from all orthopaedic inpatient departments in Lithuania. The records of subjects, who were hospitalized because of primary hip fracture (ICD-10 codes S72.0, S72.1 and S72.2) at the age over 40 years in 2010, were examined. Methods of treatment were conservative and surgical, while the latter was divided into fixation by screws, plate or intramedullary nail (IN), and total hip arthroplasty (TA). The outcomes included death, transfer to another department, discharge home or long-term hospital, and rehabilitation.
Results: In 2010, 2626 hip fractures occurred in Lithuania. The most common method used was osteosynthesis: fixation by plate accounted for 41.4%, screw – 21.1%), and by IN – in 3.4% of cases. TA was used in 25.9% and conservative treatment – in 8.1% of patients. After fixation by screws, plates and IN, the majority of patients were discharged home (42.5%, 35.8% and 37.8%, respectively) or to long-term care hospital (24.5%, 22% and 32.2%, respectively). Otherwise, after TA, 70.1% of patients underwent rehabilitation. Among patients treated conservatively, 39.7% were transferred to another department, ant their mortality rate was highest (4.2%). Number of deaths was lowest after treatment with screws (0.7%).
Conclusion: In 2010, in Lithuania, the majority of patients with hip fracture were treated with osteosynthesis using the external fixation. Rehabilitation was more often outcome of treatment using total hip arthroplasty, as compared to osteosynthesis.

P-002
Prognostic stratification of older adults in a geriatric day hospital for acute care: comparison of four screening instruments

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Objectives: The identification of patients at high risk for adverse outcomes plays an important role in medical acute care. We aimed to compare the predictive values of four screening instruments in an innovative model of Geriatric Day Hospital (GDH) in Brazil for older adults with acute diseases.
Methods: Prospective study that enrolled subjects aged 60 years and older accessing a GDH over a 12-month period. Demographic data and screening instruments (Identification of Seniors at Risk [ISAR], Triage Risk Screening Tool [TRST], Community Assessment Risk Screening [CARS] and Silver Code [SC]) were administered at admission. Follow-up by monthly telephone interviews was conducted within six months to assess the outcomes (incident disability, emergency department [ED] visit and hospitalization). The ability of each screening instrument to predict outcomes at six months was estimated using area under the receiver operating characteristic curve (AUC).
Results: Of 537 participants, mean (SD) age of 79.7 (8.4) years and 63% female. The ISAR had a better performance in the AUC to predict disability when compared to CARS (0.66 vs 0.59, $p < 0.01$) despite being similar to others. The CARS had better AUC than ISAR (0.63 vs 0.57, $p = 0.03$) and TRST (0.63 vs 0.55, $p < 0.01$) in predicting ED visit. Comparing with TRST, CARS (0.59 vs 0.52, $p = 0.01$) and ISAR (0.58 vs 0.52, $p = 0.02$) had a better prediction for hospitalization.
Conclusion: The overall predictive power of the four screening instruments assessed in an innovative model of GDH in Brazil was poor in predicting adverse outcomes in older people at acute care.

P-003
Interface geriatrics – acute care for older people

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Introduction: Recent demographic changes have resulted in an increased geriatric population emergency admission rate. These patients are frail, older adults with multiple long-term conditions at risk of multiple hospital admissions. The solution calls for an innovative, multi-professional service to deliver person-centred care.
Method: We developed a service offering consultant geriatrician review in the emergency department (ED). In conjunction with the early discharge assessment team ((EDAT) – team of nurses and therapists) we perform an early comprehensive geriatric assessment (CGA) beginning within the first hour of presentation. We utilised the EDAT to assess mobility, provide equipment and integrate patients care with community and social services. In addition, we altered patient medications, treatment plans, initiated outpatient investigations and arranged follow up clinics.
Results: 590 patients were seen and received CGA in our trial period. 58% were discharged from the ED, 27% were admitted to hospital and 15% were admitted to due delays in arranging social care. For comparison, baseline ED discharge rate is 20–25% (over 85 years) and 28–33% (75–85 years). We found no difference in readmission rates for this group discharged from ED – 18%, compared with the rate after discharge from our Medicine for Older People wards – 17%. Informal feedback from patients and carers was largely positive.
Conclusion: Our novel integrated acute care model has delivered high quality early assessment to frail older people and developed good multi-disciplinary working practices across traditional boundaries. It has resulted in efficiency improvements in terms of appropriate admission avoidance without increase in readmissions.

P-004
Safety and feasibility of percutaneous coronary intervention in the elderly patients

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Background: In parallel with increasing age in the north Africans overall population we Remarque an increasing in the indication of

cardiac revascularization in elderly. Common ideas its usually taught that PCI is a complex procedure and often complicated in elderly patients in comparison with younger patient. Few data are available in the literature and particularly in Algerian population about this.
Purpose: To explore the relationship between older age and procedural success and in-hospital outcomes among a large unselected population undergoing percutaneous coronary intervention (PCI).
Methods: Data were collected as a part of a prospective registry of all percutaneous coronary interventions performed in an Hospital school between January 2014 and June 2015. Our population has been divided in two groups related to age <70 and 70 years and above. The statistical analysis were performed using Pearson's Chi-squared test with Yates continuity correction, Fisher's Exact Test for Count Data; Alternative: two.sided proportion with effectifs <5 and Welch Two Sample t-test; Alternative: two.sided averages and logistic regression for multivariate analysis.
Results: Six hundred ninety seven hospitalizations for PTCA were performed with 130 of them (18.65%) in patients at over 70 years old. Were less likely to be male gender (68.4 vs 83.1% OR 0.63 IC 0.41–0.96 P value <0.05). less likely to have a history of smoking (18.9 vs 38.2% OR 0.37 IC 0.23–0.60 P value:<0.0001). but more likely to have a history of kidney failure (11.8 vs 4.8% OR 2.63 IC 1.30–5.33 P value <0.01). but all others criteria (multivessel disease, complex lesions, urgently and unstable presentation, angiographic success, post procedural complication and in-hospital death). did not vary In the elderly compared with younger age group.
Conclusions: The percutaneous transluminal coronary angioplasty is safe and feasible without increasing risk of in hospital complication in elderly Algerian population.

P-005
Are START criteria suitable for older, hospitalized patients with geriatric syndromes? A prospective study in an acute geriatric ward

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Introduction: The START criteria are widely used to detect potential prescribing omissions (PPOs) in patients aged 65 years and older. However, it remains unknown if they are suitable for very old patients with geriatric syndromes. The objective of this study was to assess whether START criteria remained appropriate in older patients hospitalized in an acute geriatric ward.
Methods: This prospective study took place in an acute geriatric ward from May to December 2014. A medication review was performed in 4 steps: (1) Day 2: medication reconciliation; (2) Day 3: PPOs were detected according to the START criteria and comorbidities recorded in health records; (3) During hospitalization: geriatric evaluation and diagnostic reassessment for all comorbidities related to START criteria; (4) Discharge: multidisciplinary meeting to decide whether to correct the detected PPOs according to these data.
Results: A medication review was performed for 261 (52.3%) of 499 consecutive hospitalized patients. The mean age was 84.1 (± 6.3) years. At day 3, 377 PPOs were detected in 117 (67.8%) patients. After geriatric evaluation, diagnostic reassessment, and multidisciplinary decision, only 42 (11%) PPOs were corrected. The main causes of not following the START criteria were: (1) comorbidity considered obsolete after diagnosis reassessment; (2) acute medical events or diseases; (3) severe geriatric syndromes.
Conclusion: START criteria appeared poorly adapted to very old patients hospitalized in an acute geriatric ward. They should not be applied in these patients without a rigorous diagnostic reassessment of comorbidities and geriatric syndromes.

P-006
Multidisciplinary peri-operative assessment to empower patient decision making and improve perioperative and post-operative management for older urology patients

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Introduction: A recent review within the author's organisation identified the need to change the pre assessment service to improve patient outcomes for older people undergoing planned urology surgery. The aim was to identify high risk patients and offer a patient centred service to improve the peri-operative pathway, reduce the risk of harm, improve safety and reduce morbidity and mortality.
Method: Using the Model for Improvement a new MDT perioperative assessment service based on the CGA approach was developed by a geriatrician, anaesthetist and a urologist to effectively address the complexities presented by this patient group. Baseline data of 12 patients that had traditional nurse led preoperative assessment was collected and compared with 18 patients that had MDT perioperative assessment.
Results: Patients seen in the nurse led-pre-assessment clinic had shorter lengths of stay (median 3 days) compared to the MDT pre-assessment clinic (median 4 days)however, co-morbidities tended to be higher in the MDT patients. 7 patients in the MDT group declined surgery following discussion of risk/benefits with the team, in contrast no patients declined surgery in the nurse assessment group, however, 2 operations were cancelled on the day of surgery and post-operatively two patients required urgent referral for medical management. Patients felt empowered to make decisions regarding surgery and were very positive about the MDT approach.
Key conclusions: The results suggest that multidisciplinary peri-operative assessment, optimisation and targeted interventions may reduce the risk of adverse outcome in older persons undergoing surgery. This will potentially benefit all older persons undergoing surgery.

P-007
Does admission to specialist Geriatric Medicine Wards lead to improvements in aspects of acute medical care for patients with dementia?

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Background: People with dementia are among the most frequent service users in the acute hospital. age-attuned comprehensive assessment of physical, mental health and social care needs on a specialist ward represents current best practice in this setting. Despite this, there is little evidence demonstrating improved care processes specifically on specialist Geriatric Medicine Wards (GMW). Therefore, the aim of our study was to review whether admission to a specialist ward leads to improvements in important aspects of care for people with dementia.
Methods: We analysed combined data involving 900 patients from the Irish and Northern Irish audits of dementia care. Data on baseline demographics, admission outcomes, clinical aspects of care, multidisciplinary assessment and discharge planning processes were collected.
Results: Less than one-fifth of patients received the majority of care on a specialist GMW. Patients admitted to a GMW were less likely to undergo a formal assessment of mobility compared to non-geriatric wards (119/143 (83%) vs 635/708 (90%), OR = 0.57 (0.35–0.94)) and were more likely to receive newly prescribed antipsychotic medication during the admission (27/54 (50%) vs 95/2809 (36%), OR = 1.95 (1.08–3.51)). Patients admitted to a GMW were more likely to have

certain aspects of discharge planning initiated, including completion of a single plan for discharge (78/118 (66%) vs 275/611 (45%), OR = 2.38 (1.58–3.60)). Surgical wards performed more poorly on certain aspects including having a named discharge co-ordinator (32/71, 45%), and documentation of decisions regarding resuscitation status (18/95, 19%).
Conclusion: Relatively low numbers of patients with dementia received care on a specialist GMW. There appears to be a more streamlined discharge planning process in place on these wards but they did not perform as well as one would expect in certain areas, such as compliance with multidisciplinary assessment and antipsychotic prescribing.

P-008
Dementia in the acute hospital: the prevalence and impact of dementia in acutely unwell older patients

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Background: People with dementia are among the most frequent service users in the acute hospital. The recent Irish National Audit of Dementia (INAD) has highlighted some important deficiencies in the care of people with dementia in the acute setting.
Methods: We examined acute dementia care over a three year period from 2010–2012 in a 600 bed university hospital, to clarify the service activity and costs attributable to acute dementia care.
Results: 929 patients with dementia were admitted during the study period, accounting for 1,433/ 69,718 (2%) of all inpatient episodes, comprising 44,449/454,169 (10%) of total bed days. The average length of stay (LOS) was 31.0 days in the dementia group and 14.1 days in those over 65 years without dementia. The average hospital care cost was almost three times more (€13,832) per patient with dementia, compared to (€5,404) non-dementia patients, accounting for 5% (almost €20,000,000) of the total hospital casemix budget for the period.
Discussion Service activity attributable to dementia care in the acute hospital is considerable. Moreover, given the fact that a significant minority of cognitive impairment goes unrecognized after acute admissions, it is likely that this is under-representative of the full impact of dementia in acute care. The money currently being spent on acute dementia care is considerable, but it is being used to provide a service that does is not tailored specifically to its users' needs. With a further imminent increase in activity attributable to patients with dementia likely to occur it is now time to rethink dementia care processes and pathways in the acute hospital.

P-009
"The brain stormer"– case presentation

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Introduction: A retired female lawyer in her 60s was admitted to the acute medical take with a two-month history of weight loss, heat intolerance, anxiety and tachycardia. On the day of admission, the patient was found collapsed on the floor, unable to mobilise. She had no significant past medical history and was on no regular medications. On examination, the patient demonstrated bilateral exophthalmos, left sided facial droop, left arm and leg weakness but was GCS 15. Cardiovascular examination revealed a pan-systolic murmur and an irregular pulse at 133 beats per minute.
Method/Investigations: This patient was managed in resus in conjunction with the intensivists. Blood tests revealed raised inflammatory markers and markedly deranged thyroid function (T4 > 100, T3 33.9, TSH < 0.2). ECG confirmed atrial fibrillation. CT head demonstrated a subacute infarction in the right middle cerebral artery territory. Blood tests later confirmed the presence of anti-TPO antibodies.
Results and Management: The investigations demonstrate diagnosis of "thyroid storm" on admission. We propose the hyperthyroidism led to atrial fibrillation and subsequent embolic infarct of the right middle cerebral artery. The patient was managed with high dose propylthiouracil, beta blockers, antibiotics and aspirin. She rapidly deteriorated and required admission to ITU for respiratory support.
Conclusion: Although genuine thyroid storm is incredibly rare, this case demonstrates that hyperthyroidism is a common cause of atrial fibrillation, giving rise to embolic strokes. We recommend all potential stroke presentations should have a thyroid screen on admission.

P-010
Falling down the steps of glioblastoma multiforme – a case report

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Introduction: Glioblastoma multiforme (GBM) is the most common malignant neoplasm of the central nervous system, carrying a grim prognosis [1]. The clinical presentation is highly variable, depending upon the exact location and growth rate of the lesion, which makes the diagnosis difficult.
Case presentation: A 68-year-old male with an unremarkable history presents to his family doctor with dizziness and weakness of the lower extremities with 3 weeks' duration and no additional symptoms. The patient reported 2 episodes of falling off stairs, both with no apparent trauma. Physical examination revealed significant gait disturbance towards the left side, with no meningeal signs. The patient was medicated with betahistine 16 mg and a CT brain scan was ordered. About one week later the patient began experiencing left sided hemiparesia and left sided facial paresia for which he was brought to the emergency department, where an MRI of the brain showed a "probable right nucleobasal high-degree glioma with extension to the homolateral mesencephalon". A biopsy of the lesion confirmed the diagnosis of GBM (IV degree, WHO). Due to its location the tumor was considered inoperable. The patient was discharged from the hospital, medicated with dexametasone 0.5 mg and levetiracetam 250 mg, and began chemotherapy and physiotherapy. Patient is currently under regular observation in ambulatory care, maintaining residual symptoms of nausea, vomiting and diarrhea.
Conclusion: This case illustrates the importance of maintaining a high index of suspicion for new onset of brainstem and cerebellar symptoms that fail to respond to treatment for more common disorders.

Reference

[1] Bleeker Fonnet E.; Molenaar Remco J.; Leenstra Sieger (2012). Recent advances in the molecular understanding of glioblastoma. *Journal of Neuro-Oncology* 108 (1): 11–27. doi: 10.1007/s11060-011-0793-0

P-011
An atypical presentation of lung neoplasm on elderly patient

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The lung neoplasm presents by ambiguous symptoms provoked by tumor local effects, metastasis or a paraneoplasic syndrome. It leads to frequent late diagnosis which treatment pass many times to palliative care. This case reports one of several atypical presentation of this pathology.
We presents a male patient, 75 years, dement, ex-alcoholic and ex-smoker, admitted for asthenia, anorexia, nausea, vomiting, diarrhea and fever associated with epigastric pain. 3 days before it was interpreted as an acute gastroenteritis (GEA) treated with ciprofloxacin and pantoprazole. For persistence of symptoms, the elevation of inflammatory parameters and worsening of renal function, was hospitalized. At 3rd day a sudden pleural effusion appeared, requiring

drainage (750 cc) which revealed a lung adenocarcinoma. The gastrointestinal symptomatology improved, but nausea and vomiting worsened refractory to therapy. He developed ipsilateral Horner's syndrome and contralateral facial paresis simultaneously. Computerized tomography showed a large pulmonary mass in RSL with metastatic ipsilateral and contralateral lung nodes, supra and infra-diaphragmatic metastatic lymph nodes, and bilateral adrenal metastasis. It was already identified 2 secondary bilateral cerebral lesions at the level of the protuberance and a right cerebellum injury. The biopsy taken by bronchoscopy confirmed the diagnosis. The neurological symptoms worsened (left hemiparesis).
The patient died 15 days after diagnosis, about 1.5 months after the onset of symptoms.

P-012
At what blood urea level should IV fluid replacement start in older patients?

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Introduction: The provision of intravenous (IV) fluid replacement is considered a fundamental aspect of good medical care. The UKs NICE fluid replacement guideline suggests it should be guided by renal function, but does not specify when to intervene, and to what specific values. Since blood Urea (BUN) is often more responsive to change than creatine it is considered a better acute marker, but what evidence links it to intervention in the older patient?
Method: A Medline literature search was explored using several terms for renal function (RF), intravenous fluid replacement (IV) and comorbidities dementia and heart failure (CM). Without limitations applied to the search groups (RF and IV), 1998 results were returned and analysed, but none returned for the older age group. No search results were returned for RF and IV and CM.
Results: In older patients there is no prospective evidence to recommend when to intervene to any given blood Urea level. Since the NICE (CG174) guidance on Intravenous fluid, recommends the reporting of "fluid mismanagement" as a critical incident, this will be a subjective and controversial area. The expert opinion of geriatricians for this patient group should remain key.
Conclusion: No prospective research evidence states when to start intravenous fluid replacement to a set blood Urea level in older patients. This questions how frequently blood Urea levels should be requested and how they should be considered. Renal function interpretation in patients with heart failure and dementia are both common and problematic to assess, treat and evidently study.

P-013
Prediction of Glomerular Filtration Rate (GFR) in geriatric patients: which formula to use?

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Objectives: To compare four fomulas estimating GFR (eGFR), CKD-EPI, BIS, Cockcroft&Gault(CG), and MDRD, with a Cr-EDTA clearance as measured GFR (mGFR).
Methods: Eighty-nine patients (83,5 ± 6,8 y; 25 men) are included in the study. eGFR's are compared to mGFR in the total population as well in a subpopulation with mGFR <60 mL/min and ≥60 mL/min. Statistical analysis was perfomed using Spss version22. Bias is measured as mean difference of eGFR minus mGFR, precision as standard deviation of bias. The percentage of correct estimates within 30% of the mGFR is used as accuracy.
Results: CG and BIS have the least bias (−3,0 resp −0,26). CG has the highest precision (16,9) and accuracy (68,5%), followed by BIS (respectively 20,9 and 66,3%). MDRD is the formula showing the highest bias (15,4) and the lowest precision/accuracy (23,9/40,4%). In the older patient with mGFR <60 mL/min, the CG has an even higher precision/accuracy (9,9/75,4%). The BIS has the second best precision/accuracy (11,4/64,2%) but overestimates more in mGFR <60 mL/min (bias 7,3). MDRD remains the least adequate eGFR formula. None of formulas has an acceptable estimating power for mGFR ≥60 mL/min. Results are less consistent with the lowest bias, highest precision and accuracy for respectively MDRD, CG and CKD-EPI. CKD-EPI tends to perform best taking into account a considerable underestimation (bias-13,5).
Conclusion: Cockcroft&Gault formula has the lowest bias and highest precision/accuracy, especially in an older population with mGFR <60 mL/min. The newer formulas, BIS and CKD-EPI tends to be the second best choice in respectively the lower and higher mGFR's.

P-014
A frailty score for the acute hospital setting: identifying vulnerable patients at point of entry to care

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Introduction: Our objective is to operationalize a clinically usable tool, frailty early warning score (FEWS; score range 0–15), which will identify frailty (>1) and help predict significant outcomes.
Methods: Setting: Acute admission unit, urban university hospital between 03.06.2015 and 27.08.2015. Sample: 700 admitted patients >65 y. Data collected from clinical notes taken routinely as part of the emergency admission process. The national early warning scores (NEWS, score range 0–15), which reflects medical acuity, were simultaneously collected.
Results: Patients had average age of 81 years, and this was stable regardless of the frailty score. 52.6% were female. Mortality increases with increasing frailty score, in-hospital mortality is 2.6% for FEWS 0, whilst 11.9% for FEWS 8. A similar trend is seen with readmissions rates and length of stay (LOS): 30 day readmission is 21.6% for FEWS 0 and 28.6% for FEWS 8; mean LOS is 7.5 days for FEWS 0 and 12.4 days for FEWS 8. NEWS and FEWS were cross-tabulated: 246 (35%) patients or participants scored <3 NEWS (would not trigger escalation), of which 206 (81%) scored FEWS ≥ 1.
Conclusion: This study describes FEWS as a novel way of predicting a frail individual's outcomes. This score can be easily calculated at the point of care using routinely corrected data. It is fast and simple to use; it will not require additional clinical assessment. The threshold for escalation due to frailty risk is as yet undetermined.

P-015
Age over 80 years old in acute pulmonary embolism – does it influence Manchester triage and time until diagnosis?

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Introduction: Early diagnosis of acute pulmonary embolism (PE) is a challenge in Emergency Departments (ED), because of its diverse clinical presentation. The Manchester triage system (MTS) depends on the initial presentation, assigning higher priority to urgent cases. We aimed to assess whether age over 80 years old (>80 yo) influences presentation, MTS and time from admission to diagnosis (TAD) in PE.
Methods: Retrospective study of patients admitted to our ED between January 2011 and December 2015, with the final diagnosis of PE. Demographic, clinical and triage data were analyzed.
Results: We included 367 patients, 60.8% women, with a mean age of 71.6 ± 16.4 years. The three most common main complaints were "indisposition" (38.7%), "dyspnea" (30.8%) and "thoracic pain" (20.4%). Most patients were triaged as orange (51.5%), followed by yellow (47.1%), red (0.8%) and green (0.5%). The group of patients >80 yo (39.8%) had more women (68.5% vs 31.5%; p = 0.014). There was a significantly higher number of patients with "indisposition" as main complaint (49.3% vs 31.7%; p = 0,001). Thoracic pain was less frequent in this group (11.0% vs 26.7%; p < 0.0001). Triage color was not significantly different between groups. TAD by computed tomography pulmonary angiogram was marginally correlated with age (r = 0,095)

and patients >80 yo had a longer TAD (mean 8:01 vs 7:40 hours), but the difference was not significant.
Key Conclusions: Patients over 80 years old present with even less specificity in PE. Nevertheless, MTS color was not influenced by old age, allowing for an equally fast imaging diagnosis of PE.

P-016
Outcome of older patients admitted in an Internal Medicine ward – results of a cohort of 100 patients at discharge, 6 and 12 months follow-up

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Introduction: In-hospital mortality is one of the quality indicators most used worldwide. However, in older people this quality indicator do not exactly reflect life expectancy nor quality of life after discharge. Healthcare professionals and stakeholders are not aware of the medium/long-term outcome of patients discharged. Our aim was to evaluate mortality, readmissions and emergency department (ED) admissions at 6 and 12 months (6 M, 12 M) follow-up of patients ≥75 years admitted to an Internal Medicine (IM) ward.
Methods: Prospective longitudinal cohort study of 100 patients. Comprehensive geriatric assessment at baseline was performed. Outcome at 6 M and 12 M was assessed by phone contact and hospital record analysis.
Results: Average age 83.7 years, 63% males, 25% nursing home residents, average Cumulative Illness Rating Scale Geriatrics 11.2, average Barthel score 62.6, 70% malnourished, 31% cognitively impaired. In-hospital mortality 10%. One patient lost during follow-up. Considering follow-up of 89 patients at 6 M and 12 M: mortality 42.7 and 48.3% (51 survivors at 12 M); 39.3 and 47.2% of patients were readmitted; 60.7 and 66.3% of patients were admitted in ED. Mortality, readmission and ED admission rates were expressively lower during the 2nd semester of follow-up: 9.8, 23.5, 41.1%. Survivors revealed expressively lower readmission and ED admission rates at 6 M and 12 M, comparing to non-survivors.
Conclusions: Mortality of older people discharged from an IM ward is impressively high, namely in first 6 months. Readmission and ED admission rate might be markers of poor outcome. Further analysis of high-risk patients is needed to understand the predictability of mortality.

P-017
Stroke and intravenous thrombolysis in patients 80 years and older

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Objectives: Cerebrovascular disease is the leading cause of death in Portugal. Intravenous thrombolysis is a breakthrough in the treatment of ischemic stroke. Clinical trials rarely include patients greater than 80 years old. Therefore, the risks and benefits of thrombolysis in this age group remains uncertain.
Methods: A retrospective study was performed on patients ≥80 years old admitted to a Stroke Unit between 2009 and 2015 with ischemic stroke. All patients underwent intravenous thrombolysis. The study evaluated demographic, clinical and functional outcome. Statistical analysis was performed using SPSS.
Results: A total of 285 thrombolysis were performed, 60 (21.1%) of which in patients ≥80 years old. A majority of the patients were female (68.3%). The mean age was 83.3 years old. The main comorbidities were hypertension (70.0%) and atrial fibrillation (65.0%). Most strokes occurred in the anterior circulation (96.7%). Computed tomography showed signs of acute ischemia in 53.3%. In 76.7% of the cases, thrombolysis was performed in the first 3 hours of onset of symptoms. Intravenous antihypertensive medication was used in 6.7% of cases. Cardioembolic strokes were more prevalent (63.3%). Intracranial bleeding occurred in 16.7% of patients and 28.3% had no neurological complications. At hospital discharge, 36.7% of patients had Modified Rankin Scale (MRS) ≤ 2. The mortality rate was 18.3% (11 patients). At 3 month follow-up 20.4% had died and 40.8% had mRS ≤ 2.
Conclusion: Intravenous thrombolysis should be performed in selected patients. The prognosis depends on the age, stroke severity, comorbidities and non-neurological complications.

P-018
Incorporating the OPERA instrument to identify and direct the care needs of frail older patients in the AMAU Setting

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Background: Frail older patients represent an increasing proportion of those accessing acute hospital services. The aim of this study was to evaluate outcomes for patients aged ≥70 presenting to the acute medical assessment unit (AMAU) based on functional ability scores on admission.
Methods: A prospective cohort study was carried out. Data was collected on patients presenting between July 2015 and May 2016. Functional ability (FA) is routinely recorded as part of a novel 5-minute nurse-administered instrument- the Older Persons in ED/AMAU Risk Assessment (OPERA) for those aged ≥70 admitted to the AMAU. The Delphi-derived OPERA instrument reviews premorbid comorbid illness, functional ability (Mobility, self-care, speech and nutrition), and acute illness indicators. FA needs were calculated as a score of 0 (independent) – 7 (dependent). A positive response to each question directs MDT referral to appropriate specialty for review.
Results: 1952 patients attended AMAU during this period. 28.4% (555/1952) were aged ≥70. 44.3% (246/555) scored 0 on FA. 18.1% (100/555) scored 1, 10.5% (58/555) scored 2, 10.2% (57/555) scored 3, 9.2% (51/555) scored 4, 5.7% (32/555) scored 5, 3.6% (20/555) scored 6 and 3.6% (20/555) scored 7. 956 MDT referrals were prompted. 70.3% (390/555) were admitted. The highest admission rate, 95% (19/20), was in the FA6 group, 20% (4/20) of whom were nursing home residents and a further 10% (2/20) were newly discharged to nursing homes. No patients in the FA1 group were discharged to nursing homes; 84% (84/100) went directly home. Average length of stay increased in each category from 6.4 (0–52) days in the FA1 group to a maximum of 17.2 (2–125) days in the FA5 group. The highest in-hospital mortality rate was in the FA5 group, 15.6% (5/32).
Conclusions: The OPERA instrument was easily incorporated into admission process and supported early referral to MDT services for timely intervention.

P-019
Non-valvular atrial fibrillation: drugs used for stroke prevention

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Objectives: Atrial fibrillation is highly prevalent in geriatric population. We set as objetives to describe drugs used for prevention of thromboembolic events (ASA, clopidogrel, VKAs, NOACs) in a sample of patients discharged from a Geriatrics Service in 2015.
Methodology: We reviewed discharge reports and electronic medical records of hospital discharges with a diagnosis of atrial fibrillation. Variables studied: sociodemographic (gender, age), clinical (income days, personal history, renal function, Charlson index (CI), Barthel index (BI), SPMSQ, CHADS2, CHA2DS2-VASC, HASBLED, liver function, antiplatelet drugs and anticoagulants, albumin, coagulation study), associated complications (stroke, anemia, bleeding), hospital mortality. SPSS v19.
Results: 1379 patients were discharged in 2015, 365 (26.46%) diagnosed with atrial fibrillation. Women 67.9%. mean age 87.41 (71–102).

9.9% of cases are newly diagnosed. 28.49% have a history of stroke (20.82%) or TIA (6.84%) or TIA + stroke (0.83%). Chronic kidney disease: background (11.8%), and discharge (34.4%). Hospital mortality: 18.9%. Treatment at income: 56.83% acenocoumarol, warfarin 5.16%, 7.29% NOACs (rivaroxaban 80%), ASA 24.62%. Anticoagulation criteria: CHADS2 ≥ 2 (96.7%), CHA2DS2-VASC ≥ 2 (99.7%), HASBLED ≥ 3 (44.1%). Complications: bleeding (6.3%), anaemia (49%), stroke (6.8%).
Conclusion: Low prevalence of atrial fibrillation than described for this age range. Low incidence of atrial fibrillation in the study sample. High hidden chronic kidney disease in the studied group. According to the guidelines for use of oral anticoagulation (NICE, EHRA) patients met the criteria for oral anticoagulation.

P-020
Description and monitoring of elderly patients candidates for intensive care

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Objetives: To describe characteristics of patients older than 80 years admitted to ICU and monitoring resource use and mortality.
Method: Prospective descriptive study of ICU admissions between 2012 and 2014. Evolution and monitoring during first year.
Results: 142 patients. 22.36% of total incomes. Distribution by years: 2012: 19.32%, 2013: 22.54%, 2014: 56.3%. 25.90% Men. Average age: 83.65 years (80–93). 8 over 90 years. Apache II: 12.62 (4–38). Average stay: 6.57 days. Admission from: Emergency 79.6%, 11.3% medical services, 4.2% surgical services, other ICUs 4.9%. Income diagnosis: 41.9% acute coronary syndrome, 25.8% rhythm disorders, 6.5% heart failure, 4.8% respiratory insufficiency, 4% cardiorrespiratory arrest, 4% sepsis, pneumonia 3.2%, 1.6% pulmonary embolism. Background: 19.7% atrial fibrillation, ischemic heart disease 26.8%, valvular disease 14.8%, hypertension 79.6% 18.3% I heart, I chronic renal 12%, chronic respiratory 12.7% I, ACV 16.9%, 8.5% cognitive impairment, DM 26.8%, 14.1% COPD. Complications: 14.8% nosocomial infection, Delirium 17.6%. ICU mortality: 22.5%. One-year mortality: 26.4% During first year: attending emergency department 1 or 2 times 41.8%, >3: 19.1%. (39.1% do not need emergency services). 40% require 1 or 2 hospital admissions, >3: 10%. (50% do not enter). A patient was readmitted to the ICU (0.1%).
Conclusion: High prevalence of elderly patients who need intensive treatment, with a growing number of income in subsequent years. Predominant cardiac pathology. Regardless of age are candidates for invasive techniques. Low cognitive impairment and delirium. Moderate mortality during hospitalization and first year. High use of emergency services, not requiring income in half the cases.

P-021
Combining brief physical and cognitive assessments to predict hospitalization and functional decline in elderly outpatients in acute care

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Objectives: To evaluate the predictive value of combined short physical performance battery (SPPB) and 10-point cognitive screener (10-CS) for hospitalization and functional decline, defined as a decline at least one activity of daily living.
Methods: A 6-month prospective cohort study with 383 older adults who were able to walk and without previous diagnoses of dementia admitted to a Geriatric Day Hospital (GDH) with acute problems in São Paulo, Brazil. Poor physical performance was defined as SPPB lower than seven points and provable cognitive impairment when 10-CS lower than seven points (maximum of 10). High-risk group were patients who had poor performance in both assessments and medium-risk group those with poor performance in at least one test. Kaplan-Meier curves and adjusted Cox proportional hazards models were calculated for each outcome.
Results: The 6-month incidence of hospitalization and functional decline were significantly more frequent in the high-risk group at Kaplan-Meier curves ($p = 0.001$ and $p < 0.001$). After adjusting for demographic and clinical variables, participants with high-risk and medium-risk were more likely to hospitalization (HR = 2.5; 95% CI 1.4–4.5 and HR = 1.9; 95%CI 1.2–3.1, respectively) compared with participants with a low risk. High-risk and medium-risk group were also independently associated with functional decline (HR = 5.7; 95%CI 2.6–12.3 and HR = 4.3; 95%CI 2.1–8.8, respectively). The Harrell's C discrimination index was 0.65 for hospitalization and 0.74 for functional decline.
Conclusion: In acute care older patients admitted at GDH, combining brief physical and cognitive assessments was a good predictor of hospitalization and functional decline in six months.

P-022
Older adults in the emergency department: the challenge of undertriage

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Objectives: Older adults are vulnerable patients at risk of undertriage. We aimed at evaluating the undertriage rate and associated risk factors in an Italian Emergency Department (ED).
Methods: A retrospective study carried out on subjects 65 years and older. Undertriage is defined as a priority tag assigned at admission lower than the severity tag assigned at discharge.
Results: 8894 subjects >64 years were admitted in 2012. 675 cases (7.6%) underwent undertriage, 9.2% among over 85 years, 7.5% to 84–75 years and 6,4%, to 65–74 years ($p < 0.001$). The mean age in the undertriage group was 79,8 years compared to 78.5 years ($P < 0.001$). The length of stay between acceptance and visit was 105 minutes vs 80 minutes ($p = 0.001$). Undertriage was associated with "unspecified complaints" in 33.5%, dyspnoea (10.5%), trauma (11.4%) and pain (excluding abdominal and chest) (7.6%) as admission complaints. At discharge 15% kept a diagnosis of "unspecified ill conditions". 72% of older adults with undertriage were hospitalized compared to 22.7% of the others ($p < 0.001$). Risk factors were age greater than 74 years (OR 1.429, CI 1.167–1.750), and 84 years (OR 2.291, CI 1.839–2.853) and admission for wheezing (OR 2.751, CI 2.046–3.699). Admission for trauma was protective (OR 0.522, CI 0.406–0.671; $p < 0.001$).
Conclusion: Undertriage determined delayed care and older age is an important risk factor. The high rate of diagnosis of unspecified disease, both at the triage and at discharge, underlying the troubles in focusing the real clinical problem in older patients.

P-023
Standby resuscitation for elderly patients: how to guess the outcome?

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Introduction: Elderly patients admitted in intensive care units have more severe outcomes than general population. Standby resuscitation is devoted to avoid lost of opportunity and unreasonable obstinacy when prognosis is uncertain. This study aimed to determine prognosis factors associated with in hospital survival after 3 days in ICU.
Methods: Retrospective study including all patients >80 years old admitted in ICU between 2012 and 2014. Clinical status, diagnosis, organ failures characterized by severity scores (IGS II, SOFA) at

admission and at day 3 and decision of withdrawal of therapeutic procedures were collected.
Results: Among 197 patients, 106 were still hospitalised in ICU at day 3 in whose mean age was 84[±4], IGS II was 57[±14] and cause of admission was hemodynamic failure in 67%(n = 71). Withdrawal of therapeutic procedures, IGS II, number of organ failure at day 3, number of organ supply at admission and day 3, evolution of total SOFA score and evolution of number of organ supply were significantly associated with in-hospital death. Three prognosis models were realized, classifying correctly 70% of the patients. Model based on SOFA score and its evolution was the most efficient.
Key conclusions: Organ failure and its evolution at day 3 are key element for prognosis evaluation. Prospective studies including specific geriatric scores should improve the models to be suitable for daily practice.

P-024
Choosing Wisely Germany – Top 5 recommendations on over- and underuse in geriatric medicine in Germany

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Methods: In a multistep approach, based on recommendations of an expert panel of the German Society of Geriatrics (DGG) and the Healthcare Section of the German Society of Gerontology and Geriatrics (DGGG), a membership survey and a re-assessment of the survey results, the expert panel identified 5 recommendations on underuse in geriatric medicine in Germany.
Results: The recommendations on overuse are: 1. Don't prescribe a medication without conducting a drug regimen review. 2. Don't recommend percutaneous feeding tubes in patients with advanced dementia. 3. Don't use antipsychotics as the first choice to treat behavioral and psychological symptoms of dementia (BPSD). 4. Don't recommend screening for breast, colorectal, prostate or lung cancer without considering life expectancy and the risks of testing, over-diagnosis and overtreatment. 5. Don't use benzodiazepines or other sedative-hypnotics in older adults as first choice for insomnia, agitation or delirium.
The recommendations on underuse are: 1. Decisions about diagnostic and therapeutic procedures in elderly patients should be based on a functional assessment and not on chronological age. 2. Falls and risk for falling in elderly persons should be recognized for diagnostic and therapeutic procedures. 3. Malnutrition in elderly patients should be recognized for diagnostic and therapeutic procedures. 4. Depression in higher age should be treated by psychotherapy in moderate and by psychotherapy and antidepressants in severe cases. 5. Osteoporosis in elderly persons should be recognized for diagnostic and therapeutic procedures.
Conclusion: The recommendations were accepted by the consensus panel of the German Society of Internal Medicine (DGIM) which comprised all specialities of internal medicine in Germany.

P-025
Out of hospital cardiac arrest in the elderly

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Introduction: An out of hospital cardiac arrest (OHCA) is defined as a cessation of cardiac mechanical activity occurred outside a hospital and without signs of circulation. The aim of this study was to evaluate the circumstances and basic epidemiological indices of OHCA and cardiopulmonary resuscitation (CPR) in the elderly.
Methods: A retrospective analysis of prospectively collected data of all OHCA resuscitation attempts in patients older than 65 years for a 2 year period, by the pre-hospital emergency medical service of a tertiary hospital.
Results: There were 183 patients included in the study, of which 37% (n = 67) were male and 38,8% (n = 71) older than 85 years. There were 8,7% (n = 16) bystander-witnessed arrests. The majority of OHCA occurred from cardiac causes in 21%, non-cardiac causes were: respiratory 9%, airway obstruction 5%, traumatic origin 4% and in the majority there wasn't a clear cause. The initial rhythm was asystole in 65% (n = 119), and only 4%(n = 8) of patients had an initial shockable rhythm (ventricular fibrillation). Median CPR duration was 21 minutes (2–80 m). There were 29% (n = 53) patients without a CPR attempt and 31,1% (n = 57) without pre-hospital return of spontaneous circulation, as such the overall pre-hospital case fatality was 81% (n = 148).
Discussion: This work is in accordance to published data, revealing a high rate of fatality associated to the non existence of a bystander witness and an unfavorable initial rhythm that in the majority was asystole.

P-026
Do you drive? – improving the documentation of driving status in acute medical admissions

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Introduction: Many medical conditions can impair a patient's driving ability. Driving status is regularly over looked, and in older patients, gives a useful insight into functional ability. Driving is an emotive topic as livelihood and independence may rely on it and there are important medico-legal implications for Doctor's. This project aimed to improve awareness of driving rules amongst junior doctors.
Methods: 39 junior doctors completed a questionnaire to assess their knowledge of driving rules. A prospective audit of inpatients over 75 years old with dementia or delirium was performed to establish whether they had been asked about driving. A retrospective audit looked at patients of any age diagnosed with seizure or unexplained syncope to see if they had been given driving advice.
Results: Only 10% of junior Doctors regularly ask patients whether they drive. 90% have not received any formal teaching on driving rules. Of 22 the patients with dementia or delirium, driving status was not documented in any medical clerking. Of the 21 patients with seizure, 19% had driving status documented in their medical notes; just two had received advice. From 31 patients with unexplained syncope, 24% had driving status documented in their medical notes and just 1 received driving advice.
Key conclusions: Doctors rarely receive formal teaching on driving and when clerking, driving status is often overlooked. Based on the results, local and regional teaching has been delivered and the medical clerking booklets now include a temporary section on driving status in the form of a stamp.

P-027
Retrospective analysis of patients with a diagnosis of urinary tract infection

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Background: Urinary Tract Infection (UTI) is a common but challenging diagnosis in over 65's presenting to medical specialties. Factors such as inability to provide an accurate history and asymptomatic bacteriuria contribute to over-diagnosis and inappropriate antibiotic prescribing [1].
Aims: To evaluate the accuracy of diagnosis of UTI in older people and estimate the degree of over-treatment.
Methods: We performed a retrospective analysis of casenotes and laboratory results of 52 patients discharged between October 2015 to December 2015 with a diagnosis of UTI.
Results: A total of 48 patients, 19(39.6%) male and 29(60% female), met the inclusion criteria. 12/48 patients (25%) met predefined criteria for UTI. A further 9 patients (18.8%) had asymptomatic bacteriuria. 56% of patients had no evidence of UTI.
Conclusion: Out of the 48 patients with a diagnosis of UTI on discharge, only 12(25%) had clinical evidence which supported this. We are currently working with colleagues in microbiology and pharmacy to revise our guidance for UTI in older people to make

criteria for diagnosis clearer, and highlight the danger of treating asymptomatic bacteriuria. We also intend to pilot removing leucocytes and nitrites from our urine dipsticks to reduce over-diagnosis based on these results which have a poor positive predictive value in older people. We will evaluate the effect of these measures using a quality improvement programme.

P-028

A survey study on perceptions and attitudes of nurses and nursing aides toward oral and body hygiene for hospitalized geriatric patients

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Introduction: Many nurses perform body hygiene for geriatric patients on a daily basis while the performance of oral hygiene is often skipped. Insight into perceptions of caregivers toward personal hygiene for geriatric patients might help in setting up strategies to improve nursing care for oral and body hygiene.
Methods: The Personal Hygiene Perceptions and Attitudes Questionnaire was developed, validated and distributed to 312 nurses and nursing aids of a non-academic general hospital.
Results: Most commonly reported barriers in performing oral hygiene were "Patient's resistance" (53%) and "Not enough time" (37%). This was 37% and 6% for body hygiene, respectively. Overall 49% and 20% experienced no barrier for body hygiene and oral hygiene, respectively. Oral hygiene and body hygiene was a priority in 88% and 97%, respectively. For all different oral care interventions, at least 75% of the caregivers agreed on the statement "I have enough knowledge about this specific care interventions" and "I think this care aspect of oral care is important". Only 21% performed oral care interventions according to the recommended frequency. 100% indicated that they had sufficient knowledge about all different nursing interventions for body hygiene and considered these interventions as important.
Conclusions: Nurses give more priority to body hygiene at the expense of performing oral hygiene. Oral care isn't performed according to the recommended frequency, most likely because of the perceived barriers.

P-029

Contrast induced nephropathy in elderly patients undergoing CT pulmonary angiogram

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Background: The demand for acute admissions has risen relentlessly. Early discharges are now a feature of many admissions. The risk of contrast induced nephropathy (CIN) is around 2% with normal renal function, this is much higher when patients have additional risk factors such as diabetes, heart failure and being aged over 75 years. We studied the incidence of CIN following in-patient CTPA in older adults in order to develop guidelines for the ambulatory care environment.
Method: Retrospective audit of 80 patients aged over 80 years having an inpatient CTPA at Royal Bournemouth Hospital over 4 months. Additional risk factors for each patient were sought. Baseline, pre and post contrast renal function was assessed. The number of patients developing acute kidney injury (AKI) after contrast administration was identified and pre and post exposure preventative strategies were assessed in all patients. The definition of AKI used was either a serum creatinine rise by $\geq$26 μmol/L within 48 hours or a serum creatinine rise $\geq$1.5 fold from the baseline value.
Results: 75% of patients studied had at least 2 identifiable risk factors for CIN. 27.5% (22/80) of patients had no blood tests following CTPA. Of the remaining patients 12% (7/58) had an AKI on post contrast blood tests. 72% (53/74) of patients did not receive pre CTPA hydration.
Conclusions: Elderly patients are at greater risk of AKI following CTPA and follow up blood tests should be requested. Additional risk factors for CIN should be identified pre CTPA and I.V. hydration given if appropriate.

P-030

Elderly people readmitted to hospital for acute medical care – implications for occupational therapy

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Introduction: Being old and visiting acute care several times has been shown to be more than a medical problem. Aging individuals often have a vulnerable life situation, with physical frailty combined with mental disorders. In occupational therapy it is important to assess and describe the elderly patients' ability to perform activities of daily living (ADL) and cognitive function. The aim is to describe ADL, cognitive function but also the risk for pressure sores, malnutrition and falls in this group.
Methods: This was a comparative study, where data were collected during four months. Persons 75 years, were assessed on one occasion by an occupational therapist using the ADL-taxonomy and the MMSE. Risks for pressure sores, malnutrition and falls were assessed using Risk Assessment Pressure Sores, Mini Nutritional Assessment, and Downton Fall Risk Index. External data was used for comparison.
Results: 60 persons were included, mean age was 84 years. The patients had a median of 4 diagnoses. Mean hospital stay was 5 days. Most patients were independent in food intake. There was a high degree of dependency in other ADL activities. Nineteen of 48 patients had 24 point or lower in MMSE. Compared to an age-matched sample, these patients showed a higher risk for pressure sores, risk for falls and dependency in ADL.
Conclusion: There is a need for assessments of ADL, cognition, risk for falls, and pressure sores in older people who are readmitted to hospitals. Such assessments, and necessary interventions taken, may prevent unnecessary admissions.

P-031

Is it possible to use physical-functional tests in an emergency department?

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Objectives: The use of physical-functional tests in geriatric patients acutely admitted to an emergency department (ED) needs to be examined to ensure that appropriate measures are provided when a functional decline is demonstrated. The aim of this study was to examine the feasibility of the "DEMMI-test", the "30-s chair stand test", and the "Modified 30-s chair stand test" which allows use of arm rests.
Methods: Twenty-five community-dwelling 75+ years old adults admitted to an ED during a period of 30 days. On random days the patients with the most frequent geriatric diagnoses: pneumonia, urinary tract infections, other infections, delirium, constipation, anemia, COPD, dehydration, and heart failure were selected. The patients were tested by the three physical-functional tests on the first day of admittance and prior to transfer to a geriatric ward or discharge. The tests were part of a comprehensive geriatric assessment in the ED. They were performed by a trained physiotherapist and carried out on the patient's room and the hospital hallway.
Results: The patients' mean age was 88.4 years (±4.3), (range 84–95). Sixty percent were women. The "DEMMI-test" could be performed in 72% of the patients, the "30-s chair stand test" in 20% and the "Modified 30-s chair stand test" in 30%. Severely impaired cognitive function, pain, unconsciousness, and severe osteoporosis made the tests unfeasible.
Conclusion: Only the "DEMMI-test" may be feasible in an emergency department to identify functional decline in very old geriatric patients with acute illness.

P-032

The assessment of orthostatic blood pressure in an acute hospital

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Background: Policies on falls management in hospital includes assessment of orthostatic blood pressure (OBP). Accurate measurement is paramount in falls assessment. A survey was conducted to evaluate OBP assessment among healthcare staff according to our local falls assessment policy.
Methods and sampling: Multidisciplinary healthcare team(MDT) working in geriatric medicine, acute medicine and orthopaedics were asked to complete a self-reported questionnaire. These departments were chosen as their patient cohort represents a significant proportion of "fallers". The survey focused on previous falls training, OBP assessment in eight case scenarios, how staff measured OBP (5-key points: 1. lying patient flat; 2. minimum 5-min flat; 3. measure BP lying down; 4. standing patient up; 5. take BP immediately and 3-min after standing), and significant OBP findings.
Results: 54/100 responses were obtained (10 doctors, 28 nurses (band 5–7), 11 health care assistants (HCA), and 5 student nurses. 15 (27.8%), 9(15.8%), 30(55.6%) responses were from the acute medicine, orthopaedic wards and geriatric wards respectively. 44(81.3%) had received in-hospital falls training and 25/44(56.8%) in the past 6 months. Only 12(21%) participants correctly identified all the clinical scenarios where OBP assessment was needed with no difference among the MDT($p = 0.12$). Only 5(10.4%) participants were able to identify all the 5-key points of measuring OBP. Most did not identify the need to lie flat for a minimum 5-min (72.9%); and measure BP immediately and after 3-min standing (75%). No difference was detected between geriatric and non-geriatric wards ($p = 0.05$). 52 (96.3%) participants recognised a 20 mmHg systolic-drop as significant but only 33(62.3%) acknowledged a 10 mmHg diastolic-drop as significant.
Conclusions: Despite a significant majority received hospital falls training, OBP is still inaccurately measured across different directorates by different MDT members. Incorrect assessment of OBP affects patient management and can be considered a marker of suboptimal hospital falls training. A review of local training is needed to address this.

P-033

Clinical patterns of stroke in Lahore General Hospital, a Tertiary Care center

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Background: Stroke is a leading cause of disability and the second principal cause of death in the world. Two-thirds of strokes occur in developing countries. It is becoming major health issue due to increasing burden. The aim of this study was to analyze different characteristics in stroke patients in Medical Unit 1 of Lahore General Hospital, which is biggest referral hospital for Neurology patients in Punjab, to identify the risk factors and help in targeting prevention in our patients.
Methods: This retrospective study was carried out in Lahore General Hospital, Lahore in January 2016, including data from January to November 2015. The demographic data, clinical manifestations, risk factors, side of weakness, cranial nerves involved, neurological weakness and Glasgow Coma Scale, duration of stay in hospital and outcome were included in the data. SPSS software for Windows (version 21, SPSS Inc., Chicago, IL, USA) was used for the statistical analysis of the data. For the comparison between categorical variables Chi-square test was used. For other variables, t-test was used.
Results: A total of 235 patients with stroke, age 20 to 105 (mean ± SD = 58 ± 14.6) were included. 127 (54%) had Ischemic stroke (IS) and 100 (42.6%) had hemorrhagic stroke (HS). 127 (54%) were men and 108 (46%) were women. 17.9% of the patients with IS and 21.7% of the patients with HS died (OR 0.65 95% CI 0.48–0.89). Hypertension, diabetes and dyslipidemia were the most common risk factors.
Conclusion: Burden of stroke is high in Pakistan. Mean age of patients with stroke is less. Hypertension, diabetes, dyslipidemia and smoking are highly prevalent and hypertension is the most common. Ischemic strokes are more common, mortality of intra-cerebral hemorrhage is higher.
Key words: Stroke, Hypertension, Clinical patterns, Lahore

P-034

Norton scale as a predictor for 30-day hospital readmission among older acute medical patients

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Introduction: Older people are at risk for hospital readmissions, and reducing readmissions may improve quality of care and reduce health care costs. While the Norton scale was devised to predict the likelihood of pressure sore development, it is useful for predicting length of hospital stay, in-hospital complications and mortality in older patients. We aimed to determine the value of the total Norton scale score and its domains as a simple tool for predicting readmission within 30 days in older patients admitted to acute internal medicine wards.
Methods: A 6-year retrospective study was performed based on the electronic records of medical inpatients 65 years and older, with the primary outcome being readmission within 30 days. Data collected included Norton scale on admission, patient demographics, first ward of admission, length of stay and laboratory parameters. Bivariate and multivariate logistic regression analyses were used to predict the risk for readmission.
Results: We included 34,329 hospitalizations of which 18,044 (53%) were women, mean age was 78.5 ± 7.8 years. Mean primary hospitalization length was 7.0 days. Overall, 30-day readmission rate was 11.3%. Based on multivariate logistic regression analysis, scores of 2/4 and 1/4 for the level of activity according to the Norton scale were associated with increased risk for 30-day readmission (adjusted odds ratio [OR]: 1.33 and 1.64 respectively, 95% confidence interval [CI]: 1.22–1.45 and 1.49–1.8 respectively, $P < 0.001$).
Key conclusions: The level of activity according to the Norton scale on admission is useful for predicting the risk of 30-day readmission among older patients.

P-035

Exploring how inflammation underlies adverse health outcomes in acutely admitted older medical patients; associations between different inflammatory patterns, and physical- and organ function

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Introduction: In the general population, inflammation is associated with age-related physical performance and organ function. This is unknown in acutely admitted older medical patients.
Aim: Firstly, to investigate if systemic inflammation in acutely admitted older medical patients is associated with physical performance, and organ dysfunction. Secondly, to investigate if the association between organ dysfunction and physical performance is mediated by systemic inflammation.
Methods: A cross sectional cohort study of medical patients (65+) admitted to an Emergency Department. Physical performance was assessed by four meter gait speed, handgrip strength and the de Morton Mobility Index (DEMMI), and organ dysfunction by the number of standard laboratory tests outside the reference range

(OutRef). Systemic inflammation was assessed by concentrations of IL-6, TNFα and suPAR. Associations were investigated by multiple regression analyses, adjusted for age, sex, cognitive impairment, and severity of acute illness, estimated by CRP and VitalPAC Modified Early Warning Score (ViEWS).
Results: The cohort included 369 patients with a median age of 77.9 years. In adjusted analyses, IL-6 was associated handgrip strength ($p = 0.007$); TNFα with DEMMI ($p < 0.001$) and handgrip strength ($p = 0.004$), and suPAR with all physical performance measurements ($p < 0.001$). All three inflammation markers were associated with OutRef ($p < 0.001$). OutRef was associated with all physical performance measurements ($p < 0.001$) in analyses adjusted for age, sex, cognitive impairment and ViEWS.
Conclusion: Systemic inflammation seems to be mediating both organ dysfunction and low physical performance in acutely admitted older medical patients and thus could be a clinical feasible modality for systematically assessment of vulnerability in this population.

P-036
Do we follow the national and international guidelines on thromboprophylaxis in patients with atrial fibrilation

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Atrial fibrillation (AF) is the most common sustained heart rhythm disturbance in the UK. With the ageing population the prevalence of AF is anticipated to double by 2050. The current statistics are that one of six ischemic strokes is associated with atrial fibrillation. Stroke directly attributed to AF can have a devastating consequences. Up to 50% of people who have a stroke related to AF die within one year. AF related stroke is preventable, but many patients currently do not receive optimal prevention therapy.
Objectives: To identify the percentage of patients with AF admitted in our hospital who were anticoagulated. To find if hospital doctors considered thromboprophylaxis in patients with AF who are eligible as per National and European guidelines. To find out if there is enough documentation in the patients records in support decisions for or against anticoagulation.
Methods: This was a prospective audit. We audited the notes of all surgical and medical patients admitted in our hospital at the time.
Results: The notes of 450 patients were reviewed. Of those there were 50 patients with AF.96% were at an age of above 65. All patients had CHADS-VASc score of 2 and above but only 40% of the admitted patients were anticoagulated. 50% from the rest were on antiplatelet. Only 22% of patients with AF who were not anticoagulated had a plan for thromboprophylaxis documented. There was no evidence of calculation of CHADS-VASc score. Only in 30% of those not anticoagulated the reason for omission of anticoagulation was documented.

P-037
Improving multidisciplinary team meetings in geriatric emergency medicine

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Introduction: Multidisciplinary team (MDT) communication is key to providing comprehensive geriatric assessment. Leicester's Emergency Frailty Unit (EFU) aims to deliver two brief MDT meetings per day to aid communication and efficient patient assessment and management. Historical meeting attendance rates were variable. A quality improvement (QI) project was designed to optimise the frequency and attendance at meetings, aiming to improve communication and reduce variability.
Methods: Quality improvement methodology was used (PDSA cycles). Baseline data collection was continuous during this period and included the number of handovers per day, attendance of MDT members and length of meeting. Two planned interventions occurred: 1. MDT meeting rates and attendance were published and an email was sent to all MDT members explaining the rationale for the project (Intervention 1). 2. All team members were encouraged to take shared ownership and initiation of the MDT meetings (Intervention 2).
Results: Both interventions resulted in a measurable improvement in the frequency and attendance of MDT meetings.

- Occurrence of an MDT on any given day improved from 25% to 100%.
- Proportion of MDT present during a meeting improved from 25% to 70%.
- Length of meetings decreased from 88.7 seconds to 79.1 seconds per patient.

Key conclusions: Using established QI methodology, this project has identified that the frequency and attendance of rapid MDT meetings in an emergency medicine setting can be improved with no adverse impact on the duration of the meeting.

P-038
Hospital acquired urinary tract infections in a community hospital

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Introduction: Hospitalised patients are predisposed to a variety of nosocomial infections; these may include multidrug resistance organisms. Since initial treatment is empirical, prior knowledge of bacterial prevalence as well as resistant patterns in healthcare settings is essential. The aim of the study was to determine the local prevalence of bacterial strains and the antibiotic sensitivity of nosocomial acquired urinary tract infections in a 29 bedded rehabilitation unit for older adults in order to guide empirical antibiotic choice when antibiotic sensitivities are still unknown in the first 48 hours of treatment.
Methods: We analysed the data of all patients with positive urine culture defined as more than 100,000 bacteria per ml following 48 hrs of admission to the community hospital.
Results: 53 patients with urinary tract infections were identified. 62% (33) were aged 81–90 years with a female preponderance 66%(35). Gram negative bacteria were the cause in the majority of cases with Escherichia Coli 60% (32/53), Klebsiella Pneumoniae 17% (9/53), Pseudomonas 9% (5/53) and Proteus 6% (3/53) being the commonest pathogens. Extended Spectrum Beta-Lactamases (ESBL) accounted for 5 cases of Escherichia Coli urinary tract infections with sensitivities to Nitrofurantoin (3), Gentamicin (1), Fosfomicin (1) and Ertapenem (1). Most bacteria were sensitive to Nitrofurantoin 49% (26/53), Trimethoprim 25% (13/53) and Gentamicin 15% (8/53). There was low sensitivity to cephalexin and amoxicillin.
Conclusions: This study suggests that the best antibiotic to start empiric treatment of nosocomial urinary tract infections is Nitrofurantoin which is in line with our hospital antibiotic guidelines.

P-039
Defensive medicine and the impact on senior population

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Introduction: Defensive medicine is an increasing phenomenon in the medical practice due to physicians' need to reduce or prevent complains or criticism by patients or their families. However, performing defensive medicine in senior population will increase the risk of exposing the patient to multiple interdisciplinary consults, aggressive investigations, and poly-medication with disastrous iatrogenic results.
Case presentation: We report the case of a 72 years old male patient from rural area who was brought to the emergency room by ambulance for respiratory and digestive symptoms. As there were no life-threatening symptoms, he had to wait for six hours before being seen by a physician. Due to the digestive symptoms, an ultrasound was

performed, which revealed an urinary retention and an urethral catheterization was attempted, creating a false passage with hematuria. The patient had a history of prostate adenoma with chronic urinary retention, but nobody had the time to do a proper anamnesis. The patient was redirected to the Urology Clinic, to solve the catheterization, then to Pneumology and to Gastro-Enterology Clinic. After 24 hours since arriving at the hospital, the patient had extrasystolas, which required a Cardiological Consult. Each consult was accompanied by a prescription, with a sum of 10 different drugs at the end. The patient became dehydrated and extremely anxious, which determined hospitalization in the Geriatric Clinic.
Conclusions: Practicing defensive medicine should be carefully considered in senior patients, always under the supervision of the general practitioner and/or geriatrician.

P-040
Antibiotic usage in community hospitals as a barometer of good antibiotic stewardship…

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Introduction: Patients who are hospitalised have a high probability of receiving an antibiotic. 50% of antibiotic use in hospital can be inappropriate with risk of antibiotic resistance. Good antibiotic stewardship is important to promote adherence to recommended antibiotic treatment guidelines, review antibiotic consumption data and control use of high risk antibiotics. We evaluated antibiotic usage amongst inpatients in a 29 bed Rehabilitation unit in a UK community hospital.
Methods: Retrospective analysis of antibiotic usage was carried out from 1st April 2015 to 30th April 2016. Demographics, comorbidities, adherence to hospital antibiotic guidelines and usage of high risk antibiotics were assessed.
Results: 100 patients received antibiotics. 58% (58) were aged 81–90, 20% were above 91 and 63% (63) were female. The commonest infections were urinary tract infections (UTI) 53% (53), Respiratory infections (RIs) 23% (23) and Cellulitis (Cs) 21% (21). Antibiotics commonly used in UTIs were Nitrofurantoin, Trimethoprim and Gentamicin 79% (42/53); Cellulitis: Flucloxacillin 48% (10/21) and Teicoplanin 33% (7/21); RIs: Amoxicillin 39% (9/23), Doxycycline 26% (6/23). High risk antibiotics for Clostridium difficile infection were used; Tazocin 4/53 UTIs, 7/23 RIs, 2/21 Cs. 2% (2) patients were treated for Clostridium Difficile enteritis.
Conclusion: Antibiotic usage is common amongst older inpatients in rehabilitation with good adherence to hospital antibiotic guidelines. High risk antibiotics were used in line with antibiotic guidelines for RIs, according to sensitivity patterns for UTIs and in discussion with Microbiologists for Cs. Regular review of antibiotic usage is an important aspect of antibiotic stewardship to ensure appropriate antibiotic use.

P-041
Readmissions to acute hospitals from community hospitals; what can we learn

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Background: Emergency readmission rates within 30 days have been increasing year on year costing the NHS 2.5 billion pounds yearly. Research specifically pertaining to readmissions from community hospitals to acute hospitals is scarce. We sought to develop an in-depth understanding of the reasons for readmissions from a 29 bed community hospital in Hertsmere, United Kingdom back to acute hospitals.
Methods: In depth analysis on all readmissions to acute hospitals from the community hospital were collated from September 2013 to September 2014. Demographics, comorbidities, reasons for transfer, days of the week transferred, length of stay and numbers of transfers each month were collated and analysed via a Microsoft excel spreadsheet.
Results: 68 transfers were identified. 36% of the patients (25) were aged 90–100. 6 patients were responsible for 19% (13) of the transfers (2–3 each). The commonest reason for transfer was infection/sepsis (31) patients, acute kidney injury (6) and gastrointestinal bleeding (5). 75% (51) of readmissions occurred within 30 days of admission to the community hospital. The majority of transfers took place on a Monday (14), Wednesday (14) and weekend (13).
Conclusion: Frail older adults are more likely to be readmitted for medical reasons. 6 patients accounted for 20% of transfers suggesting that Comprehensive Geriatric assessment in Acute Medical units are likely to be beneficial. Infections accounted for almost half of the readmissions suggesting that interventions need to be focused on reducing the risk of hospital acquired infections.

P-042
Pulmonary cement pulmonary embolism after percuateneous kyphoplasty: report of one case

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Introduction: Kyphoplasty is a recent procedure aplyed in Geraiatric Medicine. One of the complications is Cement Embolism. The incidence, diagnostic procedure and tratment of this complications still remain unclear.
Method: We expose here a case of pumonary cement embolism. A kiphoplasty was performed in a 86 years-old woman. This treatment soon resolve the pain, even she could leave opioids. However, she refered malaise, exercise intolerance and dyspnea, so intense that she could not walk more than 10 meters. She had Hypertension, and a stage IIIb Cronic Renal Disease. She lived alone, without physical or mental handicap. She went to Emergy Department where a diagnosis of morfic withdrawl syndrome was made and discharged with tapentalol at tappering doses. After 15 days she went to Geriatric Deparment. At rest she was in no distress but when she walk she felt bad an dyspneic suddenly, with tachycardia and tachypnea with no others signs on phycal report. Electrochardiogram disclosed sinus rythm without rigth ventricular overload. Creatinine was 3'2 miligrams/dL and D-Dimero was 10 times over normal range.
Results: Thoracic computed tomography showed high intensity radiolucent material deposition in pulmonary arteries and distal segments. An echocardiogram indicated no Rigth Ventricular Overload or significant Pulmonary Hypertension.
Key conclusions: Cement pulmonary embolism should be considered as a complication of Kyphoplasty. We should improve our knoledge of this problem to avoid clinical and functional decline in othogeriatric medicine.

P-043
Iatrogenic mandibular osteonecrosis

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Introduction: Increasingly prescribed in geriatric population, Bisphosphonates have been proven effective in treating osteoporosis. ONJ is a rare but recognized complication, and may cause an important deterioration of the quality of the patient life.
Methods: We report the case of a 82-years-old patient with a history of complicated osteoporosis and moderate-severe degree of Alzheimer-type dementia that begins with jaw discomfort in relation to taking Ibandronate, suspended in 2012. The patient was diagnosed with ONJ by Maxillofacial Surgery department. Since then the patient has presented recurrent mandibular infections consistent of local pain, psychomotor agitation, and denial for intake. Thus several cycles of seven days Amoxicillin-clavulanate were administered. With antibiotic treatment, the patient improved early days but began to decline again after three or four weeks of treatment completion and again present psychomotor agitation and local inflammatory data. Surgical treatment was dismissed as any invasive test considering the base medical condition of the patient. In one of our visits they have been

extruded two hard fragments that appear to be bone, which are used for morphological study.
Results: The submitted sample is described as necrotic bone tissue with abundant bacterial colonies of Actinomyces. Amoxicillin treatment is initiated for a period of six weeks, being the patient asymptomatic at the time of writing this report.
Key conclusions: The correct diagnosis of this entity is critical to set a successful therapeutic treatment to prevent disabling symptoms such as delirium.

P-044
Doctor, I have a terrible headache

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Introduction: Painful ophthalmoplegia is characterized by painful ocular paralysis and resistant to analgesic treatment ipsilateral headache. It is produced by an affectation of the cavernous sinus that may be due to multiple causes.
Methods: The case below is a 84-year-old patient referring headache, progressive, with twenty days of evolution. After having been valued on several occasions in the Emergency Department, with normal results on complementary tests, with analgesic treatment without clinical improvement, the patient was hospitalized in our hospital. She refers severe left hemicraneal headache with left cranial nerve VI (CN VI) paralysis. Triptans were prescribed, persisting the symptons, so we gave corticosteroids at high dose and request nuclear magnetic resonance (NMR). Afer 24 hours with costicosteroids, she refers CN VI paralysis without headache.
Results: The NMR shows diffuse meningeal thickening in both cavernous sinus with left dominance, thickening of both ophthalmic veins and perineural enhancement of both optic nerves, with left dominance. Findings from imaging tests along with the clinical improvement and discarded other pathologies, are compatible with Tolosa-Hunt syndrome.
Key conclusion: Tolosa-Hunt syndrome is a rare disease, defined as a idiopathic granulomatous inflammation of the cavernous sinus and superior orbital fissure, characterized clinically by unilateral painful ophthalmoplegia, associated with abnormalities in brain's NMR. In his diagnosis, exclusion of other causes of painful ophtalmoplegia is important. The main pillar of the treatment are corticosteroids at high doses and maintained over time, with fast response, showing improvement in pain before 72 hours, although the ophthalmoplegia may take weeks or months to resolve.

P-045
Walking in hospital is associated with a shorter length of stay in older medical inpatients

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Objective: We aimed to estimate the associations of step-count (walking) in hospital with physical performance and length of stay in older medical inpatients.
Methods: Medical in-patients aged ≥65 years, premorbidly mobile, with an anticipated length of stay ≥3 days, were recruited. Measurements included average daily step-count, continuously recorded until discharge, or for a maximum of five weekdays (Stepwatch Activity Monitor); co-morbidity (CIRS-G); frailty (SHARE F-I); and baseline and end-of-study physical performance (Short Physical Performance Battery). Linear regression models were used to estimate associations between step-count and end-of-study physical performance or length of stay. Length of stay was log transformed in the first model, and step-count was log transformed in both models. Similar models were used to adjust for potential confounders.
Results: Data from 154 patients (mean 77 years, SD 7.4) were analysed. The unadjusted linear regression models estimated for each unit increase in the natural log of step-count, the natural log of length of stay decreased by 0.18 (95% CI −0.27 to −0.09). After adjustment of potential confounders, while the strength of the inverse association was attenuated, it remained significant (βlog(steps) = −0.15, 95%CI −0.26 to −0.04). This showed a 50% increase in step-count was associated with a 6% shorter length of stay. There was no apparent association between step-count and end-of-study physical performance once baseline physical performance was adjusted for.
Conclusions: The results indicate that step-count is independently associated with hospital length of stay, and merits further investigation.

P-046
Acute kidney injury: case report

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Introduction: Acute interstitial nephritis (AIN) is an important cause of acute kidney injury (AKI) and its prevalence in the elderly may be increasing.
Case-report: We report a case of an 83-year-old man, with a prior history of uncomplicated hypertension, who started ciprofloxacin for acute infectious colitis. Three days later, he presented new onset of nausea, vomiting and nonoliguric stage 3 (KDIGO) AKI with need of renal replacement therapy. Urinary sediment revealed leukocytes, erythrocytes and granular casts. The autoimmune study and renal ultrasound were normal. Although kidney biopsy was inconclusive, chronology of the events and evolution of the disease suggest AIN due to ciprofloxacin. The patient started prednisolone 1 mg/Kg/day, achieving normal renal function within 3 weeks.
Discussion: The majority of AIN among elderly are due to drugs, while autoimmune or systemic causes are uncommon. The classical presentation is featured by hypersensitivity manifestations (skin rash, eosinophilia, fever) but has been largely replaced by oligosymptomatic presentations that require a higher suspicion index. The definitive diagnosis is dependent on kidney biopsy, however, a relatively normal biopsy and urinalysis findings should not exclude it. Therefore, drug-induced AIN (DI-AIN) should be suspected in a patient who presents with AKI after administration of a known culprit drug and a suggestive urinalysis. The presumptive diagnosis may be established when drug discontinuation results in clinical improvement. So, the mainstream of therapy is rapid discontinuation of the culprit agent. Although corticosteroids are widely used in DI-AIN to speed kidney function recovery and avoid chronic kidney disease, their efficacy remain unproven.

P-047
Multidisciplinary frailty assessment in the emergency department: driving the future today!

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Background: Demographic change is an increasing challenge for Emergency Departments (EDs). Frail elderly patients attending EDs are exposed to more adverse outcomes, such as hospital admission and multiple attendances. The authors analyse the impact of comprehensive geriatric assessment (CGA) delivery in ED and explore possible predictors of hospital admission in frail elderly patients.
Methods: Prospective observational cohort study in the ED of a British University Hospital over an 8-week period. All cases assessed in the ED Frailty Unit included. Statistical analysis performed on SPSSv23.

Results: 173 cases identified. Median age 87 (92–82) years old, 74.4% female, Clinical Frailty Scale 6 (6–4), Cumulative Illness Rating Scale-Geriatrics 10 (14–6), 55.6% living alone. 51.1% of patients presented with falls. Although Glasgow Admission Prediction Score anticipated hospitalisation in 78.7% of cases, only half of these were admitted, and in total 56.6% were discharged home. Furthermore, prospective monitoring showed that 52.2% remained at home 7 days after discharge and 41.7% at 28 days. Patients requiring admission had more polypharmacy (p = .038) and higher risk of pressure ulcers (p = .008). Mortality was extremely low (1.7%) and occurred in the first 7 days of admission.
Conclusions: This study shows that it is possible to deliver CGA to frail elderly patients attending a busy ED. Despite patient complexity, frailty severity, and social context, this intervention managed to decrease by half predicted hospital admission and may have contributed to reduce attendance. Patients requiring admission are not significantly different from their counterparts, which reiterates that care provision in EDs should remain patient-centered.

P-048
Geriatric consultation project in Austrian provincial nursing homes

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Objectives: Nursing Home (NH) residents experience a high number of transfers from nursing facilities to the hospital, many of them unnecessary, sometimes harmful and always costly. The implementation of geriatric expertise and counseling in a Provincial Nursing Home (LPZ) was intended to avoid unnecessary transportation and thus prevent transfer trauma in terms of physical and emotional stress to the highly vulnerable residents.
Methods: In 2014 we performed a controlled, prospective observational Study over a 6 month period comparing the two preceeding years and evaluating the effects of structured knowledge transfer and implementation of geriatric expertise, comprehensive geriatric assessement (CGA), geriatric counseling to practitioners and hospitalists as well as nursing home staff in the LPZ versus care as usual.
82 nursing home residents(LPZ) were included for intervention, medium age 81.7 ± 11.7; CGA: Barthel index (ADL) 36,1 ± 29.1; Esslinger Transfer scale 2.2 ± 1.8; MNA (shortform) 10.5 ± 2.6.
We used the Geriatric Case Conference-Method (PFK) for geriatric knowledge transfer in periodic sessions during the study period.
Results: We saw a clear reduction in the number of transports to the hospital (7.9, 9.2 vs 5.4/pat./y) and less outpatient contacts (299.2, 373.0 vs 198,9/per 100 pat/y) of NH residents in the interventional LPZ compared to the 2 years ahead. On the contrary admissions to the hospital (70.8, 68,4 vs 97,8 per 100 pat/y) have risen during intervention. Satisfaction among caregivers- doctors and nurses did clearly improve.
Conclusion: Bilateral Knowledge transfer (PFK) and structured implementation of geriatric expertise (CGA, Counseling) in nursinghomes and between all multidisciplinary caregivers involved, can reduce avoidable transportation trauma to residents and thus improve quality, continuity and satisfaction of care.

P-049
Multidisciplinary management for multifactorial falls: a quality improvement project in assessment for geriatric patients presenting with fall to the emergency department

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Introduction: Falls are one of the commonest causes for geriatric patients to present to the emergency department (ED). TREAT (Triage Rapid Elderly Assessment Team) is a specialised geriatric service which aims to assess and manage patients within the ED thereby facilitating safe discharge. We aim to identify if guideline care is being met and to seek alternative approaches to overcome the challenges faced in assessing falls patients within the emergency setting.
Methods: We identified 27 patients aged over 80 from the TREAT database, who presented two or more times with a fall-related complaint to ED within 6 months. A standard for assessment was identified from the NICE guidelines and British Geriatrics Society (BGS) Silverbook.
Results: As stated in NICE guidelines and BGS Silverbook, we focused on various aspects as below. 27 patients presented 59 times within a 6 month period. Of 59 presentations, 15% (n = 9) had no witness history and 54% (n = 32) had no recorded postural blood pressure. On the other hand 100% (n = 59) had bloods tests, 97% (n = 57) had an electrocardiogram (ECG), 93% (n = 55) had a documented abbreviated mini mental test score (AMTS). 52% (n = 14) had a 24-hour ECG and echocardiogram within 1 year.
Conclusions: In summary some of the recommended basic assessments were not performed. On the contrary, despite investigation patients with falls still presented to ED repetitively. We recognise the requirement of a proforma available to the multidisciplinary team to allow a multifactorial assessment within the ED.

P-050
National benchmarking figures of inpatient falls per 1,000 occupied bed days (OBDs) in England and Wales

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Introduction: Falls in hospital are the most commonly reported patient safety incidents. They can result in serious injuries, slower recovery and increased costs.
Methods: The National Audit of Inpatient Falls (NAIF) collected hospital reported rates of falls and falls that caused injuries during 2014.
Numbers of falls were converted to falls per 1000 OBDs and falls resulting in moderate harm, severe harm or death per 1000 OBDs.
Results: For the first time we have the falls rates across both countries, with 96% of eligible hospital trusts participating.

- Falls per 1,000 OBDs:
  - mean: 6.52
  - range: 3.11–12.52
  - interquartile range (IQR): 5.48–7.73
- Falls resulting in moderate harm, severe harm or death per 1,000 OBDs:
  - mean: 0.18
  - range: 0.03–0.58
  - IQR: 0.11–0.21

Key Conclusions: Trusts can now, for the first time, benchmark against national averages.
Some limitations on the ability to benchmark are:

- Trust composition: some trusts include only acute hospitals, while others combine acute hospitals, community hospitals and mental health units.
- Patient demographics: rates of falls will be affected by differences associated with patient casemix. A higher falls rate may indicate more vulnerable patients. Length of stay may also influence falls rates.
- Reporting practices: A higher reported falls rate may indicate better reporting practices. Very low rates may indicate a poor culture of defining or reporting falls. For this reason falls resulting in moderate harm, severe harm or death were also calculated as falls resulting in injury are more likely to be accurately reported.

P-051

Measurement of lying and standing blood pressure in hospital as part of a falls prevention programme for older people

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Introduction: A comprehensive national audit in 2015 of 4,846 patients aged 65+ from acute hospitals in England and Wales showed that only 16% of inpatients had their lying and standing blood pressure (LSBP) measured by the third day of admission. Orthostatic hypotension is common in older people, particularly during acute illness. Its adverse effects include falls in hospital. To understand better this poor compliance with falls prevention guidance, our study investigated how orthostatic hypotension is assessed.
Methods: An online survey using survey monkey was sent out to elderly care clinicians. Of 316 respondents, 271 (86%) stated that they measured LSBP in their usual clinical practice. These respondents (doctors, nurses or physiotherapists) were asked further questions.
Results: Measurement: When recording LSBP in clinical practice, 37% of respondents took 3 measurements, a further 37% taking more than 3, and 26% taking 2.
Time patients lay down before initial BP measurements: a range of answers were provided, the majority (38%) reported 4–5 minutes, 6% reported 0–1 minutes and 22% reported more than 10 minutes.
Sphygmomanometer: 33% reported using a manual instrument, the remaining majority using an automatic device, in contrast to current guidance.
Key conclusions: Significant variation exists in assessment for orthostatic hypotension. This likely affects rates of detection, and thus rates of appropriate clinical responses, which might reduce falls and promote recovery.
Clearer guidance on measurement and interpretation of lying and standing BP may promote a better and more consistent approach. We plan to develop an educational tool to promote this.

P-052

Phlebitis prevention in peripheral intravascular catheters – from situational diagnosis to action

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Introduction: Guideline implementation is many times a challenge, requiring development of strategies that ensure good adherence by the healthcare professionals. In order to ensure good practice for Peripheral IntraVascular Catheters (PIVC) phlebitis prevention guidelines, a two-phase study was developed to improve outcomes.
Methods: First-phase study A diagnosis of phlebitis incidence was performed and correlated with the multiple guidelines for PIVC. Second-phase study Corrective measures were implemented and assessed.
Results: During the first-phase, 1302 venous cannulations were evaluated, with phlebitis occurring in 131 cases (10% incidence). Through inferential analysis, occurrence of phlebitis was associated with the interval of PIVC replacement (average of 113 h in the phlebitis group; $p < 0,001$). During the second-phase, the nursing staff received indication to replace all PIVC after 96 h (except in cases where cannulation was difficult). Also, an eHealth system was developed to optimize supervision of the PIVC interval of replacement using colours to red flag the PIVC that had been placed for more than 96 h. During this phase 1242 PIVC were monitored, with phlebitis occurrence observed in 81 cases (6,52%) and with the interval of PIVC replacement decreasing to an average of 67,85 h with no association with the occurrence of phlebitis ($p > 0,05$).
Key conclusions: Understanding of the causes of phlebitis (phase one) allowed the team to focus on the main problem and to develop a group of strategies that lead to a decrease in the incidence of phlebitis (approx. 3,5%) and, above all, contributing to patient safety and to better nursing care.

P-053

Fall profile in an acute neurological ward in Central Portugal

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Introduction: 'Fall prevention' is one of the strategic objectives of the Portuguese National Plan for Patient Safety 2015–2020. In order to better intervene in fall rates, a diagnosis of the situation was performed.
Methods: A review of nursing processes where the diagnosis "Fall" was identified was performed. Other variables collected were: medical diagnosis, age, presence of "confusion" and "fall risk" during the fall episode; nursing interventions; date and hour of fall; place; involved structure; consequences and damage to the patient.
Results: Data analysis showed that the most common medical diagnosis was Stroke (43%), with an average age of 72,3 years. 52% of the falls happened during the morning shift, while 36% happened during the night shift and 12% during the afternoon shift. 24% of the falls occurred at Fridays followed by 19% at Mondays. The lowest number of falls happened during Tuesdays. 82% of the falls occurred during the first three days after hospitalization. Confusion diagnosis was identified in 36% of these patients, while 'Risk of fall' was present in 90%. Patients fell more in the bedroom (57%) or bathroom (24%). From the involved structures, bed was referred in 48% and chair in 12%. 69% did not produce damage to the patients, while only 19% required additional treatment.
Key conclusions: Taking into account the medical diagnosis, nursing shift, place, and day of hospitalization when the episode occurred, a project centered in the promotion of the awareness of physical limitations has been developed to ensure improvement in fall rates.

P-054

Impact of replacement interval decrease in peripheral intravascular catheters placed in the ER – research protocol

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Introduction: Search for improvement is a path to quality-care. After developing a research that focused on good practice for Peripheral IntraVascular Catheters (PIVC) phlebitis prevention guidelines implementation, with impact in the reduction of phlebitis from 10,0% to 6,52%, data from the second-phase of the study was reviewed in order to provide insight regarding other corrective measures with potential to improve care.
Methods: Data from an implementation study of good practices guidelines for PIVC was reviewed in order to understand what other problems could be associated with the presence of phlebitis.
Results: From 1242 PIVC, 81 cases developed phlebitis. After analysis of these cases, an association between presence of phlebitis and the introduction of the PIVC in the emergency room (ER) was observed, which could potentially lead to an overall reduction of approx. 3,5% of incidence of phlebitis. A research protocol has been developed to target this finding, consisting in reducing the interval for PIVC replacement from 96 h maximum, to 72 h for all PIVC that were placed in the ER.
Key conclusions: It is expected that the reduction in the time interval for the PIVC placed in the ER will improve overall phlebitis incidence rates, thus improving quality of care and ensuring patient safety.

P-055

Negative urine dipsticks have little clinical value in nonspecifically unwell older adults

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Introduction: Urine dipsticks are commonly "positive" in older people and have a poor positive predictive value for UTI, but their negative

predictive value is high. We wished to see how often a negative dipstick was clinically helpful in the setting of the nonspecifically unwell older adult who presented to hospital.
Methods: We performed weekly spot audits to evaluate how often a negative urine dipstick was helpful in the assessment of a non-specifically unwell older adult (by ruling out UTI)
Results: We reviewed the case records of 216 patients. We found 14 non-specifically unwell older adults. One of these patients had a negative urine dipstick but was started on antibiotics for a UTI anyway.
Conclusions: Negative urine dipsticks are rarely helpful in the assessment of nonspecifically unwell older adults. On the one occasion a urine dipstick was negative, the patient was still treated for a urinary tract infection.

P-056
Community-acquired pneumonia and prognostic score systems in the very elderly

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Background: Community-acquired pneumonia is an important health problem affecting the very elderly patients, leading to high rates of morbidity and mortality. Several prognostic scoring systems were developed aiming to recognize the critical ill patients and help the decision making process. However its applicability in the very elderly patients may be limited.
Methods: We reviewed the hospital stays at the Internal Medicine Service ward of a 80 years or older population, diagnosed with community-acquired pneumonia during the month of January 2014. Their demographics were analyzed and their results at CURB, SOAR and SCAP risk scores were calculated. We also reviewed other potential prognostic factors, namely the presence of hypoxemia (PaO2 < 60 mmHg) and laboratory findings (C-reactive protein and albumin levels) at the admission. The in-hospital mortality was recorded, as well as the 6-month, 1-year mortality and the hospital readmission within 30 days after discharge. A 95% confidence interval was used.
Results: The medium length of hospital stay of the analyzed population (95 patients) was 7 days and the in-hospital mortality rate was 29%. We found a correlation between higher results at the CURB score and the in-hospital, 6-month and 1-year mortality ($p < 0,05$). No significant correlation was founded between the results at the SOAR and SCAP risk score and the patient's mortality or 30-day readmission. We were not able to find any correlation between each of the other variables (hypoxemia, C-reactive protein and albumin levels) and the mortality or readmission.
Conclusions: In our study CURB risk score was able to predict patient's mortality and hospital readmission. Further adjustments to the existent risk scores may be needed to improve their sensitivity.

P-057
What is the best biomarker to predict infection in elderly standard care patients?

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Introduction: Evaluate the best sepsis biomarker in elderly patients and determine its sensibility and specificity predicting the risk of infection.
Methods: Retrospective study, 834 patients admitted to a medical standard care ward, screened for suffering at least 2 SIRS (Systemic Inflammatory Response Syndrome) criteria and at least 1 hemoculture performed. Infection Probability Score (IPS) and sepsis biomarkers (Leucocytes, C-Reactive Protein (CRP)) were evaluated.
Results: In the final cohort ($n = 124$), aged 75 ± 15 years, the infection prevalence was 88%, with 22% bacteremia. The average CRP in infected patients was higher than in non-infected patients (17.27 mg/dL vs 7.04 mg/dL; $p < 0.001$), yielding a 0.82 ROC-AUC (CI 95%: 0.72–0.93; $p < 0.001$). The CRP optimal cut-off 8.35 mg/dL presented an 80% sensibility and 72% specificity predicting infection. IPS and leucocytes were higher in infected patients but performed sub-optimally in predicting infection, 0.70 ROC-AUC (CI 95%: 0.53–0.86; $p = 0.016$), optimal cut-off 14 (73% sensibility, 64% specificity) for IPS and 0.68 ROC-AUC (CI 95%: 0.53–0.83; $p = 0.032$), optimal cut-off 10705/μL (62% sensibility, 71% specificity) for leucocytes. The performance of CRP and IPS was more significant in patients under 75 years-old [ROC-AUC 0.87 for CRP and IPS ($p = 0.001$)], whereas in patients with at least 75 years, only CRP demonstrated to be useful in predicting infection 0.79 ROC-AUC (CI 95%: 0.66–0.93; $p = 0.03$).
Conclusion: In standard care ward patients, although CRP should be privileged in evaluating risk of infection, IPS and leucocytes may also be considered. However, in elderly patients, only CRP demonstrated to be useful in predicting infection, which may increase the rationale to take hemocultures or initiate antibiotics.

P-058
Urinary tract infection – a qualitative study exploring the human factors contributing to misdiagnosis

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Urinary problems in older people are common and there is general agreement regarding their assessment with clear guidelines as to the use of urinary dipstick testing, including knowledge of asymptomatic bacteriuria. There is significant variability in practice leading to a misdiagnosis rate of up to 40% in older patients in hospital. A mapping review conducted by our group indicated that human factors play a significant contributory role.
To investigate these human factors we undertook a series of interviews with nursing and medical clinicians responsible for managing older people with possible urinary tract infection (UTI) in urgent care settings. Interviews took place over a three month period and each lasted approximately 30 minutes. Twenty interviews were conducted in total with each being recorded and transcribed for analysis using the "Framework" approach. Analysis was facilitated by the use of the software package NVivo 1.
Our findings indicate a multi-faceted and complex set of human factor explanations. Themes included: Time pressures, the need for prompt diagnosis and the need to rule out life-threatening diagnoses such as sepsis, often drive inappropriate urinary dipstick testing despite guidelines to the contrary and often in the absence of appropriate symptoms. Inexperienced clinicians may interpret dipstick results incorrectly (eg asymptomatic bacteriuria) and are more likely to arrive at an incorrect diagnosis. Junior clinicians are also more diagnosis-driven and less likely to adopt a "watch and wait" approach.
An awareness of these human factors will now help tailor an educational intervention aimed at improving the accuracy of UTI diagnosis.

P-059
Internal Medicine and older patients in Emergency Department

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Aging is a problem affecting Emergency Medicine, requiring qualified staff for special needs of older patients. We intended to understand what is the paper of internal medicine in the assessment of the older. We conducted a retrospective, observational study, with a randomized sample of 14% of total patients admitted during a month in an Emergency Department (1252/8872 episodes), excluding children and obstetric patients. We collected demographic data, Manchester triage, medical specialty involved, the length of stay (LOS) and destination. Statistical analysis was performed in SPSS ® 23.0 using qui-square, Mann-Whitney and Kruskal-Wallis tests. In our sample, 53% were female, the average age was 53,9 years, and 32,4% had ≥65 years. Median LOS in the Emergency Department (ED) was 215 minutes. Median LOS in geriatric patients were higher than younger

population (271 vs 188 minutes) ($p < 0.001$). Also, LOS was greater when priority triage was Orange (418 vs 267 minutes) ($p < 0.001$). Priority triage was higher in older patients ($p < 0.001$). Manchester triage attributed most patients to General Practice (30.2%), followed by Internal Medicine (25.3%). However, in the geriatric population most patients were observed by Internal Medicine while younger patients were found by General Practice ($p < 0.001$). Older patients were more frequently admitted to ward than younger patients ($p < 0.001$). Internal medicine is the pivot specialty for assessment of older patients which presents higher LOS in the ED, require more immediate attention and required to be admitted in hospital ward more often. With aging population ED will require being adapted to their particular needs.

P-060

A comparison of patient characteristics and outcomes between patients admitted to hospital with vertebral fragility fractures and hip fractures

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Introduction: Orthogeriatric care has been advocated in vertebral fragility fractures (VFF) management to deliver the same benefits seen in HF care. Development of such a model needs a robust evidence base. This study aims to describe patient characteristics and outcomes of those admitted to hospital with VFF compared with HF patients.
Methods: A retrospective study of 30 HF and 24 VF patients admitted to the trauma unit and spinal unit was conducted. Data was collected on patient characteristics, admission details and discharge outcomes.
Results: VFF patients were younger [mean(SD) age: 67.7(12.9) vs 84.5 (7.5), $p < 0.01$]; had lower prevalence of dementia [8% vs 47%, $p < 0.01$]; had less carer input [5% vs 43%, $p < 0.01$]; and less likely to have fallen in the last year [30% vs 50%, $p < 0.01$]. Otherwise, similar characteristics were demonstrated between VFF and HF: gender [female 58% vs 77%, $p = 0.15$], on $\geq$4 medication [67% vs 40%, $p = 0.05$], number of co-morbidities [$p = 0.26$], outdoor mobility [67% vs 50%, $p = 0.26$] and use of walking aid [55% vs 60%, $p = 0.73$]. At 6 months, no recorded mortality for VFF, but 20% in the HF group. The median length of stay for VFF was 9 days and 14.5 days for HF ($p = 0.04$). More hip fracture patients needed higher carer input upon discharge.
Conclusions: This VFF cohort is not fully representative of hospitalised VFF patients as the majority of them are managed non-operatively outside the spinal unit. In this analysis, although HF patients appear frailer than VF patients, there are similarities between these groups in terms of co-morbidities, polypharmacy, mobility and vitamin D deficiency, which provide similar opportunities for optimization of health status, bone health and prevention of further fractures. Further work is needed to evaluate the role of orthogeriatric care in VFF management in hospital.

P-061

Comparison of acute older medical patients according to type of residence

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Objectives: To examine the length of hospital stay (LOS), number of readmissions and mortality rate in geriatric patients admitted from nursing homes compared to patients admitted from their own homes.
Methods: A cohort study of all patients 75 years or older acutely admitted to an emergency department (ED) with one of nine medical diagnoses: pneumonia, COPD, urinary tract infection, other infections, delirium, anemia, constipation, dehydration, and heart failure were included from June 1, 2014 to October 31, 2015. The patients received Comprehensive Geriatric Care in the ED followed by discharge or transfer to a geriatric ward.
Results: The study population consisted of 357 nursing home residents and 971 patients admitted from their own home. In the nursing home residents, 75% were discharged directly home from the ED (median LOS: 1 day (IQR: 1–3)). In patients from own homes, 56% were discharged directly home (median LOS: 5 days (IQR: 1–9) ($p < 0.001$). Readmission rate was 16% in nursing home residents vs. 18% in patients from own homes. When adjusting the risk there was a trend towards a lower risk of readmission among the nursing home residents, HR-adjusted = 0.73 (95% CI: 0.52–1.02). Comorbidity was an independent risk factor. Thirty-day mortality was significantly higher among the nursing home residents (22% vs. 10%, $p < 0.001$) HR-adjusted = 1.81 (95% CI: 1.42–2.33). Comorbidity and no walking ability were independent risk factors.
Conclusions: The hospital admitted nursing home patients differ from the patients admitted from own homes by shorter LOS and a trend towards a lower readmission rate. Mortality was highest among patients admitted from nursing homes, and patients with high comorbidity and walking disabilities.

P-062

Falls prevention: starting at the beginning (QIP)

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Introduction: In-hospital patient falls is a burning issue with, nearly 240,000 falls reported from acute and community hospitals in England and Wales every year. Of these, nearly 1400 result in hip and other fractures. The financial burden of this on the NHS is over £15 million per year, albeit precise figures of the overall costs are much likely to be higher due to associated invisible costs.
Rationale: The Emergency department (ED) patient cohort and ergonomics profoundly increases the risk of falls in patients in the department. Furthermore, a significant number of the inpatients begin their hospital journey at the ED. AIM: To reduce the number, and subsequent consequences, of in-hospital falls at the front door by increasing awareness and vigilance; carrying out early assessment and introducing early fruitful interventions.
Method: A pragmatic quality improvement project (QIP) carried out by the introduction of simple and cost-effective measures in ED. The initiative consisted of 2 phases: phase 1 – focused on increasing awareness and phase 2 – focused on falls prevention. PDSA approach was used for project development, progression and assessment. Careful processing mapping led to clear identification of primary and secondary drivers, which were then used to identify aims and objectives.
Results: Delivered outcomes recorded in the form of stakeholder satisfaction, reduction in the number of falls and reduction in the severity of injuries sustained secondary to the number o falls. Prospective database, questionnaires and structured interviews were conducted to achieve this.
Conclusion: Increasing awareness and taking measures preventive measures helped to reduce the number, and impact, of falls in the ED. The QIP also formed an integral part of the current frailty-friendly ED project in the Trust. It encouraged awareness and vigilance across the wider multidisciplinary team, having a holistic impact on the hospitalized patients. The project also received a positive reaction on the social media and won second prize at the RSM meeting (presented in the early stages of the project).

P-063

Incidence and outcomes of sepsis in elderly patients admitted to internal medicine wards

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Objectives: The incidence of sepsis and septic shock is increasing in older population. However, there is growing evidence that a significant percentage of these patients is not treated in an intensive care unit. The aim of this study is to examine sepsis in older adults admitted to

internal medicine wards, including infectious focus, most frequent microbiological agents implied, treatment and outcomes.
Methods: We have performed a retrospective cohort study including 281 patients aged >65 years old with sepsis admitted to internal medicine wards of our hospital during a 12-month period.
Results: Their mean age was 82.42 years, 52.3% were female and 94.3% had significant comorbidities. On admission, 192 patients (68.3%) had community acquired infection. 106 patients (37.7%) presented septic shock. 91.5% of this infected population had microbiological documentation. More than half received inappropriate initial antibiotic therapy, but still one quarter kept the initial treatment. 52.3% and 35.2% had urinary and respiratory infectious focus, respectively. Multiresistant agents were found in 10.8% blood cultures, 28.4% in urine cultures and 30.3% in spuctum cultures. 31.3% of the patients died and roughly half of these patients had septic shock. Mean admission length was of 12 days. On multivariate analysis, the presence of septic shock was an independent prognostic factor of mortality.
Conclusion: Sepsis in the elderly remains a challenge due to age-related vicissitudes and to their comorbidities. Higher functional disability as well as the use of inapropriate antibiotics are independent prognostic factors wich adversely affect the outcome of patients with sepsis admitted to Internal Medicine wards.

P-064
Cameron ulcers – forgotten cause of severe anemia

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Background: Cameron lesions are an uncommon and frequently overlooked cause of insidious gastrointestinal bleeding and iron deficiency anemia. They are described as chronic linear erosions or ulcers positioned on the crests of folds at the diaphragmatic impression in patients with a large hiatal hernia. The cause of Cameron lesions remains unclear and its diagnosis requires a high index of suspicion. The response to medical treatment is variable. Treatment is based on oral iron replacement therapy and antisecretory therapy with proton pump inhibitors. A case with typical clinical and endoscopic presentation and good response to medical therapy is reported.
Objective: To report a case of severe anemia due to Cameron Ulcer. Design: Case report. Setting: Community teaching hospital. Patient: 84-year-old woman coming to the hospital with dyspnea and cough. The X Ray reveled a Community Adquired Pneumonia. On presentation, her blood hemoglobin level was 4.6 g/dL, so she had to receive blood transfusion. She underwent EGD which confirmed a large hiatal hernia and showed milimetric ulcer, consistent with a Cameron lesion. The ulcer was treated with a proton pump inhibitor. She started iron and folic acid replacement therapy and recovered uneventfully.
Conclusion: Cameron ulcers are a mechanical phenomenon, related to extrinsic compression of the diaphragm on the stomach in patients with large hiatal hernias. These lesions should be suspected during upper endoscopy in patients with large hiatal hernias as Cameron ulcers may be overlooked due to their location along the diaphragmatic impression.

P-065
A difficult case of refractory heart failure

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A 77 years old woman remained in good health until December 2013 when began to lose weight and to complain fatigue and dyspnea. In March 2014 a cardiological evaluation was performed: echocardiography showed moderate mitral regurgitation, elevated LV filling pressures and increased PAPS. She was started on diuretic therapy and nitrates. From May to June she was admitted three times for acute heart failure; echocardiographic findings were stable. Cardiac MRI demonstrated increased thickness of intraventricular septum and widespread iperenhancement, especially in basal and middle segments of subepicardial layer. Protein electrophoresis detected two monoclonal components (IgA lambda and small level of free lambda chains). Periumbilical fat biopsy resulted negative. Abdominal CT didn't show significant evidences. The patient returned home, but from discharge dyspnea rapidly worsened together with increased peripheral edema refractory to diuretic therapy. In July, again hospitalized, the patient appeared somnolent, with low blood pressure and in an anasarcatic state. At the Electrocardiography, reduced voltage in the peripheral leads appeared; Nt-proBNP was 50,000 pg/mL. Serum immunofixation confirmed monoclonal component IgA LAMBDA with abundant free light chains in serum (428.00 mg/L; ratio kappa/lambda 0.0080). Sampling of periumbilical fat was repeated with positive result. We concluded for diagnosis of isolated cardiac AL amyloidosis. Chemotherapy was contraindicated and the patient died after 12 days of hospitalization. Isolated cardiac amyloidosis is a rare disease (3.9%): It should be suspected in all patients with heart failure who have a wall thickening at echocardiography, with normal size of the heart chambers and low ECG voltages.

P-066
Start low…Go slow? Two months experience in the first Portuguese geriatric unit

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Introduction: In Portugal Geriatric medicine it is in its early days and a comprehensive health care approach of this age group is still sparse. The pilot project of the Geriatric Unit of Hospital Vila Franca de Xira is pioneer in Portugal and started on March 1st of 2016.
Methods: We retrospectively analysed the patients admitted to the Geriatric Unit between March 1st and April 30th 2016. All patients were submitted to a comprehensive geriatric assessment (CGA). We divided the sample between patients with and without criteria for admission, and in the former we evaluated the distribution by sex, age, number of diagnosis and drugs taken, length of stay, CGA, admission cause and final diagnosis.
Results: From the 43 patients sample, 34 (79%) had admission criteria. The main exclusion criteria were age, no reversibility potential, acute disease only and terminal illness. Within the patients with criteria the average age was 83.4 years, 67.6% were female and 32.4% male, 17.7% of patients have had an admission in the previous month. The average of drugs on admission was 7.8, the average of co-morbidities was 4. The average length of stay was 8.9 days. The most common first discharge diagnosis was acute tracheobronchitis, congestive heart failure exacerbation and urinary tract infection.
Key conclusions: As in many new projects, the Geriatric Unit Team foresees several obstacles on the way to achieve the optimal elderly care. The biggest barrier expected is the non-recognition by all healthcare providers of a truly geriatric patient.

P-067
Emergency room utilization in tertiary Portuguese hospital by older adults

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Objectives: Emergency departments [ED] are challenged to provide rapid access to high-quality care and are needed to create a pathway to assist the elders. We describe the older profile.
Methods: Data were obtained from a sequence of 4 weeks. The variables analyzed were: gender, age, ICD9, color of the Manchester Triage System, discharge and length of stay. Statistical analysis was used for comparing means to a pvalue <0.05 and relative risk (RR).
Results: The admission to ED were 7827, and the data represent 87.7%. Older adults comprised 33.7% of all ED visits during this time. Of note, ED visits were more likely to be associated with women with middle age, triage with yellow color [63.9%], moderate severity, ICD 9 injury

and poisoning [21,4%], discharge to home [81,6%] and the means length of stay of 178 minutes. The younger were used more the green color of triage [24.3% vs. 16.1%] while the older used the orange color [13.9% vs. 7.3%] statistically significant (p = 0.0001). For discharge to home, the younger had a higher utilization [85.6% vs. 73.7%] and the older was more than three times as great as for admission to ward [RR = 3.01] fifteen times for mortality [RR = 15,73] and four times to transfer to another facility [RR = 4,64]. Finally, the length of stay was more high for older [219 vs 157 minutes; p = 0.0001], associated a high severity [14.4% vs 7.5%; p = 0.0001].
Conclusion: The older is related to the rate of admission to a ward and mortality. The length of stay takes longer when is with high severity.

P-068
Test of MNA-SF in an acute geriatric department

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Introduction: Nutrition of geriatric in-patients requires special attention in order to secure a sufficient intake. With the present study, we want to investigate the capability of the Mini Nutritional Assessment (MNA) to identify patients, who do not need nutrition support.
Methods: Patients acutely admitted to a geriatric unit were given maximal oral nutrient support. On admission patients were screened using MNA and trained nurses registered the total intake of calories and protein. 67/80 patients got 3 registrations or more. Each patient had at least one registration. Patients with significant impaired cognitive status were excluded.
Results: In total 200 patients were included with 18 samples during 3 months. 80 patients participated after mental screening. Mean Barthel index on admission was 43 ± 29,5, mean age was 82.6 ± 6,9. According to MNA score, 73 patients (91%) were malnourished (MNA score 0–7) or in risk of malnutrition (MNA score 8–11), and 7 (9%) were in normal nutritional status. All patients with MNA > 11 got more than 75% of their energy need as recommended in Denmark.
Key conclusions: A massive majority of acutely admitted geriatric patients are in risk of malnutrition. Maximal nutrient support should therefore be given as soon as patients are admitted. Initial direct registration of calorie and protein intake can be used to guide further nutrient support. Only 7/80 patients had an MNA > 11. Nutritional screening with the MNA is therefore not useful in this patientgroup.

P-069
Utility of urine dipstick testing among elderly patients admitted to the emergency department

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Introduction: The urine dipstick test (UDT) is a frequently ordered rapid screening test to exclude the presence of a urinary tract infection (UTI). This study aimed to evaluate indications and results of UDT in acute care.
Methods: Cross-sectional study of a convenience sample of emergency department elderly patients who had UDT performed between April 11 and April 17, 2016.
Results: Of 1,342 patients, 154 underwent UDT on admission (median age, 80 years; 50.6% women; 13.6% with urinary catheter). There were specific symptoms or signs of UTI in 41 cases (26.6%), nonspecific symptoms or signs in 25 cases (16.2%) and no symptoms or signs of UTI in 88 cases (57.1%). UDT results were positive in 68 cases (44.1%). 55 patients underwent urine culture (of which 30.9% were positive). The sensitivity of urine dipstick as a proxy for culture was 82.3%, with a specificity of 56.4%. The sensitivity and specificity of UDT as a proxy for urine culture by specific symptoms was 100% and 54.5% respectively. Of 92 patients receiving antibiotics, 54 cases (58.7%) were for a non UTI indication while 38 (41.3%) received antibiotics with no explanation other than suspected UTI. Positive UDT results were associated with increased probability of antibiotic prescription (p < .001) among asymptomatic patients.
Conclusions: As seen in the present data, most patients lacked an appropriate clinical indication for UDT. The accuracy of UDT as an indicator of a positive urine culture or specific symptoms of UTI is poor, contributing to overdiagnosis and excessive use of antibiotics for UTI.

P-070
Acute hospital admissions in nursing home residents: a trigger to think ahead!

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Background: Nursing Home Residents(NHRs) have complex healthcare needs due to advanced age, multiple comorbidities and high levels of dependency. Acute hospital admissions of older people are associated with risks and complications. Despite this, transfer of NHRs to hospitals remains common. This study aims to examine the relationship between acute hospital admissions and survival benefits among NHRs.
Methods: Retrospective analysis of NHRs with unscheduled admissions to a tertiary hospital over a 2 year period, from 2014 to 2015.
Results: There were a total of 1219 unscheduled admissions from 929 residents. This represented 4.8% of 25,336 unscheduled admissions in the time period.62% were women and mean age was 85 years. Of all admissions, 36% were recurrent admissions. 293 residents had more than 1 admission.
The overall 6 month mortality of NHRs after hospital admissions was 34%. 18%(n = 167) died during their hospital stay, with 81% of deaths occurred within the first 15 days. Following hospital discharge, a further 16%(n = 124) died in nursing homes within 6 months. 40% of this cohort died within 1 month of hospital discharge.
NHRs with more than 1 admission had poorer outcomes. Their overall 6 month mortality was significantly higher at 37.5% vs 28.5% in residents with single admission (p = 0.006). In-hospital mortality among re-attenders was 20.5%, compared to 16.8% in those with 1 admission (p = 0.17). Following hospital discharge, NHRs with more than 1 admission had significantly higher 6 month mortality in their nursing homes, compared to those with single admission (21% vs 13%, p = 0.009).
Conclusion: Acute hospital admissions are associated with poor survival outcomes among NHRs. Hospital admissions, in particular recurrent admissions, should prompt early discussions regarding appropriate end of life care.

P-071
Functional focused care: content validity of function focused care behavior checklist

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Objectives: The prevention of functional decline (FD) should be considered a priority in the care of hospitalized older adults (OA). A functional focused care (FFC) philosophy promotes independence and physical activity during hospitalization. Nurses have a central role in the implementation of FFC. This study aims to: (1) translate, adapt and validate the FFC Behavior Checklist (FFCBC) for the Portuguese population; and (2) evaluate content validity index (CVI) using an expert panel.
Methods: Principles of good practice for translation and cultural adaptation were used. The analysis of content validity included CVI, probability of a chance occurrence (pc) and modified Kappa (MK). Seven experts (geriatric clinicians and researchers) evaluated the tool. SPSS software, version 20, was used for the statistical analysis.
Results: A preliminary version of FFCBC was obtained. This version was revised in three rounds, the suggestions of experts were incorporated into each review until all items reached a CVI ≥ 0.8. In the final version, there were 13 items with a CVI = 1 and 6 items with a CVI = 0.856. The average value of the IVC was 0.96 and the universal

agreement of the IVC was 0.68, pc values ranged between 0.007 and 0.055. Modified kappa ranged between 0.86 and 1, which was considered excellent.
Conclusion: Incorporation of the CCF philosophy in the usual practice is crucial in decreasing functional decline of OA during hospitalization. The Portuguese version of FFCCB showed high levels of CVI, pc and MK, supported by a panel of 7 experts. These results support the validity of the content of this tool.

P-072
Prediction of functional decline among hospitalized older adults: ISAR-HP content validity

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Objectives: Hospitalized older adults (OA) are at risk of functional decline (FD). The Identification of Seniors At Risk – Hospitalized Patients (ISAR-HP) is a screening tool to identify older patients at risk for FD. This study's aims were to (i) translate, adapt and validate the ISAR-HP for the Portuguese population; (ii) evaluate content validity index (CVI) using expert panel and fidelity (test-retest interrater).
Methods: Principles of good practice for translation and cultural adaptation were use. The analysis of content validity included CVI, probability of a chance occurrence (pc) and modified Kappa (MK). The assessment was undertaken by six experts in geriatrics and research fields. Two researchers performed the test–retest among 15 OA, through the calculation of Cohen's kappa coefficient (CKC). SPSS software, version 20, was used for the statistical analysis.
Results: The preliminary version of ISAR-HP was obtained and it was evaluated by a group of experts. The four items evaluation showed: item 1 IVC = 0.86 and items 2, 3 and 4 IVC = 1), the average value of the IVC = 0.97 and the universal agreement of the IVC = 0.75; pc values ranged between 0.055 and 0.008. Modified kappa ranged between 0.81 and 1, which was considered as excellent. The average value of CKC = 1, indicating high inter-rater agreement.
Conclusion: The identification of patients at higher risk is the first step in preventing FD. The preliminary study showed that the Portuguese version of ISAR-HP is valid and reliable to be used in clinical practice.

P-073
A retrospective study of nursing diagnosis of hospitalized older adults' self-care

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Objectives: Nurses have the most direct and sustained contact with patients, as well as, an important role in the assessment of self-care (SC). The nurses' diagnosis (ND) pertaining to self-performance is crucial in promoting a restorative care plan. The aim of this study is to analyze the ND of hospitalized older adult's (OA) self-care at the moment of admission and discharge.
Methods: Data was collected retrospectively (last trimester of 2015) from the Electronic Nursing Documentation, of 640 OA (≥70 years; n = 413 women) in four medical units of a teaching hospital. The SC was: eating, bathing, toileting, dressing, walking, positioning and transferring and classified in three degrees of dependency: high, moderate and reduced. A Chi square test was performed and $p < .05$ considered statistically significant.
Results: The mean age was 83.54 ± 6.49 years and the average length of stay 9.5 ± 8 days. At admission, the majority of OA was classified as a high level dependent in the SC, which ranged from 51.3% (dressing) to 74.8% (eating). The discharge diagnosis was dependent of the admission ND ($p < .01$). Most of the OA maintained self-performance (96.1% – transferring to 98.8% – dressing) and a small number of OA improved from admission (0.9% – dressing to 3% – feeding or transferring). However, some OA increased the dependency degree (0.4% – dressing to 2.4% – eating).
Conclusion: Hospitalized OA sample required plenty of nursing assistance, demonstrated by high degrees of dependency. The ND revealed that SC remains the same between admission and discharge. Despite little improvements, some OA lost abilities to SC, enhancing its level of dependency.

P-074
Do older surgical patients who undergo emergency operation have higher mortality and readmission compared to those managed conservatively?

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Introduction: It is unclear whether older surgical patients who undergo emergency operation have higher prevalence of mortality and readmission than those managed conservatively. We therefore examined the prevalence of emergency operations during emergency surgical admission of older people (≥65 years) and its association with mortality at 90 days post- admission and hospital readmission within 30 days of discharge.
Methods: Data were employed from the Older Persons Surgical Outcomes Collaboration (www.OPSOC.eu) (2013 and 2014) to assess the prevalence of operations in older emergency surgical admissions. The effect of operation on study outcomes was examined using multivariate logistic regression adjusting for age, gender, polypharmacy, haemoglobin, albumin, and frailty.
Results: A total of 727 patients [mean age (standard deviation) = 77.1 (8.2) years, 54% female] were included in this study. Of them, 185 (25%) underwent emergency operation. Patients that received an operation were younger than those who did not [76(7.7) vs. 78(8.4) years; $P < 0.001$] and higher proportion of patients were males (30.2% vs. 23.5% in females; $P = 0.006$). There was no difference between operated and non-operated patients for other characteristics examined (frailty, polypharmacy, serum albumin, and haemoglobin levels). We found no association between operation and both outcomes: adjusted odds ratio (AOR) (95%CI) were 0.64 (0.30–1.41; $P = 0.27$) and 1.08 (0.65–1.77; $P = 0.77$) for 90-day mortality and readmission within 30 days after discharge, respectively.
Conclusions: A quarter patients from this cohort had an operation during their acute surgical admission in the UK setting. There appeared to be no impact of operation on 90 days mortality and readmission in this population.

P-075
Stop hospital acquired pressure ulcers

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Introduction: A pressure ulcer is a localised injury to the skin or underlying tissue, usually over a bony prominence, as a result of unrelieved pressure. Pressure ulcers significantly threaten the well-being of patients with limited mobility. 70 percent of ulcers occur in persons older than 65 years. The female geriatric rehabilitation unit of Rumaila hospital, Qatar provides long term care for patients over the age of 65 with a bed capacity of 44.
Methods: The unit implemented multi component interventions or bundled approaches to preventing pressure ulcers and that pressure ulcer care involves physicians, nurses, and other members of the care team. Prevention includes identifying at-risk persons and implementing specific prevention measures, such as following a patient re positioning schedule; keeping the head of the bed at the lowest safe elevation to prevent shear; using pressure-reducing surfaces; and assessing nutrition and providing supplementation, if needed.
Results: There was no incidence of pressure in 2015. Health education and constant good practice helped to prevent hospital acquired pressure ulcer.

Conclusions: Health education, interdisciplinary coordination, multi component interventions and constant good practice help to prevent hospital acquired pressure ulcer.

P-076

The association between the introduction of a step down unit on the ICU and readmission rates

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Objective: The aim of this study was to evaluate the readmission rates after the introduction of a step down unit (SDU) on the intensive care unit (ICU)
Design: Retrospective study.
Setting: A 12 bed Intensive Care Unit of teaching hospital in the Netherlands.
Patients: The cohort include 1954 patients who received intensive care treatment.
Interventions: Implementation of a Step Down Unit, a separate unit connected to the intensive care unit, which provides a level of care that is intermediate between the care on the ICU and the care on the ward. The main purpose is bridging the sudden drop in care intensity after transfer from the ICU to the ward. Furthermore on the SDU there is less intensive hemodynamic monitoring and great attention to mobilizing and physiotherapy.
Measurements and main results: Between October 2013 and January 2016 a total of 1954 patients was admitted to the ICU. 118 were discharged to the SDU. These patients were older, had a longer ICU stay and higher APACHE scores compared to the overall study population. After introduction of the SDU overall readmission rate was reduced to 4.4% (compared to 2012, readmission 7.4%). The majority of readmissions was due to respiratory insufficiency. Patients and families experienced the SDU as a very patient friendly service that eased transfer to the ward.
Conclusions: The implantation of the SDU did reduce the rate of ICU readmission.

P-077

Post-hospitalization symptoms experienced by older patients after acute hospitalization and their impact on daily functioning: a qualitative study

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Background: The transition between hospital and home is a vulnerable period for acutely hospitalized older patients during which they are at risk for adverse health outcomes.
Objective: It was aimed to characterize the effect of hospitalization on an older individual's daily life and to inquire which post-hospitalization symptoms patients experience in the first weeks post-discharge.
Design: A qualitative design.
Setting: A tertiary teaching hospital and a regional teaching hospital in the Netherlands.
Subjects: Older patients (aged ≥70) were interviewed at home two-week post-hospital discharge. All had been acutely hospitalized for at least 48 hours before discharge.
Methods: Qualitative data were categorized into different categories and themes.
Results: Twenty patients were interviewed. Most patients indicated hospitalization had a negative impact on their physical health and reported difficulties in their mobility and Instrumental Activities of Daily Living (IADL) after hospital discharge. Patients typically ascribed their inactivity to four main symptoms: fatigue – ("I'm exhausted. It's almost like I've neglected myself"); apathy ("I don't feel like doing anything. So I sit in my chair most of the time"); unsteadiness while standing ("I'm swaying back and forth"); and fear of falling ("I would like to walk outside again but I feel so uncertain, I'm afraid I may fall"). Muscle weakness, weight loss and poor appetite were also reported.
Conclusion: Patients were mainly affected in their mobility and IADLs, which was almost without exception attributed to multiple symptoms patients experienced. Our study provides information on the nature and attributions of post-hospitalization symptoms older patients experience.

P-078

Time of death: "48h" – analysis of mortality after admission in department of Internal Medicine

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Introduction: Mortality in 48 h inpatients, according to national statistics (2014), was 104.843 deaths, due to cardiovascular causes (30.6%), cancer (25%) and respiratory diseases (11.6%). In recent years, health care-associated infections are pointed as an emerging mortality cause and a study had shown an association between weekend admission and worse patient outcomes.
Objective: To analyze mortality of less than 48 hours in an Internal Medicine department in a 3 years period.
Methods: Retrospective study of mortality after admission from 2013 to 2015, through consultation the electronic process.
Results: 234 patients with 48 h-hospitalization; 46 died (22 female, 24 male; mean age 82.5 years); in 28 the main cause of death was infectious (in 22 pneumonia). While 15 patients presented diagnosis of malignancy only in 8 cancer was the cause of death. Cardiovascular pathology was the cause of death in 10 patients. 50% of patients had an hospitalization 6-month before. 56% presented expectable death by clinicians (in patients with cancer r = .58, p-value < 0,001). In patients where resuscitation procedures were initiated the average age was 82 y; 50% were total dependent for ADLs and 50% had cognitive decline. The average length of stay in the emergency room was 0.92 days. Only 26% of patients had been transferred in weekend/holiday.
Conclusions: Mortality is higher in the elderly population. The main causes of death were infectious (60%), cardiovascular (21%) and cancer (17%). Age does not seem to have been an early predictor for resuscitation maneuvers initiation and during the weekend mortality wasn`t increased. Hilights: the morbimortality from community-acquired pneumonia and health-care associated pneumonia.

Area: Biogerontology and genetics

P-079

Estimating the association of 5HTTLPR polymorphism with delusions in Alzheimer's disease

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Objectives: The mechanisms underlying delusions in Alzheimer's disease (AD) patients have not been fully clarified. 5HTTLPR is a 44-bp deletion polymorphism in the promoter region of the serotonin transporter gene SLC6A4, with 2 alleles; 1 termed long (l) and 1 short (s). The aim of the study was to determine whether the 5HTTLPR

serotonin transporter gene polymorphism is associated with delusions in patients with AD.
Methods: A total of 257 consecutive AD patients attending the Alzheimer's Evaluation Unit of the IRCCS 'Casa Sollievo della Sofferenza' in San Giovanni Rotondo, Italy were included in this study. Of these, 171 AD patients with delusions (AD-D) and 86 AD patients without delusions (AD-noD).
All participants underwent a comprehensive evaluation with standardized CGA, Mini-Mental State Examination (MMSE), and Neuropsychiatric Inventory (NPI). Individuals were genotyped for the 5HTTLPR polymorphism in blinded fashion.
Results: No significant difference were showed between the two groups on sex, mean age, educational level and scores in CGA. AD-D patients showed significantly an higher cognitive impairment in MMSE ($p = 0.047$), and an higher score in NPI ($p < 0.0001$) and NPI-Distress ($p < 0.0001$) than AD-noD patients. Homozygosity for the L/L genotype were associated with a lower MMSE ($p = 0.011$) and an increased risk for delusions ($p < 0.0001$).
Conclusions: This study showed that the 5HTTLPR polymorphism is associated with delusions in AD, with important implications regarding the mechanisms underlying this symptom. Because of this, it could be possible to implement a personalized therapy for AD patients with delusions.

P-080
A vitro study on mechanism of benefiting kidney herbs in treating and preventing osteoarthritis

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Objective: To evaluate the effect of Icariin, Psoralen, Oleanolic and TSG in regulating the expression of OA-related impacts BMP 2, BMP 4 and Runx2. To detect the function of benefiting kidney herbs in improving articular cartilage self-maintaining and approach the molecular mechanism, by which means to demonstrate the relation between kidney and articular cartilage in Chinese medicine theory, and more comprehensively to extend the conception of "kidney governs bone" theory.
Method: Mesenchymal cells were collected from i month old wildtype micce and devided into blank control, control, Icariin, Psoralen, Oleanolic acid and TSG groups. Cells were harvested for RNA extraction on 48 h time points to detect the concentration of BMP2, BMP4, and RUNX2 genes. Western-blotting was performed to examine the protein expression of BMP2, BMP4, and RUNX2 on Day 5.
Result: 1. Comparing with control group, gene expression of BMP4 and RUNX2 is significantly increaded in the other 4 herb groups ($P < 0.05$). BMP2 gene expression is higher in Icariin group and TSG group ($P < 0.05$). 2. Comparing with control group, protein expression of BMP2 and BMP4 is dramatically increased. Runx2 protein expression is stronge in Icariin group and TSG group.
Conclusion: 1. Icariin, Psoralen, Oleanolic acid and TSG, extracted from benefiting kidney herbs, can up-regulate the gene and protein expression of BMP2, BMP4 and RUNX2. 2. The melacuar mechanism of benifiting kidney herbs in treating and preventing OA and slow down the AC degradation may relate to the up-regulation of BMP2, BMP4 and Runx2. 3. "Kidney governs bone" theory involves the its regulation to articular cartilage.
Key words: kidney, articular cartilage, Icariin, Psoralen, Oleanolic acid, TSG

P-081
Assessment of health status by molecular measures in middle-aged to old persons, ready for clinical use?

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Objectives: In addition to measures already used in clinical practice, molecular measures have been proposed to assess health status, but these have not yet been introduced into clinical practice. We aimed to test the association of functional capacity measures used in current practice and molecular measures with age and health status.
Methods: The cohort consisted of 178 middle-aged to old participants of the Leiden Longevity Study (range 42–82 years). We tested associations between functional capacity measures (physical tests: grip strength, 4-meter walk, chair stand test; cognitive tests: Stroop test, digit symbol substitution test and 15-picture learning test) with age and with cardiovascular or metabolic disease as a measure of the health status. These associations with age and health status were also tested for molecular measures (C reactive protein (CRP), numbers of senescent p16INK4a positive cells in the epidermis and dermis and putative immunosenescence (presence of CD57+ T cells)).
Results: All functional capacity measures were associated with age. CRP and epidermal p16INK4a positivity were also associated with age, but with smaller estimates. Grip strength and the Stroop test were associated with cardiovascular or metabolic disease, as was epidermal p16INK4a positivity. All associations with cardiovascular or metabolic disease attenuated when adjusting for age.
Conclusion: In conclusion, in middle-aged to old persons, the molecular measures tested here were more weakly associated with age and health status than functional capacity measures. Whether these molecular measures associate more closely with health status in the elderly or in specific groups of patients needs to be explored further.

P-082
Altered mitochondrial quality control checkpoints in skeletal muscle of older patients with cancer cachexia

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Introduction: Cancer cachexia (CC) is a multifaceted debilitating syndrome featured by body weight loss mainly due to skeletal muscle wasting. The mitochondrial involvement in muscle wasting has attained consensus over time, although its role in the pathogenesis of CC is still unclear. We investigated mitochondrial quality control (MQC) signalling in muscle and cachexia in patients with gastric cancer.
Methods: Biopsies from the rectus abdominis muscle of 18 older patients with gastric cancer (9 with CC and 9 non-cachectic (NCC)) were collected and assayed for the expression of a set of MQC mediators.
Results: Mitochondrial plasticity was analyzed first, and no changes were found between groups in the protein content of either mitofusin 2 (Mfn2) or optic atrophy protein 1 (OPA1). CC patients, instead, showed an up-regulation of fission protein 1 (Fis1) gene expression relative to NCC. The calculation of the "fusion index" (Mfn/Fis1 protein ratio), as a measure of cell ability to compensate for mitochondrial impairment, revealed a failure for such a compensation in CC patients. As for mitophagy, there was no difference in the expression of the PTEN-induced putative kinase 1 (PINK1) between groups but, interestingly, the protein ratio of the lipidated and non-lipidated form of microtubule-associated protein 1 light chain 3B (LC3B II/LC3B I), an index of ongoing autophagy, showed a decrease in CC patients compared with NCC counterpart. Neither the protein expression of autophagy-associated protein 7 (Atg7) and lysosome-associated membrane protein 2 (LAMP-2) nor the mRNA abundance of the

mitochondrial biogenesis factors peroxisome proliferator-activated receptor-γ coactivator-1α (PGC-1α) and mitochondrial transcription factor A (Tfam) were changed between groups.
Key conclusions: Our results suggest an association between CC and derangements in mitochondrial dynamics, tagging for disposal, and execution of mitophagy, these latter representing checkpoints of the MQC and precious elements for the identification of targets for pharmacological interventions.

P-083
Interleukin-6 and C-reactive protein, successful aging, and mortality: the PolSenior study

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Introduction: Low-grade inflammation is a risk factor for the development of aging-related diseases and frailty in the elderly population.
Methods: Interleukin-6 (IL-6) was measured using ELISA and C-reactive protein (CRP) was evaluated using high-sensitivity immunoturbidymetric method in 65+ years old seniors. Cognitive function was assessed using the MMSE test. Physical performance was measured with the ADL scale.
Results: IL-6 and CRP levels increased in an age-dependent manner in the entire group studied (IL-6: n = 3496, p < 0.001 and CRP: n = 3632, p = 0.003) and in successfully aging sub-group (IL-6: n = 1258, p < 0.001 and CRP: n = 1312, p < 0.001). IL-6 and CRP levels were lower in successfully aging individuals than in the remaining study participants (both p < 0.001). Lower IL-6 and CRP concentrations correlated with better physical and cognitive performance (higher ADL and MMSE scores, both p < 0.001); this remained significant after adjustment for age, sex, BMI, lipids, eGFR and smoking. Longer survival was associated with a lower IL-6 and CRP concentrations in the entire population studied (HR = 1.077 per each pg/mL, 95%CI: 1.068–1.086, p < 0.001 and HR = 1.025 per each mg/L, 95%CI: 1.020–1.029, p < 0.001, respectively) and in the successfully aging sub-group (HR = 1.163 per each pg/mL, 95%CI: 1.128–1.199, p < 0.001 and HR = 1.074 per each mg/L, 95%CI: 1.047–1.100, p < 0.001, respectively). These relations remained significant after adjustment for age, sex, BMI, lipids and smoking.
Conclusions: Both IL-6 and CRP levels are good predictors of physical and cognitive performance and of the risk of mortality not only in the entire elderly population, but also in successfully aging individuals.

P-084
Frailty is associated with immunesenescence. Neutrophil migration is slower and less accurate in frail older individuals

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Introduction: Frailty is an important global problem and accounts for significant mortality and morbidity in older people [1]. Frailty is associated with an environment of chronic inflammation but the role of immunesenescence has not been characterised. Our research has demonstrated that neutrophils migrate less accurately with age [2] potentially reducing the response to infection and contributing to host tissue damage. We hypothesise that frailty is a state of extreme ageing and is associated with poor neutrophil migration.
Methods: Participants were recruited to three groups: healthy younger adults (HY < 35 yrs; n = 11), healthy older adults (HE > 65 yrs, no chronic inflammatory diseases, n = 11) and frail older adults (FE > 65 yrs, positive Frailty Index, n = 8)[3]. Participants were extensively clinically characterised. Isolated blood neutrophils from participants were migrated towards chemoattractants IL-8 and fMLP using video-microscopy.
Results: There was a significant difference in migration speed and accuracy when comparing the three groups: (Speed to IL-8: HY-3.79 μm/min; HE-3.12 μm/min; FE-2.65 μm/min; p = 0.006. Accuracy to IL-8: HY-0.85 μm/min, HE-0.73 μm/min, FE-0.51 μm/min, p = 0.344.) There was a significant correlation between migration speed and accuracy and physical parameters of frailty. Accuracy to fMLP and hand grip: Pearsons correlation; R = –0.587, p = 0.001). Statistical models suggest that reduced neutrophil migration seen with frailty is independent of age.
Conclusions: We demonstrate, for the first time, that frailty is associated with immunesenescence and this is independent of age. This suggests that frailty might be a state of extreme ageing, causally associated with poor immune function.

References

1. Fried *et al.* 2001.
2. Sapey *et al.* 2014.
3. Mitnitski *et al.* 2001.

Area: Cognition and dementia

P-085
Effect of memantine on cognitive status in geriatrics under electroconvulsive therapy, a double-blind randomized clinical trial

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Introduction: Electroconvulsive therapy (ECT) remains the gold standard for the treatment of severe depression in the geriatrics [1]. The cognitive abnormality induced by ECT is the major factor limiting its use in geriatrics [2]. The purpose of this study was to evaluate the effect of memantine administration on the adverse cognitive effects of ECT in geriatrics.
Methods: Fifty geriatric patients diagnosed with a major depressive disorder for which ECT was indicated as a treatment for their current episode were randomly allocated to either the memantine (5 mg/day) group or the placebo group. All patients underwent the same protocol for anaesthesia and ECT procedures. The patients received memantine or the placebo for the whole period of ECT treatment, starting the day before ECT and continuing until the sixth session of ECT. The Modified Mental State Examination (MMSE) was used for the assessment of cognition before and after the trial [3].
Results: Regarding MMSE and item 3 MMSE (related to recent memory), the memantine group scored significantly higher at the end of ECT sessions than the control group (P = 0.04, P = 0.03, respectively). All of the patients tolerated the memantine and no patients dropped out because of adverse side effects from the memantine or placebo.
Conclusion: Our data support the hypothesis that memantine (5 mg/d) may reduce cognitive impairment following ECT in geriatrics.

References

1. Gálvez V, Ho K, Alonzo A, Martin D, George D, Loo CK. Neuromodulation therapies for geriatric depression. *Curr Psychiatry Rep* 2015;17(7):100–100.
2. Sackeim HA, Prudic J, Nobler MS, Fitzsimons L, Lisanby SH, Payne N, *et al.* Effects of pulse width and electrode placement on the efficacy and cognitive effects of electroconvulsive therapy. *Brain Stimul* 2008;1(2):71–83.
2. Nehra R, Chakrabarti S, Sharma R, Painuly N. Can Mini Mental State Examination (MMSE) scores predict short-term impairments in memory during Electroconvulsive Therapy (ECT)? *Germ J Psychiatry* 2006;10(1):8–12.

P-086

Relationships between cognitive functions, gait and balance in patients with Alzheimer's disease

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Objectives: As gait and balance disturbance is common in patients with Alzheimer's disease (AD), the aim of study was to investigate relationships between cognitive functions, gait and balance.
Methods: Cross-sectional study was performed including patients with AD and control group, aged >65 years. Exclusion criteria were other causes of mobility disorders and severe cognitive impairment. Mini-Mental State Examination (MMSE) was used to examine the cognitive functions. The gait was assessed by number of steps per minute, dual step length, step length, step width and calculated dynamic gait index. Balance was analyzed by Static balance and Tinetti tests.
Results: In total, 95 subjects were involved: 42 patients with AD (mean age 79.45 ± 6.2; 78.6% female) and 53 controls (mean age 76.96 ± 6.99; 67.9% female). It was found that the gait parameters were lower ($p < 0.001$) in patients with AD compared to controls. Moderate correlation was found between MMSE and dual step length ($r = 0.45$; $p = 0.003$), step length ($r = 0.462$; $p = 0.002$), step width ($r = –0.346$; $p = 0.025$), dynamic gait index ($r = 0.593$; $p < 0.001$), and the Tinetti test score ($r = 0.521$, $p < 0.001$). Dynamic gait index was strongly associated with Tinetti test score ($r = 0.785$; $p < 0.001$). Static balance moderately correlated with the dual step length ($r = 0.419$; $p = 0.006$), step length ($r = 0.422$; $p = 0.005$) and dynamic gait index ($r = 0.547$; $p < 0.001$).
Conclusion: In people with Alzheimer's disease, the moderate correlation was found between cognitive impairment and dynamic gait index and the Tinetti test score. Dynamic gait index was strongly associated with Tinetti test score, and static balance moderately correlated with the dual step length.

P-087

Rapidly progressive dementia; a case of corticobasal degeneration with atypical presentation

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Woman of 72 years old with history of hypertension and atrial fibrillation. At baseline she needed partial help for bathing and dressing, walked without aids and was double continent. Last year, she began symptoms of impaired recent memory, disorientation, anomy, praxias and impaired executive function. Blood tests were normal and cranial CT only showed periventricular leukoencephalopathy. We started Rivastigmine. After four months she was dependent for all basic activities of daily living, had impoverished language and gait disturbance with falls syndrome. Cognitive performance in neuropsychological tests declined dramatically. Cholinesterase inhibitor was stopped and we prescribed Memantine. No other studies were developed because of family decision. Two months later she was admitted to hospital with fever, urinary tract infection and pressure ulcers. By this time she also suffered from mutism, fluctuating level of consciousness and axial stiffness, no involuntary movements. In spite of broad spectrum antibiotic therapy based on cultures there was no response, remaining fever of unknown origin and hypoactive delirium. Cranial MRI showed multiple hyperintense lesions on both hemispheres and pons, also corticosubcortical diffuse atrophy. EEG had slowed brain activity in fronto-temporal regions and lumbar puncture result without cells, with normal levels of glucose and proteins.14-3-3 protein was negative. Echocardiogram wasn't finally realized because of death. Necropsy was performed reporting Corticobasal degeneration. Our patient developed and atypical presentation of this entity, since CBD is a rare disease characterized by an asymmetric progressive parkinsonism with later impared memory (recently being discussed). The average life spectancy is 8 years since diagnosis.

P-088

The association of hippocampal subfield volumes with episodic memory and general cognitive functioning in mild cognitive impairment and early Alzheimer's disease

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Introduction: Atrophy of the hippocampus is associated with cognitive functioning in patients with Mild Cognitive Impairment (MCI) and Alzheimer's disease (AD). Due to the recent development of ultra-high field MRI, new possibilities have emerged to study subfields of the hippocampus. We aimed to examine the cross-sectional association of subfields of the hippocampus with episodic memory and Mini-Mental State Examination (MMSE) score in patients with MCI or early AD.
Method: Via memory clinics of a university and peripheral hospital we recruited 25 patients, with a mean age of 73 years (SD = 7.6) diagnosed with MCI or AD. Inclusion criteria were an MMSE score >20 and Clinical Dementia Rating (CDR) scale of 0.5 or 1.0. Hippocampal subfield volumes were manually delineated on T2-weighted images at 7 tesla MRI with a slice thickness of 0.7 mm. Volumes were converted in z-scores. Entorhinal cortex, subiculum, cornu ammonis (CA)1,2,3, CA4+dentate gyrus, and tail subfields were measured. Linear regression analyses adjusted for age, sex and intracranial volume were used to estimate the associations of subfield volumes with scores on the 15-word learning test and MMSE.
Results: Hippocampal subfield volumes were not significantly associated with episodic memory. Larger volume of the entorhinal cortex was significantly associated with better MMSE score (b = 1.60; 95%CI 0.55–2.65), as was the subiculum (b = 1.34; 95%CI 0.18–2.50) and CA1 (b = 1.79; 95%CI 0.66–2.90), while the other subfields were not.
Conclusion: In MCI and early AD, volumes of the entorhinal cortex, subiculum, and CA1 are significantly associated with general cognitive functioning, but not with episodic memory performance.

P-089

The effect of D-serine administration on cognition and mood in older adults

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Objective: D-serine is an endogenous co-agonist of the N-Methyl D-Aspartate Receptor (NMDAR) that plays a crucial role in cognition including learning processes and memory. Decreased D-serine levels have been associated with age-related decline in mechanisms of learning and memory in animal studies. Here, we asked whether D-serine administration in older adults improves cognition.
Methods: Fifty healthy older adults received D-serine and placebo in a randomized, double blind, placebo-controlled, crossover design study. We studied the effect of D-serine administration on the performance of cognitive tests and an analogue mood scale. We also collected blood samples to measure D-serine, L-serine, glutamate and glutamine levels.
Results: D-serine administration improved performance in the Groton Maze learning test of spatial memory and learning and problem solving ($F(3, 38) = 4.74$, $p = 0.03$). Subjects that achieved higher increases in plasma D-serine levels after administration improved more in test performance ($r2 = –0.19$ $p = 0.009$). D-serine administration was not associated with any significant changes in the other cognitive tests or in the mood of older adults ($p > 0.05$).
Conclusion: D-serine administration may be a strategy to improve spatial memory, learning and problem solving in healthy older adults. Future studies should evaluate the impact of long-term D-serine administration on cognition in older adults.

P-090

Fatih district-geriatrics study: mood and cognition of old people who live in community

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Aim: In this abstract, we aimed to investigate the mood and cognitive problems of old population living in Fatih/Istanbul province.
Material and Method: Elder people who live in addresses specified with cluster sampling method were included in the study. Third and fourth year students of İstanbul Medicine Faculty worked as pollsters. Pollsters took standart training for related evaluations. Elder people whose ages between 65 and 101 were included in the study. Cognitive condition scanning was done with mini-cog test and depression scanning was done with GDS-SF. Life quality measurement with EQ-5D life quality survey, functional capacity evaluation with 6-items KATZ Daily Life Activities Skale and 8-items LAWTON-BRODY Instrumental Daily Life Activities Scale were evaluated accordingly. Number of illness and drug, present dementhia, hypertension, diabetes and hyperlipidemia diagnosis were noted.
Results and Discussion: This study includes 204 old cases (94 male,110 female). Average age: 75.4 ± 7.3 year. Table 1 summarizes demographic, cognitive and mood, functuality and life quality evaluation data and distribution between genders. While depression scanning pozitiveness is meaningfully high in women (%22.6 vs %4.3; $p < 0.001$), mini-cog scanning test and present dementhis diagnosis are similar in both genders. Life quality measurement was meaningfully low; chronic disease and the number of drugs were higher. There is no meaningful difference between two genders about age about basic GYA point, present HT, DM, HL diagnoses and subjective health status score.
Conclusion: Old people in society have significant levels of cognitive dysfuncion and depressive mood. Depressive mood, low-life quality, multidisease and drug usage are more and education level and functionality is less than men for women.
Key words: geriatri, cognition, mood

P-091

Unmet needs in Portuguese primary care services: a focus on dementia and other disabling conditions in old age

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Introduction: Older people are a heterogeneous group in terms of multimorbidity and dependence, and amongst chronic diseases dementia is a major cause of disability.
In Portugal, the primary care gatekeeper role ensures that older people make large use of these services, often with (frequently undiagnosed) dementia. Moreover, there are no effective national policies/strategies regarding the primary care of older people or of dementia.
Little is known about older people's perspectives/satisfaction regarding primary care, although higher stages of activity limitation may be associated with less satisfaction with medical services. On the other hand, from the health professionals' points of view, GPs find taking care of older people difficult, and specifically of people with dementia. Recognizing the challenge of health services to meet long-term needs of older people with complex chronic health problems, we aim to explore patients' and professionals' perspectives regarding the delivery of primary care services in Portugal, focused on disabling conditions in general, and dementia in particular.
Methods: This is a mixed-methods study with quantitative and qualitative components. In the former, needs for care, quality of life, and patient's satisfaction will be measured. The latter explores the perspectives of stakeholders (physicians, nurses, patients, carers) through focus groups and in-depth individual interviews.
Results: Here, we focus on the construction of the qualitative study protocol, guided by literature reviews. Main areas include: patient-centered care, primary care and older people.
Conclusion: By exploring unmet needs, we hope to provide evidence-base to best practice recommendations for older populations with disabling conditions, including dementia, in Portuguese primary care.

P-092

Dementia – when the diagnosis goes beyond

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Objectives: Syphilis is caused by the Treponema pallidum and is spread first through sexual contact. It has predictable stages and a well established diagnostic and treatment strategies.
Primary syphilis is a solitary nontender genital chancre. The characteristic exanthema of secondary syphilis involves trunk, face and extremities. The latent stage is further divided into early and late latency. Three presentations of tertiary syphilis are neurosyphilis, cardiovascular syphilis and late benign syphilis.
Methods: Classic review and case report of Secondary Syphilis.
Results: We present a case of a 73 year-old man, with Type 2 Diabetes, Hypertension, Obstructive Pulmonary Disease and Duodenal Ulcer. In April, 2014, he developed a story of weakness, fatigue, behavior changes as irritability, abnormal gait and dysarthria. A dementia screening study had been requested. After no significant results and progressive worsening, he was sent to Neurology, whose main diagnostic hypothesis was a vascular dementia and started treatment with Carbidopa+Levodopa. In February, 2015, besides incontinence of sphincters, he presented a generalized rash characterized by multiple erythematous, scaly and pruritic lesions, that extended to the face, trunk and members. Then it was requested VDRL, TPHA and FTA-Abs, which were positive. Secondary Syphilis was confirmed and he began treatment with Penicillin benzathine.
Currently treated with Carbidopa+Levodopa, he remains clinically stable, keeping follow-up by Neurology and Dermatology.
Conclusions: A high index of suspicion is required because of various clinical manifestations of the disease. Attention to the history and physical examination, testing of high-risk populations and appropriate monitoring can keep this disease under control.

P-093

Promoting successful aging in chronic illness: a study protocol of a randomized intervention program on physical activity in vascular cognitive impairment

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Introduction: Primary prevention in young adults will improve health in successive cohorts of older people, but much of the potential to reduce disease burden will come from more effective primary, secondary and tertiary prevention targeting older people. This is especially important for age-dependent disorders like dementia. Epidemiological studies suggest that physical activity can potentially prevent functional decline and promote successful aging (SA) in healthy elderly. However data on randomized trials of physical activity on SA of people with vascular cognitive impairment is lacking.
Methods: Our aim is to evaluate the effect of physical activity on the components of SA (engagement, personal resources, cognitive function and functional abilities) of subjects with vascular cognitive impairment without functional deficit at baseline. As secondary objectives, we intend to identify determinants of SA in a population with vascular cognitive impairment, and study the impact of the intervention on health resources utilization. Three hundred community dwelling participants will be recruited, and randomized to intervention (walking 45 minutes/day, 5 times/week, for six months) or control group. Besides demographic variables, SA, cognitive and

physical function, sense of competence and resource utilization will be studied (at baseline, six months and one year).
Key conclusions: In vascular dementia, as in other chronic conditions the burden of disease arises more from disability than from mortality. Interventions designed to decrease disease burden, promote coping and adaptation, and improve health and social services use are warranted. With the present study we pretend to contribute to the development of scientifically based effective preventive strategies regarding vascular dementia.

P-094
Evolution of cognitive function after transcatheter aortic valve implantation

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Background: This study aimed to assess the evolution of cognitive function after transcatheter aortic valve implantation (TAVI). Previous smaller studies reported conflicting results on the evolution of cognitive function after TAVI.
Methods: In this prospective cohort, cognitive function was measured in 229 patients ≥70 years using the Mini Mental State Exam (MMSE) before and 6 months after TAVI. Cognitive deterioration or improvement was defined as change ≥3 points decrease or increase in the MMSE score between baseline and follow-up.
Results: Cognitive deterioration was found in 29 patients (12.7%). Predictive analysis using logistic regression did not identify any statistically significant predictor of cognitive deterioration. A review of individual medical records in 8 patients with a marked MMSE score decrease ≥5 points revealed specific causes in six cases (post-interventional delirium in two; post-interventional stroke, progressive renal failure, progressive heart failure, or combination of pre-existing cerebrovascular disease and mild cognitive impairment in one each). Among 48 patients with impaired baseline cognition (MMSE score <26 points), 18 patients (37.5%) cognitively improved. The pre-interventional aortic valve area (AVA) was lower in patients who cognitively improved (median AVA 0.60 cm^2) as compared to patients who did not improve (median AVA 0.70 cm^2) (P = 0.01).
Conclusions: This is the first study providing evidence that TAVI results in cognitive improvement among patients who had impaired pre-procedural cognitive function, possibly related to hemodynamic improvement in patients with very severe aortic stenosis. Our results confirm that some patients experience cognitive deterioration after TAVI.

P-095
Correlation between intensity of memory complaints and actual memory disorder

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Objectives: Memory complaints (MCs) are experienced by a large proportion of older adults and are often a source of distress and worry. Because of the perceived threat of Alzheimer's disease, MCs are known to be associated with depression, anxiety and poor quality of life. Although the literature is unclear about evolution of patients with MCs, there is growing evidence that suggests that MCs are associated with an increased risk of dementia. The importance of MCs is furthermore reflected in the new diagnostic criteria proposed for early AD [1]. The Common Sense Model [2] help us to understand the memory problems perceptions of people with MCs and how they manage with their difficulties.
Methods: This pilot study aims to examine correlations between the score at the Illness Perception Questionnaire-Memory (IPQ-M) and the actual memory disorder assessed by the Free and Cued Selective Reminding Test (FCSRT). Forty-nine persons were recruited at the Memory Center of Nancy, France (mean age: 70 years; sex ratio: 31 female).
Results: Results show that the memory problems perceptions are better (less negative) with ageing and high educational level. We found a significant positive correlation between emotional impact at the IPQ-M and the free recall at the FCSRT. That could interpreted as an effect of anxiety on retrieval process. There is no other link between memory problems perceptions and actual memory disorder. The emotional impact of memory problems are seems to influence cognitive performances.
Conclusion: These results pointed the importance of psychoeducation and individualized care in the diagnosis process of memory disorders.

References

1. Dubois B. *et al.* (2007). Research criteria for the diagnosis of Alzheimer's disease: revising the NINCDS-ADRDA criteria. *Lancet Neurology*, 6(8), 734–746.
2. Leventhal H., Brissette I. & Leventhal E.A. (2003). The common-sense model of self regulation of health and illness. In Cameron L.D. & Leventhal H. (Eds.), *The self-regulation of health and illness behaviour*. New York: Routledge, Taylor & Francis Groupe.

P-096
My life story

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Introduction: "My Life Story" is a concept which involves making a book of one's life, which allows seniors in nursing homes to reappropriate and revisit their history and memories. This booklet contains the life course of each resident and has for the purpose a long-term study of behavioral and moods disorders, in the practical application of non-drug treatments.
Methods: Each book is created during a weekly session. The resident himself or one of his relatives, (if the resident presents demential disabilities or psychiatric disorders), evoke his life based on specific events illustrated by personal photos that he has preselected. This booklet is established two months after arrival in nursing home while residents get their benchmarks. This study analyses three groups of residents: -"Placebo", -"Demented" –"Psychiatric"; Under three different conditions: -With booklet and an hour a week personal accompaniment, -With booklet and without accompaniment, -Without booklet and without accompaniment.
Results: The qualitative results, verbalized or observed data, will allow working on the resident's representations and interpretations on some aspects of their lives, but also how they lived them. The quantitative results, which study the decrease in medical prescriptions, as well as mood and behavioral disorders will demonstrate the positive effect or not of this booklet.
Conclusions: Improvements will be made in multidisciplinary group such as recording interviews by video to investigate objectively the exchange time and the different expressions between the resident and his family or nursing team.

P-097
Incidence of dementia in depressed patients – evidence based review

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Introduction: Depression and dementia are complex frequent syndromes with features that overlap each other. Considering the morbidity of dementia and the preventability and treatability of depression, the aim of this study is to review the evidence for the association between depression and incidence of dementia.

Methods: Research in PubMed, National Guideline Clearinghouse and Cochrane for meta-analyses (MA), systematic reviews (SR), randomized controlled clinical trials, observational studies (OS) and clinical guidelines, published in the last five years, using the MeSH terms "depression" and "dementia". Strength of Recommendation Taxonomy (SORT) scale was used to assign levels of evidence and strength of recommendations.
Results: Of the 138 articles obtained, three MA, one SR and one OS met the inclusion criteria. All included studies evaluated the risk of dementia in individuals with depression and found a statistically significant increase of dementia incidence. MA compared the risk of dementia of any cause, Alzheimer's disease (AD) and vascular dementia (VD), and two MA showed a significantly higher risk for VD. One MA and one OS also had mild cognitive impairment (MCI) as an outcome in depressed individuals – the MA showed a higher incidence of MCI, while in the OS depression wasn't associated with incident MCI, but participants with MCI and depression had twice the risk of progression to dementia.
Conclusions: Available evidence shows an increased incidence of dementia in depressed individuals (SORT A). We need studies with more homogeneous methodology, regarding diagnosis criteria and confounding factors such as vascular risk factors and characteristics of depression.

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The DONDA STUDY (DONepezil and vitamin D in Alzheimer's disease)

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Introduction: Aging is associated with a large increase in the prevalence of hypovitaminosis D. Its possible role in the pathogenesis of Alzheimer's disease (AD), the leading cause of dementia in the elderly, is particularly important. We hypothesized that the combination of donepezil with vitamin D could be neuroprotective in AD. The aim of this trial is to compare the effectiveness of one year oral intake of vitamin D3 plus donepezil vs patients receiving donepezil alone in patients suffering from mild-to-moderate AD.
Methods: This was a retrospective study, performed on 196 patients, mean age 81,37 ± 4,61 years (M 29%) attending our Geriatric Outpatient Clinics with diagnosis of AD. Patients aged 65 years and older presenting with mild-to-moderate AD, hypovitaminosis D (serum 25(OH)D < 30 ng/mL), normocalcemia and being treated with donepezil were recruited. The vitamin D group (case) was composed of 103 patients, mean age 82,01 ± 3,97 years. The control group consisted of 93 patients, mean age 80,67 ± 5,17 years. All case received vitamin D3 (25.000 IU orally every week). MMSE, ADL, IADL, GDS, NIP were assessed at baseline, 6 (T1) and 12 months (T2), together with the serum concentrations of 25(OH)D, calcium and parathyroid hormone.
Results: A significant difference in MMSE was found between the study and control groups, at T1 and T2 (T1 15,39 ± 2,99 vs 13,77 ± 3,05; T2 15,51 ± 3,12 vs 13,79 ± 3,03).
Key conclusions: The DONDA Study showed that taking vitamin D supplementation offers significant advantage in cognitive performance in AD patients treated with donepezil. The combination of donepezil plus vitamin D may represent a new multi-target therapeutic class for the treatment of AD.

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Could that fall have been a syncope? Data from a multicenter study on older subjects with dementia

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Objectives: The "Syncope & Dementia (SYD) registry" is a multicenter observational study of syncope in dementia. The present analysis is aimed at identifying predictors of differential diagnosis between fall and syncope, focusing on the characteristics of patients with unexplained falls.
Methods: We have included 372 patients, evaluated according to the European Society of Cardiology guidelines on syncope. We have compared patients with "Confirmed Syncope" (CS, n = 199), in whom the initial suspect of syncope was confirmed, patients with "Syncopal Fall", (SF, n = 84) in whom subjects presented with an unexplained fall and a diagnosis of syncope was performed, and "Non-Syncopal Fall" (NSF, n = 89), in whom a diagnosis of syncope was excluded at the end of the diagnostic work-up.
Results: The three groups did not differ according to age (mean 84) and gender (61% females). The Mini Mental State Examination score was significantly higher among patients with SF (18.5 ± 4.9) compared to CS (16.5 ± 5.5, p = 0.016) and NSF-patients (15.6 ± 5.8, p = 0.02). In a multinomial logistic regression model taking NSF as reference group, CS patients experienced less injuries and reported more prodromes, and SF had a better cognitive status and more precipitating factors (including postural changes, neck movements, pain, fear). The intake of benzodiazepines and insulin was highest in NSF-patients compared to the other two groups.
Conclusion: An unexplained fall in a dementia patient can suggest the diagnosis of syncope in the presence of precipitating factors. Conversely, treatment with benzodiazepines or insulin and a worse cognitive status predict a not-syncopal episode.

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Association between neuropsychiatric symptoms and neurocognitive disorders

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Introduction: The purpose of this study was to evaluate the association between the major neurocognitive disorder (any etiology (MND) and due to Alzheimer's disease (MNDA)) and minor neurocognitive disorder (minor ND) with neuropsychiatric symptoms in patients evaluated in the center of cognition and memory-Intellectus Hospital Universitario San Ignacio (HUSI) in Bogota – Colombia.
Methods: It is an analytical cross-sectional study with patients evaluated in the center of memory and cognition "HUSI–Intellectus". The diagnosis of neurocognitive disorder was made between January 1st of 2015 and December 31st of 2015; through an interdisciplinary evaluation (geriatrics, psychiatry, neurology and neuropsychology).
Results: 507 patients were collected with a diagnosis of neurocognitive disorder; 79 were diagnosed with MND and 428 with minor ND with an average age of 71.64 and 75.32 years respectively (p < 0.001). Female sex was more prevalent (56.96% in minor ND and 63.73% in MND). Neuropsychiatric symptoms were present at 71.73% in MND vs. 13.92% in minor NCD. MND was associated with the presence of affective lability, irritability, apathy, paranoia and aggressiveness (p < 0.005), MNDA with affective lability, irritability, sadness and depression (p < 0.005), and minor ND was associated with the presence of apathy (p < 0.005). An adjusted logistic regression model by age, sex and functionality with neuropsychiatric symptoms and the presence of MND and MNDA showed OR of 13,89 (IC7,8–24,75, p < 0.001), and OR 2,4 (CI 1.59 to 3.6, p < 0.001) respectively.

Conclusions: In conclusion patients with neuropsychiatric symptoms are more likely to have MND and to a lesser extent MNDA.

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The impact of disability on long-term mortality among older men aged 80 years and over with different cognitive status: results from longitudinal older veterans study

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Objective: To evaluate the impact of disability on long-term mortality among older men aged 80 years and over with different cognitive status living in the retirement community.
Method: This prospective cohort study enrolled older men aged 80 and older living in Gangshan Veterans Home (n = 305). Subjects with confirmed diagnosis of dementia were excluded. All participants were evaluated with comprehensive geriatric assessment including socio-demographic data, geriatric syndromes, activities of daily living measured by Barthel index and cognitive function assessed by Mini-Mental State Examination (MMSE). MMSE was categorized into groups with normal, mild, or moderate-severe cognitive impairment. Disability was classified as Barthel index less than 85. The main outcome measure was all-cause mortality over 3-year follow-up. Cox proportional hazards model was conducted to examine the association between cognitive function, disability and increased risk for mortality, after controlling for sociodemographic characteristics and geriatric syndromes.
Results: During the 3 year follow-up periods, 76 participants died. The mortality risk was significantly associated in disability and mild cognitive dysfunction category [adjusted hazard ratio (HR): 2.850, p = 0.008] and in disability and moderate cognitive dysfunction category (adjusted HR: 5.019, p < 0.001)after adjustment for potential confounders. But the association of cognitive impairment and mortality was not observed in elderly without disability.
Conclusions: Our results showed that mild and moderate-to-severe cognitive impairments were strongly mortality predictive factors among subjects with physical disability. However, no significant mortality risk was identified among subjects with physical disability without cognitive impairment and those with mild-to-severe cognitive impairment without physical disability.

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Prospective evaluation of the effects of group psychotherapy among caregivers of dementia patients: a study protocol

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Introduction: In addition to being a serious health issue that is more frequently encountered worldwide, dementia is becoming a social problem. Caregivers of those, may have to handle psychological, social and financial issues in addition to the patient's issues.
Objective: Here we define the protocol of a study that evaluates a group psychotherapy intervention developed for caregivers of dementia patients. Our first hypothesis is that group psychotherapy intervention will diminish the burden on the caregiver of dementia patient. Our second hypothesis is that reducing the burden on the caregiver will positively affect the clinical progress of the dementia patient.
Method: Caregivers of dementia patients will be included. Three sessions (at the start, first and second weeks) will be held to inform all caregivers based on current guidelines concerning the progress of dementia, the probable problems, and their solutions. Caregivers will be divided into three groups based on the dementia subtype. Moreover, the subjects will be categorized according to their participation in the psychotherapy intervention (no participation, control group 1; 1 or 2 sessions participation, control group 2; participation to all three sessions, study group). The characteristics of patients and their caregivers will be recorded. The stress levels of the caregivers prior to group therapy, at 1, 3 and 12 months after the therapy will be evaluated using Zarit Caregiver Burden Interview, Beck Depression Inventory and Beck Anxiety Inventory. The effects of group psychotherapy on depression in dementia patients will be assessed by Cornell scale for depression in dementia.

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Prevalence and predictors of cognitive impairment among older adults across Europe based on SHARE database

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Objectives: Increased life expectancy is associated with high prevalence of chronic non communicable diseases, including cognitive decline and dementia. Cardiovascular risk factors have been associated with cognitive decline. This works aims to evaluate the prevalence and the predictors of cognitive impairment, with a special focus on cardiovascular risk factors, across Europe.
Methods: Data from participants in wave 4 of SHARE (Survey of Health, Ageing, and Retirement in Europe) database were used. Perceived memory, verbal fluency and numeracy were used to access cognitive function. Clinical and sociodemographic variables were evaluated as potential predictors. Age and gender standardized prevalence rates of cognitive impairment were calculated for 16 European countries.
Results: From 58,489 participants on wave 4, we selected those over 50 years old, who responded to all questions included in this work. Accordingly, we included 33,580 individuals (65.4 ± 10.0 years old, 56.4% females). The prevalence of cognitive impairment was 28.02%, 27.89% and 20.75% for perceived memory, verbal fluency and numeracy, respectively, in the 16 evaluated countries. Age, years of education, smoker or former, more than 2 chronic diseases, diabetes or hyperglycemia, high blood cholesterol, heart attack and stroke were independent variables associated with perceived memory, verbal fluency and numeracy. We also found an independent association high blood pressure and body mass index with perceived memory and verbal fluency; and female gender with perceived memory and numeracy.
Conclusions: Prevalence of cognitive impairment showed accentuated disparities between countries. Predictors of cognitive impairment were multifactorial, including factors that can be prevented or treated, namely cardiovascular risk factors.

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The MINDMAP consortium and its geriatric perspective on promoting mental well-being and healthy ageing in cities

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Introduction: Major depressive disorder, dementia, anxiety disorders, and substance abuse affect a substantial part of the European older population. Over 70% of Europeans reside in cities, and this percentage will increase in the next decades. Urbanization and ageing have enormous implications for public mental health. Cities pose major challenges for older citizens, but also offer opportunities for the design of policies, clinical and public health interventions that promote mental health.
Methods: The overall aim of the MINDMAP project (2016–2019) is to identify the opportunities offered by the urban environment for the promotion of mental wellbeing and cognitive function of older

individuals in Europe. The project will advance understanding by bringing together longitudinal studies across cities in Europe to unravel the causal pathways and multi-level interactions between the urban environment and psychosocial and biological determinants of mental health and cognitive function in older adults.
Expected Results: The geriatric perspective within MINDMAP stresses the importance of early detection of pre-clinical stages of frailty, including mental aspects, as a core component of functional competence among older persons. The Functional Ability Index developed in the Longitudinal Urban Cohort Ageing Study will be applied. Considering both resources and risk factors will enable the identification of target groups for early prevention, and for clinical interventions [1].
Key conclusions: Knowledge will significantly contribute to future-proof preventive strategies in urban settings favouring the mental dimension of healthy ageing, the reduction of the negative impact of mental disorders on co-morbidities, and maintaining cognitive ability in old age.
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Reference

[1] Dapp U. *et al. BMC Geriatrics* 2014;14:141.

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From nature to the elderly: Salvia sclareoides as a source of bioactive compounds against Alzheimer's disease

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Alzheimer's disease is one of the most common types of dementia causing deep economic and social impacts. Salvia sclareoides is a non-toxic iberian endemic plant that has been studied in our research group targeting both cholinergic system and amyloid cascade [1]. Our studies showed that S. sclareoides extracts are potent inhibitors of acetylcholinesterase (AChE) and butyrylcholinesterase (BChE) [1]. In order to recognize the compounds responsible for this activity, STD-NMR experiments of the crude plant extracts were performed and rosmarinic acid was found as the only explicit binder for AChE. Furthermore, it was possible to give for the first time insights into the 3D structure model of the rosmarinic acid-AChE complex, allowing to propose a new binding site in AChE [2]. On the other hand, S. sclareoides has also been studied in our group for its ability to prevent amyloid fibril formation. Salvia extracts were able to destabilize pre-formed cystatin B fibrils, and STD-NMR showed once again that rosmarinic acid was the only explicit binder for Aβ1-42 peptide oligomers. Interestingly, caffeic acid, a smaller unit of rosmarinic acid, revealed to retain the same activity in remodeling Aβ oligomerization [3]. In addition, envisioning the bioavailability enhancement of these products and the physico-chemical characteristics of carbohydrates/amyloid interaction, a series of rosmarinic glycosylated analogues is currently under development. Our work demonstrates that S. sclareoides is a resourceful and promising plant to act as a dual target nutraceutical towards neurodegenerative diseases. Moreover, it can provide inspiration for further drug development towards new disease modifying agents.

References

1. Rauter A. P., Branco I., Lopes R. G., Justino J., Silva F. V. M., Noronha J., Cabrita E. J., Brouard I., Bermejo J. *Fitoterapia*, 78, 474, 2007.
2. Marcelo F., Dias C., Martins A., Madeira P. J., Jorge T., Florêncio M. H., Cañada F. J., Cabrita E. J., Jimenez-Barbero J., Rauter A. P. *Chem. Eur. J.* 19, 6641, 2013.
3. Airoldi C., Sironi E., Dias C., Marcelo F., Martins A., Rauter A. P., Nicotra F., Jimenez-Barbero J. *Chem. Asian J.* 8, 596, 2013.

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Progression of Alzheimer's disease. A longitudinal, case control study in Norwegian memory clinics

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Introduction: The disease progression rate in Alzheimer's disease (AD) varies considerably between individuals. There is lack of evidence of the underlying factors behind these differences. The overall aim of this study is to examine factors of importance for disease progression in AD.
Methods: The Progression of Alzheimer's Disease and Resource use (PADR) study is a longitudinal case-control observational study conducted in Norwegian memory clinics. A comprehensive assessment was performed at baseline and follow up after 18–28 months. Progression rate was measured by change in the Clinical Dementia Rating Sum of Boxes (CDR-SB). Dementia and Alzheimer's disease was diagnosed according to the ICD-10 criteria and MCI according to the Winblad criteria. Patients with amnestic MCI (aMCI) were counted as AD patients for analyses.
Results: The AD group (n = 282) consists of 105 patients with aMCI and 177 AD patients with dementia. Mean age was 73.3 (8.8) years, 50,5% were females, they had 12.1 ± 3.7 years of education and baseline score on MMSE 23.7 ± 4.4 points. The overall progression rate for the AD patients in CDR-SB was 1.59 points/year (95% confidence interval [CI]: 1.38–1.80).
Key conclusions: The progression rate we found is comparable to the decline measured in similar studies. Later analysis in PADR will focus at associations between concomitant cardiovascular disease and vascular risk factors, depression, MRI findings, inflammation and drug use and disease progression. The study will contribute to further knowledge about factors influencing the progression rate.

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Association between micronutrients and preserved cognitive functions over a nine-year period in older adults: the Invecchiare In Chianti study

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Introduction: Evidence suggest that various micronutrients could delay the onset of age-associated cognitive decline and dementia. Our study aims at investigating the association between plasma levels of specific micronutrients and cognitive health over a nine-year period in a large sample of older adults enrolled in the InCHIANTI study.
Methods: Longitudinal study of 1073 non-demented adults aged 65 years or older from the InChianti study. Cognitive health was defined as an improvement, stability or a reduction of no more than 1 point in the MMSE score. Mixed-effects regression models were used to analyze the role of several factors in predicting negative outcomes. A multinomial response was used in order to investigate factors associated with cognitive stability by taking into account for mortality as competing outcome.
Results: Among multiple micronutrients evaluated, only plasma levels of α-tocopherol (VitE) were associated with cognitive health when adjusted for possible confounders such as gender, age, smoke, total cholesterol, triglycerides, and for factors associated with cognitive health in our analysis such as baseline MMSE, Parkinson's disease, ischemic heart disease, hip fracture (OR: 1.05, 95% CI: 1.01–1.09), taking into account for mortality as competing outcome.

Key conclusions: Our study provides empirical evidence that higher VitE levels are associated with a higher probability to maintain cognitive health in a population-based sample of older adults living in the community over a nine-year period.

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Establishing and linking cognitive, disease and functional outcomes in the InCHIANTI study

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Introduction: the 'Invecchiare in Chianti' (InCHIANTI) is a prospective, epidemiological study designed to explore mechanisms affecting the loss of mobility with aging. Because of the focus on physical function, limited information were collected on cognitive function during different surveys.
Objective: to establish cognitive outcomes in the InCHIANTI study population, to provide a better insight concerning mechanisms linking mobility loss to neurocognitive disorders. Design: observational study. A clinical and neuropsychological evaluation will be performed in subjects who are still alive, while data of subjects who left the study will be retrospectively evaluated, to reconstruct the diagnosis of dementia or cognitive decline. Participants: the InCHIANTI study baseline population of 1,453 subjects.
Measurements: interviews will be conducted at the participants' homes by a trained geriatrician. Other information useful to characterize the neurocognitive state will be collected, from administrative databases and medical records. Any effort will be done to find a knowledgeable informant, to collect information on the presence of cognitive, functional and behavioral disturbances. Neurocognitive disorders will be adjudicated by a panel (composed by two geriatricians, a general practitioner, a neuropsychologist, and an epidemiologist).
Conclusions: The adjudicated cognitive outcomes will be entered into INCHIANTI database. Due to the longitudinal design of the study the availability of such information will be extremely relevant to understand the relationship between lower extremity physical performance and cognitive functions and to identify novel risk factors for cognitive decline.

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Ejection fraction is not related to cognitive impairment among heart failure patients: preliminary data

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Background: Cognitive impairment is known to have a negative impact on quality of life and can be an important comorbidity in the setting of chronic diseases such as Heart Failure (HF). Several risk factors are associated with cognitive decline. Studies are scarce in HF and restricted to reduced ejection fraction (HF-REF). The aim of the study consisted in comparing cognitive impairment of patients with HF-REF vs those with HF eith preserved ejection fraction (HF-PEF), the predominant type of HF in the elderly.
Methods: Prospective study of patients older than 65 years consecutively admitted to an Acute Heart Failure Unit. They were submitted to a mRankin and Mini Mental State test (MMS) at admission. Data was analysed according to HF-REF vs HF-PEF.
Results: 64 patients were included. Median age 78.6 ± 0.96 y. 68.8% were female and the mean mRankin was 2.21 ± 0.13. 27.3% of HF-REF patients had cognitive impairment measured by MMS, compared to 21.4% of HF-PEF ($p = 0.60$). Delirium occurred in 18.2% of HF-PEF vs 11.9% in HF-REF ($p = 0.49$). The type of HF was not associated with cognitive impairment.
Conclusions: Cognitive impairment and delirium were frequent in our old HF population and equally prevalent in HF-PEF and HF-REF. Ejection fraction level was not a determinant factor. More attention should be paid to Geriatric Syndromes in HF, namely in HF-PEF, and larger studies are needed to evaluate their impact in morbimortality.

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Feasibility, usability and adherence of a cognitive training module in active and healthy aging

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Introduction: Evidence is needed to support that age-related decline in cognitive functions can be delayed with computerized training interventions. There's a lack of accurate monitoring and performance data gathered from Information and Communications Technologies (ICT) that provide cognitive training services. Feasibility, usability and adherence analysis (involving professionals and real users) of specifically designed interventions targeting cognitive functions in an active and healthy aging program are a step ahead in that direction.
Methods: Conduct a feasibility, usability and adherence study on a real community setting. Design a new self-management cognitive training algorithm (CTA) composed of 35 tasks targeting the main cognitive functions involved in activities of daily living. Define CTA training administration as a cognitive training module composed of 36 sessions, distributed along 12 weeks in 3 weekly sessions, each session of one hour duration. Integrate CTA as a service provided in an ongoing European project namely PERSSILAA (Personalised ICT Supported Service for Independent Living and Active Ageing).
Results: Usability testing ($n = 8$) has been performed obtaining 64% overall satisfaction. In order to study adherence, end users training ($n = 15$) has been performed during 103 sessions in community services. A total of 758 tasks have been executed with no dropouts, (229 addressing Attention, 322 Memory and 120 Executive functions). Overall positive results are observed in 73% of the total executions (scores >60%) moreover very positive scores (>80%) in 54% of all executions.
Conclusions: Cognitive training services are being successfully offered as part of PERSSILAA services.

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Glp-1 levels and cognitive performance in diabetic older adults: a longitudinal study

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Introduction: The association between type 2 diabetes (T2DM) and cognitive impairment has been widely demonstrated. Experimental data show that the glucagon-like peptide 1 (Glp-1) exerts also a neuroprotective activity. No data on the effects of Glp-1 on cognitive function of subjects with T2DM are available yet. This study is aimed at evaluating the association between Glp-1 and cognitive performance in older subjects with T2DM.
Methods: Subjects aged 65+ with T2DM and without dementia, referred to the Diabetes Clinic in Careggi, Florence. Each patient underwent neuropsychological evaluation, Short Physical Performance Battery, a blood chemistry panel and dosage of Glp-1, both fasting and after standardized mixed meal (peak and incremental area under the curve-IAUC). A subgroup also completed 1-year neuropsychological follow-up.

Results: The sample of 30 enrolled subjects (mean age 73, 50% females, mean HbA1c 48 mmol/mol) showed an inverse correlation between Glp-1 and neuropsychological performance: peak levels were inversely related to verbal fluency test (Rho = –0.045, p = 0.014) and IAUC to prose memory test (Rho = –0.432, p = 0.017). Higher Glp-1 values were associated with lower serum levels of 25-OH vitamin D (Rho = –0.397, p = 0.045) and worse physical performance (Rho = –0.435, p = 0.016). Among 19 subjects who completed follow-up, baseline Glp-1 correlated with decline Trail Making Test A (fasting: Rho = 0.623, p = 0.004; peak: Rho = 0.507, p = 0.027).
Conclusions: In this study of older adults with T2DM, higher Glp-1 unexpectedly correlated with a worse cognitive performance, both in cross-sectional and in longitudinal analysis, and a greater physical frailty. We hypothesize a possible compensatory increase of Glp-1 in these subjects.

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Access to timely formal care in dementia: baseline results of the Actifcare cohort study with a focus on the Portuguese sample

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Introduction: Persons with dementia (PwD) and their informal carers have unmet needs, partly related to untimely access to services (e.g. day care, home support). We lack international comparisons on how these issues impact on quality of life, namely in the intermediate stages of dementia. The Actifcare (ACcess to Timely Formal Care) EU-JPND project aims to evaluate access to and (non)utilization of dementia formal care in eight countries (The Netherlands, UK, Germany, Sweden, Norway, Ireland, Italy, Portugal), as related to unmet needs and quality of life.
Methods: Besides conducting reviews on access/utilization of services and qualitative explorations of PwD, carers and professionals' views, Actifcare includes a prospective study (one year follow-up) of PwD and their informal carers. Assessments include the Camberwell Assessment of Need for the Elderly and QoL-AD. We describe the baseline characteristics of our cohort, focusing on Portuguese data (FCT-JPND-HC/0001/2012).
Results: We recruited 453 dyads (n = 66 in Portugal), generally interviewed at home. PwD were mostly women (54%), aged 47–98 years; Alzheimer's disease was the most frequent diagnosis (48%). Carers were spouses (60%), women (66%), mean age 66 (SD = 14) years. In Portugal, recruitment took place in primary care, neurology and psychiatry outpatient services, NGOs and Alzheimer Portugal.
Conclusions: The cohort study is being successfully conducted. By mid-2016, we will start to analyse international differences regarding the (un)timely access to services and its impact on quality of life and needs for care. Some differences amongst countries are already becoming apparent. We hope to contribute significantly to best practice recommendations in dementia.

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The 10/66 DRG prevalence study of dementia and old age depression in Portugal

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Introduction: Dementia and old age depression represent a high burden of disease for individuals, their families and society as a whole. In Portugal, epidemiological studies are scarce in this area, and health policies lack adequate evidence-base. The 10/66-Dementia Research Group (DRG) population-based research programmes (www.alz.co.uk/1066/) yielded high-quality studies on the prevalence and/or incidence of dementia (and elderly depression) in developing countries. Given the feasibility of the 10/66-DRG assessments, which are education and culture fair, in low literacy populations, we aimed to conduct the first 10/66-DRG prevalence study in Portuguese settings.
Methods: A cross-sectional comprehensive one-phase survey was implemented of all residents aged 65 and over of defined catchment areas in southern Portugal (Fernão Ferro and Mora). Assessments included a cognitive module and the Geriatric Mental State-AGECAT (GMS), including the EURO-D scale. Reliability training was conducted with 10/66-DRG's supervision, and pilot studies ensured the feasibility and preliminary validity of the protocol.
Results: We interviewed 1481 elderly participants. The prevalence rate of dementia, according to the 10/66-DRG algorithm was 9.6 (95%CI 8.2–11.3). The prevalence rate of EURO-D depression was 18.4 (95% 16.5–20.6).
Conclusions: 10/66-DRG dementia prevalence in this sample was higher than DSM-IV dementia prevalence in a previous Portuguese study, and GMS depression was more prevalent than expected. Although our results must be interpreted with caution, this survey provides real community prevalence data for dementia and depression in Portuguese elderly populations.
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P-114
Sporadic form of Creutzfeldt Jacob disease

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We present a 65 year old man who was admitted to the internal department because of rapidly progressive cognitive disorders, ataxia and visual loss. He used to drink 6 consumptions of alcohol a day and he used to drink much more in the past. With physical examination there was a n. abducens paresis on the right side and cerebellar ataxia. We made the diagnosis of an acute Wernicke's encephalopathy and treated him with high dose of thiamine. The visual loss and ataxia diminished and he went home with thiamine supplementation to recover. Unfortunately, 6 weeks later the cognitive impairment became worse and the patient was not able to eat or speak. There was again ataxia, abducens paresis and hypertonia of the muscles. The vitamin B1 levels (taken before thiamine supplementation) appear to be normal. This ruled out the diagnosis of Wernicke's encephalopathy. The differential diagnoses were a space-occupying lesion in the brain, (limbic) encephalitis or Creuztfeldt Jacob's disease (CJD). Examination of the liquor puncture showed no abnormalities, besides an increased 14-3-3 protein. Meanwhile, the clinical situation of the patient progressively decreased and he developed mutism and myoclonus of the muscles. At that time we diagnosed CJD and the patient died the day after. Autopsy of the body showed prion-protein depositions in serveral regions of the brain, which made the diagnosis " sporadic form of Creutzfeldt Jacob disease".

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Does apathy predict decline in physical performance and fall incidents in older individuals?

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Rationale: Apathy, common in older individuals, is characterized by diminished motivation in cognition, behavior and emotions. Apathy, physical performance as well as falls are associated with cardiovascular disease (CVD). Common pathways may be present, warranting to study the associations between apathy and physical performance and falls and a possible mediating role for CVD.
Aim: To investigate the association between apathy and physical performance score (PPS), its decline and time-to-first-fall using data from the B-Vitamins for the PRevention Of Osteoporotic Fractures (B-PROOF): 2919 community-dwelling individuals aged ≥65 years, follow-up-period two years.
Methods: Apathy was assessed with Geriatric-Depression-Score3. PPS was calculated with three performance tests (walking-test, chair- and tandem-stand, range 0–12 points). Multivariate logistic and Cox regression analyses were used to assess adjusted Odds Ratio's (ORs), Hazard Ratio's (HRs) and its 95% Confidence Intervals (CI95) for the association between apathy and low vs high PPS, decline in PPS and time-to-first-fall respectively. Mediation by CVD was also investigated.
Results: Apathy was associated with low PPS (0–8 points) (OR 2,23; CI95 1,75–2,84). Next, apathy was associated with decline in PPS in women aged 65–80 yrs (OR 1.17, CI95 1.07–2.75) and in men (OR 1,76, CI95 1.12–2.76). There was no association between apathy and time-to-first-fall (HR 1,05; CI95 0,90–1,22). CVD was not an intermediate in either association.
Conclusion: Apathy is associated with low physical performance score, and in women aged 65–80 yrs and men, with its decline. In clinical practice, identifying apathy may be used to target mobility preserving interventions.

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Acetylcholinesterase inhibitors for Electro Convulsive Therapy-induced cognitive side effects, a systematic review

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Background and Objective: Electroconvulsive therapy (ECT) is an effective treatment for severe late life depression (LLD), but ECT-induced cognitive side-effects frequently occur. The cholinergic system potentially plays an important role in the pathogenesis. We systematically reviewed the evidence for acetylcholinesterase-inhibitors (Ache-I) to prevent or reduce ECT-induced cognitive side-effects.
Methods: A search was performed in Pubmed, EMBASE, PsychINFO and the Cochrane Database to identify clinical trials investigating the effect of Ache-I on ECT-induced cognitive side-effects and published until March 2016. Key search terms included all synonyms for ECT and acetylcholinesterase-inhibitors. Risk of bias assessment was conducted by using the Cochrane Collaboration's Tool.
Results: Five clinical trials were eligible for inclusion. All studies focused on cognitive functioning as primary endpoint, but assessment of cognitive functioning varied widely in time point of assessment and cognitive tests that were used. There was also great variety in study-medication, route and time of administration and dosages, duration of drug administration and ECT techniques. Despite the aforementioned differences, without exception, all studies demonstrated better cognitive performance in individuals treated with acetylcholinesterase inhibitors.
Conclusions: Ache-I have beneficial effect on ECT-induced cognitive side-effects, endorsing an association with the cholinergic system in ECT-induced cognitive impairment. Although a bias risk assessment was performed with negative results, publication bias cannot be ruled out completely. Methodological sound studies controlling for putative confounders are warranted.

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The utility of the Mini-Addenbrooke's Cognitive Examination Assessment as a screen for cognitive impairment in elderly patients with chronic kidney disease and diabetes

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Objectives: The assessment of cognition in the busy clinical or bedside setting where more comprehensive neuropsychological assessment is not possible or practical is often hampered with the lack of a suitable screening instrument. The aim of this investigation was to determine the utility of the 30-item Mini-Addenbrooke's Cognitive Examination (m-ACE) in a cohort of older adults with Chronic Kidney disease (CKD) and diabetes.
Methods: A total of 78 patients attending a nephrology clinic with a diagnosis of CKD stage >3 and diabetes (M:F + 45:33; Age = 78.1 (sd 7.7), without known pre-existing diagnosis of cognitive impairment, were screened with the ACE III and the MMSE. The m-ACE scores were obtained from the more comprehensive ACE-III. A diagnosis of cognitive impairment was based upon patient and informant review, clinical case review, neuropsychological assessment and application of Peterson's criteria for mild cognitive impairment (MCI) and Diagnostic and Statistical Manual of Mental Disorders version 5, for dementia.
Results: Upon assessment, 23 patients were diagnosed with dementia, and 21 with MCI. The area under the receiver operating curve for the m-ACE was .968, (95% CI 0.936–1.00). Sensitivity and specificity for a dementia diagnosis at the cut point <25 was 0.78 and 0.97, and at cut point <21 it was 0.77 and 1.00. The mean m-ACE score was 23.3 (4.78). The m-ACE and MMSE correlated strongly (0.87, $p < 0.001$). Mean m-ACE scores differed significantly between normal, demented and MCI groups ($p < 0.001$).
Conclusion: The M-ACE allows for rapid assessment in the clinical setting taking on average less than five minutes to complete. As a brief assessment of global cognitive function the m-ACE is an easily administered test with better sensitivity and specificity to capture and assist in the diagnosis of dementia or MCI than the MMSE.

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Quality improvement through personalised care planning in an acute care setting

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Background: Poor standards in person centred care planning adversely impact on outcomes for patients with dementia in acute care and can contribute to avoidable harms such as falls. Aim: To implement and evaluate personalised care plans combined with distraction activities to improve dementia patients' well-being and reduce adverse events (falls) in an acute care setting.
Methodology: Quality improvement Plan Do Study Act (PDSA) cycles were implemented over a two month period. PDSA 1: Nurse Education sessions (n = 8) to increase awareness and use of dementia and delirium pathways. PDSA 2: Staff worked with relatives and carers to develop personalised care plans including distraction activities. PDSA 3 Observer feedback on patient well-being using The Bradford Well-Being Profile observation Tool (n = 5 patients) Evaluation involved a pre and post audit of personalised care plans (n = 30) and routinely collected falls data.
Results: In the post intervention audit, 77% of personalised care plans were completed compared to 4% at baseline. Due to increased use of personalised plans falls prevention strategies were initiated in 97% of

patients during the QI project compared to 3% at baseline. A falls reduction was noted from 50% (n = 15) during the two months intervention to 20% (n = 6) two months after the QI project.
Conclusion: The QI project resulted in increased engagement between nursing staff and families to complete and deliver personalised care plans including distraction activities to patients with dementia. Increased personalised care planning was associated with a reduction in falls incidents in an acute ward setting. The ongoing challenge is to sustain momentum over time.

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Alteration of cerebral blood flow between Alzheimer's disease (AD) and AD with possible dementia with Lewy bodies (AD + pDLB)

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Introduction: AD and DLB are made up of a majority of dementia. The pathology is proposed that these dementias complicatedly affect each other and develop the diversely neurodegenerative pathway. AD incorporated with one suggestive/supportive DLB feature, categorized into "possible DLB (pDLB)", might have different findings from AD without the DLB feature. We evaluated regional cerebral blood flow (CBF) in AD and AD+pDLB.
Methods: Patients with AD first visiting our facility from July to October in 2015 were enrolled, fallen into AD criteria written by National Institute on Aging Alzheimer's Association. Of the patients, those satisfied pDLB condition written by third report of the DLB consortium were classified as AD+pDLB. Patients with definite/probable Parkinson disease or DLB were excluded. Indexed regional CBFs in the frontal lobe, the temporal, the parietal, the occipital, and the parahippocampal gyrus were calculated with I-123 iodoamphetamine SPECT, the radiotracer presenting arterial blood varies depending on its uptake. We compared the CBFs between AD and AD +pDLB group.
Results: We detected 22 with AD and 7 with AD+pDLB. The regional CBFs were not different significantly, even though the CBF in the left parietal lobe was marginally different (p = .07).
Conclusions: CBF in AD+pDLB was similar as in AD. Our initial trial suggested that the distribution of the CBF was overlapped between AD and AD+pDLB, reflected these complicated pathology.

P-120
Characteristics of cognitive disorders of the older patients visiting the Memory clinic for the first time

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Objectives: The prevalence of dementia in Lithuania has risen dramatically in past decades and the vascular risk factors may contribute to this rise. The proportions of Alzheimer's disease (ADD) and vascular dementia (VAD) in older population is not clear. Our aim was to evaluate the characteristics of cognitive disorders of the older patients, visiting the Memory clinic for the first time.
Methods: We used a population-based retrospective cohort study design and extracted data from Memory clinic database.
Results: 202 patient's (≥60 year-old) data were analyzed. 82,7% of patient's (n = 167) had cognitive disorders: 81,4% (n = 136) dementia, 18,6% (n = 31) mild cognitive impairment (MCI). Dementia, according to severity: severe 15,4%, moderate 72,1%, mild 12,5%. The most common was VAD – in 41,9% of cases (subcortical 64,9%), mixed dementia – 34,6%, ADD – 15,4%, other – 4,4%. MCI has relationship with ischaemic heart disease (IHD), hypertension. Dementia is associated with older age (p <0,001) and lower education of the patients (p < 0,001). VAD is associated with strokes (p < 0,001), IHD (p = 0,003), hypertension (p = 0,009), ischemic lacunar state (p < 0,001) and urinary incontinence (p = <0,001), falls (p = 0,001). Mixed dementia has relationship with IHD, hypertension, urinary incontinence.
Conclusions: The prevalence of cognitive disorders among the older patients visiting the Memory clinic for the first time is high and the most common was VAD. The high prevalence of VAD and mixed dementia is associated with vascular risk factors – strokes, IHD, hypertension, chronic ischemic lacunar state. Community based early interventions controlling vascular risk factors have a priority in prevention of cognitive disorders in older population.

P-121
The level of dementia recognition among the elderly patients and patients with diabetes hospitalized in a geriatric ward – is there a need for screening?

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Objectives: Diabetes is a common disease and a recognized risk factor for dementia in elderly patients. Dementia may adversely affect the treatment of diabetes and increase the risk of complications. The aim of the study was to evaluate the level of recognition of dementia among the elderly patients and patients with diabetes admitted to a geriatric ward.
Methods: 427 patients aged 60 years or older were hospitalized in the department between September 1st. 2015 and April 30th. 2016. – 78% women; 85% of people 75 year old and older; average age – 81,6 ± 6,75 years. A retrospective analysis of dementia prevalence (diagnosis based on clinical and neuropsychological assessment) was conducted, and dementia severity was determined on the basis of Mini Mental State Examination score.
Results: 129 (30,2%) dementia cases were identified in this group – 44 (34,1%) previously diagnosed and treated (MMSE – 16 (13;21)) and 85 (65,9%) newly diagnosed (MMSE – 18 (15;21)). In 130 patients with diabetes cognitive disability was diagnosed in 33,8% of cases. In 32 (72,7%) patients it was the newly diagnosed dementia. The severity of cognitive disability in diabetic patients assessed with MMSE was 19 (15;21) in newly diagnosed cases, and 15,5 (10,5–20) in dementia previously diagnosed and treated.
Conclusion: The awareness of cognitive disability prevalence in older patients is rather low and very frequently it is not diagnosed and treated. It concerns also patients with diabetes, suggesting the need for implementation of dementia screening in this group. This could positively influence management of the disease.

P-122
Is delirium and memory impairment identified and acted upon in a busy district general hospital?

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Introduction: Dementia and delirium affects more than a quarter of in-patients at any one time. These patients have a higher mortality, complication rates and increased length of stay. This has prompted the development of the Commissioning for Quality and Innovation (CQUIN) target and guidelines highlighting the importance of cognitive screening in elderly patients admitted as an emergency. We undertook a QIP to assess the number of patients admitted acutely who had cognitive assessments performed and any actions as a result.
Methods: All patients over the age of 75 years who were admitted as an emergency over a two-day period were assessed. The notes were reviewed for completion of AMTS (abbreviated mental test score) and CAMs (confusion assessment method) scores; then further investigations and referrals were assessed. In addition, the discharge summaries were evaluated to identify if cognitive impairment had been documented and if further actions were advised.
Results: 74 patients were assessed (6 excluded because they passed away). 48% of patients had an AMTs within 72 hours of admission. In addition, none of the patients with a low AMTS (<8) had appropriate steps taken i.e. blood tests, referrals, information passed onto GPs, as recommended by national guidelines. We have identified that by

educating junior doctors on the importance of identifying memory impairment and delirium, as well as providing a confusion bundle, improved identification and management of high risk patients.
Conclusions: Clinicians assessment and management of cognitive impairment can be significantly improved by education, an admission proforma and confusion bundle.

P-123
The influence of the environment on behavioural symptoms among nursing home residents with dementia: a systematic review

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Background: Behavioural symptoms of dementia (BSD), including physical and verbal aggression, psychomotor and verbal agitation, negativism, sleep wake disorders, irritable mood, sexual inappropriate behaviour, obsessive behaviour, apathy are very common in nursing home residents with dementia. Understanding the influence of the environment on these behavioural symptoms might be the key to reduce these symptoms by adequate interventions done by the professional caregivers. Research question: "What is the influence of the environment on clinically relevant behavioural symptoms among nursing home residents with dementia?
Methods: A systematic review was achieved in accordance with the Preferred Reporting Items for Systematic Review and Meta-Analysis Protocols 2015 (PRISMA-P). A literature search was performed in five electronic databases (Pubmed, Embase, Cochrane, PsycINFO and CINAHL), using the synonyms for Dementia, Nursing Home Residents and Behavioural Symptoms. The articles were screened individually by two independent reviewers on title and abstract using predetermined inclusion and exclusion criteria. Critical appraisal and data-extraction were accomplished by two independent reviewers.
Results: Our search yielded 4546 articles after excluding the duplicates. Using the methods described, we critically appraised remaining articles. The most relevant and valid articles were qualified for further assessment and data-extraction was performed. Preliminary results will be presented at the EUGMS congress.
Conclusion: We expect that the results will show that the environment appears to be a major influence on behavioural symptoms among nursing home residents with dementia. And possibly that interventions should be aimed primarily on changing the environment.

P-124
Dementia care mapping: a tool to improve non-verbal communication for people with dementia

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Objectives: Dementia care mapping (DCM) is a tool (T. Kitwood) to evaluate the model of person centred care (PCC). It consist in assessing patients with dementia in order to find out about wellbeing and stress during day-times.
Method: The mapping consist of an observation of patients in their normal surroundings with a specific encoding system for different types of activities.(feeding, leisure, etc). It allows to understand some behaviors. We wanted to find out, if the non-verbal communication was better after a 6 months implementation of PCC.
Results: The population examined: 30 persons having lost oral expression. By a standardized classification for non-verbal communication, the results for patients were: (a) acceptance of proposed actions: 71%; (b) acquiescence: 17%; (c) expressed wishes: 6%; (d) apathy: 4% and (e) opposition: 2%. The results from the nurse's attitude were: (b) guidance of activities: 31%; (b) recognition of participation: 25%; (c) negotiation: 21% (d) explanation: 12%; (e) basic stimulation: 11%.
Conclusions: Dementia care mapping is a useful tool for geriatricians to understand the unusual behavior of persons in advanced stages of dementia. Through this positive attitude, the physician is less often confronted to negative attitudes of his patient and will prescribe less. (reduction: 9% for psychotropics)

P-125
Dysphoric symptoms in relation to other behavioral and psychological symptoms of dementia, among elderly in nursing homes

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Background: Behavioral and psychological symptoms of dementia (BPSD) are common and varies throughout the disease. The aim of this study was to explore associations between BPSD and dysphoria at different levels of cognitive impairment.
Method: Survey assessments of 4,397 individuals in Swedish nursing homes were analyzed. Data of cognitive function and BPSD were collected using the Multi-Dimensional Dementia Assessment Scale (MDDAS). Eight BPSD factors were plotted in relation to cognitive function and level of dysphoria to investigate their relation with concurrent dysphoria.
Results: Dysphoric symptoms was most frequent in moderate cognitive impairment, however, moderate to severe dysphoric symptoms showed no clear variation with cognitive impairment. Further, aggressive behavior, verbally disruptive/attention-seeking behavior, hallucinatory symptoms and wandering behavior were more common with concurrent dysphoria regardless of cognitive function. In contrast, passiveness was more common with concurrent dysphoria in mild cognitive impairment but not in moderate to severe cognitive impairment.
Conclusion: Several BPSD including aggressive behavior and hallucinations were more common with concurrent dysphoric symptoms, providing further insight to behavioral and psychological symptoms among individuals with cognitive impairment. Apathy was more common with concurrent dysphoria in early stages of cognitive decline but not in later stages, supporting the notion that apathy and dysphoric symptoms represent separate concepts among people with moderate to severe cognitive impairment.

P-126
Dementia – an umbrella term misused as a diagnosis?

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Introduction: A patient, treated as Alzheimer's dementia, presented to us in crisis awaiting an end of life placement. Following re-diagnosis and application of dementia with Lewy bodies (DLB) therapeutics he subsequently spent two years at home, with a stable mini-mental state examination of 27/30 [1]. A national dementia Commissioning for Quality and Innovation was developed to increase the dementia diagnosis rate. A single screening question is used but many have questioned the evidence base [2]. It is vital that dementia does not become a diagnosis in itself but the underlying pathology must be rigorously pursued as clinical course/management vary significantly.
Methods: 14 patients with DLB who had been misdiagnosed were identified in a movement disorder clinic in a large district general hospital over a 6 month period. Symptoms at time of diagnosis were reported.
Results: Initial dementia diagnosis: 71% Alzheimer's, 14% vascular, 7% frontal lobe or mixed type. Motor symptoms: 92% bradykinesia, 78% rigidity and 64% resting tremor. Non motor symptoms: 71% REM sleep disorder, 57% anosmia and constipation, 57% diurnal variation and 43% visual hallucinations.
Conclusions: Patients were commenced on appropriate pharmacological interventions including Rivastigmine. There is clear efficacy in the use of Rivastigmine in DLB including amelioration of hallucinations, improvement in agitation, apathy and delusions and improvement in the sleep/wake cycle [3]. Furthermore improvement in cognition appears to be preserved over a significant period [4]. Outside specialist centres, potentially too much emphasis is placed on

neuroimaging and psychometric testing without reviewing history and physical features in the assessment.

References

1. Lakshmanan DA, Butler R and Lockington T. Effective intervention in a case of dementia with Lewy bodies. *Kent Journal of Mental Health.* 2010; 6: 8–14.
2. Brunet MD *et al.* There is no evidence base for proposed dementia screening. *BMJ.* 2012; 345: e8588.
3. Netto I, Iyer A and Kamble P. The efficacy of Rivastigmine in the management of the behavioral and psychological symptoms of lewy-body dementia – a review of literature. *International J. of Healthcare and Biomedical Research.* 2014; 2(4): 53–59.
4. Grace J *et al.* Long-term Use of Rivastigmine in Patients with Dementia with Lewy Bodies: An Open-Label Trial. *International Psychogeriatrics* 2001; 13(2): 199–205.

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Relationship quality and sense of coherence in dementia: a scoping review

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Introduction: Relationship quality (RQ) and Antonovsky's sense of coherence (SOC) are important factors that protect and promote health in stressful situations, such as the adaptation to dementia. A previous qualitative research with couples in dementia showed the importance of these factors to encourage positive patterns of care, foster successful adaptation to changing needs, and support in-home arrangements as long as possible.
Methods: We conducted a scoping review on the role of RQ and SOC in dementia, to provide direction for ensuing systematic reviews, to explore gaps in present research and to identify and define more precise research questions.
Results: There is a lack of research exploring the association between RQ and SOC in dementia. SOC is assumed to be relatively stable in adulthood, at least for people with an initial high SOC. Therefore, it seems important to understand its role as a determinant or mediator of the RQ. However, there are no longitudinal studies addressing how the relationship between SOC and RQ may change over time.
Key conclusions: The study of RQ and SOC may prove of great importance in progressive health conditions. We need to understand how RQ and SOC relate directly to each other in dementia, taking into account the perspectives of both patients and informal carers, and using longitudinal designs and mixed-methods approaches.

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Improving the selection of patients that might benefit from referral to a memory clinic

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Objective: The number of patients referred to memory clinics are steadily rising. To optimize the selection of patients that could benefit from referral, we evaluated those patients with memory complaints that did not receive the diagnosis of a neurodegenerative disease.
Methods: In this retrospective study we analysed all patients that visited the memory clinic of Medical Centre Leeuwarden from July 2014 until July 2015 (N = 362) by studying their medical record. Information was gathered about referral, patient characteristics, mood complaints, nutritional status, functional dependency, caregiver burden and diagnosis. Independent samples T-test as well as one-way ANOVA were used for analysis.
Results: Patients without dementia were referred by their family doctor (59%), neurologist (21%), psychiatrist (7%) or other physician (12%). Memory complaints in this group were attributed to a depression (21%), other psychiatric diagnoses (32%), neurological disease (6%), delirium (2%), thyroid disease (0.8%) or unknown cause (45%). The non-demented group was significantly younger (69.68 yr vs 78.75 yr; p = .000), scored lower on the IQ-code (3.70 vs 4.11 p = .000), had higher scores on the GDS (6.2 vs 3.9; p = .006) but did not use psychiatric medication or benzodiazepines more often nor drank more alcohol.
Conclusion: Mood disorders and long standing psychiatric problems often seem to be the cause of memory complaints in non-demented patients. Screening for mood disorders with the GDS or evaluating cognitive change with the IQ-code might be of help in the selection process. Unnecessary referral may be reduced.

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Clinical predictors of cognitive decline in the InCHIANTI Cohort: fish for brain?

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Objectives: Different lifestyle and clinical factors have been associated with dementia risk, yet data regarding health and lifestyle predictors of cognitive decline among older subjects are not consistent. The present analysis of the InCHIANTI cohort was aimed at assessing whether simple clinical and lifestyle factors predict Cognitive Decline Trajectories (CDTs) in non-demented older subjects.
Methods: We considered participants with Mini Mental State Examination (MMSE) 24+ at baseline who completed 9-year follow-up. CDTs were estimated by Latent Class Growth Curve Models of MMSE score change.
Results: 463 participants (mean age 71, 246 F) were included. We identified 4 clusters with different CDT: rapid decliners (RD), slow decliners (SD), low functioning stable (LFS) and high functioning stable (HFS). The four groups differed significantly for age (lowest in HFS and LFS), education (highest in HFS), depressive symptoms (Center for Epidemiological Studies Depression Scale >16, less frequent in HFS), cholesterol (highest in RD) and fish consumption (lowest in SD). No among-group difference was observed for gender, BMI, smoking, alcohol consumption, physical activity, hypertension, diabetes, coronary/cerebrovascular disease. Grouping together RD with SD, and comparing them with remaining subjects in a logistic regression model, independent predictors of a steeper cognitive decline included age >75 (OR 8.36) and cholesterol (OR 1.01 per mg/dL), while education (OR 0.84 per year) and fish consumption (0.97 per g/day) were associated with a reduced risk.
Conclusion: High cholesterol and low fish consumption were independent predictors of cognitive decline in this sample of older community-dwelling non-demented subjects.

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Association of metformin therapy with the risk of dementia in older adults with type 2 diabetes mellitus

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Objectives: The aim of this study was to determine whether metformin therapy is associated with dementia risk in older adults with type 2 diabetes mellitus (T2DM).
Methods: The study was conducted at an outpatient geriatric setting. The analysis was carried out on 1221 older adults. Out of those, 193 older patients (mean age 75.6 ± 6.0 years; 69.4% female; mean BMI 30.9 ± 4.9) with history of T2DM or diagnosed with T2DM were studied. Demographics, clinical factors, cognitive status, and neuro-psychological tests [Mini mental state examination (MMSE) and The Lawton Instrumental Activities of Daily Living (IADL)] were identified from records. Subjects were divided into four groups according to metformin use and dementia status: group I (metformin + no dementia), group II (no metformin + no dementia), group III (metformin + dementia), and group IV (no metformin + dementia).

Results: The majority of subjects were in group I (53.9%), followed by group II (23.3%), group III (14.0%), and group IV (8.8%). There were no correlations between metformin use and dementia status, MMSE, and IADL scores. After adjusting age, sex, BMI, MMSE scores, and HbA1C levels, metformin use was not associated with dementia risk (OR = 0.794; CI: 0.230–2.737; p = 0.715). When analyzing subjects without dementia, there were no differences in MMSE and IADL scores among metformin users vs. non-users (p = 0.901 and p = 0.683, respectively).
Conclusion: In the analysis of older adults with T2DM, metformin use was not associated with dementia risk. Further studies are warranted to clarify inconclusive results.

P-131
Rates of capacity assessment in consent processes are low despite high rates of cognitive impairment in older patients undergoing emergency surgery

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Introduction: Cognitive screening is recommended in the UK for older people (≥75 years) with unplanned hospital admission and should inform individualised patient care including the need for a capacity assessment in those undergoing procedures. We therefore undertook an audit to determine the number of older cognitively impaired patients in the emergency surgery unit and whether capacity to consent was documented.
Methods: Consecutive patients ≥75 years admitted to the Oxford University Hospitals general surgical emergency unit between August-September 2015 had the abbreviated mental test score (AMTS/10), and documentation of previous dementia diagnosis using a validated proforma. Procedures and details of the consent process were recorded. Cognitive impairment was defined as AMTS ≤ 8 or known dementia.
Results: Among 102 patients (mean age/SD = 83.6/5.1 years), 22/97 with AMTS scored ≤8 and 15 had dementia (4 had AMTS > 8, and 4 not tested). Reasons for AMTS non-completion included dysphasia, deafness and severe dementia. In the 30 cognitively impaired patients, 12 (40%) underwent a surgical procedure in whom only 2 (17%) had an appropriately documented consent process: 10 had signed a standard consent form with no recorded capacity assessment. In the remaining 2 patients, a best interests from was correctly completed.
Conclusion: Rates of cognitive impairment in older emergency surgical patients are high yet there is often failure to take into account the need for a capacity assessment before completion of informed consent. Better staff education and the insertion of a prompt on consent forms may help improve the validity of the consent process in older patients.

P-132
Gender difference in the association between body weight and cognitive function in older adults

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Introduction: The prevalence of cognitive dysfunction in the aging population has been increasing, and so the cost of caring for those with cognitive dysfunction has also increased. Previous studies reported mixed results regarding the association between cognition and body weight in late life. The objective of this study was to clarify the relationship between body weight and cognitive function in Korean elderly.
Methods: Study subjects included 8,979 aged 65 years or older from the Survey of Living Conditions and Welfare Needs of Korean Older Persons that was conducted by the Korea Institute for Health and Social Affairs (KIHASA) in 2011. The investigation was composed of Mini-Mental State Examination Korean version (MMSE-KC), questionnaires, anthropometric measurements. Body weight status was measured by body mass index (BMI) was calculated as the body weight divided by the height in meters squared (kg/m^2).
Results: In multiple logistic regression analysis, gender differences were observed in the association between body mass index and cognitive impairment. Compared with normal weight group (18.5 ≤ BMI < 23 kg/m^2), underweight males (BMI < 18.5 kg/m^2) and overweight females (23 ≤ BMI < 25 kg/m^2) have lower risk for cognitive impairment (OR: 0.67, 95% CI 0.48–0.94, OR: 0.75, 95% CI 0.61–0.92).
Key conclusions: Underweight men and overweight women might have benefit for cognitive function. Further prospective studies are warranted to establish the optimal body weight for maintaining cognitive function in the elderly people.

P-133
A nationwide survey of dementia patients admitted to psychiatric hospitals for behavioral and psychological symptoms of dementia in Japan

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Objectives: To identify the risk factors preventing discharge of dementia patients newly admitted to psychiatric hospitals equipped with dementia units for management of the behavioral and psychological symptoms of dementia (BPSD), a nationwide prospective cohort survey in Japan was conducted.
Methods: The subjects were patients with dementia admitted to psychiatric hospitals for BPSD and their caregivers. The patient characteristics, the caregivers' sense of burden and depressive states were assessed at admission. The patients' cognitive function (Mini-Mental State Examination), delirium (Confusion Assessment Method), depressive states (Cornell Scale for Depression in Dementia), course of BPSD (Neuropsychiatric Inventory), treatment and care provided during hospitalization, including those for physical illnesses, etc., were also assessed 2, 4 and 6 months after admission using a questionnaire and interview.
Results: A total of 229 hospitals (52.8% of the psychiatric hospitals with dementia units in Japan) provided consent for participation in the study, and patients were enrolled from 138 hospitals. At the completion of patient enrollment in March 2016, 456 patients had been completely assessed and 185 were being assessed (a total of 641 to be assessed). The data obtained are being sorted to create a database.
Conclusion: After finishing the data collection, we are planning to conduct multivariate analysis to compare the data of patients who were discharged early and those of patients who could not be discharged, in order to clarify the risk factors preventing discharge, and identify high-risk groups for long-term hospitalization. The results will be presented at the meeting.

P-134
Caring for people with hip fracture and cognitive impairments: qualitative findings from the PERFECTED research programme

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Introduction: An ageing population is a global priority, as are dementia and hip fracture. Older people with dementia who sustain a hip fracture are at a high risk of serious complications, linked to delayed recovery and higher mortality post-operatively. Specific care treatment pathways which acknowledge differences the presentation and care needs of this complex patient group are proposed to improve clinical and process outcomes for this population. This poster will

report qualitative findings from the National Institute for Health Research funded Peri-operative Enhanced Recovery hip FacturE Care of paTiEnts with Dementia (PERFECTED) research programme which aims to address this need.

Methods: Using qualitative methods to explore current and best practice, we will report two interconnected studies reporting findings from: (1) Ethnographic research, undertaken by both lay and research observers, in several orthopaedic hospital wards and Emergency Departments to observe current care practices and (2) A qualitative multi-methods exploration of stakeholder views of care experiences.

Results and key conclusions: Insights from ethnographic observations and perspectives from a diverse range of healthcare professionals will highlight and encourage critical reflections on the systematic and unsustainable difficulties faced by strained frontline staff.

P-135
Eye tracking exploration in social cognition tasks in patients with neurodegenerative diseases: preliminary results

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Objectives: It is commonly admitted that facial emotion recognition and Theory of Mind (ToM) impairments are associated with social behavior disorders. This kind of disorders are observed in Fronto-Temporal Dementia (DFT), Dementia of the Alzheimer's Type (DTA) and Parkinson's Disease (PD). Our hypothesis is that patients apply inappropriate visual exploration strategies to decode the emotions and intentions of others, explaining misinterpretation of others' intentions, and then inappropriate social behaviors.

Methods: This preliminary study, conducted in the Gerontologic Center Rainier III (Monaco), compares eyes movements in social cognition tasks in normal elderly people (n = 10), patients with DFT (n = 3), DTA (n = 3) or PD (n = 3). ToM (understanding of facial emotions) was explored using the "Reading mind in the eyes" test and recognition of facial emotions using pictures from the Ekman faces library. Behavior was assessed with the Neuropsychiatric Inventory. Finaly, eyes movements were recorded with a Mobile EyeBrain Tracker®.

Results: We highlighted a link between social cognition impairments and atypical eyes behaviors when decoding facial emotions, with a specific profile for each pathology.

Conclusion: These preliminary results open new perspectives of care, as explicits technics engaging patients to attend to the eye region of faces, to assess the effects on social cognition and behavioral disorders associated with these diseases.

P-136
Caregiving, a source of self-fulfillment

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Introduction: Evidence suggests that providing care may have implications for the caregiver's own health. In spite of the numerous existing instruments to assess the burden for the caregivers, only the Caregiver Reaction Assessment (CRA) measures the positive reactions of the caregivers, including self-esteem.

Methods: Community-dwelling spousal caregivers of frail older patients were recruited mainly by the geriatric outpatient clinic and assessed using the CRA (self-esteem, lack of family support, disrupted schedule, financial and health problems). Burden was assessed using the Zarit Burden Interview (ZBI) and depression screened with the Geriatric Depression Scale (GDS-15).

Results: Are presented with mean and SD.

Results: 80 caregivers (44 women's, age 79.6 ± 5.4). Among care-receivers (age 81.4 ± 5.2), 81% had cognitive impairment. 31% of caregivers were at risk of depression. The burden (ZBI 32.4 ± 14.4) correlated with neuropsychiatric symptoms of the care-receiver (R = 0.4). Disruption of their schedule was a more important negative aspect (4 ± 3.4) than lack of family support (2.6 ± 0.9), financial problems (2.3 ± 0.8) or health problems (2.9 ± 0.9). Despite this, caregivers' self-esteem was high (>3/5) among 69% caregivers (mean 3.8 ± 0.8). This dimension takes into account the desire and pleasure to give care.

Conclusions: Caregivers carry a heavy burden and are at risk for depression. Nevertheless, 69% of them consider caregiving as a source of self-fulfillment. Health professionals should not only screen the caregivers for depression but also recognize their important role in order to enhance their positive reactions.

P-137
Extreme agitation in nursing home residents with dementia; prevalence, characteristics and correlates

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Objective: Although many nursing home (NH)-residents with dementia show agitation to some extent, hardly any literature is published about extreme agitation. The Waalbed-III study focuses on the prevalence and correlates of extreme agitation in these residents and their characteristics.

Methods: Data of 4 studies in NH-residents with dementia was combined into one dataset (n = 2074). Residents with extreme agitation were defined as those having a score of 6 (several times a day) or 7 (several times an hour) on at least 5 CMAI-items and a CMAI total score above the 90th percentile. We compared this group with residents with less severe agitation on different characteristics. Residents without agitation (CMAI total score = 29) were excluded. A multivariate multilevel logistic regression analysis was performed to assess the association of several variables with extreme agitation.

Results: 154 NH-residents met the definition (7.4%). Compared to the residents with less severe agitation (n = 1704), characteristics of NH-residents with extreme agitation differed. These residents were younger, had a more severe stage of dementia and used psychotropic drugs more often. Several correlates were found for extreme agitation: age (OR 0.967, p = 0.011), dementia severity (OR 3.646, p = 0.000 for GDS 6, OR 2.958, p = 0.008 for GDS 7 (ref GDS 4 and 5)), delusions (OR 2.481, p = 0.0000), anxiety (OR 1.903, p = 0.002), euphoria (OR 3.709, p = 0.000) and irritability (OR 4.419 p = 0.000).

Conclusion: Characteristics of these NH-residents are different from residents with less severe agitation. Furthermore, we obtained more insight in several correlated factors. In clinical practice, these factors may signal the possible occurrence of extreme agitation, and may therefore be a starting point for treatment.

P-138
Cognitive impairment and readmissions in very old and very very old patiens in a Heart Failure Unit

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Introduction: With the aging of population, more and more people are now being admitted in specialized hospital units. Very old (75–85 years) and very very old adults (older than 85), who demand special attention due to their physical and cognitive condition, are increasingly being managed in these units.

Methods: A Mini Mental State (MMS) questioner was randomly applied to 44 patients admitted in a Heart Failure Unit, with ages 75 years or older (very old and very very old) during a 9-month period. Readmissons at 90 days after discharge were analyzed. The mRankin comorbidities scale was applied to attest patients' physical conditions.

Results: 36.4% were males, 25% presented cognitive impairment in the MMS scale, and of these 72.7% had at least one readmission on the next 90 days after discharge. Of the 75% of the patients without cognitive impairment, 36.4% were readmitted (p = 0.03). These patients presented a mean mRankin of 2.24 ± 1,06 while those with cognitive impairment presented 2,27 ± 1,42 (p = 0.93).
Conclusions: Cognitive impairment is associated with a higher rate of readmissions in patients older than 75, at 90-days after discharge. MMS may help to prevent readmissions by alerting medical staff to anticipate a post-discharge appointment to reavaluate these complex patients. More studies should carried out to study the impact of cognitive impairment in prognosis.

P-139
Effect of high dose vitamin D on cognitive performance in healthy seniors – a randomized controlled trial

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Introduction: Findings on the influence of vitamin D on cognitive performance have been inconsistent, and clinical trials in healthy seniors are missing.
Methods: We enrolled 273 seniors age 60+ in an ancillary cognitive study of the Zurich knee OA trial. All participants were randomized to either 800 or 2000 IU vitamin D per day in a double-blind manner. The primary endpoint mini-mental state examination (MMSE) and 3 secondary endpoints (score of 7 executive function tests (EF), Rey verbal learning, computer-based reaction time) were assessed at baseline (BL) and at 24 months follow-up.
Results: Participants` mean age was 70.3 years, 56.8% were vitamin D deficient, and mean baseline MMSE scores were 28.0. While achieved 25(OH)D levels at 24 months differed significantly (800 IU = 28.7 ng/mL; 2000 IU = 34.7 ng/mL), none of the primary and secondary endpoints differed significantly between treatment groups (all p-values >0.35). In a pre-defined observational analysis by achieved 25(OH)D quartile levels at month 24, seniors in the 2nd and 3rd quartile (range: 26.4–35.3 ng/mL) showed better MMSE (ΔBL-24 months: Q1 = –0.09; Q2 = 0.32; Q3 = 0.33; Q4 = –0.14) and EF (z-scores ΔBL-24 months: Q1 = –0.04; Q2 = –0.0006; Q3 = 0.04; Q4 = –0.11) performance than those in the lowest (< 26.4 ng/mL) and highest quartile (>35.3 ng/mL) of 25(OH)D levels (ptrend quadratic = 0.024 and 0.06).
Key conclusions: Our trial found no difference between daily 800 versus 2000 IU vitamin D on cognitive performance. This may be explained by our observational findings suggesting that a moderate 25 (OH)D range between 26.4 and 35.3 ng/mL may be most desirable for cognitive performance.

P-140
The Six-Item Screener-validation of a short cognitive test in its German translation for geriatric patients

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Introduction: The Six-Item Screener (SIS) is a brief cognitive test for identifying subjects with cognitive impairment [1]. Its implementation takes one minute and does not require any material. This diagnostic study was aimed at measuring the test criteria of the SIS in its German translation (Krupp) for screening patients in a geriatric acute clinic.
Methods: 167 patients were enrolled and 136 (age 56–97, M 80.9 SD 7.5 years, 61.8% women) completed five times of testing during 17 days (4× SIS, 2× Mini Mental State Examination (MMSE) [2], 2× Shulman Clock Drawing Test (CDT) [3], 2× Regensburg Verbal Fluency Test (RWT) [4]). Gold standard was a geriatrician's overall assessment at discharge.
Results: There was no significant difference between the second and third SIS on day 3 and 5 of the in-patient stay (p = 0.238) and the two tests correlated 0.696 (p ≤ 0.001). The Alpha was 0.821. The SIS correlated with the geriatrician's overall assessment (–0.721), with MMSE (0.677), CDT (–0.478) and RWT (0.445). The sensitivity and specificity were 100% and 70.5% (cut-off ≤4 points). All 98 patients that scored 5 or 6 points were also found to have at most a mild cognitive impairment by the geriatrician's overall assessment. The AUC amounted 0.937.
Key conclusions: The SIS can be conducted on geriatric patients. It can be administered to patients with visual problems, fine-motor deficits and reduced resilience. It satisfactorily correlates with a geriatrician's overall assessment, the MMSE, the RWT and the CDT. The SIS is ideal for implementation during admission.

References

[1] Callahan CM, Unverzagt FW, Hui SL, Perkins AJ, Hendrie HC (2002). Six-item screener to identify cognitive impairment among potential subjects for clinical research. *Med Care*
[2] Folstein MF, Folstein SE, McHugh PR (1975). "Mini-mental state". A practical method for grading the cognitive state of patients for the clinician. *J Psychiatr Res*
[3] Shulman KI, Shedletsky R, Silver I (1986). The challenge of time: clock drawing and cognitive function in the elderly. *Int J geriatr Psychiatr*
[4] Aschenbrenner S, Tucha O, Lange KW (2000). *Regensburger Wortflüssigkeitstest*, Spektrum Akademischer Verlag, Heidelberg

P-141
How to increase the detection of mild neurocognitive disorder? Comparison of psychometric scales

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Introduction: The Montreal Cognitive Assessment is a screening tool for mild neurocognitive disorder (mild NCD). Objective. Analyze the reliability MoCA 7.2 vs. MMSE in detecting mild NCD including the sensitivity and specificity of the cut off points.
Methods: We recruited 171 older adults, including 79 non NCD and 92 mild NCD patients. The mean ages were 73.44 years for non NCD and 79 years for mild NCD. In the non NCD group the 78.5% of the participants were female and in the mild NCD group the 72%. The study included detailed inclusion and exclusion criteria. For statistical analysis we used the STATISTICA 12.5 software.
Results: The mean MoCA 7.2 and MMSE scores showed significant differences between groups (p < 0,001 for both). In the ROC curve analysis of the MoCA score in differentiating mild and non NCD, the area under the curve (AUC) was 0.95. The optimal cut-off score for mild NCD was 23/24, with a sensitivity and specificity of 90.2% and 77,2%, respectively. In the ROC curve analysis of the MMSE score in differentiating mild and non NCD, the area under the curve (AUC) was 0.86. The optimal cut-off score for mild NCD was 27/28, with a sensitivity and specificity of 79,6% and 77,2%, respectively. The difference in AUC fields MoCA 7.2 vs. MMSE was 0.085.
Conclusion: Screening test MoCA 7.2 more sensitively detect mild NCD than MMSE. Further research should aim to increase the study sample and the creation of an algorithm in greater leveling effect of age and education on the results of MoCA 7.2.

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B12 levels in patients with mild neurocognitive disorder after 60 years

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Introduction: The new diagnostic criteria in the DSM-5 e xtract major neurocognitive disorder (NCD) being determinant of dementia and mild NCD considered minor cognitive impairment without dementia, similar to the commonly used concept of mild cognitive impairment (MCI). Vitamin B12 plays a key role in the proper functioning of the nervous system, taking part in the process of myelination of neurons of the spinal cord and cerebral cortex. Its deficiency can cause NCD.
Objective: Comparing the level of vitamin B12 in reference values in patients with NCD after 60 years old. Materials and methods. The study was conducted at the Department and Clinic of Geriatrics Collegium Medicum in Bydgoszcz, Nicolaus Copernicus University. The study included 112 people 2 distinguished research groups: (i) a group of mild neurocognitive disorders – NCD mild (n = 69); (ii) a control group without NCD – non NCD (n = 53). The mean ages were 78,74 years for mild NCD, 75,09 years for non NCD. The 72 of patients were woman (59%). The study included detailed inclusion and exclusion criteria. For statistical analysis we used U Mann Whitney in the Statiscica 12.5 software.
Results: Mean level of B12 for mild NCD was 314,7 pg/mL (95%CI 286,6–342,8) and for non NCD was 359,2 pg/mL (95%CI 314,2–404,2). The level of B12 at mild NCD was statistical significant compare to non NCD (p = 0,044).
Conclusion: Vitamin B12 levels In the patients' serum suffering from mild is significantly lower than in patients without NCD despite the normal ranges of reference. It is suggested to conduct more numerous research sample of people over the age of 60 in order to verify the reference values of vitamin B12 in this age group. Values within the normal reference range may indicate the beginning of mild NCD.

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Intra-individual variability across performances of neuropsychological tests in patients with bipolar I disorder

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Introduction: Intra-individual variability (IIV) represents the degree to which a given individual's performance varies relative to his or her own mean level of performance across neuropsychological tasks. IIV across neuropsychological tasks has received recent attention to risk for developing psychiatric illnesses. The present study investigated the IIV across different cognitive domains in patients with bipolar I disorder compared to healthy controls.
Methods: Sixty bipolar I patients and 50 healthy controls were evaluated for comprehensive neuropsychological battery, including tests of attention and working memory, visual memory, verbal memory, and executive function. IIV was computed from factor-based cognitive scores in each four cognitive domain and across the cognitive domains.
Results: Higher IIV was observed from across-domains (p < 0.001) and executive function (p < 0.05), and close to the boundary of statistical signifiance from verbal memory (p = 0.06), but not from attention and working memory (p = 0.61) and visual memory (p = 0.22) in bipolar patients compared to healthy controls.
Conclusion: These fidings suggest that bipolar patients have distinct feature of increased IIV of across-domains and executive and verbal memory functions. Comprehensive application of IIV in various cognitive domains may be helpful in understanding of neuropsychological problems and potential cognitive interventions for bipolar disorder.

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Non bias tool to differentiate mild cognitive impairment and normal cognition in elderly at Klang Valley, Malaysia

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Introduction: The paradigm of dementia management has been shifted towards early detection. However, it is very difficult to diagnosed mild cognitive impairment (MCI) in Malaysia because we have heterogenous group of population with different ethnicity, cultural background, language proficiency and education level. We noticed that the common cognitive screening tests that we used are not suitable to detect MCI, hence a better tool is needed for our elderly population.
Objective: To determine the sensitivity and specificity of CANTAB (Core cognition batteries for healthy elderly) in differentiating MCI from normal cognitive elderly at Klang Valley. Methodology Participants from Malaysian Elders Longitudinal Research (MELoR) were tested with Montreal Cognitive Assessment (MOCA) during MELoR clinic. Participants who scored less than 26 in MOCA were called back for review with a geriatric specialist. CDR and DSM-5 diagnostic criteria were used to aid in diagnosis for MCI. At the same time, participants were tested with CANTAB by trained research assistant. Both geriatric specialist and research assistant were blinded to each other findings.
Results: A total of 48 participants were called back and able to complete the tests, 34 were normal and 14 had MCI, the false positive rate was 71% for MOCA score less than 26. Out of 4 component tests in CANTAB, only Paired Associate Learning (PAL) score has significant association with MCI. PAL score 97 and above has a sensitivity of 81.8% and specificity of 92.3% in detecting MCI.
Conclusion: PAL showed high sensitivity and specificity in detecting MCI in our elderly population and it can be used regardless of patient's education level and cultural background.

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Functional evaluation of cognition, gait and balance, depressive disorder and nutritional status in an elderly population accompanied in the Unidade Integrada de Prevenção of the Hospital Adventista Silvestre: six-year longitudinal study

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Objectives: This work aims to study the global functional status in a population of seniors tested every two years over a period of six years, trying to relate the data obtained in the first evaluation with the cognitive ability of individuals 4 and 6 years after the initial evaluation.
Methods: This study included a sample of 166 elderly, 51 men and women, between 65 and 94 years of age, accompanied in the Integrated Prevention Unit of the Hospital Adventista Silvestre The following instruments were used in each rating: (a) Tinetti scale – POMA; (b) MMSE; (c) Katz; (d) Lawton; (e) Geriatric Depression Scale – GDS; (f) Mini-nutritional evaluation – MAN.
Results: The assessment of the degree of association between the functional scores obtanied during the 1st analysis and those of the 3rd and 4th analyses indicated that the correlation coefficients were better when the POMA and MMSE scores were used. Individuals classified as disabled in the 1st evaluation by MMSE presented both average scores as well as a larger proportion of individuals classified as disabled by the same scale in both the 3rd and 4th evaluations when compared to the group of individuals initially classified as normal. Although the classification as disabled with POMA has resulted in a reduction that approached significance on the average of the MMSE scores on the 3rd and 4th evaluations, the percentage of individuals classified as disabled by the MMSE was greater in both evaluations when compared

with percentages obtained for the group of individuals originally classified as normal by the POMA. When we used a sample that contained only individuals classified as normal by MMSE during the 1st analysis, only the POMA was able to identify a worsening of results both in the average scores and in the percentage of individuals classified as disabled in the MMSE in the 3rd and 4th evaluations in the group classified as disabled by POMA in the 1st analysis.

Conclusion: Particularly, the MMSE, as expected, seems to be the best predictor of performance on the same scale after 4 and 6 years. However, when only individuals classified as normal by the MMSE are considered, which excludes, by definition, MMSE as a factor of the analysis, the POMA becomes the most appropriate scale to predict reductions in cognitive performance as indicated by the MMSE. These results are further evidence that losses in motor activity can be useful in early identification of increased risk of cognitive decline.

P-146
The association of sex-hormone binding globulin (SHBG) with executive function in 70-year old community-dwellers: the PIVUS study

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Introduction: Changes in executive function are an early marker of dementia. The metabolic determinants of executive function have however not been fully elucidated. Sex-Hormone Binding-Globulin (SHBG) is not merely a transporter but also acts as a metabolic mediator. Thus, our aim was to investigate the association between SHBG levels and Trail-Making Test (TMT), a measure of executive function, in older individuals.

Methods: This cross-sectional analysis involved 534 seventy-year-old community-dwellers (284 males) from the Prospective Vasculature in Uppsala Seniors (PIVUS) Study. Univariate and multivariate regression models were built to assess the association between SHBG and TMT performance. Sex, comorbidities, smoking habits, BMI, total cholesterol, fasting insulin, total testosterone, estradiol, Mini-Mental State Examination (MMSE) and Endothelium-Independent Vasodilation (EIDV) were considered as potential confounders.

Results: Median SHBG levels were 47.3 nmol/L (IQR 35.4–60.5), while TMT-A and TMT-B scores were 53 (IQR 43–67) and 130 (IQR 101–188), respectively. TMT-A score was positively associated with EIDV, fasting insulin, diabetes and smoking and negatively with MMSE, but was not significantly associated with SHBG ($\beta \pm SE$ 0.04 ± 0.04, unadjusted $p = 0.31$). Conversely, TMT-B was positively associated with fasting insulin, stroke and diabetes, and negatively associated with MMSE, EIDV and SHBG ($\beta \pm SE$ -0.59 ± 0.22, unadjusted $p = 0.007$). The association between TMT-B and SHBG was confirmed in a multivariate model considering sex and MMSE (-0.51 ± 0.21, $p = 0.02$), but not in a fully-adjusted model including EIDV (-0.35 ± 0.20, $p = 0.08$).

Key conclusions: SHBG levels are positively and independently associated with executive functions, measured through TMT-B, in older individuals. This association is however not independent of EIDV.

P-147
Integrating information from FGD-PET and amyloid-PET for differentiating types of dementia in older persons with mild cognitive symptoms: a case-series

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Introduction: The role of flourodeoxyglucose (FDG) and amyloid positron-emission tomography (PET) in the differential diagnosis of dementia is debated. However, β-amyloid load and diffuse glucose hypometabolism in parietal, temporal and frontal lobes are typical of Alzheimer's disease (AD). Our aim was to assess the possible role of both FDG- and amyloid-PET in establishing a differential diagnosis for dementia in older patients with symptoms of mild cognitive impairment (MCI).

Methods: Three consecutive patients aged ≥70 with mild memory or language complaints (corrected MMSE 18–24), no other significant comorbidity and undiagnostic cerebral CT or MRI were enrolled at the Center for Cognitive Disorders of Parma University-Hospital. All of them underwent 18F-FDG and amyloid PET using a whole-body hybrid system operating in three-dimensional detection mode on two different days, following standardized protocols for image acquisition and interpretation.

Results: In one patient, FDG-PET showed frontal, parietal and temporal lobe atrophy, with a significant presence of amyloid plaques at amyloid-PET, allowing to diagnose probable AD. In another patient with cerebral MRI showing small vascular lesions in peri-ventricular and peri-trigonal areas, positive FDG-PET and negative amyloid-PET allowed to suppose that vascular dementia was present. In the third patient, amyloid-PET was negative, but FDG-PET showed significant hypometabolism in the frontal lobe, allowing to establish the diagnosis of probable frontotemporal dementia.

Key conclusions: In patients with signs of MCI and undiagnostic first-level brain imaging, the prescription of FDG-PET and amyloid-PET for differential diagnosis of dementia type should be considered. Further studies should validate the diagnostic algorithm proposed here.

P-148
Combined training of motor coordination and working memory exercises is an effective tool to improve cognitive functions in the elderly

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Objectives: Aging is associated with decline in cognitive functions such as memory, attention, executive functions, and processing speed. Many studies have focused on different cognitive training strategies to improve cognitive functions in healthy older adults. Numerous studies have provided evidence that physical activity promotes cortical plasticity in the adult brain and in turn facilitates learning. There are studies that showed that simultaneous physical activity during vocabulary learning facilitates memorization of new items. The purpose of our study is to investigate the effect of combined training of motor coordination and working memory exercises focused on novelty in healthy adults.

Methods: We established combined physical and cognitive traning that offers a great variety of exercises and does not aim at automating but focuses on novelty. The study subjects were 42 in healthy adults, 16 men and 26 women, aged ≥76 years, cognitive status screen (MMSE >24). We proposed to them to perform an hour of activity twice a week for 24 weeks. At the beginning and at the end of treatment, participants received a cognitive examination that included Mini-Mental State Examination (MMSE), Forward and Backward Digit Span Test, Rey's Auditory Verbal Learning test, TMT-A, TMT-B.

Results: All participants showed improvement in all tests, the most significant improvement was in the Mini-Mental State Examination (MMSE) (mean = 1,7 $p < 0.001$) Statistical analyses were performed by t-test.

Conclusion: Our findings suggest that combined training of motor coordination and working memory exercises has proven to be effective to improve cognitive functions in healthy adults.

P-149

Decline in mortality in patients with dementia: results from a nationwide cohort of 44,258 patients in The Netherlands during 2000–2008

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Introduction: We aimed to investigate whether mortality and readmission risks in dementia have changed over the last decade.
Methods: A prospective nationwide hospital-based cohort of 44,258 patients with a clinical diagnosis of dementia (admitted to a hospital/visiting a day clinic) was constructed from January, 2000 through December, 2008 (61.5% women, 81.3 years (SD 7.0)). Absolute risks (ARs) of one- and three-year mortality and one-year hospital readmission were quantified and stratified by type of care (day clinic or inpatient care). Cox regression models were used to compare hazard ratios (HRs, adjusted for age, sex, comorbidity) of death and readmission across the years using year 2000 as the reference group.
Results: One-year mortality declined over years among men visiting a day clinic (AR in 2008 versus 2000 was 13.0% and 29.9%; HR 0.41, 95%CI 0.30–0.55). In the same period these ARs among inpatients were 48.7% versus 53.0%, respectively (HR 0.85, 95%CI 0.77–0.94. Three-year mortality also declined (AR for men visiting a day clinic 37.5% versus 58.4%, HR 0.53, 95% CI 0.43–0.64; and for inpatients 74.4% versus 78.9%, HR 0.80, 95% CI 0.73–0.88). Whereas one-year readmission risk decreased among men visiting a day clinic (AR 44.1% versus 65.9%, HR 0.52, 95%CI 0.43–0.63), the risk increased among inpatients (AR 36.9% versus 27.6%, HR 1.48, 95%CI 1.28–1.72).
Conclusion: Mortality among patients with dementia remarkably declined between 2000 and 2008. During the same period, one-year hospital readmission risk increased among inpatients and decreased among patients visiting a dayclinic.

P-150

The effect of psychotropic drug use on quality of life in nursing home residents with dementia

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Introduction: Psychotropic drugs (PDs) are frequently prescribed in nursing home residents with dementia. Neuropsychiatric symptoms and PDs may affect residents' quality of life (QoL). The aim of this study is to assess the effect of PD use on quality of life in nursing home residents with dementia.
Methods: A longitudinal multicentre cohort study was conducted in twelve nursing homes in the Netherlands and included nursing home residents with dementia. QoL was assessed using the Qualidem and PDs were registered using patients' or pharmacist files. Assessments were made at baseline and each six months during eighteen months. Mixed models were used to assess the effect of PDs on QoL, correcting for age, gender, cognition (SIB-8), ADL, neuropsychiatric symptoms (NPI-Q) and use of other PDs.
Results: 196 residents completed the study period, of whom 23 residents continuously used an antipsychotic (thus during 18 months) and 112 residents never used an antipsychotic (AP). No statistically significant differences in Qualidem scores were found when comparing the cohorts with continuous AP use and no AP use. Similarly, no differences were found between the cohort with continuous antidepressant (AD) use (n = 35) and the cohort with no AD use (n = 108). Those who never used an anxiolytic/hypnotic during the study period (n = 108) were found to have a better QoL on the subscale "Restless tense behaviour" (b = 1.20, SE = 0.58, P = 0.043) compared to residents who continuously used an anxiolytic/hypnotic (n = 29).
Conclusion: This study suggests that QoL between residents with continuous PD use (during 18 months) is comparable to QoL of residents who never used PDs.

P-151

Treatable vascular risk and cognitive performance in persons aged 35 years or older: longitudinal study

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Objectives: Poor cognitive performance is associated with high vascular risk. However, vascular risk is largely based on age. It is unclear whether cognitive performance is associated with components of vascular risk that are amenable to treatment.
Methods: In this longitudinal study 3,572 participants aged 35–82 years were followed over average period of six years. Cognitive performance was measured as a composite score of two tests: the Ruff Figural Fluency Test (range score 0–175 points) and the Visual Association Test (range score 0 to 12 points). Treatable vascular risk score was based on the treatable components of the Framingham Risk Score for General Cardiovascular Disease (range score –5 to +17 points).
Results: The mean (SD) cognitive performance changed from 0.00 (0.79) at the first measurement to 0.39 (0.82) at the third measurement (Ptrend <.001). Adjusted for age, educational level and consecutive measurement, the change in cognitive performance between two measurements decreased with 0.004 per one-point increment of treatable vascular risk (95%CI, –0.008 to 0.000; P = .05) and with 0.006 per one-year increment of age (95%CI, –0.008 to –0.004; P <.001).
Conclusion: Change in cognitive performance was associated with treatable vascular risk in persons aged 35 years or older. Vascular risk reduction in middle-age and later may contribute to the prevention of cognitive impairment and dementia in late-life.

P-152

Randomized study of the impact of physical activity in vascular cognitive impairment

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Introduction: Vascular cognitive impairment is one of the most frequent causes of cognitive impairment associated with ageing. There is no approved treatment for vascular cognitive impairment, and pharmacological trials have generated disappointing results. In the last years, observational studies have suggested that physical activity could prevent progression for cognitive impairment of vascular etiology, but the level of evidence is quite low.
Methods: We present the protocol of the randomized study of physical activity in vascular cognitive impairment. The primary objective is to evaluate the impact of physical activity (moderate intensity-walking plus additional exercises aimed to promote balance, flexibility and motor coordination, supervised over 6 month) in cognitive abilities of patients with evidence of cerebral vascular disease. We also aim to evaluate the impact in quality of life, autonomy and motor performance (secondary objectives). Inclusion criteria are clinical evidence of cerebral vascular pathology (previous acute vascular event more then 6 months ago, or complaints compatible to vascular etiology supported by neuro-imaging). Exclusion criteria are mild amnestic cognitive impairment/other non-vascular cognitive etiology, contra-indication for MRI, formal indication for physical rehabilitation. Follow-up will be 12 months. Estimated sample is 300 participants. The same protocol will be used at inclusion, 6 and 12 months. All

patients will perform cerebral MRI at inclusion. The study is randomized and controlled, stratified concerning sub-type of cerebral vascular pathology, and blinded to active treatment (concerning evaluation of objectives). All patients will have learning sessions provided to clarify benefits of physical activity, independently of the randomized arm.
Acknowledgement: Research grant FCT (PTDC/DTP-DES/3706/2014).

P-153
Dementia education programme for non-professionals

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Issue/Problem: Currently 46.8 million people worldwide suffering from dementia. According to forecasts this number will almost double every 20 years. From the public health point of view, it is imperative to establish a system in which people affected by dementia and their caregivers live in a community that promotes participation and autonomy to the greatest possible extent. One of the main objectives of the Austrian Dementia Strategy 2015 is to improve knowledge, skills and expertise of informal and formal caregivers by providing appropriate training.
Objectives: The Albert Schweitzer Institute for Geriatric Medicine and Gerontology established a low-threshold dementia education programme for non-professionals to learn about the basics of dementia and how to deal with those affected. The main objectives were to raise awareness and to inform about local advice and support facilities.
Methods: A psychiatric nurse designed a 4-hours education programme. In February 2016 30 voluntary readers and employees of a library attended the programme. 3 months later a survey was conducted to measure its effectiveness and sustainability.
Results: The results of the survey show that the programme succeeds in improving social skills of non-professionals and helps them strengthening their understanding for behavioural problems of people with dementia. Furthermore a reading circle in a nursing home of the Geriatric Health Care Centers was established.

P-154
Informal caregivers of memory clinic patients: subjective burden and analysis of risk factors for overburdening

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Objective: Aim of this study was to determine the degree of subjective informal caregiver burden at first memory clinic visit and identifying risk factors that increased this burden.
Methods: This was a retrospective, cross-sectional study, performed in the Medical Centre Leeuwarden, the Netherlands. Patient- and caregiver data of first visits to the memory clinic were collected by file search from May 2013 to January 2016. The main outcome was the score on the questionnaire for informal burden (based on the Zarit Burden Interview). Risk factors considered were demographic and clinical characteristics of the patients along with caregiver age, gender, assessment of cognitive decline and relationship to the patient. Univariate and multivariate binary logistic regression analysis was performed to estimate odds ratios (ORs) and 95% confidence intervals (95% CIs).
Results: 466 dyads were included in the analysis. Prevalence of more than average burden was almost 12%, with 3,9% of all carers experiencing a "high" burden. ADL-dependence (OR: 2.351; 95% CI: 1.036–5.335), neuropsychiatric symptoms (OR: 2.987; 95% CI: 1.316–6.775), duration of symptoms (OR: 1.009; 95% CI: 1.003–1.015), anosognosia by the patient (OR: 2.724; 95% CI: 1.049–7.075), hearing problems (OR: 2.601; 95% CI: 1.138–5.948) and risk of falling (OR: 7.965; 95% CI: 1.569–40.441) all independently increased the risk of higher burden.
Conclusion: Visiting the memory clinic for the first time, some informal caregivers experienced considerable burden. By identifying characteristics that increased this subjective burden, a better risk assessment can be made to identify and prevent potential overburdening as early as possible.

P-155
The investigation of rural and urban area differences of cognitive functions among older adults with chronic musculoskeletal pain in Turkey

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Objectives: Cognitive impairment is commonly associated with the pain experience. This impairment represents a major obstacle to daily activities and rehabilitation, especially in the chronic pain population. Our study was designed to investigate cognitive function in older adults with chronic musculoskeletal pain in rural and urban areas in Turkey.
Methods: A cross-sectional survey of 862 participants over 65 years old was participated the study. In this study, 692 participants who reported musculoskeletal pain at least 3 months were taken. Overall, 45.9% (n = 318) of participants were living in rural area (the surrounding villages of Denizli), 54.1% (n = 374) of participants were living in urban area (city center of Denizli, Turkey). Cognitive function was evaluated by Standardized Mini-Mental State Examination (MMSE).
Results: The most common musculoskeletal pain cites in both groups were found knee (rural: 67.6%; urban: 66%), back (rural: 63.2%; urban: 61.7%), neck (rural: 41.5%; urban: 40.3%) areas, respectively. In our study, mild dementia was found in older adult living in rural areas (mean score: 22.01 ± 5.70), whereas normal cognitive function was found in older adult living in urban areas (mean score: 24.19 ± 5.07). The differences was significant in terms of cognitive function parameters between two groups ($p = 0.0001$).
Conclusions: Our results suggest that living in rural area affect cognitive function negatively in older adults. Further future studies are needed to examine how the environmental factors affect on cognitive function.

P-156
Validation of the Turkish version of the Quick Mild Cognitive Impairment screen (Qmci-TR)

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Introduction: This study intended to evaluate the effects of insulin pump therapy integrated with continuous glucose monitoring (SAP) in metabolic control and self-rated perception of health among older adults.
Materials and Methods: We included patients with Type 1 and 2 Diabetes(DM) with preserved basic functionality, adequate social support network and at least one year of SAP usage. We measured glycosylated hemoglobin prior to initiation of SAP therapy and monthly afterwards. Recruitment took place from 2008 to 2014 with continuous monitoring until 2015 when follow-up measurements were taken and self-rated health perception(SHP) was evaluated again.
Results: 50 patients were included, 26 adults <60 years-of-age and 24 adults ≥60 years-of-age. The average age was 38 and 69.7 years-of-age for younger and older adults respectively. The younger adults were predominantly Type 1 diabetics (84.6%), older adults were mostly Type 2 diabetics (58.3%). In older adults after SAP, the number of hospitalizations (33% vs. 12.85% $p = 0.0407$) severe hypoglycemic episodes (66.67% vs. 0% $p < 0.001$). and HbA1c (9.06 ± 1.69 vs. 7.27 ± 0.87 $p < 0.001$) decreased and a significant improvement of SHP was found (46.08 ± 24.30 vs. 82.69 ± 18.86 $p < 0.001$). No

statistically significant differences were found in terms of SHP (87.92 ± 12.98 vs. 82.69 ± 18.86 p = 0.255) or HbA1c (7.23 ± 0.60 vs. 7.27 ± 0.87 p = 0.84) when comparing older and younger adults.
Conclusions: Age should not be considered an exclusion criterion for initiation of therapy with continuous glucose monitoring. This study does not display significant differences between younger and older adults. Nevertheless, further investigation is required in order to aid decision making for geriatricians and endocrinologists in this field.

P-157
The role of galectin-3 as an indicator of inflammation and oxidative stress in Alzheimer's disease

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Background: Alzheimer's disease (AD) is a neurodegenerative disorder of central nervous system and most common cause of dementia. Inflammation plays an important role in the development of cognitive decline and dementia in the old age. Galectin-3 is a multifunctional protein implicated in a variety of biological processes including fibrosis, angiogenesis, apoptosis, and immune activation but, the best known role for galectin-3 is in acute and chronic inflammation. The aim of this study was to investigate whether galectin-3 can be an indicator of inflammation in Alzheimer's disease pathogenesis and a feasible biomarker of the disease.
Method: In this cross-sectional study, following geriatric comprehensive assessment and cognitive assessment, 44 AD patients and 44 control patients with normal cognitive status aged 65 years and over admitted to the outpatient clinic of the Division of Geriatric Medicine, Department of Internal Medicine, at Hacettepe University Hospital were enrolled. Patients who had acute or chronic infection or chronic diseases that can affect galectin-3 levels (chronic inflammatory diseases) were excluded. The comprehensive geriatric assessment tests and neuropsychiatric tests were performed to all patients. Serum galectin-3 levels were measured.
Results: Analyses revealed that galectin-3 level of Alzheimer's disease group was higher than the control group. However, it was not statistically significant (AD: 7.53 [2.22–16.19], control 7.02 [1.87–20]; (p = 0.443)). According to Global Deterioration Scale (GDS) the galectin-3 levels of patients in moderately severe dementia group (GDS stage 6) were significantly higher than the patients in early dementia group (moderately severe dementia group 10.42 [6.29–13.59], early-moderate dementia group 7.09 [2.22–16.19] p = 0.032). There was a significant weak negative correlation between galectin-3 levels and the Digit Span Forward (r = –0.216 p = 0.043) and Backward (r = –0.233 p = 0.029) tests.
Conclusion: This study suggests that galectin-3 potentially plays an important role as an indicator of inflammation and oxidative stress in the pathogenesis of Alzheimer's disease. Besides, galectin-3 is measured easily in patient's serum so it could be a potential candidate as a biomarker for Alzheimer's disease. However, further and larger prospective studies are needed to clarify the association.

P-158
A study of the Hong Kong version of Montreal Cognitive Assessment (HK-MoCA) predicts conversion from mild cognitive impairment to dementia

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Introduction: HK-MoCA is a cognitive assessment instrument for Chinese elders in Hong Kong. It was validated also for detecting mild cognitive impairment (MCI). The optimal cutoff score to differentiate MCI from normal is 21/22 (Sensitivity: 0.828, Specificity of 0.735) and a score of 18/19 to identify dementia (Sensitivity: 0.923, Specificity: 0.971). However, its use in monitoring the disease progression is largely unknown.
Objective: To study the yearly conversion rate of MCI to dementia Methodology 92 subjects aged over 60 attending a Cognition Clinic in a public hospital for suspected cognitive impairment from 12/2011 to 5/2013 were diagnosed MCI using HK-MoCA. They were followed in the clinic for 2 years.
Results: 21 (22.8%) were lost in the follow-up. The age and HK-MoCA score (mean/standard deviation) of 71 subjects with follow-up data available was 76.24/8.2 years and 16.85/4.8 respectively. 30.0% and 44.3% were converted to dementia at first and second year respectively. There was no statistical significance in age, education and gender between the converter and non-converter groups. However, score of HK-MoCA was significantly lower in the converter group (14.94 vs 18.73, p = 0.001). Logistic regression however confirmed the HK-MoCA score was the only variable to predict conversion.
Conclusion: HK-MoCA is a sensitive and reliable cognitive assessment tool to detect MCI in those subjects who are at high risk of conversion to dementia.

Area: Comorbidity and multimorbidity

P-159
The prognostic significance of anaemia in the elderly

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Introduction: Anaemia in the elderly is increasingly becoming a cause for concern as the world population of individuals' aged 65 and over increases. Anaemic disorders are associated with poor prognosis in the elderly; therefore better understanding of outcomes such as mortality and hospitalisation rates could lead to the development of better treatment and management options for elderly individuals with anaemia, ensuring a better quality of life.
Methods: Electronic searches identified general population based studies that compared mortality and hospitalisation rates in the anaemic elderly with that of the non-anaemic elderly. A meta-analysis used forest plots to explore significant differences in the mortality and hospitalisation rates between the anaemic and non -anaemic elderly populations with the use of risk and hazard ratios.
Results: A meta-analysis of 14 studies with a total of 50,464 subjects and a follow up period ranging from 1.4 to 23 years were included in this study. Of these, 15.9% had anaemia according to the WHO criteria. Forest plots indicated a risk ratio of 2.29 (95% Confidence Interval (CI), 2.03–2.58) for mortality, and a risk ratio of 1.75 (95% CI, 1.53–2.02) for hospitalisation in the elderly anaemic population.
Conclusion: Anaemia is of prognostic significance in the elderly with increased mortality and hospitalisation rates observed in this population compared to the non-anaemic population. Early diagnosis and better treatment options for anaemic disorders in the elderly need to be developed to tackle this issue of poor prognosis.

P-160
Characteristics of nonagenarians admitted into a subacute care unit in an intermediate care hospital and risk factors associated with mortality

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Introduction and objectives: Nonagenarian patients are important users of hospital services. As an alternative to intermediate care or community hospitals, instead of tertiary hospitals, can treat them for crises due to flared-up chronic diseases. We evaluated clinical characteristics, evolution until 30 days after discharge and risk factors associated with mortality of nonagenarians admitted to a subacute care unit (SCU) of an intermediate care hospital.

Methods: Cohort study enrolling ≥90 years patients admitted to SCU (January 2015–March 2016). We collected demographic and clinical data, comprehensive geriatric assessment, discharge destination and evolution within 30 days after discharge.
Results: We included 287 patients (mean age ± SD = 92.9 + 2.64) years, 70.7% women, 33.7% institutionalized, with mean Barthel Index (BI) = 48.7. Half had heart failure (54%), dementia (51.2%), dysphagia (50.9%) or malnutrition (49.1%). The main diagnose at admission was respiratory infection (48.4%), 47.7% presented delirium and at discharge 73.8% returned to usual living situation, while 10.8% died. Thirty days after discharge, 27.2% were dead. Dementia ($p < 0.001$), cerebrovascular, disease ($p = 0.037$), pressure ulcers ($p = 0.022$), dysphagia ($p < 0.001$), institutionalization ($p = 0.007$), malnutrition ($p < 0.001$) and BI < 40 ($p < 0.001$) were associated with mortality. In a logistic regression model, only malnutrition was independently associated with global mortality (OR[95%CI] = 2.0[1.1–3.7]).
Discussion: In our sample, nonagenarians were severe disabled, with high prevalence of dementia, dysphagia and malnutrition, one of every 4 died within admission and 30 days later. Malnutrition was the most important risk factor for death. Our results encourage to explore risk factors in such high-risk patients, which might be useful for eventual advanced planning and decision making.

P-161
An ageing population – characterization of the hospitalized elderly population in an Internal Medicine Department

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Introdution: In 30 years the number of old people in Portugal almost doubled. Portugal is the second country from European Union with the highest rates of severe disability among older people. The aim of this project was to characterize the inpatient population with 75 or more years old in an Internal Medicine Yard.
Methods: Consultation of medical records of hospitalized patients with 75 or more years old in an Internal Medicine department from January to March 2015. The Modified Ranking Scale (mRS) was used to measure the disability grade. The data was processed using the IBM SPSS Statistic™.
Results: 296 admissions with a mean age of 84,65 (± 5.7) – the oldest patient was 101 years old. 55.4% were female. 107 patients scored 4 or 5 in the mRS. The most common reasons for patient admission was Pneumonia (N = 95), Heart Failure (N = 67), Urinary tract infecion (N = 26) and Isquemic stroke (N = 15). The prevalence of atrial fibrillation was 46.1%. Hypertension was present in 81%, 53.1% had Heart failure, Diabetes Mellitus was present in 39.1%, 29.8% of patiens had cerebrovascular disease, the prevalence of isquemic coronary disease was 10.8%. Chronic Kidney disease was present in 25.6%. The death rate was 24.8%. The mean hospitalization time was 13,47 days.
Discussion: It is notorious the great prevalence of some diseases as hypertension, heart failure and atrial fibrillation in the elderly and the high degree of disability present in 41%.
Conclusion: Population aging results in inpatients with a greater number of comorbilities, more disability and longer hospitalizations.

P-162
Underuse of oral anticoagulants and inappropriate prescription of antiplatelet therapy in older patients with atrial fibrillation

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Introduction: Several studies have shown that the prescription of antiplatelet therapy (APT) is associated with an increased risk of oral anticoagulants (OACs) underuse in patients aged 75 and over with atrial fibrillation (AF). An associated atheromatous disease may be the underlying reason for antiplatelet therapy prescription. The objective of the study was to determine whether the association between underuse of OAC and APTs prescription in this population was explained by the presence of an atheromatous disease.
Methods: We performed a retrospective, observational, single-centre study between 2009 and 2013. Patients aged 75 and over with non-valvular AF were identified in a database of 72,090 hospital stays. Prescriptions of anti-thrombotic medications and their association with the presence of atheromatous disease were evaluated by the mean of a logistic regression.
Results: 2034 hospital stays were included. The mean age was 84.3 ± 5.2 years and the overall prevalence of atheromatous disease was 25.9%. OAC underuse was observed in 58.5% of the stays. In multivariable analysis, the prescription of an APT increased the risk of OAC underuse (odds ratio [95% confidence interval] = 6.85 [5.50–8.58]), independently of the presence of a concomitant atheromatous disease (odds ratio = 0.78 [0.60–1.01]). Among the 692 (34.0%) stays with an APT monotherapy, only 232 (33.5%) displayed an atheromatous disease.
Conclusion: The underuse of OACs is strongly associated with the prescription of APTs in older patients with AF, regardless of the presence or absence of atheromatous disease. Our results suggest that APTs are often inappropriately prescribed instead of OACs.

P-163
Medical comorbidities in the oldest old: findings from the Portuguese national hospitalization database

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Introduction: The ageing of populations is expected to concur to a growing proportion of elderly subjects with multiple medical conditions. Age is an important risk factor for chronic diseases, and previous studies found that the oldest old have more chronic conditions when compared to younger older persons. The aim of this study is to analyze comorbidities in hospitalizations by oldest old persons in Portuguese public hospitals.
Methods: All inpatient episodes of hospital admissions by patients aged 80 and older between 2000 and 2014 in Portugal mainland (N = 1,837,613) were considered. Charlson index adapted to ICD-9-CM codes was used to assess comorbidities. Exploratory descriptive analyses of data regarding the frequency and type of comorbidities were performed for the total sample and considering a distinction between octogenarians, nonagenarians and centenarians subgroups.
Results: The average number of Charlson comorbidities continuously increased from 0.80 in 2000 to 1.73 in 2010 (116% more), and in 46% of the episodes the individuals had no comorbidity. Congestive heart failure and diabetes without chronic complications were the two most frequent comorbidities (16.6%). An analysis by age group revealed that these conditions remain the most prevalent in the younger subgroup (80–89 yrs), but among nonagenarians diabetes without chronic complication was surpassed by cerebrovascular diseases. In the oldest subgroup (100+), congestive heart failure was the most common condition, followed by renal disease.
Key conclusions: Findings from this study confirm the co-occurrence of health conditions in the oldest old regardless of the considerable percentage of hospitalizations without comorbidities found. Multimorbidity is associated with higher mortality and increased disability, so it is an important public health problem that demands special attention from medical professionals who work with geriatric patients.

P-164
Impact of disease duration and cardiovascular dysautonomia on hypertension in Parkinson's disease

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Aim: Parkinson's disease (PD) show a more favorable cardio-metabolic profile respect to general populations. Moreover, scanty evidence suggests that the likelihood of suffering from hypertension decreases during the PD course. We evaluated the association of PD duration with diagnosis of hypertension, assessed by office measurements and 24-hour (ambulatory) monitoring, as well as the agreement between these two methods.
Methods: We evaluated 167 PD patients, consecutively admitted to a geriatric Day-Hospital. All participants underwent a comprehensive clinical evaluation. Hypertension was evaluated through both office and ambulatory blood pressure measurements, according to the European Society of Cardiology recommendations.
Results: Among participants (mean age 73.4 ± 7.6 years; 35% females), the prevalence of hypertension was 60% and 69% according to office and ambulatory blood pressure measurements, respectively (Cohen's k = 0.61; p = <0.001). After adjusting for potential confounders, PD duration was inversely associated with hypertension as diagnosed by office measurements (Odds Ratio [OR] 0.92; Confidence Interval [C.I.] 95% 0.86–0.98), but not by ambulatory monitoring (OR 0.94; C.I. 95% 0.81–1.01). Analysis of the ambulatory blood pressure pattern showed higher nocturnal blood pressure among patients with longer disease duration.
Conclusion: Ambulatory blood pressure monitoring improves the detection of hypertension by 15% in PD, respect to office evaluation. The likelihood of suffering from hypertension does not decrease during the PD course; rather, blood pressure pattern seems to shift towards nocturnal hypertension. Relying on office measurements might lead to underestimation and under-treatment of hypertension in PD, especially in late disease stages. Ambulatory blood pressure monitoring should be routinely performed in these patients.

P-165
High prevalence of iron deficiency in a Dutch geriatric migrant population

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Objectives: Prevalence of iron deficiency anaemia rises with age [1]. Potentially migrants are at higher risk for IDA because of differences in intake and uptake as well as higher comorbid status [2]. Independently of the underlying disease, iron deficiency anaemia (IDA) leads to an increase in mortality thus warranting further diagnostics and treatment [3]. We assessed whether geriatric Turkish and Moroccan migrants have a higher prevalence of low iron status and IDA.
Methods: Retrospective case-control study in a geriatric outpatient clinic (2012–2015). In total, 188 consecutive Turkish and Moroccan migrants 65 years and older were included and matched with 188 Dutch controls. Main outcome measures were serum ferritin level (below 15 μg/L) and IDA. Multivariate logistic regression was performed to correct for confounders.
Results: Mean serum ferritin level was significantly lower in migrants (83.46 μg/L, SD = 106.8 vs. 164.94 μg/L, SD = 160.1, (p < 0.05)). In total, 7.4% met IDA criteria, of these 5.6% were migrants and 1.8% was Dutch (p < 0.05). After correction for age, gender, BMI, and use of NSAID's, iron deficiency remained associated with migrant status (OR 3.0, 95% CI 1.0–8.9) as was IDA (OR 2.9, 95% CI 1.2–7.2).
Conclusion: Prevalence of iron deficiency and IDA was increased in the first generation Turkish and Moroccan geriatric migrant population. This might be caused by differences in iron intake or uptake from nutrition between the populations or because of gastrointestinal pathology, further study is warranted.

References

1. Choi C.W. *et al.* The cutoff value of serum ferritin for the diagnosis of iron deficiency in community-residing older persons. *Ann. Hematol.* 84, 358–61 (2005).
2. Schellingerhout R. Gezondheid en welzijn van allochtone ouderen. *Sociaal Cultureel Planbureau* (2004).
3. Goddard A.F., James M.W., McIntyre A.S., Scott B.B. Guidelines for the management of iron deficiency anaemia. *Gut* 60, 1309–16 (2011).

P-166
Identifying loneliness in the elderly population during inpatient stay

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Objectives: Loneliness, the perception of social isolation, is increasingly considered a major healthcare concern for ageing populations. A growing body of evidence identifies correlations between subjective and objective measures of social isolation and a higher incidence of early mortality, and cognitive and functional decline. Understanding the prevalence of loneliness and its associations would enable further characterisation of this link. This study investigated the prevalence of loneliness amongst the elderly inpatient population, in whom its relationship with adverse outcomes could have a significant impact.
Methods: 50 consenting, non-confused inpatients older than 75 years on acute general medical wards were interviewed. A questionnaire was used to measure subjective patient-reported loneliness and objective measures of social isolation both before and during patient admission (living alone pre-admission, visitor frequency whilst inpatient). Furthermore, we asked whether the participants would welcome increased social contact as a social intervention.
Results: Our results show that 36% of participants experienced some subjective loneliness during their admission, and 10% experienced significant loneliness. There were no significant correlations with age, gender, or admission duration at the time of questioning. Perceived loneliness could not be reliably identified by objective measures of social isolation before or during admission, or by subjective loneliness pre-admission.
Conclusions: Therefore, loneliness is a common experience in the elderly inpatient population, which objective measures of social isolation may not reliably reveal. In this context, patient-measured loneliness questionnaires should be used to screen those at risk, in order to better identify these patients for future research and appropriate intervention.

P-167
Prevalence of frailty in end-stage renal disease patients under dialysis and its association with clinical and biochemical markers

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Objectives: Considering the lack of information about frailty in end-stage renal disease (ESRD) patients under dialysis, the aims of this work was to evaluate the prevalence of frailty in these patients, and its association with socio-demographic, clinical and biochemical markers.
Methods: We performed a cross-sectional study with 83 ESRD patients (44 males and 39 females, 64.3 [±14.6] years old) on regular dialysis. The classification of the ESRD patients as robust, pre-frail and frail was performed using the FRAIL questionnaire. Moreover, it was also evaluated the social support, as well as data about socio-demographic and comorbidities, and haematological, iron status, dialysis adequacy, nutritional and inflammatory markers.
Results: Our group of ESRD patients showed a prevalence of pre-frailty and frailty of 54.2% and 28.9%, respectively. When compared the 3 groups of patients, we found a significant increase in proportion of female, diabetes and hypertension in frail group. A significant increase in ferritin level, global deterioration scale score, Beck depression

inventory (BDI) scale score and Charlson comorbidity index score; and decrease in haemoglobin concentration, iron, transferrin and albumin serum levels, and in mini mental state examination (MMSE) scale score, were also found in frail patients. Using adjusted models, we found that gender, MMSE score, BDI score, and iron, ferritin, and albumin serum levels as independent variables associated with frailty.
Conclusion: Frailty is a high prevalent condition in ESRD patients under dialysis, particularly in female patients, which is associated with a decrease nutritional status and cognitive function and with increased depressive symptoms.

P-168
Nosocomial infections in hospitalized elderly and their possible relation

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Introduction: Antibiotic therapy is the key factor which alters the colonic flora in polymorbid repeatedly hospitalized elderly. These patients are at high risk to obtain Clostridium difficile (CD) colitis. Dehydration accompanying diarrhoea often requires monitoring the fluid balance by insertion of a permanent urinary catheter.
Methods: We retrospectively analysed data of 258 patients hospitalized for 12 months at the Department of Long term ill in 2014.
Results: 58 patients developed diarrhoea, 20 men (34.5%) and 38 women (65.5%). The average age of patients with diarrhoea was 81 years (37–97 years) in geriatric age were 87.93%. In 28 patients (10.2%) positivity of both CD antigen and toxin in stool were diagnosed during hospitalization, of them 7 men (25%) and 21 females (75%). We determined the impact of risk factors on the presence of the CD toxin in the stool specimen. Female sex is more at risk, bowel disease, diabetes mellitus, cancer were not statistically significant linked to the presence of CD toxin. 70.7% of the 58 patients with diarrhoea had permanent urinary catheter (PUC), of which 39% developed urinary infection. Up to 84.2% of all patients with urinary infections had inserted PUC. 35 (85.4%) of the patients with PUC were in geriatric age.
Conclusion: All health care professionals should be in permanent dialogue reviewed the current epidemiological situation and consider antibiotic spectrum also with regard to the risk of CD colitis development. This disease is sometimes tricky especially for frequent recurrences despite the treatment.

P-169
Impact of oral health status and oral hygiene behaviours of older patients admitted in a medical ward in survival and hospital readmission at 6 and 12 months after discharge

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Introduction: Oral health (OH) is usually underestimated in elderly despite its impact in nutrition and general health. Previous studies showed that poor OH is associated with higher mortality. Our aim was to evaluate the impact of OH and OH behaviours in outcome at 6 and 12 months (6 M, 12 M) of patients ≥75 years after discharge.
Methods: Prospective longitudinal cohort study of 100 patients. Comprehensive geriatric assessment, dental examination and OH questionnaire at baseline. Outcome assessed by phone contact and hospital record analysis.
Results: Average age 83.7 years, 63% males, average Cumulative Illness Rating Scale Geriatrics 11.2, average Barthel score 62.6, 70% malnourished, 31% cognitively impaired. Average number of teeth (ANT) 6.7 ± 8.4. Prevalence of caries, periodontal disease and usage of oral prosthesis (OP) 24%, 21% and 36%, respectively. Independence in oral hygiene was inversely associated with mortality (6 M p 0.006, 12 M p < 0.001). OP was also inversely associated with mortality (6 M p 0.023, 12 M p 0.073 (trend)). These associations were also supported by Kaplan-Meier survival curves. The presence of caries and periodontal disease had no significant impact on survival. The ANT was not associated with mortality, but Emergency Department admission (EDadm) at 6 M and 12 M was associated to lower ANT (trend). Usage of mouthwash was associated to lower EDadm during the 2nd semester follow-up, but surprisingly toothpaste was associated to higher EDadm. Predictors of readmission were not identified.
Conclusion: Impact of OH on outcome after discharge is not clear, as showed by conflicting results. Remarkable, OP is related to higher survival.

P-170
Association between comorbidity and geriatric syndromes and survival in older patients admitted in an Internal Medicine ward

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Introduction: Comorbidity increase with ageing and may have an important role in geriatric syndromes and mortality. Comorbidity burden can be measured by several scores, although accuracy in the elderly is limited. Cumulative Illness Rating Scale for Geriatrics (CIRS-G) has been considered a comprehensive "gold standard" because it scores presence and severity of disease. Our aim was to assess association between CIRS-G and its 14 single items and health outcomes of a cohort of 100 patients admitted to an Internal Medicine ward; association with geriatric syndromes was also explored.
Methods: Prospective longitudinal study. Comprehensive geriatric assessment at baseline, including nutritional, cognitive and functional status. Survival and rehospitalisation at 6 and 12 months (6 M, 12 M) assessed by phone contact and hospital record analysis.
Results: Average age 83.7 years, 63% males, average CIRS-G 11.2, average Barthel score 62.6, 70% malnourished, 31% cognitively impaired. No association was noted between CIRS-G and mortality, emergency department admission and rehospitalization (6 M, 12 M). Higher CIRS-G was noted in under/overweight (ns) and malnourished patients (according Mini Nutritional Assessment) (p 0.009). Patients with a lower Barthel score presented higher average CIRS-G (ns). No association between CIRS-G and: other anthropometric and laboratorial parameters and cognitive status. Association between: CIRS-G heart score and over/underweight (p 0.032), CIRS-G neurological score and Barthel score decline at 12 M (p 0.027).
Conclusion: Comorbidity is related to geriatric syndromes such as malnutrition (namely cardiac disease) and functional impairment (namely neurological disease). Nevertheless, CIRS-G was not a predictor of mortality and hospital readmission.

P-171
Functional outcome of older patients admitted in an Internal Medicine ward at 12 months follow-up and relation to oral health status and hygiene behaviors

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Introduction: Functional impairment and poor oral health (OH) are common problems in elderly. Inability to maintain appropriate oral hygiene can lead to poor OH; on the other hand, poor OH can result in

malnutrition, which can contribute to functional decline. Our aim was to evaluate the functional status of patients ≥75 years that survived 12 months (12 M) after discharge and to analyse association with OH and hygiene.
Methods: Prospective longitudinal cohort study of 100 patients. Comprehensive geriatric assessment, dental examination and OH questionnaire performed at baseline. Survival and functional status at 12 M assessed by phone contact and hospital record analysis.
Results: 46 patients survived 12 M follow-up. Average Barthel score (BS) 12 M 59.2 (baseline 75.3). According BS variation two groups were defined: A- maintenance/improvement of BS (47.8%); B- decline of BS. A and B were non-homogeneous concerning average age (86.9 vs 81.8) and baseline BS (70.5 vs 80). Patients in group A presented: higher average number of teeth (7.50 vs 6.21, ns) but higher prevalence of caries and periodontal disease (27.3% vs 16.7%, ns); similar usage of oral prosthesis and autonomy in oral hygiene; higher usage of toothbrush and toothpaste (63.6% vs 45.8%, ns), lower usage of mouthwash (22.7% vs 25%, ns).
Conclusion: Better OH status and hygiene habits were not statistically associated with maintenance/improvement of functional status. Nevertheless, patients with favourable outcome showed a higher average number of teeth and higher usage of toothbrush and toothpaste. The impact of OH in outcome might be underestimated due to small sample size.

P-172
Influence of age and multimorbidity on time to readmission

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Introduction: Ageing populations and the increasing prevalence of multiple chronic conditions are a challenge for healthcare delivery and health system design. Readmissions are frequently studied for its negative impact on patients and providers. This study aims to explore the association of time to readmission with age and multimorbidity.
Methods: A database including administrative data from 1.679.634 inpatient episodes from years 2002–14 was considered. Chronic conditions were identified from all diagnoses coded with International Classification of Diseases – 9th version – Clinical Modifications codes (1: present). The considered outcome was thirty-day hospital-wide all-cause unplanned readmissions (1: readmitted). Episodes were divided into five age groups: 0–19; 20–44; 45–64; 65–84; 85+ years. Gender, number of Elixhauser comorbidities, and treatment in a vertically integrated unit were also included. We used a Cox regression to determine the association of time to readmission with selected covariates.
Results: The observed readmission rate was 5.1% and median time to readmission was 10 days. The risk of readmission increased throughout age groups, with increasing likelihood of readmission for individuals aged 65+ [65–84: 1.237 (1.208–1.266); 85+: 1.739 (1.691–1.788)]. Individuals with two chronic conditions presented the highest risk of readmission (1.368; 1.325–1.413), whilst patients with 5+ presented a likelihood of readmission of 1.276 (1.212–1.343). Male patients, with more comorbidities, and treated outside vertically integrated units showed an increased risk of readmission.
Key conclusions: Older patients with multimorbidity had an increased risk for readmission. An awareness of the factors influencing time to readmission allows the design of interventions aimed at increased risk groups.

P-173
Differences between older patients admitted with cancer or diagnosed with cancer during hospital admission: a palliative care approach

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Introduction: Very old patients assessed by hospital palliative care consultation teams are either admitted with a known cancer or diagnosed during hospital admission. Our aim was to compare characteristics and prognosis of each group, in order to better tailor palliative care.
Methods: We included all patients over 79 years old with cancer (known diagnosis of found during hospitalization) who were assessed by a palliative care consultation team during one year. Demographic, clinical and mortality data were collected.
Results: 167 subjects (37.7% diagnosed during hospitalization). Those diagnosed with cancer during admission were older (87.1 ± 6.0 vs 85.1 ± 3.6 years, p = 0.017), had fewer comorbidities (CIRS-G 2.1 ± 0.4 vs 2.4 ± 0.4, p < 0.001) and lived alone more frequently (23.8% vs 11%, p = 0.06) than those admitted with cancer. No differences in gender, polypharmacy, dementia or functional decline before admission were found. Subjects with new cancer had significantly more focal neurologic signs (12.7% vs 7.8%), falls (12.7% vs 6.8%) and constitutional syndrome (14.3% vs 7.8%), although they had less bleeding episodes (4.8% vs 11.7%, p = 0.003) than the other group. Those with a new diagnosis were more frequently admitted to the Internal Medicine and Geriatrics department (60.3% vs 26.9%), than to the Oncology department (4.8% vs 35.6%, p = 0.001). They had more lung cancer, liver and biliopancreatic tumours (23.8 vs 7.7%, p = 0.002) and less low grade disease (11.1% vs 21.2%). Staging was not completed in more subjects with new cancer (30.2% vs 5.8%, p = 0.001) and treatment was not as active (surgery (3.2% vs 34.6% p < 0.001), chemotherapy (1.6% vs 28.8%, p < 0.001), radiotherapy (0% vs 13.5%), palliative care (3.2% vs 11.5%, p = 0.001). Length of stay was longer (17.6 ± 8.9 vs 12.4 ± 10.0 days, p = 0.001). There were no differences in after hospital care, total mortality or use of palliative sedation, but survival was significantly shorter for those with a new diagnosis (median 2.3 ± 0.4 vs 40.7 ± 5.1 months, p < 0.001).
Conclusions: Older patients with a new diagnosis of cancer during admission in need of Palliative Care are different to those admitted with a known cancer and may have different care needs.

P-174
Study of predictive factors (clinical and personal) of hospital mortality in a Geriatric Service in Zaragoza (Spain)

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Introduction: The aim of the study is to find out which personal and clinical factors may be associated with mortality in geriatric hospitalized patients, face to obtain a predictive model that allows us to identify people at increased risk.
Methods: There were 318 incomes, between 06.10.2014 and 30.11.2014. Variables studied: age, sex, clinical aspects (personal background, Barthel index (BI), Charlson index (CI), drugs, SPMSQ and biochemical parameters. Logistic Regression (LR) was performed to assess the relationship between death and studied variables. In previous bivariate analysis, Chi square and ANOVA was used depending on the type of variable analyzed. Was used SPSS v19.
Results: A LR was performed between the dependent variable "Exitus" and some explanatory variables "age, dementia, renal function, IB, IC, omeprazole, high prolactin, hemoglobin, albumin, creatinine, urea, calcium, GOT, lactate deshydrogenase (LDH" (bivariate p < 0.05). Significant associations were detected: IB (<60) OR 6.101 (2.013–18.48), Omeprazole OR 0.468 (0.227–0.961) (protector), OR 1.364 Creatinine (1.054–1.766), Albumin OR 0.463 (0.256–0.836) (protector) and LDH OR 1.004 (1.002–1.006). The Model was: Prob(exitus) = 1/(1 + e (2.587–1.808Barthel + 0,76Omeprazole – 0,311 Creatinine + 0.771 Albumin – 0.004LDH)) The multivariate model correctly classified 86.7% of patients, showing a high specificity (98.5%) but low sensitivity (19.6%). The discriminatory power of the model, according to ROC curve, was 87.6% of the maximum possible.

Conclusion: Although the model has a good fit, its explanatory power is not high, possibly due to the need for more patients and/or new variables.

P-175
The complexity of biotechnological therapy in elderly patients with rheumatoid arthritis

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The management of the elderly patients with rheumatoid arthtritis (RA) is very challenging and the use of immunomodulators must be cautious. Immunosenescence is a known risk factor for imunossupression in the elderly, which is worsened by associated comorbidities, like diabetes and polypharmacy. Age also modifies drug-related pharmacokinetic parameters. Moreover, the majority of the clinical trials exclude the elderly population. The authors present a 72-year-old caucasian female patient with RA for 10 years, as well as diabetes, heart failure, atrial fibrillation and obesity and, thus, polymedicated (13 different medications). She did not fulfil the frailty criteria, with a PRISMA score of 2, gait speed of 5 seconds and a Timed Up and Go of 11 seconds. Initial therapy with methotrexate titrated up to 15 mg and deflazacort 6 mg failed to control the disease, with persistent active arthritis in the wrists, proximal metacarpophalangeal joints and knees (DAS28 6,2), which led to severe immobilization and limited outpatient clinic attendance. After tuberculosis screening, anti-TNF therapy with etanercept was successfully started. DAS28 score decreased to 2,75 and the patient presents complete autonomy after 1 year of follow up. Although clinical evidence supports the use of biological agents in elderly patients, these patients are often undertreated due to fear of drug-related side effects in a usually polymedicated population. However, a great quality of life improvement can be achieved by optimising DMARD therapy in RA patients and, as in other diseases, the presence of frailty may be the cornerstone of decision making, but further studies are necessary.

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Management of systemic sclerosis and peripheral arterial disease in the elderly

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Aging with autoimmune diseases is a reality. Development of peripheral vascular disease in the elderly with systemic sclerosis (SSc) is a challenge due to common pathophysiological mechanisms of both SSc and atherosclerosis. Two Caucasian female patients, aged 78 and 76 years, independent, were diagnosed with SSc 20 and 15 years ago, respectively. They presented with Raynaud's, digital ulcers and anti-Scl-70 antibody positivity. They had 4 and 5 comorbidities respectively, including peripheral artery disease with leg ulcers and hypertensive heart failure in the first, diabetes in the second patient; prescribed drugs were 6 and 8 (including aspirin, bosentane, nifedipine), with non-compliance in the previous 3 months. Frailty was present in the second patient according to PRISMA criteria. Both patients were admitted due to unilateral acute digital ischemia in the toes. The ecodoppler/angio-CT confirmed bilateral distal ischemia below the popliteal arteries in the first patient and bilateral occlusion of posterior tibial and peroneal arteries in the second. Full dose enoxaparin, intravenous prostanoid and sildenafil, together with aspirin, sinvastatin and pentoxifilin, were unsuccessful. Amputation below the knee was performed for progressive foot necrosis in both cases. The first patient was discharged after 35 days and at one year follow up is on a rehabilitation program at home, the second showed progressive deterioration, developed sepsis and died 45 days after admission. The cases underline the severity of micro and macrovascular involvement in SSc. In fact, the role of microvascular impairment in SSc is well-known, but less attention is paid to macrovascular damage and early recognition improves outcomes.

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Building a prognostic tool to identify elderly comorbid patients in high risk for readmission

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Objectives: Older adults with multi-morbidity present a high risk of early readmission after discharge. Although many risk factors for readmissions have been described, studies on older patients are scanty. Our aim is to create a clinical prediction tool to identify higher risk of readmission.
Methods: During 2014–2015, consecutive elderly patients hospitalized for exacerbated chronic conditions were recruited. Demographic, clinical, functional and social data, discharge destination and readmission within the 30 days were collected. Independent predictors of readmission were identified by logistic regression, and the resulting Odds Ratios (OR) were combined to create a weighted prognostic indicator. This tool was validated in a second sample of patients admitted to the unit during 2016, using ROC curves.
Results: In 2014–2015, 640 patients were recruited (mean age + SD = 85,2 + 7,7; 63,4% female), 76,4% discharged to their usual living situation. Readmission rate was 19% (N = 84). The Odds Ratio (OR) of the significant risk factors in the logistic regression were: previous admission (OR[95%CI] = 1,7[1,1–2,9]), heart failure (OR[95%CI] = 1,4 [0,9–2,4]), chronic renal failure (OR[95%CI] = 1,7[1,0–2,9]), polypharmacy (OR[95%CI] = 2,4[1,4–4,0]) and length of stay (OR[95%CI] = 2,1 [1,1–4,3]). The new indicator ranged from 0 to 9 (mean + SD = 4,1 + 2,3). The validation sample included 532 patients (mean age + SD = 86,0 + 6,5, 58,2% women, 76,1% discharged home and 19,1% readmitted). The AUC was 0,65.
Conclusion: In our samples of old multi-morbid patients risk for readmission was high. Combining risk factors based on their ORs leaded to a poorly predictive tool. This might be attributable to high complexity and variability of patient's characteristics, which should be investigated, or methodological issues.

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Results from a geriatric fall clinic – risk factors

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Introduction: To prevent fall in elderly people multifactorial fall assessment and intervention has been effective. This study reports data from a Danish geriatric fall clinic. Materials and methods Referred fall patients underwent a standardized multidisciplinary quantitative assessment program. Risk factors as vision, sensibility, vestibular function, orthostatic blood pressure, cognitive and emotional status, nutritional status, medication status and functional ability tests as Chair Stand (CS), Bergs Balance Scale (BBS) and the Dynamic Gait Index (DGI), were identified and individualized interventions were offered.
Results: 162 patients were referred throughout 2015. 123 gave informed consent and were included. 79 women (64,2%) and 44 men (35,8%), mean age 76,9. Risk factors identified: vision impairment: 74 (60%), reduced sensibility: 74 (60,2%), vestibular dysfunction: 17 (13,8%), orthostatic hypotension: 47 (38,2%), cardiac arrhythmia at event recording: 23 (18,7%), polypharmacy: 80 (65%), psychotropic medicine: 47 (38,2%), cognitive dysfunction: 23 (18,7%), emotional dysfunction: 27 (22%), malnutrition: 7 (5,7%), vitamin D deficiency: 13 (10,6%), impaired muscle strength: 68 (55,3%), impaired balance by BBS: 56 (45,5%) and DGI: 71 (57,7%). 97 (78%) patients received physical training. 41 patients in the community and 56 patients in the fall clinic. At the end of the training period a significant improvement was found in strength (CS $p < 0,027$) and in balance (BBS $< 0,001$; DGI $< 0,000$).
Conclusion: Multifactorial fall assessment and intervention identifies multiple risk factors in elderly fall patients and multifactorial intervention including physical training improves their functional ability.

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Comorbidity and multidimensional progression of late onset Alzheimer's disease: a systematic review

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Background: Alzheimer's disease (AD) is a neurodegenerative syndrome characterized by cognitive and functional decline and psychiatric symptoms. This systematic review aims to investigate the relation between somatic comorbidity burden and multidimensional progression in late onset AD.

Methods: We searched four electronic databases for observational studies that examined cognitive or functional or neuropsychiatric progression in relation to comorbidity in individuals diagnosed with AD (age ≥65). From the 7,960 articles identified originally, 11 studies were included in this review.

Results: Nine studies indicated that comorbidity burden is associated with deterioration in at least one of the three dimensions of AD examined. Strikingly, all but one of the long-term studies (measurement intervals ≥2 years) showed no association with cognition, whereas all but one of the cross-sectional or short-term studies (measurement intervals <2 years) found comorbidities to be related to decreased cognitive performance. In addition, five out of the seven studies analyzing functioning showed a short-term association between comorbidity burden and decreased functional performance.

Conclusions: This systematic review provides evidence that comorbidity burden is associated with decreased cognition and functioning in AD. It seems likely that there is a reciprocal relationship between somatic comorbidities and AD progression, since the association appears to be immediate and transient on the long term.

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Predicting pressure ulcer development in a long term care facility with the Braden scale score on admission

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Objectives: This study was part of a professional practice evaluation regarding identification and management of pressure ulcer (PU) risk in a long term care (LTC) facility. The aim of this study was to examine PU development depending on Braden scale score (BSS) on admission.

Methods: A retrospective cohort analysis was performed in February 2015 using health records of all patients admitted to the LTC facility of a French university hospital between July 2013 and June 2014. Patients were separated in two groups, based on their BSS within the 30 days following admission: a moderate to very high risk group (BSS < 15) and a no risk or mild risk group (BSS ≥ 15). A log-rank test was performed to compare development of PU in the two groups. Patients admitted with a PU were excluded for calculation of incidence and survival analysis.

Results: 89 patients were included. On the 66 patients free of PU on admission, 32 (48.5%) developed at least one PU, corresponding to an incidence density of 9.5 PU per 100 persons-months. Median length of stay without PU was 7.8 months (IC95% [2.8; 12.8]) in the no or mild risk group, versus 5.5 months (IC95% [1.7; 9.3]) in the moderate to very high risk group, with no significant difference (p = 0.57).

Conclusions: Some recent studies have questioned the predictive validity of Braden scale for LTC facilities patients. In our study, nearly half of patients developed PU during their stay, with no difference depending on their risk group assessed on admission.

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Nutritional and functional status among hospitalized elderly people

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Objectives: Due to their biological, psychological and social characteristics, old persons are more likely to suffer from malnutrition and dependency in activities of daily living (ADL). The aims of this study were to describe the overall profile of hospitalized elderly people and to assess their nutritional and functional status.

Methods: A descriptive study including 60 inpatients aged over 65, who were hospitalized in the Internal Medicine Department of CHU Hédi Chaker, Sfax, during the period from September 2015 until January 2016. Data collection was conducted via a questionnaire exploring sociodemographic and medical data. The MNA-SF and the ADL of KATZ scales were used to screen respectively risk of malnutrition and dependence for ADL.

Results: The average age of patients was 73,48 ± 6,57 years with a slight female predominance (51.7%). The socioeconomic level was mostly middling (83,3%). Over a third were widowers (35%). In our study, 18.4% of elderly patients were living alone including 6.7% of them was benefiting from the presence of a housekeeper. Social and family problems were reported by 18.3% of patients. The further most of patients (85%) have a history of medical conditions such as hypertension (60%), diabetes (31,7%) or heart disease (21,7%). The poly pathology had concerned 63.3% of subjects. According to MNA, 73.3% cases were at risk of malnutrition. Besides, 13.3% of elderly patients were dependent.

Conclusion: Functional dependence and especially malnutrition are prevalent in elderly patients. Therefore, nutritional and functional status should be screened in the institutionalized elderly to prevent its complications.

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Variability in communicating the management of swallowing difficulties at hospital discharge: associations with readmissions and mortality

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Introduction: Swallowing difficulties are common in frailty, being associated with mortality and hospital re-admissions. We evaluated associations between documentation of swallowing recommendations on hospital discharge as well as degrees of fluid consistency modification and outcomes (re-admissions and mortality).

Methods: We assessed the discharge documents of 40 patients (20 from geriatric wards, 20 from stroke wards) consecutively assessed for swallowing problems, looking for corresponding recommendations. Mortality and re-admissions were reviewed after six months.

Results: Accurate swallowing recommendations were made in 19/40 patients (48%). Mortality rates at 6 months were high overall (20% without documentation, 26% with documentation). There was an association between higher hospital re-admissions in patients without accurate documentation (52%) versus those with it (37%). Degrees of fluid consistency modification did not bear much association with mortality: stage 1 (54%), stage 2 (50%), normal fluids (43%). Being recommended stage 2 fluids was associated with higher re-admissions (27%) versus stage 1 (12.5%) and normal fluid (19%).

Conclusions: We found sub-optimal recording of accurate swallowing recommendations in hospital discharge letters. Where present, it appeared associated with fewer hospital re-admissions, possibly from improved transfer of recommendations to the community. There

appeared an association between more hospital re-admissions and the highest degree of fluid thickening being recommended. Improving discharge documentation of swallowing problems and recommendations may reduce some hospital re-admissions. For those with greater swallowing impairments, it could be a prompt to prognostication and anticipatory care planning.

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Random non-fasting C-peptide can be used as a risk assessment tool for hypoglycaemia in insulin-treated patients with type 2 diabetes

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Background: Choosing appropriate HbA1c targets in elderly patients with diabetes can be tricky. Hypoglycaemia is a major limiting factor in achieving good control. Endogenous insulin levels correlate with hypoglycaemia in type 1; C-peptide <200 pmol/L represents severe insulin deficiency and markedly increased hypoglycaemia risk. We assessed if patients with insulin-treated type 2 diabetes but severe insulin deficiency experienced more hypoglycaemia than those with higher levels of endogenous insulin.
Methods: 256 patients with insulin-treated type 2 diabetes answered Clarke's hypoglycaemia questionnaire. 17 with random non-fasting C-peptide (rCP) <200 pmol/L were matched 1:1 (by HbA1c, gender, age, diabetes duration and BMI) with 17 patients with rCP > 500 pmol/L, and underwent 4 days' continuous glucose monitoring (CGM).
Results: 35/256 (13.7%) patients with insulin-treated type 2 diabetes had rCP < 200 pmol/L. They self-reported a median of 4 (interquartile range 2–4) episodes/month with blood glucose <3.5 mmol/mol. Those with rCP > 200 pmol/L self-reported 2(0–2) episodes/month, p = 0.0006. HbA1c levels were 68(59–83) vs 64(56–73) mmol/mol respectively, p = 0.07.
The CGM groups were matched for HbA1c (72 vs 72 mmol/mol, p = 0.88). Average glucose levels on CGM were also similar: 10.2 vs 9.9 mmol/L, p = 0.50. Glucose variability (measured by standard deviation of glucose measurements) was greater in the <200 pmol/L group: 4.15 vs 3.01 mmol/L, p = 0.0005. There were also more hypoglycaemia episodes (>20 mins <4 mmol/L): 5.3(1.7–7.7) vs 0(0–2.3) episodes/person/week, p = 0.003.
Conclusion: 13.7% patients with insulin-treated type 2 diabetes had severe insulin deficiency. Despite similar HbA1c levels, self-reported hypoglycaemia frequency – and objective hypoglycaemia and glycaemic variability measured by CGM – was higher in these patients. Random non-fasting C-peptide levels may prove a useful biomarker in identifying insulin-treated patients with type 2 diabetes at high risk of hypoglycaemia, and hence in helping choose appropriate glycaemic targets.

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Anaemia in elderly patients

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Objectives: Anaemia is the most common hematologic condition of geriatric population. We can divide anaemia in elderly patients in 3 main groups: anaemia caused by lack of nutrients, anaemia in chronic disease and unexplained anaemia.
Methods: We design retrospectively study that shows the presence of anaemia in patients hospitalized in PHI Gerontology Institute 13 Novemberfor a period of one year.
Results: In geriatric patients for each value of haemoglobin below 120 g/L we can diagnose anaemia. In 2015 593 patients were hospitalized in PHI Gerontology Institute. 533 of them were elderly patients (age 65 years or above) with average age 78.8 years. Anaemia was diagnosed in 183 patients. By types of anaemia 148 patients has anaemia caused by nutritional deficiencies. Most of them has iron deficiency 93% and 7% has vitamin B12 and folic acid deficiency. 35 patients have anaemia in chronic diseases. From them 31.4% of the patients had malignant disease, secondary anaemia caused by bleeding or after surgery had 51.4% of the patients, 11.4% of the patients were with chronic diseases that causes reduced value of erythropoietin or had liver damage. 19 patients have severe anaemia with value of haemoglobin under 70 g/L and were treated with blood transfusion and others were treated with the appropriate cause of anaemia.
Conclusion: Anaemia was present in 34% of the patients. The most common form of anaemia was nutritional iron deficiency. Anaemia in geriatric population is a risk factor for increased mortality and morbidity, which also reduces the quality of life.

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Co-existence of recurrent inguinal hernia and cardiac valve regurgitation in the Greek elderly men

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Objectives: It is widely accepted that collagen disorders cause a variety of anatomical and clinical manifestations, such as polycystic disease of kidneys or Alport's syndrome. Our goal was to reflect upon the combination of the recurrent inguinal hernia with the existence of aortic (AoV) and mitral (MV) valve regurgitation, in Greek elderly men.
Methods: We have studied two groups of men (aged 75–93 years old). Group A comprised 43 men with no history of groin hernia, whereas group B consisted of 45 men with recurrent groin hernia. All men were submitted to cardiac echo in order to determine whether aortic or/and mitral regurgitation existed. We ruled out all men who suffered from rheumatic fever, coronary artery disease and connective tissue diseases. However, all men included in our study were treated for hypertension.
Results: In group A only 8 men appeared with AoV or/and MV regurgitation, when in group B, 37 men had either one or both of their cardiac valves impaired. Hence, statistical difference between the two groups was very important (p < 0.001).
Conclusion: It is possible that different types of procollagen and MMP-1 and MMP-13 may be the reason of detective fibroblast quality, leading to clinical problems after a certain age. The co-existence of recurrent groin hernia and cardiac valve regurgitation in elder men demonstrates that time can be a determining factor for the appearance of clinical problems such a collagen disorder. Consequently, this may lead us to assume that prompt genetic therapies might constitute a possible option in the future.

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Causes of anaemia in the Greek elderly

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Objectives: Anaemia is one of the most common clinical problems on the planet. Our goal was to determine the frequency of its causes in Greek men and women above the age of 70.
Methods: We have studied two different groups of anaemic patients. In group A we determined the causes of anaemia of 100 men of minimum 70 years of age, and in group B we did the same for 100 coeval women. When a patient suffered from 2 or 3 different types of anaemia, we have counted each type individually.
Results: The processing of our results reveals a certain difference of the Greek elderly when compaired to the world population due to the high prevalence of heterozygous thalassaemia in our country. Another

significant point to be undelrined is the statistically higher percentage ($p < 0.001$) of elderly women suffering from unexplained anaemia in comparison to elderly men. This kind of anaemia is typically mild (Hb 9–12 mg/dL), normocytic, hypoproliferative and erythropoietin (EPO) levels are inappropriately low for the decline of hemoglobal (Hb) level, despite the fact they fall down within normal range.
Conclusion: The prevelance of the causes of anaemia in the Greek elderly corresponds to the respective data as regards general world population. Nevertheless, further discussion for the prompt intervention to avoid the severity of heterozygous thalassaemia and the appearance of unexplained anaemia in the Greek elderly, is in order.

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Prevalence of geriatric syndromes in older subjects with type 2 diabetes mellitus in comparison to their peers without diabetes

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Objectives: Apart from the traditional well-characterized diabetic complications, type 2 diabetes mellitus (T2DM) may have an even wider impact on older patients. The aim of the present study was to compare the prevalence of geriatric syndromes in older subjects with T2DM and in controls of the same age.
Methods: We conducted a cross-sectional study in primary health care settings in 3 semi-urban regions in Greece. We studied 403 community dwelling older subjects (age > 65 years, median: 73), 198 with T2DM and 205 without. The following common geriatric syndromes were studied: cognitive impairment, depression, mobility and functional decline and falls using structured individual interviews and widely used screening scales.
Results: Among patients with T2DM, 84.3% (n = 167) were under antidiabetic treatment and the diabetic group presented globally a strict euglycemic control (median HbA1c: 6,6%). After dichotomizing the outcome variables and adjusting for significant possible confounders, subjects with T2DM presented worse cognitive and physical performances, as controlled by MMSE (OR: 0.481, 95%CI: 0.297–0.779, p = 0.003), Clock Test (OR: 0.653, 95%CI: 0.430–0.991, p = 0.045) and Timed Up And Go Test (TUG) (OR: 1.959, 95%CI: 1.093–3.512, p = 0.024). Depression and falls frequency as well as disability scores did not differ between the diabetes and control group.
Conclusion: In this community dwelling population, we suggest that the differences in MMSE, Clock Test and TUG performances between the subjects with T2DM in comparison to those without reflect a certain cognitive and physical fragilization in the diabetic group. The lack of significant differences between these two groups regarding several other geriatric syndromes could be due to the relatively young age of the participants and the fact that they were a relatively robust population, as reflected also in the euglycemic goals aimed and achieved.

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Treating rectal haemorrhage in a patient with saddle pulmonary embolism: a complex geriatric case

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Background: Treating older patients with complex presentations poses an ever-increasing challenge to healthcare professionals. Case: JW is a 94-year-old inpatient in a geriatric ward. Past medical history includes stroke, hip replacement, left leg ulcer and a saddle pulmonary embolism (PE), diagnosed one month ago. Prior to admission, she lived in a residential home, needing assistance with personal care. The patient presented with lower gastrointestinal haemorrhage whilst on warfarin, initiated to treat the saddle PE. INR was therapeutic, gastroenterologists advising that surgery or endoscopy were not appropriate. CT angiogram showed no bleeding point but a thickened endometrium. The patient was treated with blood transfusion and, following haematology advice, INR was reversed with low-dose vitamin K administered cautiously. Vascular interventional radiologists warned that an IVC filter to prevent further PEs was inappropriate. After haemorrhage ceased, haematology advised a trial of prophylactic low molecular weight heparin (LMWH) and, if the patient remains stable, trial split dose therapeutic LMWH. As JW's condition deteriorated, the complexity of her case increased. Therefore, an in-depth multidisciplinary team assessment was sought to determine the best management plan. The patient's saddle PE as well as a possible endometrial malignancy increase her thromboembolic risk. Concurrently, she is at high risk of lower gastrointestinal haemorrhage if anticoagulated.
Conclusion: This case illustrates the complexity in decision-making confronting geriatricians whose patients typically present with multimorbidity. Their treatment represents an escalating problem within the growing ageing population, among whom a holistic approach is vital with every aspect of wellness meticulously being considered and integrated.

P-189
Impact of underlying conditions in patients over 50 years suffering from Zoster

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Objectives: Chronic conditions have been investigated as risk factors for developing zoster, but in patients suffering from zoster, the impact of these conditions on zoster-related pain and quality of daily life (QOL) remains unclear.
Methods: We performed a post-hoc analysis of a prospective cohort of immunocompetent zoster patients aged over 50 years, followed by their general practitioners in Italy between 2009 and 2010. Zoster symptoms, pain intensity and characteristics, and physical and mental health scores were assessed at baseline (zoster diagnosis), 1, 3 and 6 months follow-up.
Results: Among 413 patients in the cohort, 73% (303/413) suffered from underlying conditions of which 69% were aged over 65 years and 86% had at least one chronic condition. Cardiovascular diseases (75%), diabetes (24%) and respiratory diseases (17%) were most frequent chronic conditions. One to three months after zoster onset, patients with underlying conditions experienced more intense zoster-related pain than those without. QOL scores were significantly lower in patients with underlying conditions, and age-adjusted difference in QOL scores between the groups increased over time, demonstrating a slower recovery for patients with underlying conditions.
Conclusion: In addition to age, the main risk factor of zoster occurrence and severity, the presence of underlying conditions results in more painful and impactful zoster episodes, creating a significant burden for these patients. With 80% of people aged over 65 years having at least one chronic condition, prevention of zoster and PHN in elderly may contribute to preserve their functional status and QOL, and thus to healthy ageing.

P-190
Complex chronic disease of older in a medical ward

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Background: A Complex Chronic Disease (CCD) is a condition involving multiple morbidities that require the attention of multiple health care providers or facilities and possibly home-based care.

Objective: To identify CCD of patients ≥65 years admitted to an acute medical ward of a general hospital.
Methods: A cross-sectional study during one day. Multimorbidity was defined as co-existence of two or more chronic conditions, and diagnosed based on the results of history taking, physical examination, and medical records, if available. We included Katz scale for functionality. The elderly is aged 65 years, and oldest old is greater than or equal to 85 years. There was the dichotomy of the variables to be compared using the Fisher exact test for the value of $p < 0.05$ and determination of the relative risk.
Results: 126 patients had admitted, and 82.5% (104/126) were identified as elders, 54% of the patients were females, the median age was 78 and interquartile range 68.0–84.2 years. Concerning to multimorbidity were identified 88.1% [n = 111] and to CCD 50%. When stratifying the Katz index found without changing the functionality in 32.7%, moderate change 33.7% and serious deterioration 33.7%. We note that CCD is associated with elderly [RR = 1.31; CI 1.10 to 1.55] and almost duplicate with oldest old [RR = 2.10; CI 1.07 to 4.092].
Conclusion: In this reporting period we find that in general medical wards, the inpatient profile is the elderly and oldest old associated with a complex chronic disease.

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Geriatric intermediate care and transitional care for frailty-related patients

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Introduction: As a result of demographic change and increasing life expectancy challenges in providing health care for our eldest are predicted. Due to these changes hospitals and geriatric care facilities have to face patients with complicated clinical disorders as well as unstable, multi-morbid elderly patients with cognitive restrictions. Geriatric patients require a longer period of convalescence, which demands the development of special care facilities between hospital and long-term care. This study addresses the improvement of geriatric care for unstable, multi-morbid elderly patients with cognitive restrictions discussing the establishment of a "Geriatric Intermediate Care Unit".
Methods: Literature research was conducted to extract criteria describing the target group. Existing geriatric care facilities were examined, if they could meet the needs of these patients. Moreover, currently existing intermediate care units were reviewed. Afterwards eleven experts in the field of geriatric care within German-speaking countries were interviewed about the clientele, the performance content, entry and exit criteria and existing limitations in implementation.
Results: The results of this study show that geriatric patients are treated best within an integrate care system including a "Geriatric Intermediate Care Unit" in which patients are given a longer period of convalescence and are scanned and transferred to the suitable long term care facility, rehabilitation or home care.
Conclusions: For the purpose of developing such units further research is needed not only in defining the clientele but also concerning accurate demand. Furthermore the term "Geriatric Intermediate Care Unit" has to be discussed in the German-speaking countries to find a standardized definition.

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Evaluation of a new structured tool to revise the elderly's prescriptions: DICTIAS-OBCv

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Introduction: Managing inappropriate prescriptions (IP) is a daily problem in geriatrics. Within a population of hospitalized patients under several medications we tried to evaluate a new tool to improve medical prescriptions: DICTIAS-OBCv.
Methods: Observational retrospective study carried out on patients admitted between June and October, 2014 in a geriatric ward. Prescriptions at registration were revised using DICTIAS-OBCv. Original prescriptions at registration and prescriptions revised by DICTIAS-OBCv were both analyzed with START/STOPP tools by spotting missing START prescriptions (MS) and prescriptions matching STOPP criteria (S). The main criterion of judgement was the evolution of the number of patients presenting at least one IP (MS and/or S) after DICTIAS-OBCv, assessed by Mac Nemar Test. The secondary criteria of judgement were the evolutions of the number of global prescriptions and the number of patients presenting MS and S prescriptions.
Results: 62 patients, aged 83.9 years on average, were included. After revision by DICTIAS-OBCv, the number of patients with at least one IP decreased from 53 to 13 patients (RR = 0.25; $p < 0.001$). There were 421 prescriptions at registration (mean = 6.8/patient) then 338 (mean = 5.5/patient) after revision by DICTIAS-OBCv ($p < 0.001$). The evolution of the number of patients with MS and S was the following one: MS 41 to 7 patients (RR = 0.17; $p < 0.001$); S 41 to 7 patients (RR = 0.17; $p < 0.001$).
Conclusion: DICTIAS-OBCv is efficient to improve medical prescriptions in both qualitative and quantitative terms.

P-193
Pressure ulcers – casuistic

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Pressure ulcers are among the most common conditions encountered in acutely hospitalized patients or those requiring long-term institutional care, most frequently in the elderly population, associated with a negative impact in the quality of life. There are various risk factors identified. The most important include immobility, malnutrition, reduced perfusion, and sensory loss. This work aims to describe the geriatric inpatient population followed by the authors, during the year of 2015, with respect to the presence of pressure ulcers and its characteristics. In order to characterize the population, the clinical codification sheets of all patients assigned to one Internal Medicine specialist were requested. All patients with at least 85 years old were included. During that year there were 253 inpatient episodes with a total of 245 patients. For statistical purposes we considered all inpatient episodes as distinct cases. Of 253 cases, 36% (n = 91) were no less than 85 years old. Of these 36.3% (n = 33) were aged 90 or older. 8.8% (n = 8) had pressure ulcers with one patient having 2 in different localizations. The majority were classified as grade IV (n = 3) and one as grade III. There were none as grade I or II. As we can see there were 4 cases with no reference to grade. With regard to localization 4 were on heel, 2 on the hip and 1 on the lower back. In 2 patients no classification was made. 50% of the cases were bedridden, 25% had dementia and 37.5% had diabetes. A total of 3 patients lived in nursing home. The presence of pressure ulcers constitutes a geriatric syndrome consisting of multifactorial pathological conditions. The latest Portuguese epidemiological data are related to hospital care, where the average prevalence of pressure ulcers is about 11.5%. This work aims to sensitize physicians to this condition as pressure ulcers are a public health problem and an indicator of quality of care which prolongs hospitalization and increases readmissions.

P-194
Risk model to predict mortality in older patients with heart failure

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Objective: The aim of this study is to develop a risk model to predict six-month mortality in older patients admitted with acute heart failure (AHF) in a Geriatric Department.
Methods: Observational cohort study that includes all patients admitted to a Geriatric Acute Care Unit with AHF between January,

2012 and December, 2014 with six-month follow-up. Age, sex, cardiovascular risk factors, comorbidity, New York Heart Association functional class (NYHA), functional status, geriatric syndromes, treatment, left ventricular ejection function and laboratory variables were included. Global mortality within six months was the primary outcome. A multivariate logistic regression analysis was performed. Statistical analysis: SPSS version 23.0.
Results: 665 consecutive patients with an average age of 89 (SD5) were included. Four hundred and eighty-two patients (72.5%) were women. The median age adjusted Charlson Comorbidity index was 6.15 (IQR 5–8). Within six months 246 (37%) patients had died. The final model covariates were hemoglobin levels <10 g/dL (Odds ratio (OR)1.75; confidence interval 95% (CI95%)1.08–2.92), glomerular filtration rate <60 mL/min(OR: 2.33; CI95% 1.57–3.44), albumin levels <3 g/100 mL (OR: 2.32; CI95% 1.56–3.44), NYHA III–IV(OR: 1.65; CI95%1.12–2.44), score on Katz ADL index <2 (OR: 2.01; CI 1.34–3.01). The area under the Receiver operator characteristic (ROC) curve was 0.71 (CI95% 0.67–0.75).
Conclusion: The present model may define which geriatric heart failure patient is a palliative patient as it has proved to be a good predictor of six-month mortality. Furthermore, this study may help clinicians with decision-making in older patients with acute heart failure.

P-195
Factors associated with readmission in older patients with acute heart failure

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Objective: The aim of this study is to identify the factors associated with readmission of patients over age 70 with HF.
Methods: Observational cohort study. Patients discharged with AHF diagnosis between January, 2012 and December, 2014 were analyzed with a follow-up period of one year. Study variables included age, sex, cardiovascular risk factors, comorbidity, New York Heart Association functional class (NYHA), functional status, geriatric syndromes, medication prescribed, left ventricular ejection function, laboratory variables and date of readmission for AHF and other causes. Multivariate logistic regression analysis was performed.
Results: 571 patients were analyzed with average age of 89 (SD 5). Four hundred and thirteen patients (72.2%) were women and the median age-adjusted Charlson Comorbidity index was 6 (IQR 5–8). The primary outcome measures were 30-day and 1-year hospital readmission. 295 patients (51.7%) were readmitted in a period of time of 1 year. The proportion of readmissions is 37.9% on the first month, 43% from 1 to 6 months and 17.3% from 6 to 12 months. The principal cause for rehospitalization was AHF ($p < 0.001$). Multivariate analysis for 30-day readmission: Anaemia (Odds ratio (OR): 1.91, confidence interval (CI) 95% 1.1–3.5), previous hospitalizations for AHF(OR: 2, CI95% 1.1–3.8), NYHA II (OR: 3.1, CI95% 1.4–7.1), NYHA III-IV OR: 2.5 ($p = 0.57$). Multivariate analysis for Late readmissions: Pulmonar Hypertension OR: 3.9($p = 0.043$), Uric acid OR: 1.26($p = 0.003$). Length of hospital stay >22 days: OR: 0.22($p = 0.007$).
Conclusion: Half of hospitalized patients have at least one readmission on the first year. Exacerbation of the disease (AHF) and anemia are responsible for early readmission. Late readmissions are related to other comorbidities.

P-196
Assembly of a drug file for use within the SENATOR trial

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Introduction: The European Union has funded the development and trial of a new Software ENgine for the Assessment and optimization of drug and non-drug Therapy in Older peRsons (SENATOR). The aim of SENATOR is to develop a software engine capable of assessing; (1) clinical status, (2) pharmacological and (3) non-pharmacological therapy of elderly, multi-morbid patients. In order to (1) optimise patient's pharmacotherapy, (2) highlight potential risk of adverse drug reactions (ADRs) and (3) advise non-pharmacological treatment.
Objectives: To assemble a comprehensive drug file, suitable for use within the electronic Case Report Form (eCRF) and SENATOR software, combining drug databases from six participating E.U. countries (Ireland, UK, Iceland, Belgium, Italy and Spain).
Methods: The creation of a comprehensive SENATOR drug file consisted of five steps; (1) Consultation with partners at each E.U. site. (2) Assembling existing data from each jurisdiction. (3) Verifying data from each country. (4) Modifying for SENATOR including removal of combination products. (5) Continual updating and validation of the file.
Results: (1) Achieved agreement regarding the key pieces of information needed for each product in the common drug file. (2) Developed a standardised template for data collection. (3) Two versions of the final drug file; o a larger comprehensive drug file (n = 65,535 entries) o a streamlined file for use within SENATOR trial (n = 51,172 entries) (4) A standardised template and procedure for updating the drug file.
Conclusions: This uniquely challenging process produced the first example of a multinational drug file assembled specifically for use within a CDSS.

P-197
Short assessment of health literacy and medication adherence in older adults with polypharmacy and acute conditions

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Objectives: To investigate the relationship between functional health literacy and medication adherence in a sample of older patients with polypharmacy admitted in a Geriatric Day Hospital (GDH) focused on the treatment of acute events and decompensated chronic diseases.
Methods: A cross-sectional study involving 171 older adults with polypharmacy and independent for taking medications. Functional health literacy was assessed with the 18-item Short Assessment of Health Literacy for Portuguese-speaking Adults (SAHLPA-18), a validated instrument to evaluate pronunciation and comprehension of commonly used medical terms. Medication adherence was measured using the pillbox test and a medication knowledge scale. The first evaluated the ability to understand and organize a prescription and the second to report your own prescription. Logistic regression models were controlled for demographic data and Charlson comorbidity index.
Results: The mean of age was 77.3 years (SD 8.4 years) and mean of education in years was 6.1 (SD 5.1). Functional health literacy below adequate was found in 38% of the sample. In a fully adjusted logistic regression model, patients with inadequate functional health literacy were more likely than patients with adequate functional health literacy to did not complete pillbox test correctly (OR = 8.76; 95% CI 2.4 to 30.9) and to did not report at least 80% of yours own prescription (OR = 6.9; 95% CI 3.2 to 15.2).
Conclusion: Inadequate functional health literacy was associate with poor medication adherence in older adults with acute conditions. This finding reinforce the importance of educational approach in non-adherence patients.

P-198
Comparing comorbidity and evolution of geriatric patients with nonagenarians admitted to a subacute intermediate care hospital

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Introduction: Nonagenarians have a poorer prognosis than younger older adults. We aimed at analyzing clinical characteristics and outcomes of hospitalized ≥90 years old patients, compared with younger geriatric patients.
Methods: Consecutive elderly patients with exacerbated chronic diseases admitted to a subacute intermediate care unit were evaluated for demographic, social, clinical (main diagnosis, comorbidity, delirium), functional characteristics at baseline, destination at discharge, length of stay and readmission within one month. We compared nonagenarians with patients 65–89 years-old.
Results: Of 532 patients, 33.5% were ≥90 years old. In the nonagenarians, global mortality (during admission +30 days after discharge) was higher (p = 0.002), with no significant differences in returning to the usual living situation at discharge (73% vs 77.7%) and in readmissions rate within 30 days. The main diagnosis for both groups was respiratory disease (48%). Comparing chronic conditions, the nonagenarians had higher prevalence of dementia (p = 0.010), heart failure (p = 0.011), chronic renal failure (p = 0.004), pressure sores (p = 0.002) and dysphagia (p = 0.000). The incidence of delirium was higher (p = 0.006). Nonagenarians had less prevalence of diabetes (p < 0.001), chronic obstructive pulmonary disease (COPD) (p = 0.005) and polypharmacy (p < 0.001). Regarding functional status, nonagenarians had worse previous Barthel index (p < 0.001).
Conclusion: In our sample, nonagenarians seem to have higher comorbidity than younger older adults, except for diabetes and COPD, more disability but lower polypharmacy. Returning to usual living situation and readmissions at 30-days were comparable, despite mortality was higher in the older group, probably increasing after discharge. Further studies could investigate the reasons for reduced polypharmacy and the transitions at discharge.

P-199
Continuous orthostatic hypotension and postprandial hypotension are related to mortality

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Introduction: In the elderly, orthostatic hypotension (OH) and postprandial hypotension (PPH) are common causes of syncope. Previous studies have suggested that OH and PPH may be independent predictors of mortality, however, very little is known about the association between different patterns of OH and increased mortality.
Methods: 315 patients were evaluated for classic OH (decrease of blood pressure (BP) at 1 or 3 min in the upright position), continuous OH (decrease in BP from 1 to 10 min), delayed OH (decline in BP after 3 min of standing) and postprandial hypotension (PPH). In 2016, all medical records of patients were reviewed for mortality.
Results: Mean age was 80 years (SD 6,6). 16% had classical OH, 31% had continuous OH, 7% had delayed OH and 54% had PPH. 11% of the patients died and were significant more man (HR2.14, 95% CI 1.09–4.20, p = 0.03), with a higher Charlson index (HR 1.24, 95% CI 1.06–1.46, p = 0.00). Kaplan Meier analysis suggested an elevated mortality in patients with continuous OH compared to classical OH (p = 0.07). Also, an increased mortality in patients with PPH was demonstrated in respect to those without (p = 0.04). Cox Regression showed a trend between mortality and PPH adjusted for OH and diastolic dysfunction (HR 2.00, 95% CI: 0.95–4.22, p = 0.07).
Conclusion: In these very old patients, continuous OH en PHH are common and may be associated with increased mortality. In contrast with the current guidelines, standing BP should be measured for 10 minutes to detect continuous OH.

P-200
Postprandial hypotension should always be evaluated in elderly patients with unexplained falls and syncope

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Introduction: Postprandial hypotension (PPH) is a common cause for syncope and is associated with increased mortality. However, tests for PPH is not included in the standard evaluation for unexplained falls or syncope in older patients. Therefore, we evaluated PPH in older patients with syncope and unexplained falls.
Methods: We evaluated 315 patients, aged 65 years or older for PPH with a standardized meal test. Before and after the meal, blood pressure (BP) was measured at 15, 30, 46, 60, 75 and 90 minutes. PPH was defined as a drop of ≥20 mmHg systolic or ≥10 mmHg diastolic BP after the meal.
Results: The mean age was 80 years (SD 6.6). PPH was found in 54% of all patients. Patients with unexplained falls had a significantly greater BP drop at 60 and 75 min (p = 0.02) after the meal compared to the group of patients with a syncope. Patients with PPH were significant older (p = 0.001), used more frequent antihypertensive medications (p = 0.001) including beta blockers (p = 0.05), and had more frequent atrial fibrillation (p = 0.03) than those without PPH. 57% of the patients with PPH had also orthostatic hypotension (OH).
Conclusion: More than half of these very old patients with syncope or unexplained falls had PPH. In addition, more than half of the patients had both PPH and OH. Therefore, tests for PPH (i.e. meal tests or home based BP measurements) should be a standard procedure and should be incorporated in the guidelines for the evaluation of syncope and falls.

P-201
Different patterns of orthostatic hypotension in elderly patients

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Introduction: Orthostatic hypotension (OH) is a common cause for syncope in the elderly. Delayed OH, defined as a slow progressive decreasing blood pressure (BP) after 3 min of erect posture, is more common in the elderly than previously thought. To achieve a 3-min orthostatic BP measurement recommended by current guidelines, delayed OH would be missed. Therefore, we evaluated the prevalence of different patterns of OH in older patients during a 10 minute standing test.
Methods: We evaluated 315 patients of age ≥65 years with unexplained falls or syncope for OH by standing BP measurements for 10 minutes. Classic OH was defined as a decrease in systolic BP of ≥20 mmHg or ≥10 mmHg diastolic BP within 3 minutes of standing. Delayed OH as a decrease in BP after 3 minutes of standing.
Results: The mean age was 80 years (SD 6,6). 46% of the patients had no OH. 16% had classical OH and 7% delayed OH. Interestingly, 31% had OH after 1 min and remained low till 10 min, which we called continuous OH. Patients with a syncope had a greater BP drop compared to patients with unexplained falls (p = 0.01).
Conclusion: In these very old patients, there are different patterns of OH. When standing BP is measured for only 3 min, the continuous and delayed OH will be missed. More research is needed because continuous OH might be associated with mortality.

P-202
Influence of comorbidity measured by Charlson index in elderly patients who have an acute coronary syndrome

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Introduction: Comorbidity is a determining factor in patients with ACS who influence the prognosis, the therapeutic management and quality of life, with worse consequences in older people. The Charlson index (Ch) is the most accepted method to quantify the comorbidity. Our objective was to study the role of the iCh on the therapeutic approach and the quality of life (QL) of these patients.
Methods: We followed consecutive patients aged ≥80 years hospitalized with ACS during 2013–2015. Among them, we divided into 2 groups (Chi < 5) and B (Chi > 5) analyzing survival and quality of

life according to the performed treatment (strategy invasive (SI) vs conservative (SC)). The QL was analyzed with the 5D EuroQol scale and its value index EQ-5D-5L by telephone survey in a follow up to 24.8 ± 5.7 months. Multivariate statistical analysis with SPSS version 18 stadistics.
Results: Expected more catheterization in that group A was indicated (82.2% low iCh vs 52.2% high Chi). Patients with conservative management in Group A had older at admission (86.0 ± 5 SC vs 83.3 ± 4 SI; p = 0, 047) and increased renal dysfunction (CKD > 3 87.5% SC vs. 62.2% SI; p = 0, 027) than those who performed coronary angiography. In this group with low Chi, SI improved survival significantly (p = 0.027) and also the QL (p = 0, 024). In Group B (high Chi) decision to adopt an invasive attitude was related to higher degree of independence (92.4% SI vs 49.2% SC; <0.001), fewer heart failure (29.5% SI vs 40.8% SC; =0, 025) and improved renal function income (56.8% CKD ≥ 3 SI vs 79% CKD ≥ 3 SC; p = 0, 002). However in patients with high Chi there were no differences in survival to adopt a SI or SC strategy. There are differences in this group in the QL depending on the therapeutic management.
Conclusion: In our series, the Chi proved to be useful to select those patients with low comorbidity that can benefit from an invasive operation, improving both their survival and quality of life.

P-203
Thyroid function tests in elderly acutely ill inpatients – one year retrospective study

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Introduction: The elderly are considered high risk population for thyroid dysfunction. Thyroid function tests should not be routinely undertaken unless the patient is considered high risk. In the acutely ill patients thyroid functions tests are known to be altered and should not be routinely performed.
Material and methods: Retrospective study with review of data of elderly patients admitted in the Internal Medicine ward in 2015, with the diagnosis of thyroid dysfunction. The goal was characterize the thyroid dysfunction in the elderly and understand why thyroid tests were performed.
Results: The study had 153 patients (67.3% feminine). 30 patients had Hyperthyroidism and 132 hypothyroidism. Both groups had a median age of 81 years. The diagnosis was unknown in 28.1% of patients. In the hyperthiroidism group the most frequent motives to suspect dysfunction were known thyroid pathology (76.7%), heart failure (35.3%), tachyarrhythmia (36%), medications (26.7%). In the hypothyroidism group most prevalent motives were known thyroid pathology (57%), heart failure (49.5%), dyslipidemia (42.2%), medications (21.9%), oedema (21.1%), hyponatremia (17,4%), obesity (19.5%), rabdomyolisis (11.4%), bradyarrithmia (13.8%). Mortality in the patients was 11.8%. (6.7% of the patients in the Hyperthyroidism group and 13% in the Hypothyroidism group).
Conclusions: There are no defined criteria on when to ask thyroid tests in inpatients, although is well known that these can be affected in acute illness and so they should only be evaluated only when dysfunction is suspected. In our study the main reason for this evaluation was prior thyroid pathology, heart failure, dyslipidemia and medications.

P-204
Indication and outcome of tilt table testing in older adults

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Introduction: Head up tilt (HUT) table testing is a widely accepted tool in the clinical evaluation of patients with syncope. It is also useful in assessing older patients with recurrent unexplained falls.
Methodology: Retrospective review of case notes, the indications, appropriateness, outcomes and safety of HUT test, as well as evaluated outcomes in patients ≥80 years compared to <80 years old. Cases were analyzed using SPSS version 20.
Results: 93 patients were recruited over 2 years. The mean age was 72 years, [40 (43%) ≥ 80 years]. The majority of referrals came from geriatric medicine. Light headedness was the commonest indication for HUT in those ≥80 years (p < 0.014; OR: 0.35(0.125–1.008)). Unexplained falls were also higher in this group,16/24 vs 7/46 [p < 0.003; OR 0.228(0.083–0.631)]. Blackouts/collapses were commoner in those <80 years [33/53(62.3%) vs 12/23(42.4%) p < 0.058; OR: 2.32(0.96–5.16)]. There was a significantly higher number of vasovagal syncope confirmed by HUT in the <80 group, [29/31(93.5%) vs 13/19 (68.4%) p < 0.019; OR: 6.69(1.188–37.7)]. Only 2 cases were diagnosed with postural orthostatic tachycardia syndrome (POTS). 7/12 (58.3%) of those age ≥80 with unexplained falls showed a positive HUT test [P < 0.007, OR: 0.118(0.021–0.653)]. There was no association between medications and outcomes. 91(97.8%) had no complications during the test. Seizure (2/93) was the commonest complication during the procedure.
Conclusion: In patients ≥80 years, unexplained falls is a strong predictor for a positive Tilt Test. This finding adds to other studies identifying unexplained syncope as an indication for the test. HUT is a relatively safe procedure, and it should be reserved for relevant cases.

P-205
Prevalence of adrenal insufficiency in elderly medical admissions in Hospital Sungai Buloh

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Introduction: Adrenal insufficiency (AI) is a life threatening disorder. Primary AI is uncommon in elderly person. Most cases results from rapid withdrawal if glucocorticoids from chronic administration, hence the term tertiary AI.
Objectives: To study the prevalence and factors associated with adrenal insufficiency among medical admissions in Hospital Sungai Buloh.
Methods: The characteristics of patients were retrospectively analyzed via datasets from electronic medical records.
Results: A total of 110 patients (63.6% male, 36.4% were aged 60 and above) were recruited in the study. 25/46 (62.5%) of those aged >60 were diagnosed with Tertiary AI, p < 0.001 (OR: 0.275 (0.113–0.583). There were no associations between age and primary or secondary AI. 31/39 (77.5%) >60 years, whilst 55.6% below aged 60 had reported fatigue as the main symptom; p < 0.022 OR; 0.365(0.152–0.880). There were no significant associations reported with age for abdominal pain, myalgia, loss of weight, and even dizziness. Also, there was no association between signs of AI with age. Both Pneumonia (52.5%, p < 0.003) and uncontrolled Diabetes (52.5%, p < 0.04) were the main reason for admission among elderly diagnosed with AI. This was followed by acute coronary syndrome, p < 0.002. Other associated diseases were insignificant. Hyponatremia was related to Tertiary AI (56% > 60, and 33.3% < 60, p < 0.05). 4/25 (16%) of the elderly with Tertiary AI had eosinophilia, p < 0.010. Tertiary AI was also associated with traditional medications (p < 0.000).
Conclusion: Tertiary AI is the commonest type of AI in elderly population, and this was significantly associated with fatigue as the presenting symptom. Traditional medication plays a role in the prevalence of AI. The high morbidity rate validates the need to have a high suspicion of index for diagnosis.

P-206
Mortality and comorbidity in an Internal Medicine ward

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Objective: This study has the objective of characterize mortality in an Internal Medicine ward. We did a retrospective study of patients

admitted from January 2013 until December 2015 in an internal medicine ward.
Methods: We analyzed gender, age, main diagnosis, Charlson Comorbidity Index (CCI), previous admissions in other hospital wards or emergency room in the 3 months before admission, the day and time of death. Sigmaplot 12.5 software was used for statistical analysis.
Results: Study population counted with 458 inpatients, 54% female and mean age of 77,8 ± 14,27 years. Top three primary diagnosis were pneumonia (47,5%), cancer (12,1%) and stroke (11,1%). Mean hospital admission length was 15,4 ± 14,33 days and mortality rate 21,6%. CCI score differences between deceased and discharged patients were even larger when age-adjusted (CCI = 4 ± 2,1 vs 2,6 ± 2,9). Men had higher CCI score and mortality rate than women (3,2 ± 2,6 vs 2,6 ± 2,1 and 26,9% vs 17,1%). Time and week day of death, as well as previous admissions, show no disparity in mortality rate.
Conclusion: This study validates CCI, especially when age-adjusted. It was, also possible to notice the high mean age in the Internal Medicine ward which entails higher CCI scores especially in male patients.

P-207
The use of dose-dense weekly paclitaxel (WP) chemotherapy in elderly patients with gynaecological cancers

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Introduction: Gynaecological cancers are the 4th leading cause of cancer deaths in females, with over 5000 cases diagnosed in those ≥65 years annually in the UK. WP chemotherapy is often used for the treatment of advanced disease. Concerns over toxicity and comorbidities may limit the use in the elderly. We sought to examine the tolerance and outcome of elderly patients (pts) treated with dose-dense WP for gynaecological malignancies over a five-year period.
Methods: Clinical records of pts, ≥65, treated with WP over a 5-year period were reviewed. Details regarding chemotherapy toxicity, treatment duration, response to chemotherapy and co-morbidities were recorded.
Results: 79 women ≥65 years (median 72, range 65–86) treated with WP (80 mg/m 2 days 1,8,15 q21 days) were identified. 73, (89%) and 6 (11%) received WP for ovarian and endometrial cancer respectively. Median number of cycles received was 4 (range 1–6) with 72% of patients receiving full dose. 23 pts (29%) required a dose reduction (DR), 7 pts (9%) were DR from cycle 1 due to concerns over age or poor ECOG PS. The remainder underwent subsequent DRs, commonly for neuropathy (14%) and fatigue (3%). WP was discontinued due to toxicity in 3 (3.8%) and medical co-morbidities in 1. 46% of pts had at ≥1 significant co-morbidity, most commonly hypertension 30 (37.9%) and hypercholestorolaemia 11 (22.78%). Partial response, stable disease and progressive disease were observed in 35.4%, 17.7% and 43% of pts respectively.
Conclusions: WP was well tolerated in pts ≥65 years. Response rates are comparable to that seen in the general gynaecological population.

P-208
Is Anaemia overlooked in Geriatric care?

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Introduction: Anaemia is very common in the Elderly and prevalence increases with advancing age. It is significantly associated with increased mortality, poor quality of life and prolongs hospital stay (1). Despite current specialist guidelines, anaemia in elderly may be poorly managed.
Aim: To assess the prevalence of anaemia and actions taken on it in Geriatric wards
Method: We prospectively studied patients with low Hb level at admission in Geriatric wards from October 2015 to January 2016. We defined anaemia as Hb < 11.5 for females, <13.5 for males (5). Analysis included prevalence and type of anaemia and whether or not management delivered according to national guidance (2).
Results: We analysed 86 cases of anaemia (52% female, 48%male) with mean age 83 and mean Hb of 89 gm%. Majority had normocytic anaemia (87%), 11% had Microcytic and 2% Macrocytic. All patients had multimobidities (>4 clinical conditions) which included CKD (25%) and Diabetes (19%). During diagnostic work up, only 40% had haematinics and 14%coeliac screen checked. In Iron deficiency group, only 33% had OGD. Similarly 76% had no colonoscopy done. Among low B12, 11% had no replacement.
Discussion: There was high prevalence of anaemia, likely due to chronic diseases. As anaemia is often an incidental finding in elderly, it is overlooked. This may correlate to higher incidence of cognitive impairment, frailty, falls, fractures, increased mortality (2–4), prolonged hospital stay and poor performance status. Anaemia management is currently neglected in our practice possibly due to emphasis on acute condition management. We recommend that anaemia should be highlighted in the problem list and managed effectively.

References

1. Culleton BF, Manns BJ, Zhang J, Tonelli M, Klarenbach S, Hemmelgarn BR. Impact of anaemia on hospitalization and mortality in older adults. *Blood.* 2006;107(10):3841–6.
2. Goddard AF, McIntyre AS, Scott BB. Guidelines for the management of Iron Deficiency Anaemia. *Gut* 2000;46(iv):1–5.
3. Beghe C, Wilson A, Ershler WB. Prevalence and outcomes of anaemia in geriatrics: a systematic review of the literature. *Am J Med.* 2004;116(Suppl 7A):3S–10S.
4. Denny SD, Kuchibhatla MN, Cohen HJ. Impact of anaemia on mortality, cognition, and function in community-dwelling elderly. *Am J Med.* 2006;119(4):327–34.
5. Izaks GJ, Westendorp RG, Knook DL. The definition of anaemia in older person. *JAMA* 1999;281:1714–1717. doi: 10.1001/jama.281.18.1714

P-209
When it rains, does it always pour? Patterns of comorbidities among older Polish adults living in the community – the PolSenior Study

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Objectives: Effective treatment of patients with multimorbidity is still a challenge of current geriatric medicine. The aim of this study was to examine the patterns of comorbid conditions in a representative group of elderly people in Poland.
Methods: The presented study is a part of the PolSenior Study, a nationwide, cross-sectional study of community-dwelling older adults living in Poland. Based on medical questionnaires (including information on the prevalence of 16 chronic diseases), we gathered complete data for 3,964 participants aged 65 and older. The patterns of multimorbity were identified with principal factor analysis models, with Varimax rotation, based on polychoric corretation matrix.
Results: Five multimorbidity patterns were identified in all examined subjects, with the models of decreasing coefficient of determination (R2) values, respectively: cardiological [coronary-artery disease (CAD), heart failure (HF), arrhythmias], cardio-metabolic (hypertension, diabetes t2 and impaired fasting glycaemia, obesity), renal (chronic kidney disease, anaemia), mental [depression, cognitive impairment (CI), epilepsy and Parkinson Disease], and other (depression, thyroid diseases, osteoporosis). In those aged 65–79 the following multimorbidity patterns were observed: cardiological, mental-cerebrovascular (depression, CI, cerebrovascular diseases, epilepsy and Parkinson Disease), cardio-metabolic, renal, and endocrino-metabolic (thyroid diseases, osteoporosis). On the other hand, in those aged 80 plus

the following patterns were found: cardio-respiratory (CAD, HF, arrhythmias, respiratory diseases), metabolic, renal, mental (CI only), and mental-neoplasm (depression and neoplasm).
Conclusion: Prevalence and importance of the particular multimorbidity patterns differ and depend on age that should imply further research on implementation of the individual, patient-centered secondary and tertiary prevention and treatment strategies.

P-210
Patterns of sleep in older people with mood disorders

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Introduction: Both sleep and mood disorders are often encountered in elderly, have impact on quality of life and morbidity, and influence each other. Aim of the study was to compare sleep disorders in elderly and adults diagnosed with mood disorders.
Material and method: We analyzed 2 randomly selected groups of adults and older patients, total of 240 subjects, 60 men and 60 women in each group. A previously validated questionnaire has been used to assess sleep, with a total of 23 items. Neuropsychologist evaluated mood disorders. 73% adults and 90% elderly resided in urban area. Over 35% adults had higher education and 60% elderly had medium education.
Results: Significantly more elderly (18%) as compared to adults (5%) lost their spouse. 1/3 of subjects in both groups felt tired after waking-up; 84% adults and 60% elderly continued to feel tired whole day. Adults had significantly more often ($p < 0.001$) altered sleep program. 2/3 of elderly had difficulty with initiating sleep. Most elderly slept 4 hours daily, statistically significant difference from adults ($p < 0.01$). Elderly woke-up during night because of various pains and renal conditions, while adults because of depression. Women had sleep disorders mainly due to depression in both age-groups. Nightmares were more prevalent in elderly ($p < 0.05$). Elderly with mood disorders sleep less ($p < 0.01$), wake-up during night. Elderly describe more often poor quality of sleep ($p < 0.01$).
Conclusions Sleep disorders are more prevalent in women. Elderly with depression sleep less, wake-up more often during night and take longer to sleep again than adults.

P-211
Non-pulmonary symptoms and comorbidities in older people with chronic obstructive pulmonary disease

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Introduction: Chronic Obstructive Pulmonary Disease (COPD) is frequently seen in elderly, with important consequences on morbidity and mortality. We analyzed non-pulmonary symptoms and comorbidities in elderly with COPD.
Material and methods: A retrospective study performed on 120 randomly selected patients previously diagnosed with COPD, divided into 2 equal groups: adults (50–64 years), elderly (≥75 years), with equal number of women and men.
Results: Almost all subjects had no occupational risk. 2/3 of patients resided in urban area; 77.5% were current or previous smokers, mainly males (58%). 16.7% had tachycardia and 2.5% had bradycardia, more often encountered in elderly. Heart failure was more prevalent in elderly ($p < 0.05$), 1 in 7 having ejection fraction ≤40%. Pulmonary hypertension was more prevalent in adult women chi-square test = 4.261 ($p < 0.05$). C-reactive protein more prevalent in elderly ($p < 0.01$). Body Mass Index higher in adults, chi-square test showed no gender difference. High prevalence of diabetes mellitus amongst elderly, no significant difference from adults. Pearson test showed no statistical correlation between COPD severity (GOLD category) and HbA1C levels. Osteoporosis more prevalent in elderly women (chi square = 10.652, $p < 0.05$). Regarding neurocognitive status, only decreased orientation skills in elderly group and anxiety in women in both age-groups. Comorbidities were highly prevalent in both groups (92%), elderly having more than 3 conditions concomitantly. Most prevalent comorbidities in elderly, in order: diabetes mellitus, heart failure, hypertension.
Conclusions: Comorbidities and non-pulmonary symptoms in elderly with COPD have a significant impact on severity of disease and survival in this category of patients and need special attention.

P-212
High Red Cell Distribution Width is able to predict hospitalization for heart failure in elderly patients with coronary artery disease

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Introduction: Red Cell Distribution Width (RDW) is found to be a very strong independent predictor of morbidity and mortality in patients with chronic heart failure. We aimed to analyse whether RDW was a predictor of hospitalization for heart failure in patients with Coronary Artery Disease (CAD), with or without left ventricular systolic dysfunction (LVSD).
Methods: We prospectively enrolled patients with stable CAD with or without LVSD from our Outpatient Clinic from 2009 to 2013. Each patient underwent clinical and biohumoral evaluation; a telephone follow-up was planned to register long-term outcomes. Sensitivity/specificity ratio for RDW was analysed with ROC analysis and the independent role of RDW was evaluated with Cox regression model of analysis.
Results: 152 patients were enrolled with mean age 69.1 ± 10.8; the mean left ventricular systolic function was 43.9 ± 14.9%. Mean time follow up was 1,340.9 ± 803.7 days, mortality rate was 20.9% (32 deaths) and hospitalization for heart failure rate was 27.5% (42 events). Mean value of RDW was 14.8 ± 3.0%; the analysis of the ROC curve identified a RDW cut-off level of 13.2% (AUC 0.781; $p < 0.0001$). Patients with RDW > 13.2% had significant independent (adjusted for age, sex, NYHA class, NT-proBNP, Ejection Fraction and eGFR) higher risk of hospitalization for heart failure (HR = 6.50; 95% CI: 2.40–17.70). Its predictivity remained significant either in patients with LVSD and in those without.
Key conclusions: In patients with CAD with or without LVSD, RDW value of >13.2% independently predicts increased risk of hospitalization for heart failure.

P-213
Characterization of comorbidities in a geriatric inpatient population

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Introduction: With the ageing of population, a great percentage of the patients on the daily practice of Internal Medicine are elder. This population is associated to a significant number of comorbidities. This work results from the challenge to characterize the geriatric inpatient population of one Internal Medicine ward.
Methods: In order to characterize the population, the clinical codification sheets of 200 patients in a ward of Internal Medicine during the year of 2015 were requested, the patients aged 85 years old or over were selected, and the data was evaluated.
Results: Of the total, 69 patients (34,5%) are aged 85 or older. The average age is 90,0 years old. There were 38 (55.1%) female patients and 31 (44.9%) males. A number of 15 patients came from nursing homes, 17 were confined to bed, 5 had pressure ulcers and 21 were demented. Concerning the comorbidities, 22 (11%) were diabetic, 48

(24%) had Arterial Hypertension, 17 (8.5%) alterations of the Lipid Metabolism, 13 (6.5%) had Chronic Kidney disease, 18 (9%) had anemia, 28 (14%) Atrial Fibrillation and 13 (6.5%) had history of cancer. The relation between these comorbidities and its comparison with the younger population was also established.
Conclusions: The geriatric population is a pluripathological one, with many comorbidities influencing both life expectancy and quality of life. It is important to be aware of the main comorbidities present in this increasingly growing population, in order to adopt adequate diagnose and treatment attitudes.

P-214
Anemia in an inpatient geriatric population

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Introduction: With the ageing of population, a great percentage of the patients observed on the daily practice of Internal Medicine are elder. This specific population is associated to a significant number of comorbidities. This work results from the challenge to characterize the geriatric inpatient population of one Internal Medicine ward.
Methods: In order to characterize the population, the clinical codification sheets of all patients assigned to one team of Internal Medicine specialists during the year of 2015 were requested, the patients aged 85 years old or over were selected, and the data was evaluated. On this particular work, a focus was taken on the patients with the diagnosis of anemia.
Results: Of a total of 448 patients, 160 (35.7%) are aged 85 or older. Of these, 43 (26.9%) are aged 90 or older. From the 160 patients aged 85 or older, 34 (21,3%) had the diagnose of Anemia. This comprises 38.6% of the patients with anemia, with 54 patients aged below 85 (18.7%) having the same diagnose. The gender distribution was 41.2% (14) males and 58.8% (20) females. Of the 34 anemias, 11 (32.4%) were classified as Chronic Disease Anemia, 8 (23.5%) Iron Deficiency Anemia, 4 (11.8%) Chronic Kidney Disease Anemia, and 2 (5.9%) Neoplasic Anemia. The relation with other comorbidities was also studied.
Conclusions: Anemia has an elevated prevalence in the geriatric population, influencing significantly the patients' quality of life and altering the natural history of many other comorbid states and pathologies concomitantly present in the elder population.

P-215
Pancytopenia in the elderly: disease or comorbidity?

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Objectives: Pancytopenia is defined as the co-existence of hemoglobin <13 g/dL (male) or <12 g/dL (female), leucocytes <4/μL and platelets <150/μL. Although studies about this condition in elderly population are rare, its knowledge is important in order to develop a correct approach.
Methods: We retrospectively analyzed all elderly patients (age ≥ 65 years old) hospitalized in the Internal Medicine Ward of a tertiary care hospital between January/2013 and December/2014.
Results: During this period, a total of 8649 patients were selected; 2.9% of the elderly patients presented pancytopenia at least in one evaluation during the hospitalization (n = 250; 46.4% ≥80 years, median age = 79 years; 59% male). Main admission causes were respiratory (29.6%) and urinary tract infections (12.8%) and cirrhosis (8.8%), with pancytopenia representing only 4.8%. Main comorbidities were hypertension (57.2%), chronic kidney disease (47.6%) and heart failure (40.4%). At admission, 48% of patients already presented pancytopenia and 47.4% had a Katz score ≥4. The main probable cause for pancytopenia were infection (28%), hematological disease (18.4%), liver disease (13.2%) and drugs (13.2%). The length of hospital stay was significantly higher in patients with pancytopenia (14.5 ± 21.5 vs 9.6 ± 9.6 days, p = 0.001), and 29.6% of patients still had pancytopenia at discharge. Pancytopenic patients had a higher but not statistically significant risk of in-hospital mortality (18.4% vs 17.2%, p = 0.61), with a median survival-time after diagnosis of 11.8 months.
Conclusion: In our cohort, pancytopenia was associated with increasing morbi-mortality in elderly hospitalized patients. Pancytopenia is a relatively frequent but possibly undervalued condition, mainly motivated by non-curable pathologies, that merits careful consideration.

P-216
MDT hub aims to improve the health and well-being of frail and elderly patients with complex needs and are high risk of hospital attendance and deterioration in health

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Objectives: Multidisciplinary (MDT) Hub aims to improve the health and well-being of frail and elderly patients with complex needs and are high risk of hospital attendance and deterioration in health.
This service is available for Camden & Barnet residents (Boroughs in London UK). Criteria for referral is frail patients with frequent GP or hospital attendance, complex social needs and not engaging with health professionals in community.
Services offered are specialist input, physiotherapy, clinical psychology, mental health, palliative care, easy access to referrals with specialist and integrated care plan for individual patients.
Methods: Retrospective study of 6 months pre and post Hub period carried out to confirm complex care need was addressed.
Results: 128 patients was audited. Median age was 81 ± 2. The main source of referral was from secondary care specialist 74% (n = 94).
Reason for referral was clinical frailty, noncompliance with medication, recurrent falls with injury, poor control diabetes, COPD exacerbations, heart failure and alcohol related complications, self-neglect and social isolation.
Post Hub impact of MDT shows reduction in emergency department attendance 2 times compare to 5 times in pre Hub, number of hospital admission were 2 times in contrast 4 times in pre Hub. The cost of these admissions has come down and emergency Bed days have decreased so patients are spending more time at home.
Length of hospital stay reduced to 16 days compare to 31 days in pre Hub group.
Majority of the Hub patients discharged their own home 77%(n = 99) with increased care support.
One year mortality was 21%(n = 28).
Conclusion: Significant reduction of hospital admission, complex care need, advanced care plan was addressed by Hub.

P-217
Lack of association among the different versions of Charlson Comorbidity Index and the outcomes in 659 patients with acute hip fracture

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Introduction: The Charlson's Comorbidity Index (CCI) was developed to quantify the influence of comorbidities on survival. The Age-related CCI (Age-CCI) was adapted to the age of the patient as an additional risk factor and the Adapted Charlson's Comorbidity Index (CCI-Adapted) for predicting total yearly costs. We established a combination on both Age-related and Adapted Charlson's Comorbidity Index (Age-Adapted CCI). The aim of this study was to determine the association among the four indexes and the length of hospital stay, the number of active medical conditions during hospitalization, the

functional status at discharge and hospital mortality rate in patients undergoing hip fracture.
Methods: A cross-sectional study was performed, applying the four Charlson's indexes in 659 consecutive patients over 64 years admitted with a fragility hip fracture from March 1st 2009 to November 30th 2012. Pearson's correlation coefficient and comparison of medians were used.
Results: Mean age of patients was 85.03 (±7.03) years and 82.1% were women. Acute average stay was 10.7 (±4.4) days and hospital mortality was 2.7%. The association of Charlson's indexes showed good Pearson's correlations among them, but weak correlations with length hospital stay (0.186 to 0.219, $p < 0.001$) and with number of active medical problems (0.400 to 0.517, $p < 0.001$). There were not statistical differences among the scores in the different comorbidity indexes in patients with good/poor functional status and hospital survival/mortality.
Conclusions: The four Charlson's indexes did not provide additional information in discriminating variations in the clinical parameters analyzed in acute patients with hip fracture.

P-218
Overtreatment of type 2 diabetes in older people living in care homes in the United Kingdom

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Introduction: In the United Kingdom, fifty percent of older people entering care homes die within fifteen months. For older people with multiple co-morbidities and a short life expectancy, intensive treatment of type 2 diabetes does not improve outcomes and may cause harm with increased risk of mortality and hypoglycaemia. National guidance recommends that HbA1c targets may be relaxed on an individual basis for frail older patients but does not provide advice on how to do so. American Diabetes Association (ADA) guidelines provide a framework for HbA1c targets in older patients, depending on frailty and co-morbidities.
Methods: We reviewed the patient records of patients over 80 years old discharged after July 2015 and recorded co-morbidities, most recent HbA1c level and current diabetes treatment. Based on ADA guidelines, we used a definition of overtreatment as "HbA1c <53 and on a hypoglycaemic" and "HbA1c 53–63 and either (i) three or more co-morbidities OR (ii) dementia/falls/end of life and on hypoglycaemic".
Results: In total 113 cases were reviewed. Based on ADA guidance, 38% of patients were being over-treated for type 2 diabetes.
Key conclusions A significant proportion of frail older people with type 2 diabetes admitted from care homes in Leeds were over-treated, increasing the risk of adverse events. Addressing this could lead to benefits in terms of patient safety and hospital admissions.

P-219
A comparative study of bone health in Parkinson's and non-Parkinson's patients presenting with fracture neck of femur

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Introduction: Patients with Parkinson's disease (PD) have a significantly increased risk of fracture, mainly of the hip. Many studies have demonstrated that the bone mineral density (BMD) in patients with Parkinson's disease is lower compared with a non-Parkinson's disease (non-PD) patients. The causes for lower BMD in PD are multifactorial. Some of these are modifiable either by physical exercise, dietary medication or pharmacological interventions. Patients with PD do not get screened routinely for osteoporosis. Hence they remain at increased risk of fracture, resulting in increased morbidity and mortality.
The objective of this project was to study both groups (PD and non PD) who presented with fracture neck of femur (NOF) and to identify strategies to improve bone health in this group of patients.
Methods: We conducted a retrospective comparative study of fracture NOF in PD and non-PD patients who presented between May 2013 and May 2015. 25 patients were randomly selected for both groups.
We reviewed their records for previous falls, fractures and bone health assessment. We also reviewed their old medical records to check whether they had had any previous osteoporotic fracture or not. If they had had any previous fractures, we looked at the adequacy of assessment and treatment.
The results: In an age matched analysis of the data between PD and non-PD group, we demonstrated that 46% of PD patients had a previous history of falls compared to 27% in non-PD. Of these, 82% in PD and 64% in non-PD patients were mobile with a Zimmer frame prior to fracture NOF.
As expected, a significant proportion of PD patients were found to be at increased risk of falls due to postural instability (54%) and postural hypotension (36%) compared to non-PD (16% and 0% respectively). Only 9% of patients with PD who had had previous falls had received adequate bone health assessment compared to the non-PD group (67%).
About 55% of PD patients had a previous osteoporotic fracture. Of these 88% had osteoporosis and only 43% had received adequate bone protection. Overall, 65% of PD and 16% of non-PD patients had previously had an osteoporotic fracture.
64% of patients from each group were discharged to their primary residence and 30% were sent for a period of rehabilitation.
Conclusion: This study highlighted that patients with PD have a higher risk of falls as well as osteoporosis. Combined together, this poses a significant risk of fracture NOF. It was not clear from the study why these patients were inadequately assessed and treated.
I propose that the patients with PD who are at risk of falls should have an assessment with dual-energy x-ray absorptiometry (Dexa). And if Dexa scan is suggestive of osteoporosis they should receive adequate bone protection.

P-220
Characterization of elder in an infirmary

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Objective: World population ageing is becoming more and more a global theme in discussion. The characterization and comprehension of elderly and their specifications will allow to create strategies adapted to the geriatric population with more quality of life. This study aims to characterize an elder population that needed hospitalization.
Methods: We selected all patients admitted in our Department of Medicine between 2010 and 2015. Data was obtained through an Institutional record named Assistential Quality Nucleus Studies (NESQA). Statistical analysis was calculated with SPSS 23.
Results: Of the total sample of 15,441 admitted patients we verified 12,129 were aged equal or higher than 65 years (mean 80.9 and standard deviation 7.8 years), from which 50.6% were male. The vast majority of admissions was from the emergency room (82.6%) and presented with important Charlson Comorbidity Index (median score of 5, 21.8% presented with a score of 4). Death rate in this subgroup was of 16.5%.
Conclusion: Our elder population has a high mortality rate estimated by Charlson Comorbidity Index (85% for a score higher than 5 points, 52% for a score of 4). These studies applied to the older population are important in order to create better long term care units specialized in geriatrics allowing this population to keep an active role in society with quality of life.

P-221

Profile of re-hospitalization in a private health provider that caters exclusively geriatric patients in Brazil, in 2015

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Objective: Evaluate the profile of readmissions in a particular health care provider that caters exclusively geriatric patients (Prevent Senior) in Brazil during the year 2015.
Method: We conducted a prospective study between January 01 to December 31, 2015, where evaluated all readmissions that occurred during that period.
Results: Were analyzed in 2,622 (8.01%) readmissions, of a total population of 32.700 admissions. 45.53% of these re-admitted in up to seven days post discharge; 44.41% readmitted for the same reason discharge. 66% of readmissions were due to infectious aetiology, 12.9% from cardiovascular causes, 9% for palliative care, 6.6% for renal insufiencia and 5.5% by other causes. The overall hospital mortality was 9.28%, and the average length of stay was 4.42 days.
Conclusion: The results presented show a low rate of re-hospitalization, low death rate and low time of permanency for the population studied. The main reason for the readmission of this population were the infectious causes, with pneumonia being the most responsible. Such results show indirectly an efficient in-hospital management mechanism of the different conditions that affected the population studied.

P-222

HIV as potential risk factor for falls and risk factors for falls in older treated HIV-infected

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Introduction: Recent studies have shown a high prevalence of falls in the middle age HIV-infected. This study aimed to explore if HIV positivity is associated with increased fall risk and to identify risk factors for falls in older HIV-infected persons.
Methods: Data from the AGEhIV cohort was analyzed cross-sectionally to assess the association between HIV positivity and fall history (recurrent falls, any falls) and to assess potential fall risk factors within the HIV positive group with multivariable logistic regression. Patients were excluded if fall registration was missing. Variables included in analyses were HIV characteristics, demographics and classical fall risk factors.
Results: In total, 535 HIV-infected and 522 HIV uninfected participants were included, with a median age of 52 (interquartile range [IQR] 48–59 vs. 47–58). The HIV-infected fell recurrently in 11.6% of cases vs. 8.9% of the HIV uninfected (P = 0.136). HIV was not significantly associated with fall history. An independent interaction was found between age and HIV for both outcome measures, suggesting that HIV related falls occur at younger age (P = 0.073 vs. P = 0.025). Significant independent factors associated with recurrent falls in the HIV positive group were male gender OR 0.3, 95%CI (0.1–1.0), BMI OR 0.8, 95%CI (0.7–1.0), fear of falling, dizziness OR 0.9, 95%CI (1.2–38.0) and anti-depressants OR 3.2, 95%CI(1.1–9.6).
Key conclusions: In this large cohort study, fall prevalence in HIV infected persons as well as fall risk factors are comparable to general population. Data suggests that in middle-age HIV positivity is associated with fall risk, potentially due to the underlying complications.

P-223

STOPP/START version 2: development of software applications: easier said than done?

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Introduction: Explicit criteria, such as the STOPP/START criteria, are used for both clinical practice and research to identify potentially inappropriate prescribing (PIP). There has been growing interest in the development of software applications to automatically detect PIP.
Methods: In the context of the COME-ON study [1], a software application was developed to detect PIP instances from the research database. The detection should be as sensitive and specific as possible as there is no subsequent evaluation by a clinician. During this process, some difficulties arose for which decisions had to be taken by the research team.
Results: We encountered four kinds of issues: 1. Some criteria are not as explicit as they should be: e.g. the list of anticholinergic drugs has to be established; some terms are not (precisely) defined: e.g. "long-term aspirin". 2. Specific information that is not easily available is sometimes required: e.g. information about lack of efficacy, contraindication. 3. There is no universal coding system for medications that meets the requirements to apply all criteria: The ATC codes do not distinguish between medications with different routes of administration or formulation. For such criteria, coding by the national identification code is required. 4. In order to improve specificity, several criteria would benefit from additional rules: "unless" rules could be added to decreased the risk of false positives.
Key conclusions: The next version of the STOPP/START criteria could be enriched to make them more directly transferable to algorithms, to minimize variations between research teams and to enhance specificity.

Reference

[1] Anrys P., *et al.*, Collaborative approach to Optimise MEdication use for Older people in Nursing homes (COME-ON): study protocol of a cluster controlled trial. *Implementation Science*, 2016. 11(1).

P-224

Predictors of sedentary status in overweight and obese patients with multiple chronic conditions, a cohort study

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Objective: Obese patients with multiple chronic conditions often require walking to improve their health. However, these patients may have barriers to walking. We sought to determine the risk factors at baseline that impacted sedentary status (<5,000 steps a day) after four months of some pedometer use.
Methods: We conducted a secondary analysis using a cohort design. Patients over 18 years of age were enrolled with a BMI >25 kg/m^2 and >7 chronic conditions. Primary outcome was <5,000 steps a day on a pedometer after 4 months. Potential predictors included demographics, biometrics, comorbid health conditions, self-rated health, and length of pedometer use. We compared the predictors to sedentary/non-sedentary status using Pearson chi square or logistic regression. We created a final multivariable model.
Results: We enrolled 130 patients with an average age of 63.6 years (+/−15). 72% were women and 98% were white. At 4 months, 55% were sedentary. We observed that increased age, cumulative comorbid health, BMI, waist circumference, and sedentary baseline status predicted sedentary status. Reduced self-rated physical activity, physical quality of life, baseline step count and gait speed all predicted sedentary status at 4 months as well. In the multivariable model, BMI and physical QoL were significantly associated with being sedentary (p values of 0.014 and 0.03 respectively).
Conclusions: We observed that lower physical QoL and higher BMI were associated with being sedentary after pedometer use. This study outlines potential barriers to future activity with pedometers.

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Development and validation of a standardised method to identify drug-related hospital admissions in older people

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Introduction: Drug-related admissions (DRAs) are hospitalisations resulting from adverse drug events (ADEs) and contribute to up to 30% of all admissions in older people. The OPERAM multicentre randomised controlled trial aims to assess the impact of pharmacotherapy optimisation on DRAs. Currently, no validated DRA identification method exists. We aimed to develop and validate a standardised method to screen for and adjudicate DRAs caused by adverse drug reactions, overuse, underuse and misuse of medications.
Methods: The DRA identification method was developed in 4 steps; (1) Literature review on existing approaches of ADE/DRA identification and on common causes of DRA in older people, (2) content validation of a trigger tool using a 2-round modified Delphi survey with 15 experts from 8 countries, (3) evaluation of feasibility of use during a pilot test on 15 cases by a physician and a pharmacist (adjudication pair), (4) evaluation of inter-rater reliability for 16 cases between adjudication pairs from 4 countries.
Results: The DRA identification method consists of a comprehensive medical record review with the aid of a trigger tool. The method includes standardised data abstraction, screening for potential ADEs and adjudication of ADE causality, contribution to admission and preventability. Experts reached consensus on 26 triggers. Inter-rater reliability was moderate for DRA identification (71% agreement, kappa = 0.41). Disagreements arose mainly from cases with potential underuse.
Conclusion: A DRA identification method was successfully elaborated and validated for content. Specific measures, including in-depth training, will be implemented to maximise reliability across study centres during the trial.

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Prevalence of hyperuricemia among very elderly Russian patients and its association with cardiovascular diseases

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Introduction: There are few data available on the prevalence of hyperuricemia and its possible association with cardiovascular diseases (CVD) among the very elderly population.
Methods: Cross sectional data from 300 very elderly hospitalized patients (aged 86.36 + 5.02 years; females – 78.15%, males – 21.85%) with coronary artery disease (CAD) and arterial hypertension (AH) were analysed. Patients with gout were excluded from analysis. Hyperuricemia was defined as serum uric acid (SUA) more than 340 µmol/L in women and 420 µmol/L – in men.
Results: The prevalence of hyperuricemia in this study was 35.2%. Mean SUA in the study population was 337 µmol/L (in hyperuricemia group – 446 + 86, in normal uricemia – 278 + 62 µmol/L). Mean SUA was higher in women than in men ($p = 0.02$). Hyperuricemia was associated with heart failure (OR = 3.88 (95% CI = 1.99–7.57); $p < 0.0001$), and stroke in history (OR = 2.18; $p = 0.02$). Hyperuricemia remained significant risk factor of heart failure in the multiple regression analysis ($p = 0.00005$). Prevalence of atrial fibrillation in patients with hyperuricemia was higher than in subjects without it (OR = 2.1, $p = 0.005$). The left atrium diameter was significantly correlated with SUA level ($r = 0.23$, $p = 0.0001$). Also, elevated SUA was associated with increased serum creatinine ($r = 0.49$, $p < 0.0001$). There was no correlation between hyperuricemia and myocardial infarction ($p = 0.87$) along with diabetes mellitus ($p = 0.54$), as well as between SUA and plasma glucose level ($p = 0.8$).
Conclusions: The study results demonstrated high prevalence of hyperuricemia in very elderly patients with CAD and AH as well as its association with various CVDs. Higher SUA is strongly correlated with larger left atrium size.

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Association of cardiovascular and neuro-psychiatric multimorbidity with mobility limitation and disability in the elderly: a population-based study

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Introduction: Cardiovascular (CV) and neuro-psychiatric (NP) diseases are highly prevalent in older adults and are associated with adverse outcomes such as disability. The aim of this study was to examine to what extent CV and NP multimorbidity, individually and in combination, are associated with mobility limitation and disability.
Methods: In a population-based cohort of 3,353 people aged 60+ years CV and NP multimorbidity were defined as the co-occurrence of 2 or more CV and NP chronic diseases. Mobility limitation was defined as slow waking speed (≤0.8 m/s) or difficulty/inability to walk 300–400 meters, and disability as need of assistance or inability to perform at least 1 Katz's activity of daily living. Stratified and sensitivity analyses were also performed.
Results: Among the study participants (mean age 75 years; 65% females), NP multimorbidity was positively associated with slow walking speed (OR 3.78; 95% CI 2.47–5.77), difficulty/inability to walk 300–400 meters (OR 2.60; 95% CI 1.72–3.94), and disability (OR 3.57; 95% CI 2.24–5.68) as compared with participants free from CV or NP multimorbidity. CV multimorbidity was associated only with slow walking speed (OR 1.70; 95% CI 1.20–2.42) as compared with participants free from CV or NP multimorbidity. The combination of CV and NP multimorbidity showed an additive effect on the positive association with the three outcomes.
Conclusions: Cardiovascular and neuro-psychiatric multimorbidity affect differently the functional ability of older adults. When co-occurring, they have an additive effect on poor function.

Area: Comprehensive geriatric assessment

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Community study of the elderly in the Middle East using the InterRAI-CHA instrument

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Background: Middle eastern countries have certain cultural, social and economic characteristics in common with similar aspiration. The percentage of elderly in the Middle East is expected to increase with improvement of the health care delivery in the area. The region, like other developing countries, needs to define the policies and programs that will reduce the burden of aging populations on the society and its economy. There is a need to ensure the availability of health and social services for older persons and promote their continuing participation in a socially and economically productive life. The morbidity burden of the geriatric population can quickly overwhelm fragile and under financed health infrastructures

which are unable to meet fully the prevention and treatment needs of a younger population with relatively low-cost, easy-to-prevent, easy-to-treat illnesses. There is scarcity of research and publications in the field regarding the ageing population in the Middle East region.

Methods: Abyad Medical Center & Middle East Network on Research on Ageing-MENAR that are closely linked to the Middle East Academy for Medicine of Ageing MEAMA decided to do a community study on the elderly in Lebanon. We selected the InterRai Community Health Assessment CHA instrument for this study. The main reason for selecting this instrument is the fact that it is easy to apply in the community and it is a good introduction to the various instruments of InterRAI.

Objectives and outcomes: The goals of the study include among others collecting data on the elderly living in the community in the Middle East, in addition by using this instrument to be able to compare various elderly community in the region and comparing the region to the rest of the World. The study will be able among others to identify prevalence of dementia disorder in the community

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Elderly's medication management ability assessment: comparison between a standard and a real therapeutic regimen

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Introduction: As people age, the decrease of cognitive and physical skills has a significant impact on unintentional non-adherence, that usually results from medication management inability [1,2]. Some studies have shown that new information treatment is more affected by ageing, than routine information, revealing difficulties of elders to handle new medication regimens [3,4]. This study aims to assess elderly's medication management ability using the Self-Medication Assessment Tool – Portuguese Version (SMAT-PT) and to correlate the performance between standard and real therapeutic regimens.

Methods: Pilot study was carried out in a purposive sample of 150 Portuguese community-dwelling elders (recruited in community pharmacies). The screening tools were SMAT-PT, Medication Regimen Complexity Index (MRCI), Measure Treatment Adherence (MTA), Mini-Mental State Examination (MMSE) and Clock-Drawing Test (CDT). Data analysis was conducted using SPSS (v22).

Results: Of the 150 participants, 112 (74.7%) were women, and the mean age was 74.73, ±6.43 years. The SMAT-PT standard regimen mean scores were 20.92 (±6.83) in functional ability and 38.75 (±5.92) in cognitive ability; for the real regimen, mean scores were 83.74 (±15.86) in medication recall, 96.96 (±11.39) in adherence self-report and 4.82 (±10.10) in intentional non-adherence. All measures were inversely correlated with age (except adherence measures and MRCI). Significant correlations between medication recall and standard regimen items were found. Cognitive measures were directly correlated with medication management ability.

Key conclusions: Multidimensional assessments can promote detection of early signals and deficits regarding medication management ability.; Elders' ability to treat new information is lower than ability to report routine information.

References

1. Maddigan SL, Farris KB, Keating N, Wiens CA, Johson JA. Predictors of older adults' capacity for medication management in a self-medication program: a retrospective chart review. *J Ageing Health*. 2003;15(2):332–52.
2. Hutchison LC, Jones SK, West DS, Wei JY. Assessment of medication management by community-living elderly persons with two standardized assessment tools: a cross-sectional study. *Am J Geriatr Pharmacother*. 2006;4(2):144–53.
3. Tordoff J, Simonsen K, Thomson WM, Norris PT. "It's just routin." A qualitative study of medicine-taking amongst older people in New Zealand. *Pharm World Sci*. 2010;32(2):154–61.
4. Beckman AGK, Parker MG, Thorslund M. Can elderly people take their medicine? *Patient Educ Couns*. 2005;59(2):186–91.

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The relationship between subjective wellbeing, perceived stress and health related quality of life in elderly women

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Objectives: Aim of study – to investigate the relationship between subjective wellbeing, perceived stress and health related quality of life in elderly women.

Methods: This cross-sectional study was performed on community dwelling women aged 60 years and older, which are Vilnius public health bureau Healthy and active aging school visitors. Exclusion criteria were musculoskeletal or nervous system diseases or conditions that restricted movements in upper or lower extremities. Data was collected by direct interviewing and recording the answers on a survey which consisted of sociodemographic questions and four questionnaires: Control, Autonomy, Pleasure, and Self-realization (CASP-19), Satisfaction with Life Scale (SWLS), Perceived Stress Scale (PSS-14) and European Quality of Life-5 Dimensions (EQ-5D). Data was analyzed using "SPSS 18.0 for Windows" program. Correlations were determined using Spearman correlation coefficient.

Results: The study was performed on 81 women, mean age was 68.89 ± 5.12 years. Of them, 13 (17.3%) women were single, 27 (36%) married, 24 (32%) widowed and 11 (14.7%) divorced. It was found that age weakly negatively ($p < 0.05$) correlated with CASP-19 and EQ-5D scores ($r = -0.434$ and $r = -0.426$, respectively), and positively – with PSS-14 score ($r = 0.411$, $p < 0.05$). The study data had revealed that CASP-19 score moderately negatively correlated with PSS-14 score ($r = -0.678$, $p < 0.05$), positively moderately with EQ-5D index ($r = 0.600$, $p < 0.05$) and SWLS score ($r = 0.621$, $p < 0.05$).

Conclusion: Older age was associated with greater perceived stress, with worse subjective wellbeing and health related quality of life. Subjective wellbeing negatively correlated with perceived stress and positively with health related quality of life and satisfaction with life score.

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Relationship between Mini-Cog and functional status in geriatric oncology patients

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Objectives: The prevalence and incidence of dementia rises exponentially with age. Progression of dementia is associated with increasing functional decline. The Mini-Cog binary scoring is used to screen for cognitive impairment. This study aims to determine whether Mini-Cog score when used as a continuous variable could indicate the presence and quantity of functional disability.

Methods: This is a retrospective analysis of 703 older cancer patients (age ≥65 years) who presented to the Geriatrics clinic at Memorial Sloan Kettering Cancer Center for evaluation between January 2015 and December 2015. All patients carried a diagnosis of active cancer and were referred to the Geriatrics clinic for a Geriatric assessment prior to surgery or chemotherapy or due to specific concerns that arose while on treatment. Sociodemographic features and geriatric assessment parameters were collected and analyzed. For continuous and categorical variables, t-test and Chi-square test were applied respectively.

Results: Of the 703 patients, 137 (19.5%) screened positive for cognitive deficits with a Mini-Cog score <3 and 566 (80.5%) screened negative with a score ≥ 3. All the individual components of ADLs ($p < 0.001$–0.015) and IADLs ($p < 0.001$), as well as the KPS ($p < 0.001$) and TGUG

($p < 0.001$) tests showed significant decline with decreasing Mini-Cog scores. There was a sharp drop in these markers of functional impairment between Mini-Cog scores of 0 and ≥1.
Conclusion: The Mini-Cog score, when used as a continuous variable, could be useful in determining the presence and degree of functional disability in older cancer patients.

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Development of a targeted geriatric assessment for predicting poor outcomes in older outpatients after acute care: prospective cohort study

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Objectives: Comprehensive geriatric assessment is time-consuming. We aimed to develop a 10-minute Targeted Geriatric Assessment (10-TaGA) for predicting poor outcomes in older patients treated in overloaded healthcare settings.
Methods: Prospective cohort involving 537 participants aged 60 and older admitted to a day hospital for acute care in Sao Paulo, Brazil. The 10-TaGA constructed by Delphi Technique was performed on admission. It includes information on co-habitation status, previous hospitalizations, falls, medications, functionality (Katz index), cognition (10-point cognitive screener), self-rated health, depression (4-item Geriatric Depression Scale), nutrition and gait speed. An index (from 0 to 1) identified low-risk (0–0.25), medium-risk (0.26–0.50) and high-risk (0.51–1) by balancing the scores of the ten domains. Based on six-month follow-up, we used hierarchical Cox proportional hazards regressions to associate the 10-TaGA index with unfavorable outcomes (fall, emergency department visit [ED-visit], hospitalization, incident disability and mortality).
Results: The 10-TaGA showed remarkable improvement in all outcomes predictions when included in models containing demographics (block-1) and comorbidities (block-2). The 10-TaGA high-risk was strongly associated with fall (hazard ratio [HR] 2.68, 95% confidence interval [CI] 1.55–4.61, $p < 0.0001$), ED-visit (HR 1.76, 95% CI 1.17–2.67, $p < 0.010$), hospitalization (HR 3.68, 95% CI 1.97–6.86, $p < 0.0001$), disability (HR 5.93, 95% CI 2.83–12.40, $p < 0.0001$) and mortality (HR 2.76, 95% CI 1.06–7.16, $p = 0.036$). The 10-TaGA properties on the accuracy of the outcomes was fair with Harrell's C ranging from 0.594 (ED-visit) until 0.700 (disability).
Conclusion: The 10-TaGA satisfactorily predicted older adults in high risk for poor outcomes in an overloaded healthcare setting.

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Back to square one

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Introduction: Falls and falls-related injuries are a significant cause of hospital admissions for older people worldwide. The financial burden of falls on the UK's National Health Service (NHS) is estimated to be more than £2.3 billion a year. Careful assessment of the older patient is therefore vital, not only for identifying the responsible causes in those who have fallen, but also for the prevention of falls in individuals at risk.
Case report: We discuss the case of an 84 year old gentleman, who presented to our hospital multiple times over the course of a month, each episode preceded by a fall. During his final admission, thorough history taking and non-verbal communication revealed previously unreported symptoms of vertigo, and an MRI scan revealed a vestibular schwannoma (acoustic neuroma). Interestingly, 1st degree heart block with right bundle branch block, postural hypotension and vascular dementia were all diagnosed during the course of his earlier admissions, and were indeed the diagnoses to which his previous falls had been attributed to.
Discussion: Our case therefore highlights the importance of conducting a comprehensive geriatric assessment upon each presentation with a fall, regardless of any previously established diagnoses. We also give particular regard to the value of detailed history taking, careful exploration of the patient's circumstances and non-verbal signs used in eliciting the primary reason of this gentleman's falls. The diversity of our patient's diagnoses also serves to reinforce the value of a multidisciplinary approach when managing patients with multiple co-morbidities and complex care needs.

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Spirometry quality control and related features in extremely aged people – GERIA Project

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Spirometry is the selected method to identify ventilatory defects, nevertheless it is not frequently used in elderly due to the fact that it is common to consider that they are not able to collaborate. The aim of this study is to evaluate spirometry collaboration and related features in extremely aged people. 307 subjects from GERIA project (geriatric study on health effects of air quality in elderly care centers) were included in this study and performed spirometry. All spirometries were evaluated by an expert panel of researchers in accordance with American Thoracic Society/European Respiratory Society 2005. From a total of 307 elderly, 70.4% were females, the mean age was 83.4 ± 6.92 years with an age range between 65 and 101 years. 90.2% of the spirometry fulfilled the quality criteria for achieving collaboration. The reasons for not fulfilling the quality criteria were: exhalation time less than 6 seconds or an inexistent plateau in the volume–time curve (76.7%), ascendant ramp although more than 6 second (10%), artifact (6.7%) and slow start (6.7%). The mean percentage of the predictive value for peak expiratory flow (PEF) was 103.3 ± 39.2% and for back extrapolation the mean volume was 0.03 ± 0.02 mL. Associations between valid spirometry and age, education, dementia and respiratory disease were not found. The spirometry test with quality criteria wasn't possible in only 9.8% of elderly care center residents. This data shows that this exam is achievable in elderly even in advanced ages without associations with specific features.
Keywords: Elderly; spirometry; collaboration.
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Differences between spirometry values obstained by GLI2012, NHANES III and ECSC93 reference equations in an extremely aged people: across-sectional study – GERIA Project

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The reference equations for spirometry have been discussed in the past years. The aim of this study is to compare the reference values based on National Health and Nutrition Assessment Survey (NHANESIII), European Community of Steel and Coal (ECSC93) and Global Lung Initiative (GLI2012) equations, in a sample of extremely aged people. Subjects from GERIA project (geriatric study on health effects of air quality in elderly care centers) with more than 65 years and being resident in nursing homes for more than 6 months were included. Spirometry was performed according American Thoracic Society/ Euroepan Respiratoty Socienty guidelines. Forced Vital Capacity (FVC),

Forced Expiratory Volume (FEV1) and FEV1/FVC were reported. From total of 260 elderly, 69.6% were female and the mean age was 83.0 ± 6.46 years with a age range between 65 and 95 years. The FVC and FEV1 results (expressed as percentage of predicted values) were the 18% lower using the reference equations provided by GLI2012. On the other hand, when NHANESIII was used, the FEV1/FVC results were 12% higher. The prevalence of airway obstrution was 73% higher using the values obtained by ECSC93 while GLI2012 provided more 47% of restritive defects. The present study showed a meaningful difference on the reference values and consequently on the results using NHANES III, ECSC93 and GLI2012 reference equations. The spirometry interpretation was also influenced depending which reference equations was used.

Keywords: Elderly; spirometry; reference equations.
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Respiratory symptoms, ventilatory and inflammatory profile in a sample of institutionalized elderly – GERIA Project

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The respiratory system undergoes several changes due to aging which, associated to environmental and smoking exposure, may lead to the decline of respiratory function.
The aim of this study is to characterize the spirometric and inflamatory profile, and respiratory symptoms in a sample of institutionalized elderly. Subjects from GERIA project (geriatric study on health effects of air quality in elderly care centers) with more than 65 years and being resident in nursing homes for more than 6 months were included. The spirometry and exhaled breath condensate (EBC) were collected under the American Thoracic Society/European Respiratory Society guidelines. Forced Vital Capacity (FVC), Forced Expiratory Volume (FEV1), FEV1/FVC, pH and nitrites were reported. From total of 277 elderly, 71.1% were females and had a mean age of 83.0 ± 6.79 years. 28.5% had worked one or more years in a dusty environment and 24.2% reported smoking history. 19.1% of the elderly referred coughing, 15.2% sputum and 15.9% wheezing in the last 12 months. Spirometry showed 107 (39.8%) with ventilatory defects, of which 51 corresponding to airway obstruction and 56 suggested a ventilatory restriction. 25.6% of the obstructions were reversible. 47% EBC showed a mean pH compatible with airway inflamation. This study alowed to detected a significant proportion of elderly with respiratory symptoms, ventilatory defects and a EBC results compatible with airway inflamation.

Keywords: Elderly; ventilatory profile; inflamatory profile, symptoms.
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A systematic review of the outcomes reported in trials of medication review in older patients: the need for a core outcome set

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Background: Medication review has been advocated to tackle the challenge of polypharmacy in older patients, yet there is no consensus on how best to evaluate its efficacy. This study is part of the OPERAM project and aimed to assess outcome reporting in clinical trials of medication review in older patients.

Methods: Relevant randomized controlled trials (RCTs), prospective studies and RCT protocols were identified through (1) an update of a recent systematic review; (2) search in RCT registries of ongoing studies; (3) the Cochrane library. The type, definition, and frequency of all outcomes reported and measurement instruments used, were extracted independently by two researchers.
Results: 47 RCTs and prospective studies and 32 RCT protocols were identified. A total of 327 distinct outcomes were identified in the 47 published studies. Most of the reported outcomes were related to medication use (n = 114, 35%) and healthcare use (n = 74, 23%); very few were patient related outcomes (n = 24, 7%). One fifth (21%) of the studies evaluated the impact of the medication review on adverse events like adverse drug reactions or drug-related hospital admissions. A total of 248 distinct outcomes were identified in the 32 RCT protocols. Compared to published studies, patient-reported outcomes were planned to be collected more frequently (n = 36, 15%).
Conclusion: Outcome reporting from RCTs concerning medication review in older patients is inconsistent and poorly defined. This study highlights the need for a standardised core outcome set for medication review in older patients, to improve outcome reporting and evidence synthesis.

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Neither gait speed, nor resident assessment instrument adequately detect sarcopenia in a GP's practice

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Introduction: Sarcopenia, the age-related loss of muscle mass and strength, has been linked to poor quality of life, increased risk of falls, fractures, disability and death. While Comprehensive Geriatric Assessment (CGA) is being progressively implemented, screening for sarcopenia has not yet entered systematic assessement of senior adults by general practitioners (GP's). We used the Belgian version of the Resident Assessment Instrument (BelRAI) to identify items with a predictive value for the presence of sarcopenia in a GP's practice.
Methods: Prospective cross-sectional study during 7 months in community dwelling patients 65 years and older in a GP's practice in Belgium using the BelRAI "Home Care". Thirteen BelRAI items possibly linked to sarcopenia were selected for analysis. Diagnosis of sarcopenia was based on the European Working Group on Sarcopenia in Older People (EWGSOP) criteria, using bio-electrical impedance analysis (BIA) for muscle mass.
Results: Sixty women and 40 men (age 74.78 ± 6.25 years and 75.13 ± 6.06 years respectively) were included. Sarcopenia was present in 58%. Patients with sarcopenia had significantly more "meals delivered home" ($p = 0.018$) and "diagnosis of COPD" ($p = 0.049$), but better "self-reported health" ($p < 0.001$). The combination of these items would correctly diagnose muscle status in 71%, with moderate sensitivity (75.9%) and poor specificity (64.3%). This is however better than gait speed (58% of correct diagnosis, 91% sensitivity, 5% specificity). 40% of the population had a low gait speed not due to sarcopenia.
Conclusion: We conclude that neither gait speed alone, nor the BelRAI-HC can adequately screen for sarcopenia. Measurement of grip strength and muscle mass remain necessary.

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Risk factors for falls following hospital discharge in the elderly population – follow-up at 6 months

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Objectives: The incidence of falls after hospital discharge was reported to be higher, affecting mainly elderly patients. Identifying

and modifying risk factors can reduce the risk of falls. We determined the incidence of falls 3 months after hospital discharge and related risk factors in elderly patients and made a follow up at 6 months on the group of patients that had fallen at 3 months.
Methods: We analysed 100 patients over 65 years admitted to an Internal Medicine ward. A questionnaire was performed during the hospitalization, and a telephone interview 3 and 6 months after discharge. An analysis was performed to determine risk factors for pre and post-discharge falls.
Results: 100 patients were included, 52% male, aged 80 ± 8.1 years. For 69 patients follow-up information was obtained, 18 reporting falling during the 3-month period. 6 months after discharge 69% reported a new fall. Higher risk of falls was associated with history of falls in the previous 6 months ($p < 0.05$ RR = 2.76) and shorter hospital stays (≤7 days) ($p < 0.05$ RR = 2.78). Polymedication ($p = 0.002$), use of psychoactive drugs ($p = 0.019$), analgesics ($p = 0.026$) and a higher Morse scale score ($p = 0.017$) were associated with a higher incidence of falling.
Conclusion: Risk factors identified should be sought in future studies. The results highlighted the association of polymedication, psychoactive, analgesic and a higher Morse scale score to a history of falls. Shorter hospital stays were significantly associated to a higher frequency of falls after a hospital discharge. Fall prevention strategies should focus on patients who present these risk factors.

P-240
Cross-cultural adaptation and psychometric study of the Turkish version of the rapid assessment of physical activity into Turkish

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Objectives: The Rapid Assessment of Physical Activity (RAPA) was developed to provide an easily administered and interpreted means of assessing levels of physical activity among adults older than 50 years. The RAPA is a valid tool for use in clinical practice. However, there are some concerns about its reliability. The aim of this study was to linguistically and culturally adapt the RAPA into Turkish and assess its validity and reliability.
Methods: This methodological and cross-sectional study included 110 participants (68 female) from community and a nursing home. The RAPA was translated and culturally adapted into Turkish using established double-back translation methods. The participants completed the RAPA twice with a one-week interval to examine test-retest reliability. The IPAQ-Short Form (IPAQ-SF) and Physical Activity Scale for the Elderly (PASE) were used to examine the validity.
Results: The median age of the participants was 72 (minimum-maximum, 53–93) years. The kappa coefficients exceed 0.81 for each nine items, aerobic score and strength & flexibility score, indicating that the test-retest reliability was almost perfect. There were positive moderate correlations between the RAPA, IPAQ-SF, and PASE ($p < 0.01$). Additionally, the RAPA was negatively correlated with the IPAQ-SF sitting time as pre-hypothesised ($p < 0.01$).
Conclusions: This study has indicated that the Turkish version of the RAPA was an easy-to-use, valid, and reliable measure of physical activity among adults older than 50 years. This study has also provided considerable evidence about the test-retest reliability of the RAPA which was not investigated in the original validation study of the RAPA.

P-241
Psychometric study of the International Physical Activity Questionnaire – short form for older adults in Turkey

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Objectives: The International Physical Activity Questionnaire (IPAQ) was developed as a standardized tool for cross-national monitoring of physical activity and inactivity. The IPAQ has commonly used in geriatric field in Turkey. However, the Turkish version of the IPAQ has only been tested for its psychometric properties among adults (18–32 years old) in the original validation study. The aim was to examine the psychometric properties of the Turkish version of the IPAQ-Short Form (IPAQ-SF) among adults older than 65 years in Turkey.
Methods: Seventy participants from community and a nursing home were included in this methodological and cross-sectional study. The participants completed the IPAQ-SF twice with a one-week interval. The participants also completed the Rapid Assessment of Physical Activity (RAPA) and Physical Activity Scale for the Elderly (PASE) to test the validity.
Results: The median age of the participants were 77 (minimum-maximum, 65–93) years. The intra-class correlation coefficients (ICC) exceeded 0.80 for total physical activity, moderate physical activity, walking, and, sitting scores. The ICC for vigorous activity score was not able to be calculated since it had zero variance. There were significant moderate correlations between the IPAQ total score, RAPA, and PASE, indicating adequate validity ($p < 0.01$).
Conclusions: This study has suggested that the Turkish version the IPAQ-SF had adequate test-retest reliability and validity among older adults in Turkey. However, the vigorous activity item appears irrelevant for older adults. The IPAQ-SF can be used assessing and monitoring of physical activity and inactivity among older adults.

P-242
Prevalence and associated factors of dysphagia among geriatric in-patients at Kaunas clinical hospital, Lithuania

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Objectives: Dysphagia is an important geriatric syndrome associated with other geriatric syndromes: frailty, sarcopenia, malnutrition, dementia, which leads to severe complications, and must be diagnosed on time. The aim of study was to determine: the frequency of dysphagia using the questionnaire for dysphagia screening (QDS); the frequency of oropharyngeal dysphagia (OD) using the bedside test; associated factors of dysphagia.
Methods: As of September 2015 95 patients of Geriatric department in Kaunas clinical hospital had been tested using QDS, for OD – using bedside test. The patients' mouth and functional status (determined by Barthel index), concomitant diseases, used medication were also evaluated.
Results: The mean age was 79.2 ± 10.6 years, 68.4% were female. The dysphagia with QDS was determined for 18.9%, OD – in 29.5% of the patients. Common incidence of dysphagia was 31.6%. The sensitivity of QDS for patients with OD was 57.1%, and the specificity was 97%. Level I thickness fluids were required for 10.7%, level II – for 85.7%, level III – for 3.6% of the participants. The relationship between dysphagia and sex, age, history of stroke, dementia, Parkinson's disease, oesophageal, thyroid pathologies, and the usage of medication was not determined, but the relationship was established between dysphagia and mouth dryness ($P = 0.004$) and functional status ($P = 0.04$).
Conclusion: Incidence of dysphagia among geriatric in-patients constituted 31.6%. Low sensitivity of QDS (57.1%) was determined in the diagnosing of the OD. Majority of the patients with OD required level II thickness fluids. Dysphagia was associated with bad functional status as well as xerostomia.

P-243
Which factors influence the improvement of quality of life (QoL) in patients that completed an interventional program in a geriatric day hospital (GDH)? A prospective observational study

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Objectives: To identify which factors are related with a clinically relevant improvement of QoL in patients that completed an interventional program in a GDH.
Methods: Prospective observational study including all patients admitted and discharged between January 2007 and December 2011. We excluded patients with MMST < 10, aphasia or poor collaboration. We evaluated at admission and discharge: QoL using the Notthigham Health Profile (NHP) (range: 0 – indicating better QoL- to 100), sociodemographic variables (age, sex, referral source, living arrangements), functional and mental variables (Barthel, Lawton, TimedUP&Go, Tinetti, MMST, Yesavage), and other variables (main diagnosis, number of medications, number of sessions, geriatric syndromes, Charlson). Moderate improvement of QoL was defined as a decrease in the NHP score at discharge implying an effect size ≥0.5. Bivariate analysis was performed.
Results: We included 331 patients. However, the final study sample consisted of 246 patients because for 85 patients the NHP register at discharge was missing. QoL Improvement was identified in 82 patients. Factors associated with improvement were: female sex (68.3% vs 54.3%, p = 0.035), higher NHP total scores at admission (45.7 ± 19.7 vs 30.7 ± 19.7, p < 0.000) and higher individual dimensions scores at admission (energy: 47.9 ± 33.9 vs 28.6 ± 31.3, p < 0.000; sleep: 51.9 ± 32.1 vs 30.9 ± 31.6, p < 0.00; social isolation 32.3 ± 22.0 vs 17.8 ± 21.1, p < 0.000; pain: 42.8 ± 32.3 vs 28.8 ± 27.9, p < 0.001; physical mobility 55.4 ± 29.4 vs 47.5 ± 29.5, p = 0.048; emotional reactions 43.7 ± 28.5 vs 30.7 ± 26.4, p = 0.001).
Conclusions: Female sex and having a worse perception of QoL at admission was related with a clinically relevant improvement in QoL after an interventional program in a GDH.

P-244
Perception of quality of life (QoL) according to the Nottingham Health Profile (NHP): factors influencing the final score after an interventional program in a geriatric day hospital (GDH)

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Objectives: To identify which factors at admission to an interventional program in a GDH influence the final score of a QoL questionnaire.
Methods: Prospective observational study including all patients admitted and discharged between January 2007 and December 2011. We excluded patients with MMST <10, aphasia or poor collaboration. We evaluated at admission and discharge: QoL using the Notthigham Health Profile (NHP) (range: 0 ¨C indicating better QoL- to 100), sociodemographic variables (age, sex, referral source, living arrangements), functional and mental variables (Barthel, Lawton, TimedUP&Go, Tinetti, MMST, Yesavage), and other variables (main diagnosis, number of medications, number of sessions, geriatric syndromes, Charlson). A multiple linear regression analysis was performed considering as dependent variable the NHP score at discharge.
Results: Out of 369 patients, 38 (10.2%) were excluded and in 85 (25.6%) NHP was not register at the time of discharge, remaining 246 for study. In the multiple linear regression analysis the following factors at admission were associated with a higher final NHP score (R2 0.537, p < 0.000): higher NHP score (¦Â = 0.642), lower functional status according to the Barthel Index (¦Â = -0.102) and higher number of medications prescribed (¦Â = 0.110).
Conclusions: Lower perception of QoL, lower functional status and higher number of medications prescribed at admission to a GDH may influence the final QoL score after the interventional program. Further studies should confirm these results.

P-245
Structure, process and outcome indicators for the evaluation of in-hospital geriatric co-management programmes: an international two-round Delphi study

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Objectives: We aimed to find consensus on appropriate and feasible structure, process and outcome indicators for the evaluation of in-hospital geriatric co-management programmes.
Methods: A systematic literature search was conducted to draft a preliminary list of quality indicators. Two investigators experienced in geriatric care independently scored all indicators as "relevant", "relevant after rephrasing" or "not relevant" for inclusion in the Delphi questionnaire. A consensus meeting decided the final inclusion of indicators. The questionnaire was pilot-tested by two geriatric care professionals who did not participate in the Delphi study. Thirty-three people with at least two years of clinical experience in geriatric co-management were invited to rate the indicators on a scale from 1 to 9 for their (a) appropriateness and (b) feasibility to use for the evaluation of a geriatric co-management programme. Consensus was determined over two iterative rounds using the RAND/UCLA Appropriateness Methodology.
Results: Twenty-eight experts (16 from the USA and 12 from Europe) participated in both Delphi rounds (85% response rate). After round one, consensus was observed on fourteen indicators. After round two, consensus was observed on 31 indicators considered both appropriate and feasible. Eight relate to structure indicators (e.g. use of geriatric order sets, implementing a geriatrics education program), seven to process indicators (e.g. organizing daily patient rounds and meetings with nurses), and sixteen to outcome indicators (e.g. length of stay and readmission rate).
Conclusions: The final indicator set supports the implementation and evaluation of geriatric co-management scientific studies and programme development.

P-246
The effectiveness of in-hospital geriatric co-management programs: a systematic review and meta-analysis

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Objectives: Geriatric co-management programs are emerging as a promising strategy to manage frail elderly on non-geriatric units. We aimed to determine the effectiveness of in-hospital geriatric co-management on functional status, length of stay, mortality, readmission rate, complications or the number of patients discharged home up to one year follow-up.
Methods: Databases MEDLINE, EMBASE, CINAHL and CENTRAL were searched from inception to 6 May 2016. Reference lists, trial registers and PubMed Central Citations were additionally searched. (Quasi-) Experimental studies published in English, Dutch, German, French or Spanish were included if they included patients aged 65 years or old and reported the effect of an in-hospital geriatric co-management intervention. Study selection, data extraction and assessment of risk of bias was performed independently by two authors. Data were pooled in a fixed-effects meta-analysis where appropriate.
Results: Twelve studies and 3,590 patients were included. Geriatric co-management improved functional status and reduced the number of patients with complications in 3 of 4 studies. Co-management reduced length of stay (MD, −1.88 [95% CI, −2.44 to −1.33]), but had no effect on

mortality, readmission rate and number of patients discharged home. High risk of bias was observed across studies and outcomes downgrading the level of evidence. Clinical heterogeneity between interventions was observed leading to question how geriatric co-management programs should be organized to affect clinical outcomes.
Conclusions: Geriatric co-management reduces length of stay, number of patients with complications, and improves functional status. Cluster randomized trials with process evaluation are needed to further support implementation.

P-247
Impact of functional status and cognition in outcome of older patients admitted in an internal medicine ward at 6 and 12 months follow-up

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Introduction: Previous studies have revealed that age alone is not the best outcome predictor in elderly. Instead, other prognostic factors have been identified, such as the functional and cognitive status. Our aim was to analyze outcomes at 6 and 12 months (6 and 12 M) of a cohort of patients ≥75 years admitted in an Internal Medicine Ward according baseline functional and cognitive status.
Methods: Prospective longitudinal cohort study of 100 patients. Comprehensive geriatric assessment (CGA) at baseline. Survival and hospital readmission at 6 and 12 M assessed by phone contact and hospital record analysis.
Results: One patient lost during follow-up. Average age 83.7 years, 63% males, average Cumulative Illness Rating Scale Geriatrics 11.2, average baseline Barthel score (BS) 63.6 ± 35.3. Concerning the baseline cognitive status: normal cognition 68%, mild cognitive impairment 12%, dementia 20%. Cumulative mortality: 6 M 48.4%, 12 M 53.5%. Average BS of survivors vs non-survivors: at 6 M – 74.4 ± 24.8 vs 52.3 ± 41.3, p 0.004; at 12 M – 75.3 ± 23.4 vs 53.24 ± 40.9, p 0.005. Mortality at 6 and 12 M was significantly higher in patients with cognitive impairment. Kaplan-Meier survival curves supported impact of BS and cognition in mortality at 6 and 12 M. BS and cognition were not associated to emergency department readmission and hospitalization at 6 and 12 M.
Conclusion: Functional and Cognitive status are important predictors of survival in hospitalized elderly. Medical decisions should be based not only in age but also on previous functional and cognitive status. Such data are useful to combat ageism and to highlight the importance of systematic CGA.

P-248
Frailty in older patients with cancer: agreement of three assessment tools

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Introduction: Assessment of Frailty by a Comprehensive Geriatric Assessment (CGA) [1] is a key point for older patients with cancer. However, the other assessment tools are poorly or not described in the oncogeriatric context. The aim of this study was to evaluate the agreement of three Frailty assessment tools in older patients with cancer.
Methods: Our study was a cross-sectional study with forward-looking inclusions. It was conducted in the Reims teaching hospital (geriatrics and oncology ward). We included patients of 65 or more years old with cancer. Frailty was assessed with three different tools: CGA, Fried criteria [2] and Rockwood's Clinical Frailty Scale (CFS) [3].
Results: One hundred patients were included (Mean age: 77.8 ± 6.7 years). 54 patients were females and 94 patients were living at home. 73 patients were affected by a digestive cancer. Forty-five patients were at a metastatic stage of their disease. According to the CGA: 6 patients were fit, 40 pre-frail and 54 frail. According to the Fried criteria: 24 patients were fit, 42 prefrail and 34 frail. According to the CFS: 42 patients were fit, 35 prefrail and 23 frail. Agreement between CGA and Fried criteria was poor ($\kappa = 0.36$, CI95% – [0.24;0.49]). Agreement between CGA and CFS was poor too ($\kappa = 0.27$, CI95% – [0.17;0.37]). Agreement between CFS and Fried criteria was moderate ($\kappa = 0.53$, CI95% – [0.41;0.64]).
Conclusion: There is a lack of agreement between these three assessment tools in oncogeriatric context.

References

[1] Wildiers H, Heeren P, Puts M, Topinkova E, Janssen-Heijnen MLG, Extermann M, *et al.* International Society of Geriatric Oncology consensus on geriatric assessment in older patients with cancer. *J Clin Oncol Off J Am Soc Clin Oncol*. 2014;32(24):2595–603.
[2] Fried LP, Tangen CM, Walston J, Newman AB, Hirsch C, Gottdiener J, *et al.* Frailty in older adults: evidence for a phenotype. *J Gerontol A Biol Sci Med Sci*. 2001;56(3):M146–56.
[3] Rockwood K, Song X, MacKnight C, Bergman H, Hogan DB, McDowell I, *et al.* A global clinical measure of fitness and frailty in elderly people. *CMAJ Can Med Assoc J J Assoc Medicale Can*. 2005;173(5):489–95.

P-249
Predictive abilities of three frailty assessment tools in oncogeriatrics concerning one-year overall survival

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Introduction: Consequences of frailty in elderly with cancer are well known, particularly with overall survival. In this population, Comprehensive Geriatric Assessment (CGA) is mainly used to define Frailty [1]. The aim of this study was to evaluate predictive capabilities of three different assessment tools in oncogeriatrics.
Methods: Our study was a cross-sectional study with forward-looking inclusions. It was conducted in the Reims teaching hospital (geriatrics and oncology ward). We included patients of 65 or more years old with cancer. Frailty was assessed with three different tools: CGA, Fried criteria [2] and Rockwood's Clinical Frailty Scale (CFS) [3]. We have studied survival using a Log-Rank test.
Results: One hundred patients were included. Mean age was 77.8 years, 54 patients were females and 94 patients were living at home. 73 patients were affected by a digestive cancer. Forty-five patients were at a metastatic stage of their disease. According to the CGA: 46 patients were not frail and 54 frail. According to the Fried criteria: 66 patients were not frail and 34 frail. According to the CFS: 77 patients were not frail and 23 frail. Only Frailty according Fried criteria was significantly predictive of one-year survival: $\chi 2 = 4.6$ ($p = 0.031$). Results for CGA and CFS were not significant, with respectively 3.7 ($p = 0.059$) and 3.5 ($p = 0.06$).
Conclusion: According to our study, Fried criteria seem to have better predictive capabilities concerning one-year overall survival in oncogeriatrics than CGA or CFS.

References

[1] Handforth C, Clegg A, Young C, Simpkins S, Seymour MT, Selby PJ, *et al.* The prevalence and outcomes of frailty in older cancer patients: a systematic review. *Ann Oncol Off J Eur Soc Med Oncol ESMO*. 2015;26(6):1091–101.

[2] Fried LP, Tangen CM, Walston J, Newman AB, Hirsch C, Gottdiener J, *et al.* Frailty in older adults: evidence for a phenotype. *J Gerontol A Biol Sci Med Sci*. 2001;56(3):M146–56.
[3] Rockwood K, Song X, MacKnight C, Bergman H, Hogan DB, McDowell I, *et al.* A global clinical measure of fitness and frailty in elderly people. *CMAJ Can Med Assoc J J Assoc Medicale Can*. 2005;173(5):489–95.

P-250
Gait speed, balance and functional capacity in a sample of community-dwelling older adults

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Introduction: Falls in older people are an important public health concern since they are responsible for high number of hospitalizations, health complications, disability and death. Gait speed has been identified as a predictor of health state in elderly populations and it is related with falls and functional capacity. The aim of this study was to identify the risk of falling in a sample of Portuguese older adults living in the community and to investigate the associations between gait speed, balance and functionality.
Methods: This was a cross-sectional study. Assessment included gait speed (GS) with 4 meter walk test; balance with the Berg Balance Scale (BBS); functional capacity with the Composite Physical Function scale (CPF). Descriptive and correlational statistics were performed to analyze data.
Results: 46 community-dwelling older adults (32 women; 14 men) aged 77 ± 9 years participated in our study. Mean value for GS was 1.17 ± 0.37 m/s which is normal for this population. For BBS and CPF median was 52 and 19, respectively. BBS results revealed a risk of falling of 43% and functional capacity of our participants was at moderate levels. The study of correlations between variables also showed positive associations between GS and BBS ($R = 0.631$; $p = 0.00$) and between GS and CPF ($R = 0.605$; $p = 0.00$)
Conclusions: Positive associations between GS and balance and between GS and functional capacity highlight the role of GS in the assessment of fall risk and functional capacity since it is a simple and easy test to perform.

P-251
Analysis of factors associated with diabetic neuropathy in a group of elderly patients with pain in primary care Health System/SUS in Brazil

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Introduction: The complications of type 2 diabetes mellitus (DM2) is the evolution of peripheral neuropathy (PN) especially in the elderly.
Objective: To compare clinical, morphological and biochemical factors of patients with and without PN with DM2.
Methods: quantitative, randomized case-control trial. The collection took place between February and March 2016. It was assessed nutritional status, body composition (electrical bioimpedance-BIA), biochemical data and evaluation of PN by LANSS scale, assessment of pain by VAS, MacGill pain descriptors and Quality life (QOL) SF-6D. It was respected ethical principles.
Results: Participants were 78 individuals, 85.9% were women, mean age 64.05 years and mean duration of DM2 9 years. The prevalence of PN was 17.9%, and correlation between glycemia and age. Clinical and laboratory parameters showed grade I obesity, waist-hip ratio low risk, total cholesterol, HDL and LDL desirable. Fat mass 40–42%, 14.8 visceral fat, high triglycerides, TGO and TGP within tolerable values. The ratio of average HbA1c and neuropathy was similar between groups ($M = 7.0$). The main McGill descriptors: sore, throbbing, heavy, thin, heat / burning, exhausting \ comprehensive and nauseated. The intensity of pain was severe. QOL was to affect domains: functional capacity, global limitation and Vitality ($p \leq 0.05$) with worse QOL for those with PN.
Conclusion: Patients with T2DM with PN has affected the QOL and have worse biochemical and chronic pain this profile.

P-252
The risk factors and the level of knowledge for falls in elderly individuals who live in a nursing home in Turkey

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Objectives: In the worldwide 30–40% of people aged of 65 and over fall each year and this rate increases to 50% of people living in long-term care institutions. The systematic and comprehensive determination of risk factors and knowledge level for falls are important step in prevention of falls in elderly. The aim of this study was to evaluate the risk factors and knowledge level about falls of the elderly living in a nursing home.
Methods: Fifthy three elderly living in a nursing home was composed for sample of the study in 2016. The data were collected with Personal Information Form, Fall Risk Factors Form, Falls Knowledge Form. Nursing home was visited by researchers and risk factors and knowledge levels of elderly individuals for falls were evaluated by face to face interview.
Results: Approximately half of the elderly individuals fallen before (45,3%), 33,3% of the elderly individuals were falled in nursing home. The number of risk factors of elderly people was 10,73 ± 4,35 and knowledge score was 7,20 ± 1,74. The percentage of the elderly individuals stated preventability of falls was 67,9%. It was found that 20,8% of elderly stated they didn't know how falls could be prevented.
Conclusion: Elderly individuals had many risk factors for falls and the knowledge level for falls was not adequate. They saw the falls as normal and inevitable result of aging.

P-253
Stratification of older adults in the emergency department: predictive accuracy of the interRAI emergency department screener

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Objectives: The interRAI Emergency Department (ED) screener is a new screening instrument to identify vulnerable older adults at the ED. The aim of this study was to evaluate this instrument's accuracy in predicting need for hospitalization (NFH), prolonged hospitalization (PH) and 3-month mortality.
Methods: Trained research nurses consecutively included 780 community-dwelling patients aged 70 years and older at the ED of University Hospitals Leuven. NFH, PH (i.e. more than 28 days) and 3-month mortality were obtained through patient chart review and telephone calls. Sensitivity, negative predictive value (NPV) and accuracy were calculated.
Results: Patients were categorized by the interRAI ED screener into groups with low (score 1–2; 29.1%), intermediate (score 3–4; 34.1%) or high (score 5–6; 36.8%) risk. NFH, PH and 3-month mortality were present in 522 (66.9%), 58 (7.4%) and 72 (9.2%) patients, respectively. Sensitivity and NPV for the cutoff score of at least 5 were respectively 42.7% and 39.4% for NFH; 65.5% and 95.9% for PH; 56.9% and 93.7% for 3-month mortality. Sensitivity and NPV for the cutoff score of at least 3 were respectively 75.3% and 43.2% for NFH; 86.2% and 96.5% for PH; 87.5% and 96.0% for mortality. Accuracy varied between 53.5% and 65.5% with cutoff at least 5 and between 34.5% and 63.0% with cutoff at least 3.

Conclusions: Preliminary results suggest that the interRAI ED screener can be used to rule out some of the outcomes. Further validation is necessary to determine whether this instrument can be used in clinical care.

P-254
Anemia in older adults: it warrants further investigation

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Introduction: Care process models are evidence-based algorithms used in clinical practice that can be instrumental in diagnosis and disease management. They can be an effective way to provide cost-effective care while not missing important diagnoses in the geriatric population. This project chronicles the workup of anemia using a care process model, which provides a definitive diagnosis and saves health care expenses.
Methods: The utility of the anemia care process model is viewed through the lens of a case: A 73-year-old female with a history of atrial fibrillation on chronic anticoagulation with warfarin presented without symptoms or concerns for a yearly physical. History revealed no melena, hematochezia or blood donation. Physical exam was unremarkable. Labs showed hemoglobin of 11.5 with an MCV of 101.7. In elderly adults, these lab values merit further study.
Results: The stepwise workup included review of medication list and alcohol history prior to confirming the finding with a repeat CBC costing $251.19. The second tier of labs revealed normal peripheral smear, reticulocyte count, vitamin B12 and folate, pernicious anemia cascade, hemolysis labs, SPEP, UPEP, creatinine, TSH and liver function tests costing $350. Bone marrow biopsy was pursued as the next step costing $799.81; results were consistent with Myelodysplastic Syndrome (MDS).
Conclusion: Anemia in the elderly warrants further investigation. MDS is a condition that disproportionately affects older individuals and should be in the differential diagnosis for macrocytic anemia. The use of a care process model can facilitate a thorough, yet cost-effective workup and improve detection of MDS.

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Need for dysphagia screening among elderly patients hospitalized in a geriatric ward – a retrospective study

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Objectives: The aim of the study was to evaluate the prevalence and determinants of swallowing problems among elderly patients hospitalized in the geriatric ward.
Methods: 427 patients aged 60 years or older were hospitalized in the department during the period September 1st. 2015 – April 30th. 2016. – 78% women; 85% of people 75 year old and older; average age- 81,6 ± 6,75 years. On the first day after admission the patients were asked if they had any problems with chewing/swallowing food. The evaluation of nutritional status (MNA Short Form, calf circumference and laboratory tests), functional status and comorbidities was conducted, based on medical records and scales used in comprehensive geriatric assessment.
Results: The information on swallowing difficulties was available in 372 cases (87,12% of study population). 113 patients (30,4%) confirmed problems with chewing or swallowing food. These patients were more likely to have the risk of malnutrition (58,4% vs. 43,3%), reported weight loss in the last year (20,7% vs. 17,2%) and were more frail. Swallowing problems were reported by 45,8% of patients with Parkinson's disease, 35,4% with the history of stroke, 33,3% treated with neuroleptics, and 29,2% with dementia [MMSE – 16,5 (13–19), in 15,9% of cases it was not possible to obtain the information].
Conclusions: Dysphagia is a frequent problem in geriatric patients, especially those with neurologic disturbances, and is associated with the higher risk of malnutrition and frailty. Therefore it should be treated as a geriatric syndrome and all elderly patients should be evaluated for its prevalence.

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Fall risk factors in frail geriatric patients: how can we optimize fall risk assessment?

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Introduction: The burden associated with falling necessitates the identification of fall risk factors that interventions could target. Because frail geriatric patients often present with multiple impairments caused by age and/or pathology, fall risk assessment remains a challenging and complex process. Here, we modelled modifiable fall risk factors, in which we hypothesize an increase in fall classification accuracy.
Methods: 61 patients (mean age 79 ± 5.0 and mean MMSE 23.5 ± 4.2) underwent extensive screening for: (1) Frailty (e.g., handgrip, thoracic kyphosis, medication use), (2) Cognitive function (global cognition, memory, executive function), and (3) Gait performance (stride-related and dynamic outcomes assessed by tri-axial accelerometry). To determine underlying properties of the gait pattern, a factor analysis was performed on 11 gait variables. Partial Least Square – Discriminant Analysis was used to build three classification models in which frailty-related factors were supplemented with cognitive function and gait performance.
Results: Factor analysis revealed a "pace", "variability", and "coordination" factor. Classification accuracy increased when cognitive variables and the extracted gait factors were added to frailty-related variables (AUC = 93%). In particular, executive function, gait variability, and gait coordination considerably increased specificity from 60% to 80%.
Key conclusions: Frail geriatric patients require a multifactorial fall risk assessment. Although slow gait can classify fallers, preserved executive function and gait quality can also characterize non-fallers and in combination increase accuracy of identification of those who might fall. We anticipate that individualized interventions could most effectively modify fall risk factors in frail geriatric patients.

P-257
"But I'm not a Geriatrician!" incorporating frailty assessment into every encounter in the Emergency Department

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Introduction: 24% of UK hospital trusts contain a dedicated geriatric team in the Emergency Department(ED) [1]. The British Geriatric Society has recommended use of "Comprehensive Geriatric Assessment" (CGA) [2]. CGA is a challenge in a time-limited ED as a Multi-Disciplinary Team(MDT) review is required. The use of frailty assessment within EDs is not yet comprehensively evaluated or utilised across the UK.
Methods: The methods and outcomes of CGA within EDs were evaluated through systematic review of published literature via use of search terms in OVID MEDLINE, EMBASE, Cochrane Library (Inception-December 2015). In total 318 articles fulfilled search criteria. 38 were initially reviewed. Outcome effects were described by Odds or Risk Ratios.
Results: Nine articles were included in final review [3–11]. CGA included identification via nurse triage, occupational therapist and physiotherapist review and MDT assessment (within ED or referral to community). Benefit was seen with reduction in recurrent falls (OR 0.39 95% CI 0.23–0.66) [5], re-attendance (OR 0.6 95% CI 0.35–1.05) [5]

and mortality (OR 0.53 (95% CI 0.31–0.91) [8]. The number needed to treat to reduce re-admission at 18 months was 10 [4].

Key conclusions: There is a lack of available studies and statistical power. Nevertheless, odds of mortality following CGA are half the odds of death with no CGA at 4 months [8]. Logistically, CGA can be conducted within EDs. Emphasis should be made to highlight CGA to clinicians within EDs. It remains unclear which intervention would be most clinically or cost effective. Larger trials are necessary to provide further impetus for change.

References

[1] NHS Benchmarking Network, Older People in Acute Settings Benchmarking report. Raising standards through sharing excellence. 2015.

[2] Quality Care for Older People with Urgent & Emergency Care Needs. *Silver Book*. The British Geriatric Society, 2012.

[3] Basic D. and Conforti D.A., A prospective, randomised controlled trial of an aged care nurse intervention within the Emergency Department. *Australian Health Review*, 2005. 29(1): 51–59.

[4] Caplan G.A., *et al.*, A randomized, controlled trial of comprehensive geriatric assessment and multidisciplinary intervention after discharge of elderly from the emergency department–the DEED II study. *J Am Geriatr Soc*, 2004. 52(9): 1417–23.

[5] Close J., *et al.*, Prevention of falls in the elderly trial (PROFET): a randomised controlled trial. *Lancet*, 1999. 353(9147): 93–7.

[6] Davison J., *et al.*, Patients with recurrent falls attending Accident & Emergency benefit from multifactorial intervention–a randomised controlled trial. *Age & Ageing*. 34(2): 162–8.

[7] Hendriksen H. and Harrison R.A., Occupational therapy in accident and emergency departments: a randomized controlled trial. *Journal of Advanced Nursing*. 36(6): 727–32.

[8] McCusker J., *et al.*, Rapid emergency department intervention for older people reduces risk of functional decline: results of a multicenter randomized trial. *J Am Geriatr Soc*, 2001. 49(10): 1272–81.

[9] Mion L.C., *et al.*, Case finding and referral model for emergency department elders: a randomized clinical trial. *Ann Emerg Med*, 2003. 41(1): 57–68.

[10] Shaw F.E., *et al.*, Multifactorial intervention after a fall in older people with cognitive impairment and dementia presenting to the accident and emergency department: randomised controlled trial. [Erratum appears in BMJ. 2003 Mar 29;326(7391):699]. *BMJ*. 326(7380): 73.

[11] Runciman P., *et al.*, Discharge of elderly people from an accident and emergency department: evaluation of health visitor follow-up. *J Adv Nurs*, 1996. 24(4): 711–8.

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Potentially inappropriate prescribing in elderly patients on anticoagulant therapy: application of the STOPP/START criteria

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Introduction: The STOPP/START criteria (Screening Tool of Older Person's Prescriptions/Screening Tool to Alert doctors to the Right Treatment) constitute a validated tool to optimize pharmacotherapy in elderly patients (≥65 years). These criteria aim to improve the pharmacological treatment in elderly by identifying potentially inappropriate medications (PIM) and potentially prescribing omissions (PPO) useful in the prevention or treatment of diseases.

Methods: A descriptive observational study was performed, which focused on medication review, diagnostics and biochemical parameters of patients aged 65 years or over, with four or more medications, followed on anticoagulation consultations.

Results: The final sample included 73 patients [mean age 75.78 years (range 65–91)], 53.4% female, with an average of 9.32 (±2.86) prescription drugs and 3.27 (±2.10) diagnoses involved in the criteria. The collected data allowed to identify at least one PIM and one PPO in 80.8% and 41.1% of the patients, respectively. Applying the STOPP criteria, the drugs most frequently implicated were benzodiazepines for ≥4 weeks (45.2%), nonsteroidal anti-inflammatory drugs in combination with an anticoagulant (21.9%), and the use of first-generation H1-antihistamines (12.3%); duplicate drug class prescription was also detected in 16.4% of the patients. Moreover, according to the START criteria, the most commonly identified PPO were inhaled beta-2 or antimuscarinic bronchodilators (12.3%), vitamin D supplements (11%), and appropriate beta-blockers in systolic heart failure (11%).

Key conclusions: The STOPP/START criteria reveal that PIM use and PPO detected are highly prevalent among elderly patients receiving anticoagulant therapy. These results reinforce the need of integrated interventions for an appropriate pharmacotherapy management in geriatric patients.

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Factors influencing length of stay in hospitalised elderly patients – a hospital based practice review

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Introduction: In current challenging economic climate and likely reduced National Health Service (NHS) growth, productivity and efficiency are paramount. Considering average cost for a patient to stay in an NHS ward is up to £400 per day, the financial benefits of reducing length of stay (LOS) are huge. Reducing hospital admissions and caring for people more appropriately outside of hospital is the key to success. Several factors including comorbidities and functional limitations has been identified which influence patient's overall LOS. Improving patient turn over and reducing LOS is essential in current NHS economic climate.

Method: In St Peters Hospital, Chertsey, a district general hospital, retrospective data on 743 patients' demographics, comorbidities, functional and cognitive status, outcome and median LOS over a period of 12 months (November 2013 to October 2014) was collected from hospital IT records, electronic discharge summaries, hospital medical notes and records. The data was analysed and compared. Median values are provided.

Results: Patient who stayed longer were older with age between 85 and 99 years (12 days), required new care home (22 days), had dementia (12 days), had ongoing medical illness (LOS >2 weeks), were dependent (11 days) and presented with falls (11 days).

Conclusions: Elderly patients have complex needs. Quick identification and comprehensive geriatric assessment with prompt management of acute medical and functional problems with early discharge planning involving family may reduce length of stay in hospital.

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Pain assessment and management in elderly people: relationship with depression and quality of life. A multicenter Italian study

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Introduction: Pain is under-detected and under-treated in elderly. This study investigates the prevalence of pain in elderly admitted to Long Term Care Facilities of National Association of Third Age Structures (ANASTE) and evaluates the association between pain, mood and quality of life.

Methods: A multicenter prospective observational study was conducted on 1089 subjects at T0 (April 2014) and on 1077 subjects at T1 (July 2014), after a training period of the care staff on pain management. All subjects were subjected to multidimensional geriatric evaluation. The pain assessment was performed using the

Numeric Rating Scale (NRS), for patients with slight or no cognitive impairment, and the Pain Assessment In Advanced Dementia Scale (PAINAD) for patients with moderate-severe cognitive impairment. The Cornell Scale for Depression in Dementia (CSDD) was used to evaluate mood, and the Quality of Life Scale (EQ-5D) to evaluate the quality of life.
Results: Prevalence of pain evaluated by NRS was 47.7% at T0 and 39.6% at T1, while it was 50.7% at T0 and 44.4% at T1 in patients with cognitive impairment and evaluated by PAINAD. 42.8% of people with pain did not receive adequate pain treatment at T0. The statistical analysis showed that the pain was correlated with depression symptoms assessed with CSDD (Pearson's chi-square: 0.000, Cramer's V:0.000), and poor quality of life (Pearson's chi-square: 0.000, Cramer's V: 0.000).
Conclusion: Self-report tools alone are not sufficient to assess pain in elderly people; therefore, observational tools for pain should be used in a multidimensional assessment of pain. Chronic pain can cause depression, and a poor quality of life if not adequately treated.
AknowledgementsCalabria: RSA Casa Amica, RSA, Villa Elisabetta, Casa Protetta S. Domenic, Casa Protetta Madonna del Rosario, Casa Famiglia Anatello RSA Santa Maria del Monte, Casa Protetta San Pio, Casa Protetta Villa Azzurra; Emilia Romagna: RSA Villa Giulia RSA Villa Serena, RSA Villa Margherita, RSA Villa Sorriso, RSA Villa Ranuzzi, RSA Villa Salus, RSA I Platani, RSA S. Anna, RSA Villa Paradiso; Lazio: RSA Bellosgurado, RSA Santa Rufina, Anagnino Residence, RSA Colle Cesarano, RSA Corviale; Toscana: RSA Villa Gisella, RSA Le Magnolie, RSA Villa Michelangelo, RSA La Meridiana.

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Can we decide based on age? – eldery under treatment

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Introduction: Last years, average life expectancy increased and cancer is overcoming the cardiovascular disease as the main cause of death. Decision to treat should promote life quality in this group. Thus, the treatment of cancer in elderly becomes a challenge in clinical practice.
Objectives: Characterize patients over 85 years with advanced stage cancer, therapeutic approach, results and complications.
Material and methods: Retrospective, observational, descriptive study of patients aged 85 or older, with advanced stages cancers, treated with chemotherapy (CT) or hormonotherapy (HT). Data collected from medical records and processed using Microsoft Excel.
Results: We studied 13 patients, median age: 88 years, minimum: 85 and maximum: 101 years. Performance Status (PS): 0–1. All female. Most had breast cancer (84.6%; n = 11), 2 had colorectal, 1 kidney and 1 ovary. 4 patients treated with QT. Toxicity observed in 3 patients, 1 with pulmonary thromboembolism (grade 4) and 2 with diarrhoea (grade 3). We emphasize three cases. MPB, 101 years, female; PS 1; metastatic breast carcinoma in 2010, with letrozole for 5 years without complications and stable disease. MJR, 86 years, metastatic kidney carcinoma in 2006, PS 1, treated with pazopanib, dose reduction due to toxicity, partial response (remission of the lung metastases). CGPD, 86 years, PS 1, colon adenocarcinoma, treated with capecitabine (20% dose reduction), maintaining good tolerance.
Conclusion: Age shouldn't limit treatment if integrated with type of tumour ECOG PS and comorbilities. There were patients treated for 4 years, with disease stability without limiting adverse events.

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A challenge in oncogeriatrics: is Rockwood frailty index an accurate tool to predict clinical outcomes?

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Objective: Comprehensive geriatric assessment (CGA) is the gold standard for elderly assessment in oncology to predict chemotherapy tolerance and the main clinical outcomes (survival, functional status and quality of life). CGA is also able to stratify elderly patients according to their biological condition (frail, pre-frail, fit). However, the method is of specialist expertise and it is still poorly incorporated into routine clinical practice. So far, other assessment tools did not show adequate specificity and predictive accuracy. We aimed at comparing different evaluation scales to assess the best predicting oncogeriatric tool.
Methods: First visit included ECOG PS, CGA, Rockwood 40 item IF, Short Form Health Survey-36 (QoL). Patients were assessed after 1 month for mortality, after three and six months for chemotherapy toxicity and after 12 months for QoL, functional status, and overall mortality.
Results: One hundred and forty-seven consecutive patients (78 females, 69 males), with solid tumor, mean age of 78 ± 1.0 years, were enrolled from May 2015 in an Italian hospital. Respectively, 24% of patients by ECOG PS, and 61% of patients by CGA were frail. Interestingly, by IF, 58 patients were frail (39%), 77 pre-frail (52%) and 11 were fit 8 (9%), respectively.
The present study originally showed a significant positive correlation between Rockwood FI and the gold standard (CGA) (n = 147; R = +0.74, p < 0.0001). CGA unmasked several clinical problems in 108 out of 147 examined oncogeriatric patients, such as nutritional deficits (39%) and mood disorders (46%), along with a significant percentage of post surgical delirium (8%). To date, the overall mortality was of 11% (17/147 patients). The 30-day mortality after surgery was of 4% (2/50 pts).
Conclusions: The study results indicate a significant correlation between CGA and Rockwood IF and address a different predictive accuracy of IF in stratifying the pre frail patients' category. The larger enrolment and longitudinal observation of the study will allow identifying the best predicting oncogeriatric tool, improving the clinical management of the pre frail oncogeriatric patients as well.

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Usefulness of the Multidimensional Prognostic Index to identify potentially inappropriate prescriptions in hospitalized older patients

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Objectives: Use of multiple drugs is associated with major risks of potentially inappropriate drug prescriptions (PIPs). Multidimensional Prognostic Index (MPI) is a validated prognostic tool able to identify different mortality risk (MPI1 = low, MPI2 = moderate, MPI3 = severe) in older subjects. The aim of this study was to evaluate whether the MPI may be useful to identify patients with different risk of PIPs in order to develop tailored strategies to improve drug prescriptions.
Methods: Subjects aged 65+ years admitted to the Geriatrics Unit for any acute illness were enrolled. Therapies at admission and at discharge were collected. A validated computer-based tool was used to detect any PIPs according to the Screening Tool of Older People's Prescription criteria and Micromedex® system to detect major drug

interactions. All identified PIPs have been then discussed by the multidisciplinary geriatric team (MGT) for considering possible revisions. MPI1 and 2 have been puted together for the analysis.
Results: 166 patients were enrolled (mean age 87 ± 5.4 years, females 72%) with a mean MPI score of 0.69, indicative of a very frail population (MPI3 55.4% of total sample). Average number of drugs at admission was 5.3 ± 2.4 for MPI1+2 and 6.4 ± 3.1 for MPI3 patients ($p < 0.05$). Between admission and discharge the number of detected PIPs decreased by 6.7% and 49.2% in MPI 1 + 2 and MPI3 respectively.
Conclusions: The prevalence of polypharmacy and PIPs are higher in MPI3 subjects and in this group prescriptive appropriateness improved more effectively after evaluation of MGT. MPI may be useful to put more focus on patient care.

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Should elderly patients presenting with facial injuries have a targeted follow-up in place? A service evaluation

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Background: The proportion of elderly patients over 65 years of age is increasing in developed countries. Maxillofacial injuries in over-65s are commonly caused by falls, possibly signifying an increase in frailty. The comprehensive geriatric assessment (CGA) addresses this increase, while reducing subsequent frailty-type admissions. No studies have considered whether to introduce the CGA following presentation with a facial injury.
Aims: To investigate whether facial injury in the elderly is a sign of increased frailty by using secondary healthcare needs as a marker of need. To establish whether there is a difference in the hospital admission time pre- and post-facial injury. To investigate the number of frailty-type admissions post-injury. To look at patients' co-morbidities in order to further target the CGA.
Methods: Patient records were searched in the Emergency Department to identify elderly patients who presented with a facial injury. Records were analysed between October 2008 and October 2013. Standard statistical tests were used to look for differences in admissions pre and post injury.
Results: 107 patients were identified. There was a statistically significant difference between the number of days spent in hospital pre-versus post-injury; 3.34 days:6.33 days ($P = 0.031$). 39% of patients re-admitted following facial injury with a frailty-type admission. There was a significant relationship between haematological co-morbidities and frailty admissions post-injury ($P = 0.019$).
Conclusion: Facial injury may be a suitable proxy marker for frailty. Our findings suggest that implementing the CGA would be worthwhile, as presentation with a facial injury is a marker for increased future healthcare needs.

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Personal preferences and motivations of a person and two relatives before total hip arthroplasty: a case report with a narrative analysis

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Introduction: Besides medical or physical functioning [1] related information, health providers should have insight into the personal impact of a disease in a person's life. The purpose of this study is to get insight into personal preferences and motivations of a patient involved in a physical therapy intervention.
Methods: Mrs A, a 76-year-old woman with severe comorbidity is preoperatively referred to a physical therapist (PT) for functional assessment and training before total hip arthroplasty (THA). The patient, her daughter and her PT were asked to write a story about their daily life. All stories were analyzed according to the narrative scheme [2], which consists of four phases: 1. Motivation; 2. competences; 3. Performance; and 4. Evaluation.
Results: Mrs A was mainly motivated by her will to do enjoyable social activities and stay independent. Although she has the competence to try her best to undertake those activities (a performance) that make her proud (evaluation), her pain and physical limitations were anti-competences that motivate her to attend health care. Although the PT seemed to be aware of these personal participation goals, her main focus was on improving and evaluating functions and activities [1]. The daughter also wanted her mother to be able to do enjoyable activities and did not see herself as an informal caregiver.
Key conclusion: The narrative method was a valuable tool to clarify personal preferences and motivations of this person within her context before THA. This knowledge could help caregivers in applying shared decision-making and patient centered treatment and goal setting.

References

[1] WHO. *ICF. international classification of functioning, disability and health*. Geneva: World Health Organization; 2001.
[2] Speelman WM. A spiritual method for daily life practices. In: Hense E, Maas F, editors. *Towards a Theory of Spirituality*. Leuven: Peeters; 2011. p. 55–71.

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Comparison of geriatric syndromes according to gender over seventy-five years old in the elderly

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Objectives: In this study, individuals over seventy-five years old living in the community was undertaken to examine the situation of geriatric syndromes according to gender.
Methods: In the study; 203 patients, 67(33%) were male and 136(67%) were female. The mean age 80,92 ± 4,3(76–99); of group total; in men 80,75 ± 4.5(76–92) years, and women women 81,01 ± 4,2(76–99) years. Patients with urinary incontinence, fecal incontinence, sleep disorders, falls, chronic pain, malnutrition and the effects, visual impairment, hearing impairment, immobility, cognitive impairment, balance and gait disturbances, depression and constipation, geriatric syndromes were questionned. General total, average, and percentage comparisons between gender groups were evaluated using appropriate statistical methods.
Results: The mean number of geriatric syndromes in cases were 4,0 ± 2,5(0–11). The mean number of geriatric syndromes in men by gender was 3,0 ± 2,2(0–10), while in women was 4,5 ± 2,5(0–11), respectively. Women's average number of geriatric syndromes, were statistically higher than men to be highly significant ($t = -3.98$, $p = 0.000$). When the groups by gender in the prevalence of geriatric syndromes examined, about urinary incontinence, sleep disorders, chronic pain, malnutrition and the effects, immobility, balance and gait disorders there was statistically significant difference ($p < 0.05$). Other; there wasn't any statistically significant difference in fecal incontinence, falls, visual impairment, hearing impairment, cognitive impairment, depression and constipation ($p > 0.05$).
Conclusion: Old age is a period of life that is accompanied by a lot of health problems. This study shows that the number of geriatric syndromes in the female gender are higher than in men of the elderly. It will be considered that, the programs for the elderly, would be useful for the necessary evaluation regarding common geriatric syndromes.

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How best to deliver Comprehensive Geriatric Assessment (CGA) in hospital: an umbrella review

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Introduction: The aims of this umbrella review were to define key elements, principal outcomes and beneficiaries of CGA in hospital settings.
Methods: The protocol has been published elsewhere [1]. We searched the Cochrane Database of Systematic Reviews, Database of Abstracts of Reviews and Effects (DARE), MEDLINE and EMBASE. We selected evidence syntheses in English (2005–present) describing CGA for hospital inpatients over 65 years compared to usual care, or CGA in an alternative setting. Evidence tables and narrative overview were produced for definitions of CGA, setting and staff, participants and outcomes.
Results: We reviewed 715 titles, 329 abstracts, 108 full articles and selected 12 reviews for data extraction. The most widely used definition of CGA was: "a multidimensional, multidisciplinary process which identifies medical, social and functional needs, and the development of an integrated/co-ordinated care plan to meet those needs." Commonly reported outcomes included mortality, Activities of Daily Living, dependency, length of stay (LOS), readmissions, living at home and institutionalisation. The main beneficiaries were older people (≤55 years) in receipt of acute care. In most studies frailty was not explicitly identified as a characteristic of CGA recipients. Patient related outcomes were not usually reported.
Conclusions: We confirm a widely used definition of CGA, a focus on death, disability and institutionalisation as key outcomes and LOS and readmissions as the operational goals. The main beneficiaries in hospital are older people with acute illness. The presence of frailty has not been widely examined as a determinant of CGA outcome.

Reference

1. http://www.crd.york.ac.uk/PROSPERO/display_record.asp?ID=CRD42015019159

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Narrative and open dialogue practice in multidisciplinary complementary services for hospitalized elderly in geriatric care with a confirmed suspicion of abuse

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Introduction: Elder abuse is known to be highly underreported by its victims, mainly because of an acute sentiment of fear and embarrassment. Of all cases, the vast majority of cases are due to neglect and/or emotional abuse.
Method: We present a qualitative descriptive case study of an innovative multidisciplinary complementary service for senior persons who were hospitalized in a Geriatric Clinic, with a confirmed suspicion of an experience of abuse. The context of this study is provided by an action research project ran in Iasi, Romania as a public-private partnership, including two universities, an university hospital, and three professional nonprofit organizations (psychologists', social workers', and nurses' associations). The study was performed on a group of 150 elderly exposed to psychological and emotional forms of abuse. The qualitative component of the narrative data used the thematic analysis networks (Attride-Stirling, 2001) to inform on the "micro" level of the changes via narrative interviews and open dialogues performed by highly trained, competent personnel. Interviews and narrative medicine groups were used to inform on "mezzo" (organizational) and "macro" (normative and cultural) levels.
Conclusion: Our research confirms the impressive incidence of psychological abuse in senior population. The study also underlined the inherent conflict between the narrative perspectives and the organizational rationality in healthcare services.

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Our experience with pain in old age

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Objectives: Pain should not be considered as a normal consequence of aging. Pain is always do a pathology, other psysical or psychological; and may be acute and chronic.
Material and methods: We analysed 50 patients, aged 65 to 85 years, 60% female and 40% male. In this group 20% patients had acute pain which had identifiable temporal relationship with injury or disease. Other patients (80%) had chronic pain which was asociated progressive disease. 5% patients had dementia.
Patients were explored with lab tests, radiography, ultrasound (abdominal and heart), compter tomography, magnetic resonance imaging, McGill pain questionnaire, Visual Analoque Scale for pain.
Results: In this group several different diseases were diagnosed: 50% spondyloarthropathies; 38% diabetic neuropathies; 35% cancer pain; 28% vascular diseases; 20% low back pain; 20% headache; 8% postherpetic neuralgia; 3% heartburn; 2% trigeminal neuralgia.
Tests for pain evaluatio showed that pain was persistent and changed mood, interpersonal relations and activity level.
The patients were treated with simple analgesics (Paracetamol, NSAIDs, selective COX-2 inhibitors), opioid drugs and adjuvant analgesics (antidepressants and anticonvulsants), nonpharmacological therapies (physical, psychological).
Conclusion: Evaluation of pain in old age, specialy in patients with dementia reqiure more time to assimilate and respond to questions regarding pain becauseof memory impairment or limited communication skills.

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Implementation of a Frailty Unit has further benefits to Older People Assessment and Liaison Service (OPAL) in older patients admitted to Ashford & St. Peter's NHS Trust

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Objectives Elderly patients are frequent users of our emergency care pathway. These patients do not have a comprehensive geriatric assessment (CGA) and have high length of stay (LOS).
Methods: The OPAL team was set up in Oct 2013 and was based in MAU 8 am–6 pm. It involved early CGA for all patients >85 in MAU. The OPAL team felt there could be more improvement as patients in MAU get moved on quickly due to the AE 4 hr target pressures. This prevented the team following up on their patients they had completed a CGA. Therefore, in Dec 2015 we developed 7 day frailty unit. The OPAL team joined up with the therapy team working together in A&E, MAU and the frailty unit assessing over 75s presenting as an emergency.
Results: OPAL reduced the LOS for the over 85s from 9.96 (April 12–March 13) to 9.55 days (April 14–March 15). From Dec 15–Feb 16, over 1,000 new patients have been seen by the team (A&E, CDU, MAU, frailty unit). The average LOS in the frailty unit is 2.94 days. Dec 15 – Feb 16 shows 2659 over 75s patients presenting with a LOS of 7.26 days. Comparing this with Dec 14–Feb 15 showed 2,691 over 75s patients with a LOS of 9.41 days. Despite the winter months, the LOS was better when compared to the 3 months before (Sept–Nov 2015) which was 8.18 days.
Conclusion: Having a frailty unit with the team working across all emergency areas provide additional cost savings to OPAL.

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Application of comprehensive geriatric assessment for the detection of older people at risk of suffering a hip fracture. Case-control study

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Objectives: To determine if some characteristics of the older obtained by comprehensive geriatric assessment (CGA) serve to detect who of them are in higher risk of suffering a hip fracture (HF).
Methods: Demographic, functional, cognitive and nutritional data and vitamin D levels in a cohort of acute hip fracture patients and in a representative cohort of community-dwelling older from the same area were compared. Bivariate analysis of the variables in the whole sample and in a subsample of subjects matched for age and sex was performed. Then a logistic regression analysis of significant variables was performed.
Results: Five hundred and nine HF patients and 1,315 community-dwelling older were included. HF patients were older and more frequently women, had more frequency of disability and cognitive impairment, lower hand grip strength, lower body mass index (BMI) and higher frequency of vitamin D insufficiency compared with community controls ($p < 0.001$). The variables most strongly associated with the presence of HF in the multivariate analysis, besides age and sex, were BMI <22 kg/m^2 (OR 5.11, 95% CI 2.45–10.65; p = <0.001), disability (OR = 4.32, 95% CI 2.73–6.80; p = <0.001), muscle weakness (OR = 3.01, 95% CI 1.90–4.77; p = <0.001) and vitamin D insufficiency (OR = 2.13; 95% CI 1.452–3.14; p = <0.001).
Conclusions: There are several simple factors obtained through CGA that are strongly associated with the presence of fragility HF. The detection of underweight, disability, malnutrition, muscle weakness and insufficiency of vitamin D can identify older people at risk and help to implement in them prevention strategies.

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Cardiac pacing in cardio-inhibitory Carotid Sinus Syndrome: when should we pace? A Syncope Unit experience

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Objectives: The efficacy of cardiac pacing in cardio-inhibitory Carotid Sinus Syndrome (CI-CSS) is controversial, due to the lack of large randomized trials and the recurrence of syncope after pacing. The present study analyzed the recurrence of syncope in patients with CI-CSS or Hypersensitivity (CSH) paced or not.
Methods: A retrospective analysis of clinical data on patients with CI-CSS/CSH was performed, investigating the recurrence of syncope (mean follow-up 61.2 ± 17.8 months). Data were collected from clinical records and patients interview.
Results: 1273 consecutive patients underwent Carotid Sinus Massage, with a cardio-inhibitory response in 9.74% of the cases. Follow-up data from 108 patients were available: 79 (73.1%) showed CI-CSS, 29 (26.9%) had CI-CSH. 76 patients (70.4%) underwent pace-maker implantation, mainly for CI-CSS (85.5%). 15/108 patients (13.9%) experienced a relapse of syncope; in the CI-CSS group, syncope recurred in 16.9% of paced patients and in 7.1% of not paced ones. Among those reporting syncope after pacing, the 81.8% had neurally mediated prodromes, the 54.5% had a positive Tilt Test and the 63.6% was on hypotensive drugs. 14 CI-CSS patients refused pacing. 92.9% did not experience recurrence. No predictors of recurrence were identified.
Conclusions: Symptoms recurrence was more common in paced patients with CI-CSS, whereas those refusing the procedure showed the lowest recurrence rate. Even if recorded in a small, highly selected population, these data show that patient selection for pacing is not effective if merely based on asystole. Clinical features suggesting hypotensive susceptibility may help identifying patients who could not benefit from pacing.

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Does comprehensive geriatric assessment affect decision-making & outcomes for older adults treated for upper gastro-intestinal cancer

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Introduction: Comprehensive Geriatric Assessment (CGA) in cancer treatment is gaining prominence as a potential way of improving outcomes amongst older patients. This prospective cohort study in older adults with Upper Gastro-intestinal (UGI) Cancer aimed to examine the effect of CGA on Cancer Multi-Disciplinary Team (MDT) decision-making and key outcomes.
Methods: Consecutive patients (>70 yrs) referred to the UGI Cancer MDT were invited for assessment in a multi-professional Geriatric Assessment Clinic. All patients were assessed by geriatrician, nurse, occupational therapist, physiotherapist, dietician and social worker. Planned interventions were delivered and followed-up by the CGA team. Surgical length of stay (los), unscheduled acute care episodes and deaths were recorded and compared with a historical control cohort.
Results: 97 CGA patients (64% male) were compared with 99 (63% male) controls. Age, co-morbidities and cancer diagnoses were similar in both groups. Significantly more patients in the CGA group (33.0%) received potentially curative surgical treatment than in the control group (18.2%) (Chi-square = 5.654 p = 0.017). There was no effect on palliative treatment decisions. CGA appeared to have no influence on post-operative los but increased the occurrence of unscheduled admissions (67.0% vs 51.5%, Chi-square = 4.870, p = 0.027). However, there was no difference in total use of acute care between the two groups. 6-Month mortality was significantly lower in the CGA group (30.9% vs 48.5%, Chi-square = 6.304, p = 0.012)
Conclusions: CGA in UGI cancer assessment increases the proportion of older patients receiving potentially curative surgical treatment and improves 6-month survival. There is no apparent cost in terms of increased use of acute care.

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Use of a holistic assessment tool improves patient centred care planning

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Background: Community dwelling older adults are presenting with increased levels of complexity. Community nurses' lack the knowledge, skills and time to assess this complexity leading to "task orientation" and community patients not being treated in an holistic way.
Methodology: This Quality Improvement Project aimed to improve patient centred care planning through the use of Holistic Assessment. Plan, Do, Study, Act (PDSA) cycles were used to implement change and evaluate effectiveness. PDSA 1: Community staff identified how time could be made available for full assessment. PDSA 2: Staff received training on the holistic assessment tool, including physical, social, psychological and medicines management. Training included pressure ulcer risk assessment, pressure ulcer grading and screening for malnutrition. Consultation skills were also discussed. PDSA 3: audit and feedback, supporting staff less confident about holistic assessment, making joint visits and examining notes together. Team discussion about how to support patients occurred at handover for training purposes.

Results: The rate of holistic assessment for new patients increased from 10% to over 30%. Rates of pressure ulcer screening, nutritional assessment, and referral for voluntary support increased. Avoidable pressure ulcers decreased by 87.5% between May 2015 and January 2016.
Conclusion: This project has shown significant improvements in pressure area care. Sustainability has also been shown. A further PDSA cycle is underway to introduce a Frailty Tool to the community teams. The author has been funded to work two days a week implementing similar improvements within other teams.

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"Hot clinic" effects of outpatient comprehensive geriatric assessment on survival and hospital admission avoidance

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Objectives: HOT clinic is a "one stop clinic" which is part of Triage and Rapid Elderly Assessment Team (TREAT), aim to address patient's needs rapidly following approach of comprehensive geriatric assessment (CGA) with community teams to ensure appropriate care in place.
The criteria is patients with complex needs, exacerbation of chronic conditions requiring immediate management to achieve purpose of admission avoidance and improve survival.
Methods: A retrospective study of 8 months period pre and post introduction of Virtual Clinic (telephone call) carried out looking at patient attended HOT clinic to confirm whether CGA has been assessed appropriately.
Results: Total number of 475 patients attended HOT clinic, average age was 85 ± 9.
The main source of referral was from GPs (51%) followed by TREAT (27%) and Emergency department (15.5%).
Number of patients admitted in hospital from HOT clinic was 4.2% (n = 20), 17.6% (n = 84) patients admitted in hospital within 30 days post HOT clinic attendance, average length of stay was 10 days.
Median waiting time for HOT clinic was same day. The mortality post attendance of HOT clinic was 0.63%(n = 3).
3.6%(n = 96) functional improvement observed post virtual clinic cohort compare with 25.2% (n = 68) pre virtual clinic cohort.
Conclusion: Patients were seen promptly, with significant reduction in mortality rate and functional improvement observed post HOT clinic attendance.
Both admission and readmission rate remained low which completed the concept of admission avoidance. Reduce number of follow up has shown after introduction of Virtual clinic.

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Multidisciplinary team. Geriatricians and urologists collaboration

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Introduction: the collaboration between urologists and geriatricians ensures that each patient receives highly coordinated, comprehensive care. Bladder cancer, illustrates well the association between cancer and aging and it's the fourth most common malignancy in men.
Method: Case Report. An 82-years-old man with a history of bladder hernia and bladder cancer non-operated dating back six years, was admitted to the emergency room due to macroscopic hematuria, abdominal pain and malaise for 24 hours. Computed Tomography images revealed a voluminous inguino-scrotal hernia containing much of the bladder with a thickening area of the wall of 67 × 34 × 64 mm (image#1), the Complete Blood Count showed hemoglobin 8,2 g/dL, and the Blood Chemistry showed Creatinine 3,4 without other relevant findings. The patient was admitted in the urology service after clinical stabilization, the case was discussed by urologists and, despite high perioperative mortality risk due to all the existent comorbidities including aortic abdominal aneurism, COPD, Hipertension, isquemic heart disease, atrial fibrillation and Diabetes was proposed to partial cystectomy and hernia repair surgery as the only definitive way to relief the pain and control of the hematuria. The case was consulted with geriatrics.
Results: A comprehensive geriatric assessment and a multidisciplinary team agreed with the patient a non-surgical approach. He was discharged home with the complete support of the hospital and home care.
Conclusion: Geriatrics strategy begins with the patient's primary concern; includes a review of the care plan; considers patient preferences, available medical evidence, prognosis, benefits and harms; and communicates options and treatment choices with the patient.

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Self-rated health and mortality in the polish elderly – PolSenior project

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Introduction: Prognostic value of self-rated health (SRH) on elderly mortality was observed in many surveys. We analyzed this association in a representative cohort of the Polish elderly.
Methods: The PolSenior project was conducted between 2007 and 2012 in a sample of 2,412 females and 2,567 males aged 65 years and over. Evaluation of SRH was performed in respondents with preserved cognitive function and measured using Visual Analog Scale (range 0–10 points), where 0 meant the worst and 10 the best imaginable health status. The score of 0–3 points was interpreted as poor, 4–6 as fair, and 7–10 as good SRH. Socio-economic factors, functional status, vision and hearing acuity, morbidity and life-style factors were also accounted for.
Results: During the 5-year period, 730 females (30%) and 1,009 males (39%) have died. Significant hazard ratios for all-cause mortality were observed for females and males with poor (HR 2.48, 95%CI [1.83–3.37]; HR 2.62, 95%CI [2.04–3.36], respectively), as well as those with fair SRH (HR 1.29, 95%CI [1.03–1.60]; HR 1.29, 95%CI [1.10–1.52], respectively) as compared to those with good SRH. Cox proportional hazards regression model adjusted for all covariates confirmed that SRH was associated with mortality in females, but not in males. Significant differences in the risk of mortality were observed only between females with poor and good SRH (HR 1.77, 95%CI [1.11–2.82]).
Key conclusions: SRH may be a valid predictor of all-cause mortality in elderly females, but not in males. Implemented under publicly-funded project no. PBZ-MEIN-9/2/2006, Ministry of Science and Higher Education.

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Improving identification of depression in hospitalised older people

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Introduction: Depression seriously impacts on older people, increasing morbidity and mortality, caregiver burden and hospital readmission. Despite screening being nationally recommended, it frequently remains unrecognised and untreated in older people.
Aims: To improve identification of depression in hospitalised older people.
Methods: Baseline assessment of current care was undertaken. Stakeholder analysis and engagement was conducted with staff and patients. Interventions included:

- Environmental restructuring – development of a depression screening proforma incorporating the four question Geriatric Depression Score (GDS-4)
- Education – about depression's impact and importance of assessment
- Persuasion – to use the proforma and improve patient outcomes

Sequential cycles of plan-do-study-act (PDSA) were utilised as the model for improvement.
Results: Baseline assessment indicated that 0/51 patients were assessed for depression prior to the project. Screening was then attempted in 153 patients. It was not possible in 31 due to severe confusion. Of the remaining 122, 92 (75%) were not depressed, outcome was uncertain in 18 (15%), 12 (10%) were depressed. This led to a management change for eight patients.
Conclusion: Depression screening in hospitalised older people is feasible. It improves outcomes but along with effective communication and education, needs normalising into routine systems and processes. Switching to GDS-5 clarified "Uncertain" outcomes associated with GDS-4. The project has now spread to another Acute Trust. Depression screening is included in Comprehensive Geriatric Assessment and routinely carried out. Data indicates 43.5% of screened patients have evidence of depression. This is communicated in their problem list, treatment plan and to their GP on discharge.

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Functional and cognitive impairment, social environment, frailty and adverse health outcomes in older patients with head and neck cancer, a systematic review

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Objectives: Older head and neck cancer patients are at increased risk for adverse health outcomes but little is known about which geriatric assessment associates with poor outcome. We aimed to study the association of functional and cognitive impairment, social environment and frailty with adverse health outcome and their predictive value in patients with head and neck cancer.
Methods: Four libraries were searched for original studies reporting on an association of functional or cognitive impairment, social environment and frailty with adverse outcomes after follow-up in head and neck cancer patients.
Results: Of the 4,158 identified citations 31 articles were included. The mean age was over 60 years in twelve studies (39%). Geriatric conditions were prevalent: between 40 and 50% of the included participants were functional impaired, around 50% had depressive symptoms and around 40% did not have a partner. Functional impairment was assessed in eighteen studies, two studies reported on a cognitive test, eight studies examined mood and social status was depicted by fourteen studies. None of the included studies addressed frailty or objectively measured physical capacity such as hand grip strength, gait speed or balance tests. Out of 41 reported associations, 64% reported a significant association of impaired functional or cognitive performance, mood or social environment with adverse health outcomes.
Conclusion: Functional and cognitive impairment, depression and social isolation are highly prevalent and associate with increased risk of adverse health outcomes in head and neck cancer patients. These measurements may guide decision-making and customize treatments. More research is needed to further improve clinical usability.

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Economic evaluation of nurse-led multifactorial care to prevent or postpone new disabilities in community-living older people: results of a cluster randomized trial

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Introduction: To evaluate the cost-effectiveness of nurse-led multifactorial care to prevent or postpone new disabilities in community-living older people in comparison with usual care.
Methods: We conducted an economic evaluation alongside a cluster randomized trial with one-year follow-up. Participants were aged ≥70 years and at increased risk of functional decline. Participants in the intervention group (n = 1,209) received a comprehensive geriatric assessment and individually tailored multifactorial interventions coordinated by a community-care registered nurse with multiple follow-up visits. The control group (n = 1,074) received usual care. Costs were assessed from a healthcare perspective. Outcome measures included disability (modified Katz- ADL index score), and quality-adjusted life-years (QALYs). Statistical uncertainty surrounding Incremental Cost-Effectiveness Ratios (ICERs) was estimated using bootstrapped bivariate regression models while adjusting for confounders. Cost-effectiveness planes and acceptability curves were used to report statistical uncertainty.
Results: There were no statistically significant differences in Katz-ADL index score and QALYs between the two groups. Total mean costs were significantly higher in the intervention group (EUR 6,518 (SE 472)) compared with usual care (EUR 5,214 (SE 338)); mean difference EUR 1,244 (95% CI 309; 2,337). Cost-effectiveness acceptability curves showed that the maximum probability of the intervention being cost-effective was 0.14 at a willingness to pay (WTP) of EUR 50,000 per one point improvement on the Katz-ADL index score and 0.04 at a WTP of EUR 50,000 per QALY gained.
Conclusion: The current intervention was not cost-effective compared to usual care to prevent or postpone new disabilities. Costs were significantly higher in the intervention group.

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Preventive home-visits and nurse-led care coordination: a qualitative study on the experiences, needs and preferences of community dwelling older people

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Introduction: The aim of this study is to examine the experiences, needs and preferences of community-dwelling older people concerning preventive home-visits and nurse-led care coordination in the Netherlands.
Methods: From the intervention arm of a cluster randomized trial, eleven participants were purposively selected. These participants had an increased risk on functional decline and were interviewed at home, using semi-structured interviews. All interviews were audio recorded, transcribed, and analyzed independently by two researchers using a thematic analyses approach.
Results: Older people found it important that the general practitioner (GP) keeps an eye on them. Certain roles of the GP can be delegated to a nurse, particularly psychosocial aspects, but it is important that the GP remains involved. Although the aim of the visits and the role of the nurse was sometimes unclear, older people appreciated the attention. This attention gave the feeling of being seen and created a sense of safety.
Conclusion: The results of this qualitative study show the importance of tailor made care in community dwelling older persons. Preventive home visits coordinated by a nurse can contribute to efficient primary

care and improved satisfaction among older people towards proactive primary care, but the GP cannot delegate this role completely.

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Frail older people after hospital discharge: follow-up at three and six months of patients discharged either to postacute care unit (PCU) or home

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Introduction: This study aims to compare the results at three and six months of two cohorts of frail older people who were discharged from the hospital to either a PCU or home.
Methods: Prospective observational study of 75 patients hospitalised in an acute hospital ward, aged ≥65, who fulfilled the admission criteria for PCU: inability to transfer from the chair/bed, inability to walk alone, altered mental status and absence of severe dementia/terminal disease. The availability of an informal caregiver was required. Patients could choose between admission to PCU or discharge home. At discharge, 3 and 6 months we gathered information on: age, sex, functional status (Barthel and Lawton Index), cognitive status (MMSE), main disease, Charlson, number of drugs, readmissions, falls and adverse events (defined as readmission episode and/or ≥2 falls).
Results: 42 patients were admitted to PCU while 35 were discharged home. No significant differences in the variables studied were found at discharge. At three months,15 had died and 8 were lost, distributed equally in both groups ($p = 0.785$ and $p = 0.664$, respectively). Patients admitted to PCU suffered less readmissions (26.3 vs 73.7%, $p = 0.005$), were prescribed more drugs (3.8 ± 2.4 vs 5.4 ± 2.4, $p = 0.028$) and suffered more often from adverse events (30.4 vs 69.6%, $p = 0.004$). At six months, no significant differences were found in mortality, readmissions and drugs prescribed.
Key conclusions: In frail older people, admission to PCU after hospital discharge might have positive effects on polypharmacy, risk of readmission and falls at three months with respect to discharge home

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Screening for frailty in older hospitalized patients: reliability and feasibility of the Maastricht Frailty Screening Tool for Hospitalized Patients (MFST-HP)

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As nurses in hospitals are confronted with increasing numbers of older patients, their geriatric nursing skills and knowledge must be integrated into daily clinical practice. Early risk identification via screening tools may help to improve geriatric care. To reduce the assessment burden of nurses, the Maastricht Frailty Screening Tool for Hospitalized Patients (MFST-HP) was developed, a tool that is fully integrated in the initial nursing assessment. The aim of this study was to explore aspects of reliability, validity and feasibility of the MFST-HP. The Intraclass Correlation Coefficients for both intra- and inter-rater reliability were good (ICC above .93). Older patients and those with more comorbidity showed higher scores on the MFST-HP compared to younger patients and those with less comorbidity. Administration time averaged 2.6 minutes (SD = 0.9) and the response burden among patients was acceptable. The MFST-HP shows promise as a reliable, valid and feasible screening tool for frailty among hospitalized older patients.

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Usefulness of the revised simplified Short-Term Memory Recall Test (STMT-R) in acutely ill geriatric patients; Approach to a new short cognitive screening test

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Introduction: Cognitive dysfunction is a prevalent condition in acutely ill geriatric patients, but often remains undetected. The MMSE (Mini-Mental State Examination) is broadly used, however a quicker clinical identification in acutely ill geriatric patients would be useful. We herein use a revised version of STMT [1] (a maximum score 8; cutoff point 4) (STMT-R) to evaluate its usefulness and compared with ages, gender, underlying diseases and clinical outcome as comparative factors.
Method: Previously, MMSE and STMT-R scores were compared in 32 outpatients and we found a positive correlation ($r = 0.625$ $p < 0.001$). The inclusion criteria were to measure in STMT-R within one week after admission, age ≧50 yo and being non-critical ill. Among 1,190 patients (between October 2014 and September 2015), 885 consented and were enrolled. STMT-R ≦ 4 was considered as cognitive dysfunction.
Result: Enrolled subjects had a mean age of 78.9, 52.2% were female and 10% were with history of dementia. They had uncompleted cognitive testing with delirium and poor hearing ($n = 159$), cognitive dysfunction(STMT-R ≦ 4; $n = 460$) and non-cognitive dysfunction person (STMT-R > 4; $n = 266$). Statistically, the significant differences were recognized to the age, history of dementia, internal medicine diseases, respiratory illness and hospital death rate by cognitive dysfunction ($p < 0.01$).
Conclusion: (1) STMT-R is expected to be a standard cognitive test in acute ill geriatric patients. (2) It was suggested that the age, history of dementia , internal medicine diseases and respiratory illness had an influence on the cognitive functional decline, and the cognitive dysfunction could affect the clinical outcome.

Reference

[1] Kobayashi N *et al.* Development of a simplified Short-Term Memory recall Test (STMT) and its clinical evaluation. *Aging Clin Exp Res* 2010, 22(2) 157.

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Comprehensive geriatric care in elderly referred to a rehabilitation unit – a randomized trial

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Introduction: Elderly with multiple illnesses represent the fastest growing sector of society and make increasing demands on all sectors of the health care system, particularly in community rehabilitation units due to shorter time of stay in acute care units and hospitals. The aim of this study was to investigate the effect of geriatrician-performed comprehensive geriatric assessments and intervention with follow up (CGC) in elderly referred to a rehabilitation unit.
Methods: The study was a prospective randomized controlled trial. Settings: two community care rehabilitation units in Aarhus Municipality, Denmark. Inclusion: elderly aged 65 and older from home or hospital. Exclusion: elderly who received palliative care or had been assessed by a geriatrician during the past month. Intervention: medical history, physical examination, blood tests, medication adjustment and follow up by a geriatrician. Control: standard care with the general practitioners (GPs) as back-up. Hospital contacts (primary outcome), GP contacts, activities of daily living (ADL), physical and cognitive functions, quality of life, institutionalization, medication status, and mortality were assessed at day 30 and 90 after arrival at the rehabilitation unit.
Results: In total, 370 persons were randomized (184 control/186 intervention group). The mean age was $77.9 \pm 7.9/78.3 \pm 8.3$ years. ADL was improved or maintained in 113 (63%)/128(70%), OR = 1.36, CI = 0.9–2.1 within 90 days. No difference in mortality was demonstrated. Analyses on hospital contacts are ongoing.
Key conclusions: Geriatrician-performed CGC does not seem to affect the ADL and mortality compared to standard care.

Area: Delirium

P-286
Prevalence of delirium in geriatric rehabilitation in Israel and its influence on rehabilitation outcomes in patients with hip fractures

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Introduction: Hip fractures are among the most serious injuries in elderly populations. Potential complications include the development of delirium syndrome during post-fracture rehabilitation. Delirium syndrome may be characterized by insufficient diagnosis and lack of adequate documentation, hampering quality of care and patient outcomes. Previous studies have not provided definitive evidence on the influence of delirium on rehabilitation outcomes. This study's purpose was to assess the prevalence of delirium among geriatric patients with hip fractures, and to examine the influence of delirium on rehabilitation outcomes.
Method: A prospective study was conducted among 95 hip fracture patients admitted to an orthopedic geriatric rehabilitation ward. At admission, the following data were gathered: Sociodemographic data, pre-fracture ADL, FIM, MMSE, comorbidities, and medication. Delirium was assessed using the CAM. The severity of delirium among patients with a positive score on the CAM was assessed using the DRS-R-98. Rehabilitation outcomes were evaluated by comparing FIM and ADL at admission and discharge.
Results: The prevalence of delirium among patients was 30%. A significant difference was found between patients who developed delirium and those who did not. Patients who developed delirium had lower ADL levels at admission, more significant renal failure, lower levels of FIM, lower MMSE scores, and were more likely to be Jewish than Arab. Furthermore, FIM at discharge and delta FIM were lower among patients who developed delirium than among those who did not.
Conclusions: The functional recovery of patients with delirium is slower. Therefore, it is important to adjust therapeutic approaches to these patients.

P-287
Improved quality of care of older patients experiencing a delirium within the acute hospital setting: a quality improvement project

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Introduction: Delirium is a clinical syndrome characterized by disturbed consciousness, cognitive function or perception, which has an acute onset and fluctuating course (NICE, 2010). It has a high incidence in frail older people (Ferguson, Miller et al, 2008). It affects between 6 and 56% of older hospital patients and is associated with adverse outcomes. Despite this, delirium goes under-recognised with many cases remaining undiagnosed (Fong, Tulebaev & Inouye, 2009). Nurses have a critical role in recognising the signs of delirium, working closely with junior doctors to care for these patients. However, poor communication and understanding surrounding delirium and its management can result in suboptimal care.
Methods: The aim of this project is to improve quality of care of older patients experiencing a delirium within the acute hospital setting by improving knowledge and communication around delirium between the multidisciplinary team. The model for improvement (NHS Institute, 2008) in association with Plan, Do, Study, Act (PDSA) cycles will be used to analyse whether key educational interventions and implementation strategies have been effective in improving care for these patients'. PDSA 1: evaluation of small group education sessions using pre/post teaching knowledge and confidence questionnaires. PDSA 2: an audit of communication around delirium in nursing and medical notes before and after education. PDSA 3: an audit of multidisciplinary (MDT) boardround communication before and after education.
Results: A small improvement in practitioners' knowledge was noticed with a clear increase in staff confidence was demonstrated post teaching. This resulted in improved communication at MDT boardround and better documentation of delirium diagnosis and management in patient records.
Conclusion: This project improved quality of care for older patients experiencing a delirium. Greater knowledge, increased confidence and improved communication results in earlier detection and better management of delirium in frail older people.

P-288
Agitation in the elderly in the psychiatric emergency department

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Introduction: The ageing population has clinical issues including psychiatric disorders. The psychomotor agitation is an heterogeneous and common situation at the psychiatric emergency.
Methods: It is a retrospective study made with 252 cases with patients >65 years old. We worked 66 cases with psychomotor agitation that occurred in a psychiatric emergency department during the first quarter of 2016. The data was analyzed using several tools (Excel, SPSS). For each process we have gathered 75 variables, 44 of those, where selected to answer meet our goals.
Results: The majority of the sample were female, age average 78.2, 78.8% lived in their own house, and 57.6% have arrived by other emergency specialties. Half of this cases were known to the psychiatry team. The previous psychiatry diagnosis most seen was dementia followed by depression. The main psychopathology changes were orientation, sleepiness and memory. In the majority of this cases we had organic origin for the agitation (54.3%), then demencial, psychiatric, organic + psychiatric. After being reviewed most cases were referred to general practitioners. 75.8% of the patients had several not psychiatric comorbilities. Prior to the emergency admission 43.9% took benzodiazepines that have reduced after afterwards, an increased of antidemential prescription as antidepressive medicine was noted. Mood stabilizers were almost never used. Despite the risk of usage of antipsychotics at old age those were widely prescribed from 41% before the agitation and 83.3% after.
Conclusions: The main etiology of agitation at old age was organic still this study were at the psychiatric emergency department. Although the risk, the antipsychotics were widely used to contain this situations.

P-289
The effect of Ramelteon on delirium and other circadian rhythm disturbances. A systematic review

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Introduction: Disturbances of the circadian rhythm occur in a variety of disorders, e.g. in primary insomnia and in delirium. Recently, Ramelteon was approved by the US Food and Drug Administration for treatment of insomia. Ramelteon is a melatonin receptor agonist with a higher affinity to the MT1 and MT2 melatonin receptors and has a longer half-life than melatonin. The objective of this review is to evaluate the effect of Ramelteon in all circadian rhythm disturbances.
Methods: We conducted a systematic search on December 2015 in Pubmed, Embase and Web of Science to identify randomized controlled trials (RCTs) in which Ramelteon is compared to other interventions or placebo with a circadian rhythm related outcome.
Results: The search ultimately yielded 18 studies that met the inclusion criteria.
Discussion: 12 of the 18 included RCTs showed a positive result of Ramelteon treatment on the circadian rhythm related outcome,

including one RCT that studied the preventive effect of Ramelteon in patients with delirium [Hatta 2014]. Recently, there have been three studies on the prevention of delirium with melatonin Of these, two showed a decrease in incidence of delirium [Sultan 2010, Al Aama 2010, de Jonghe 2014]. The need for an effective and safe treatment for delirium is substantial as many patients suffer from delirium each year and it has severe long-term consequences.
Conclusion: The results of the RCTs in our review suggest that Ramelteon has a positive effect on circadian rhythm disturbances as seen in patients with insomnia and delirium.

P-290
Impact of delirium in geriatric patients admitted to an acute heart failure unit: preliminary data

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Objectives: Geriatric syndromes are frequent and underestimated in heart failure (HF). Delirium was pointed as a determinant factor in quality of life. The aim of the study was to estimate the prevalence of delirium, characterize those patients and their length of stay.
Methods: Prospective study of consecutive HF patients, aged >65 y, admitted to HF Unit during 9 months. All were submitted to a Mini Mental State (MMS) questionnaire and delirium events were registered and treated. A detailed analysis of the patients who presented delirium was made.
Results: 64 patients were admitted. HF etiology was 33,3% Hipertensive; 33,3% valvular and 22.2% ischemic and 44,4% had HF with reduced ejection fraction. Nine (14%) had delirium. 66.6% were males, aged 79 ± 1.4, 55.6% presented a mRankin scale of 1, 11.1% of 2 and 33.3% of 3. None of the patients was previously diagnosed with dementia or depressive syndrome, although 44.4% had cognitive impairment on the MMS at admission. Infection was present in 55.5% of the patients. Psychopharms were used in 88.8% (44.4% quetiapine, 33.3% haloperidol, 11.1% benzodiazepines). The length of stay was 14.8 ± 4.32, longer than the 8.48 ± 0.5 days of patients without delirium.
Conclusions: Cognitive impairment was frequent and underdiagnosed in this old HF population. Delirium occurred in a significant number of patients who required urgent treatment and doubled the length of stay. Geriatric syndromes have to be screened at admission and precociously treated.

P-291
Operationalising routine delirium screening with the 4AT for older patients attending an AMAU

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Objectives: Delirium is frequently associated with adverse outcomes, including prolonged inpatient stay, increased mortality, functional decline and increased need for residential care. Despite these outcomes recurrent studies have demonstrated challenges to delirium identification, thus limiting essential early intervention. The objective of this study was to incorporate and evaluate delirium screening on admission to an Acute Medical Assessment Unit (AMAU) and review its documentation and follow up on discharge.
Methods: Consecutive patients aged ≥65 presenting to the AMAU were prospectively screened from 15/2/16 to 08/05/16. Delirium screening was performed using the 4AT. The 4AT was integrated into the Symphony® electronic patient record, as a necessary step in the admission/discharge of all older patients. Discharge letters were evaluated in those scoring either 1–3 or ≥4 on the 4AT to assess documentation and follow up of acute definite/possible delirium.
Results: 211 people aged ≥65 attended the AMAU during the allocated time. 19/211 (9%) scored ≥4 indicating likely delirium, 34/211 (16.1%) scored 1–3 suggesting possible delirium or cognitive impairment. Two patients in each category remained in hospital at the time of data collection and were omitted. 52.9% (≥4) and 18.8% (1–3) had known premorbid dementia. New diagnoses of dementia were made in 6.1% (3/49) all scoring 1–3. Delirium was documented on discharge in 47.1% (8/17) in ≥4 and 3.1% (1/32) in 1–3 and its management specified in 62.5% (5/8) in ≥4 and 100% (1/1) in 1–3. On discharge, formal cognitive assessments were documented in 6.3% (2/32) of 1–3, although 34.4% (11/32) of this group and 29.4% (5/17) ≥4 were referred for further evaluation of cognition on discharge.
Conclusions: Incorporating the 4AT as part of the AMAU admission pathway is feasible, and useful to support identification of delirium in older patients, thus allowing for timely management. Future strategies will focus on improving discharge documentation.

P-292
Identifying and managing delirium on admission

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Introduction: 10–31% of elderly patients are delirious on admission with 67% of them not being diagnosed. This leads to prolonged hospital stay, increased complications and costs. The National Institute of Clinical Excellence (NICE) has developed guidelines to assess risk factors, indicators, interventions to prevent delirium and to aid diagnosis using the short CAM (Confusion Assessment Method). The aim was to ascertain whether patients over 65 years of age are being screened for delirium and managed appropriately on admission.
Method: A retrospective audit of 2 weeks period was carried out looking at admissions of medical patients over 65 years old in order to confirm whether patients were assessed for and diagnosed appropriately with delirium according to the NICE guidelines.
Results: 92 out of 113 responses fulfilled the inclusion criteria. 62% of patients had an AMTS (Abbreviated Mental Test Score) recorded on admission and 20% had a completed short CAM score. 38% of patients were not diagnosed with delirium despite fulfilling criteria. Risk factors and precipitants such as polypharmacy, nutrition, sleep and sensory impairment were poorly assessed. Infection was elicited the best.
Conclusion: This audit shows that delirium is poorly diagnosed and screening tools are not being routinely used. Risk factors, indicators and precipitants of delirium are not being assessed enough; hence the diagnosis is often missed. We have implemented a delirium pathway and improved staff training to raise awareness of the screening and diagnostic process. The next stage would be to re-audit to see if these interventions have been effective.

P-293
Delirium recognition in older people using a validated assessment tool (Confusion Assessment Method, CAM) improves rates of diagnosis, communication and the overall quality of care

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Introduction: Delirium is a serious condition that remains poorly recognised and managed despite its high prevalence in older people. NICE (National Institute for Health & Care Excellence) recommends the use of CAM to improve formal identification of delirium.
Methods: We completed an audit cycle based on recommendations in NICE guidance 103 and quality standard 63. An initial audit reviewed the clinical notes of 100 patients with indicators of delirium presenting to our hospital. These looked at the proportion of patients that had formal identification, documentation on triggers and treatment, provision of information to patients and or relatives and communication of diagnosis to the General Practitioner on discharge. Following on this, a pilot study was undertaken on 50 patients using CAM to identify delirium. These patients were assessed for the same parameters on the initial audit.
Results: The identification of delirium improved from 4% to 98% on using CAM. Clinical record of underlying triggers and treatment for

delirium improved significantly. Recorded sharing of information on delirium diagnosis with patients/relatives and the General Practitioner improved from nil and 30% respectively in the initial audit to 98% and 78% respectively in the pilot study.
Conclusion: Formal identification of delirium using validated assessment tools like CAM, 4AT (Assessment Test) and SQiD (Single Question in Delirium) significantly improves diagnosis, identification and treatment of underlying causes, provision of information to patients, relatives and communication amongst health care professionals. Promoting their use will improve the quality of care for older people with delirium. Disclosure No significant relationships

P-294
Acute confusional state syndrome in hospitalized patients suffering from hip fracture

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Background: Delirium is a frequent complication in hospitalized patients.
Objective: Determining characteristic of admitted patients suffering from hip fracture and delirium during their hospitalized period.
Material and methods: Observational, longitudinal and retrospective study of admitted patients medical records that suffer from hip fracture and have delirium during hospitalization period. Variables: sex, age, hospitalized period, domicile, type of delirium, beginning and duration, associated pathologies and consumed medicines. Tracing: 60 days. Statistical treatment: SPPSv.15.
Results: n = 66. Males: 27,3%. Female: 72,7%. Average age 85,1 years. No sex differences. Average stay: 14,1 days. Males 20,5 days. Female: 12 days. Double stay for male. Domicile: Family 71,2%, Alone 6,1%, Residence 22,7%. Delirium: Hyperactive: 66,1%. Hypoactive: 16,7%. Mixed: 16,7%. Beginning of delirium: 1st day: 24,2%, 2nd day: 16,7%, 3rd day: 13,6%, 4th day: 10,6%, 5th day: 1,5%, 6th day: 13,6%, 6th day more than: 7,5%. Delirium duration: Average duration: 2,4 days. 40,9% 1 day. 25,7% 2 days. 10,6% 3 days. 3,6% 4 days, 5 or more days 9%. Associated pathologies: Average pathologies: 3,1. Hypertension: 66.7%, heart disease: 34,8%, neurological disease: 34,8%, diabetes: 28,8%, dyslipidemia: 25,7%, psychiatric disease: 19,7%. respiratory disease 10,6%, renal failure: 9,1%. Average consumption of drugs: 4,8. Treatment: Surgery:90,9%. Conservative 9,1%.
Conclusion: The most common type is the hyperactive delirium lasts an average of 2,4 days and is presented in the first 24 hours. The comorbidity associated with delirium was hypertension, heart and neurological disease. The patient "type" with hip fracture who suffered delirium during hospitalization is a woman of 85 years with heart and neurological disease, which has an overactive delirium in the first 24 hours, lives in the family home, taking an average of 4 drugs, receives surgical treatment and remains hospitalized about 14 days.

P-295
Implementing a delirium prevention programme can reduce falls in hospital geriatric medicine wards

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Background: Delirium is a common problem in older hospital inpatients and is associated with morbidity including an increased risk of falls. The aim of this analysis was to determine if implementing a delirium prevention service improvement intervention reduced falls in geriatric medicine wards.
Methods: A delirium prevention package was implemented over a three month period on two 28 bedded female geriatric wards at a large teaching hospital. The intervention included specialised training for staff on assessment and management of cognitive impairment, mobility, pain, nutrition, sensory impairment, sleep disturbance, medications, dehydration, hypoxia and infection in addition to developing new ward systems to increase delirium awareness. The established hospital adverse incident reporting system (Datix) was used to compare the falls per month in the six month periods before and after implementing the intervention.
Results: The mean fall rate before the intervention was 4.9/month (95%CI = 4.5–5.7) which fell to 2.5/month (95%CI = 1.5–3.4), the mean difference being 2.4/month (95%CI = 1.2–3.7) [p = 0.001]. There was no significant change in mean length of stay with the intervention [pre-intervention 13.3 days (95%CI = 12.4–14.1) vs post-intervention 14.8 days (95%CI = 13.5–16.0), NS].
Conclusion: Delirium and falls share many of the same risk factors and the former is an independent risk factor for the latter. These data show that better prevention and earlier diagnosis and treatment for delirium reduced falls by almost a half in geriatric medicine wards, although length of stay was not changed.

P-296
An embedded research project improves recognition of delirium in older hospital inpatients

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Background: There is evidence that research activity can improve patient outcomes in hospital [1]. Delirium is a severe acute neuropsychiatric syndrome affecting mainly older people in hospital. Delirium affects 15–25% of acute admissions to hospitals, yet is under-recognised. Our aim was to assess if an embedded research project on an acute admissions unit would improve delirium recognition.
Methods: 125 patients admitted to hospital with a diagnosis of DSM-IV delirium were recruited to a prospective cohort study over a period of 21 months. Delirium was diagnosed independently after the initial admission assessment. We recorded whether the delirium diagnosis was (1) recognised by the admitting assessment and (2) communicated in the discharge letter. Differences between these proportions were tested.
Results: Delirium recognition by the admitting team improved over the course of the study. More delirium cases were recognised in the second half than in the first half of recruitment (47.6% vs 71%, p = 0.01). A similar trend was seen through analysis of quartiles (41.9%, 51.6%, 74.2%, 68.8%, p = 0.034). There was no difference between the recording of delirium as a diagnosis in discharge summaries (41.3% vs 56.5%, p = 0.11). No other delirium recognition improvement projects took place during project recruitment.
Conclusion: Embedding a research project on an acute admissions unit improved recognition of delirium on admission but not at discharge. This suggests clinical research has wider systems benefits on patients as improved recognition of delirium can improve patient outcomes. This improvement may be due to the Hawthorn Effect.

Reference

1. Ozdemir BA, K.A., Sinha S, Poloniecki JD, Hinchliffe RJ, Thompson MM, Gower JD, Boaz A, Holt PJ. Research activity and the association with mortality. *PLoS One*, 2015. 10(2).

Area: Ethics and end of life care

P-297
The importance of the integration of palliative care on geriatrics wards at general hospitals

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The Geriatrics ward of our general hospital house elderly patients with acute illnesses and complex geriatric histories, requiring careful evaluation and treatment. Many of these patients suffer from advanced dementia and advanced-stage chronic illnesses such as heart failure, respiratory failure or chronic system failure – all of which

are associated with poor prognoses. In such situations, physicians tend to find themselves helpless, being able to offer very few if any treatment options and instead finding themselves settling and offering information and support to the patients and their family, symptom and pain management, emotional and spiritual support, all in an effort to make the patient as comfortable as possible. Most such cases with poor outcome are treated actually according to the principles of end-of-life care. These decisions are part of the day-to-day fabric of treatment in the Geriatric department and fall under the principles of palliative care. The Geriatrics department at the Western Galilee Hospital in Naharia has become the flagship department for providing palliative care to elderly patients in non-oncological settings. As a result, patients in need of such care have been transferred to our ward from internal medicine and other wards Our presentation will include a detailed description of the principles of palliative care that we implement in non-oncological settings in the Geriatrics ward, the significance of such a treatment model, and how we can transform the Geriatrics wards in every general hospital into departments capable of providing this kind care.

P-298
Considerations on the feasibility and acceptability of an advance care planning intervention for dementia residents in UK care homes

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Objective: The purpose of this study was to articulate a family focused Advance Care Planning (ACP) intervention and evaluate its impact in dementia care nursing homes.
Method: As part of a cluster randomised controlled trial including 25 care homes, carers of residents living with dementia in 13 of these homes were exposed to an ACP intervention comprising: an ACP facilitator; family education; a family meeting; documentation of ACP decisions; and, orientation for GPs and care home staff about the intervention.
A feature of the evaluation included documentation on the intervention delivery and stakeholder interviews to assess the feasibility and acceptability of the intervention. The ACP Facilitator maintained a narrative journal and activity log associated with tasks during the intervention delivery. They also completed an interview to discuss their perceptions of the implementation, challenges and benefits of the ACP model. Participating care home managers (n = 10) and family carers (n = 20) also completed an interview to determine their perceptions of such a model.
Results: On average, administration of each ACP intervention took two hours. Findings from the interviews highlighted the acceptability of the intervention, also the importance of such a role to be fulfilled within the care home environment was stressed, however time and staff restraints were noted as key barriers. Nonetheless, the interest and motivation of staff to make such a role possible was clear.
Conclusions: This presentation identifies the feasibility and perceived acceptability of an ACP intervention suitable for dementia residents in UK care homes.

P-299
Antibiotics at end-of-life

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Introduction: Literature suggests that antibiotics are commonly prescribed at the end-of-life, despite lack of evidence of its benefit, in the absence of clinical symptoms of a bacterial infection. Apart of this, there are also public health issues regarding antibiotic resistance.
Objective: Characterize and quantify the use of antibiotics at the end-of-life.
Methods: Retrospective, observational study evaluating the last 5 days of life of all patients who died in an internal medicine service, in a period of 13 months. Characterize the use of antibiotics prescription regarding microbacterial isolation and the functional status of patients (ECOG-PS). Data was collected after consultation of clinical charts.
Results: Were included 70 patients, in 46% the etiology of death was infectious. 86% of were under antibiotics within the last 5 days of life. In 72% there were no microbacterial isolation, and only in23% the antibiotic was prescribed according to antibiotic sensivity test. Reserve antibiotic were used in 92% of patients. In the study population 48,6% had an ECOG-PS score ≥3.
Conclusion: Despite the absence of microbacterial isolation or even clinical benefit, 86% of patients were under antibiotic in the last 5 days of life. The indiscriminate use of antibiotics and its clinical benefit at the end-of-life are questionable, unless the utilization aiming symptom control. We should rethink the indiscriminate prescription of large-spectrum antibiotics and the consequences for public health.

P-300
The introduction of advance care plans into care home settings

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Objective: the aim of this Quality Improvement Project was to improve palliative and end of life care for patients within care home settings through the introduction of advance care planning (ACP) through an initial pilot.
Setting: 34 bed care home and a 47 bed nursing home. These catered for patients with physical disabilities, general frailty and varying degrees of cognitive impairment.
Methods: Quality Improvement Methodology was used for this pilot. A review of the literature was undertaken alongside stakeholder interviews and process mapping in order to gather opinion. A pre hospital admission audit was undertaken to provide a baseline for comparison in 12 months time. Plan Do Study Act cycles enabled theories to be tested and adapted.
Results: 76 out of 79 patients and their families engaged with the process of ACP. 52 Do Not Attempt Resuscitation forms were completed in line with patient wishes. All patients had a frailty score documented on their medical record to aid risk stratification and end of life care planning.
Conclusion: care home staff and the majority of patients and their relatives welcomed the introduction of ACP. This enabled patient wishes to be documented, improved multi-disciplinary communication and end of life care planning through the use of frailty scores. It is too early to say whether the project has reduced avoidable hospital admissions. The project will now be rolled out across the remaining seven care homes and the data analysed in full at the end of the project in 12 months time.

P-301
Can the Charlson co-morbidity index guide inpatient resuscitation and escalation discussions?

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Introduction: The Charlson comorbidity index (1) is a prospectively applicable weighted estimate of future mortality that takes account of the number and seriousness of comorbid disease. It is not used routinely in NHS (UK) geriatrics to help facilitate end of life planning or discussion.
Methods: We conducted a scoping audit of co-morbidities, resuscitation and escalation documentation on several of our geriatrics wards to see if gathering additional data on co-morbidity might be a practical aid to guide patient, family and clinician discussion.
Results: Sixty nine (n = 69) patient escalation and resuscitation forms were reviewed, with ages ranging from 73 to 102. Resuscitation wishes were either "unknown" or "for" in 42% (29/69). Those opting "not for resuscitation" had clear documentation in only 21% (14/69). Ward escalation decisions to deteriorating health were not clear in 55% (37/69), and often not discussed with patient or relatives. 73% (50/69)

had three or more co-morbidities with 26% (18/69) having six or more co-morbidities. It is therefore likely that the Charlson comorbidity index could be applicable in this group and help provide insightful prognostication discussions, should this be wanted.
Conclusion: Multiple comorbidities are very common in our ward patients but resuscitation and escalation decisions are often poorly discussed and documented. The Charlston co-morbidity index potentially offers professionals a reality check tool to help facilitate these difficult discussions, which we intend to explore further.

P-302
How we die in hospitals

L. Fernandes, D. Cardoso, R. Morais, A. Botella, P. Moniz, A. Miranda, J. Dantas, M. Malheiro, J. Pereira, D. Rei, J. Rodrigues, E. Cacheira, I. Verdasca, A. Leitão, C. Fonseca, L. Campos. *S. Medicina UF III, HSFX, CHLO*

Introduction: Medical advances have allowed an increase of average life expectancy although associated with more chronic disease, complications and hospitalization. Simultaneously, death is no longer seen as a natural continuum of life. The lack of ambulatory support structures and families' inability to accept life's final stage have led to a tendency, in industrialized countries, for the majority of deaths to occur in hospitals. We examined what occurred during patients' last 5 days of life in our medical ward.
Material and methods: We conducted a retrospective observational study, spanning 13 months. Data was collected from clinical records.
Results: In the studied period, 75 deaths occurred (10,7% mortality rate). Of these, 70 were included due to the othe's missing data. Mean average age was 82 years, 67% females, 48,6% with an ECOG performance status ≥3, and 32% with 3 or more hospitalizations in the previous year. Underlying infection was the main cause of death, followed by cancer and cardiovascular, despite terminal cancer diagnosis in 43%. In most cases, agonizing phase was not explicitly mentioned, although 46% had reports of 3 or more typical symptoms/signs. Of these, 97% were subjected to invasive procedures during their last days.
Conclusion: Recognizing agonizing phase requires experience. However, age, co-morbidities, functional status and hospitalizations in the last year should be sufficient to predict death as a likely outcome. In acute hospitals (more prepared for healing than palliation) we use a high number of complementary means and procedures promoting therapeutic futility, thus preventing dignified and painless death.

P-303
"Doing nothing is like a death sentence": dilemmas for guardians of patients with advanced dementia regarding tube feeding In Israel

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Introduction: Advanced dementia is an incurable illness. Its last stage is marked by inability to eat. Tube feeding was deemed a helpful solution at this stage, but in recent years its inefficiency has been proven, and it is no longer practiced in many countries around the world. In Israel this procedure is still common. In the gastroenterology institute at the Bnai Zion medical center, patients' legal guardians are invited to a unique clinic, were they receive detailed information about tube insertion procedure. The great majority of guardians choose the gastrostomy (tube) option, despite the clinic staff's recommandation against it.
Purpose: To examine the considerations underlying the decision process of advanced dementia patients' guardians for gastrostomy, despite the information and the recommendations.
Method: Qualitative research, including observation of participant-physician interaction at the clinic and in-depth interviews with 20 guardians. The main themes were extracted by a triangulation process conducted by the research team.
Findings: The families of most patients had never discussed end-of-life Issues with their relatives. The overwhelming preference of using the technology was interpreted as life-saving, in contrast to comfort feeding, which was considered euthanasia. The reasons given for the decision were drawn from a range of outlooks: religion, patient's earlier capacity for survival, and pragmatic considerations involving relations with the nursing home where the patient resided.
Conclusions: The results shed new light on the layers of meaning of the discourse regarding end-of-life issues in the Israeli health care setting.

P-304
Knowledge of the truth in the terminal patient

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Objectives: We know that the patient has de right to know the truth about the severity of his illness and its evolution. Sometimes the family conceal that information with the objective of "protecting the patient". We want to know the main caregiver's opinion about the patient's knowledge of the truth, in a terminal stage.
Methods: This is a descriptive and prospective study with inpatients between October and December 2015. The caregiver is asked: "If the patient suffered from a severe illness in a terminal stage, and he maintained his comprehension skills, would he want real information about his illness, and if the answer is negative, what is the reason for this.
Results: 172 patients were included, mean age was 86,65. 64,5% women. Barthel at discharge: <20:37,5%, >60:25,1%. Medical history: tumor 22, High Blood Pressure 116, cardiac insufficiency 50, Chronic Obstructive Pulmonary Disease 32, diabetes 36, renal failure 37, thyroid disease 13, arthrosis 71, stroke 45, dementia 76, Parkinson disease 8, depression 35. In the evento of severe illness with terminal stage criteria:45,3% would like the patient to know nothing about his illness, 25% what the physician considers as appropriate, 9,3% only selected information and 14% all of the real information. The reasons not to inform would be: 32% wouldn't understand, 11% would get anxious, 6,4% would get depressed, 0,6% gives no reasons.
Discussion: A high percentage of older inpatients' caregivers don't support giving true information to the patient about their illness, by fear to encourage their suffering, decreasing their right to the knowledge of the truth and restricting their capacity of decision making about their illness. It is necessary to improve the communication with the patient's.

P-305
Organ donation following euthanasia

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We like to present the first patient who underwent organ donation following euthanasia in our hospital. A 53-years old man suffered from a large stroke of the left hemisphere with hemiparesis of his right arm and leg and motor aphasia in 2009. Until that moment, he was an international operating businessman. Because of lack of quality of life and no sign of improvement, he asked his doctor for euthanasia. In 2015, a psychiatrist from the Stichting Levenseinde Kliniek (SLK) as well as an independent physician approved of his request. The patient had a great desire to donate as much of his body as possible. For this reason the transplantcoordinator of our hospital was contacted. We met the patient to obtain the certainty that there was a serious wish to donate, apart from the euthanasia request. After our conversation with him and his family, Erasmus MC decided to honor his request for donation following euthanasia. The euthanasia was performed on the department of internal medicine of our hospital by the psychiatrist of the SLK. Immediately after confirmation of death the body was transported to the operation room where organs were taken out. The lungs, kidneys and corneas were successfully transplanted to five

patients. Skin and heart valves are waiting to be transplanted. In the Netherlands donation following euthanasia is legalized and has been performed only14 times. With the increased interest in euthanasia, the growing organ shortage and the established expert guide in 2015, we expect more requests for organ donation following euthanasia.

P-306
Knowledge of local Electronic Palliative Care Co-ordination Systems (EPaCCS) within a Multidisciplinary Team at a District General Hospital

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Introduction: The increasing prevalence of frailty extrapolates to higher numbers of patients rapidly approaching the end of their life. Discussions of wishes at the end of life are not always translated from community to hospital on admission. This can lead to failure of wishes being respected. There are a number of electronic databases being created such as EPaCCS, or My Care Choices (MCC). Is there an awareness of these tools amongst the multi-disciplinary team (MDT)?
Methods: We randomly assessed healthcare professionals via questionnaires. We questioned nurses, foundation year doctors, GP trainees, core medical trainees, specialist registrars, and consultants. We surveyed six wards (all 4 elderly care wards, A&E and EAU).
Results: There were 77 respondents (Elderly:Acute = 44:33). In the wards questioned, staff aware of its existence were 79% (35/44) elderly vs 24% (8/33) on acute. Of the healthcare workers surveyed, core medical trainees displayed the lowest awareness (38%) and GP trainees (83%) the highest. In the emergency department there was no recognition or knowledge of the MCC register, slight improvement in EAU, overall the knowledge on elderly care wards was much better.
Conclusion: A&E is the first point of contact in the hospital journey; our results show this is where knowledge of the MCC is very poor, impacting on appropriate rates of admission. Knowledge of this communication tool at the front door will help tailor initial management thus improving overall outcome and wishes.

P-307
The nature of the caregiving experience: a qualitative study

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Objectives: As ever-increasing numbers of family members take on the responsibility of providing care at the end of life, there is a increasing need to assess caregiver learning needs and processes. This study explicates what family members learn during the process of providing end-of-life care.
Methods: This qualitative study employed semistructured interviews, and we analyzed data using grounded theory and qualitative methods. We recruited 14 Portuguese family caregivers from a medical care unit at an academic medical center.
Results: The mean age of participants was 59 years (SD = 17) and the majority were women. Thematic and cross-comparative analyses found three general kinds of learning that were described—knowledge about: (a) the illness, (b) how to assist the patient, and (c) how to access health services. In some cases, participants' reports about attitudinal learning appeared to reflect an ongoing effort to convince or remind themselves of something they were struggling to achieve or accept in order to cope with their situation.
Conclusion: The caregivers exposed themselves to emotional difficulties and an increased need for support and information. Findings can inform the development of individualized educational programs and interventions for family caregivers.

P-308
Elderly persons in hospice. From palliative care to euthanasia: ethical considerations

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Objective: To find out the details of all elderly persons admitted since its beginning.
Method: Since 6 years, Luxembourg created a unique fifteen beds hospice and we produced a statistical analysis of all seniors admissions.
Results: Nearly 72% of the population is above 75 years. The admission rate per year varies between 120 and 140 and the most important diseases for the elderly people are: 64% have an end-stage tumor; 16% terminal respiratory problems; 13% terminal heart failure and 7% pure neurological diseases. Of all senior patients, some 21% have written living wills, expressing clearly that in case of unbearable pain or discomfort, they wish a terminal sedation. The data suggest that only 18% of this population made an oral request for this type of sedation. The mean duration of a sedation is 2,5 days. For the other patients expressing the wish for euthanasia (as legally allowed), we have registered some 42 in advance written requests. Most of all these elderly persons will not ask for euthanasia, but the natural process of the disease will lead prior to death. Should there be a repeated oral request for euthanasia, the process will be as follows: ethical considerations from the whole team in a meeting, where the accuracy of the demand is debated. Should there be other options considered, p.ex. temporarily or terminal sedation; inactivation of an implantable defibrillator, the stopping of nocturnal respiratory assistance, etc the physician will discuss these possible alternatives with the patient.
Conclusion: More than half of all requests for euthanasia turn to a terminal sedation and very few seniors stick to their initial demand. (less than 5%)

P-309
DemFACTS—antibiotics for pneumonia and artificial hydration for insufficient fluid intake in advanced dementia

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Objectives: About two-thirds of people with dementia die from pneumonia and one-third die from dehydration. The DemFACTS study aims to develop and test decision aids called fact boxes, in order to support decision-makers, who have to make treatment decisions at the end-of-life of people with dementia and either pneumonia or insufficient fluid intake.
Methods: The study employs a randomized, controlled, pre-/post-intervention design. Relatives of people with dementia (n = 100), professional proxies (n = 100) and physicians (n = 100) will evaluate the newly developed fact boxes. At pretest, participants will be asked to make two fictional decisions concerning burdensome medical interventions in advanced dementia based on case vignettes. Four weeks later, at posttest, the intervention group will be presented with two fact boxes in addition to the two case vignettes, whereas the control group will only be provided with the case vignettes.
Expected results: The fact boxes' effect on decisional conflicts (primary outcome), additional decision outcomes, knowledge transfer, and the appropriateness of the fact boxes (secondary outcomes) will be assessed.
Conclusion: The fact boxes could reduce the decision-makers' decisional conflicts and enable them to better understand the treatment decisions. Improving knowledge transfer in palliative care decision-making could have a major impact on how decision-making aids in this field will be shaped in the future.

P-310
Follow-up of pressure ulcers according to the feed

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Introduction: The presence of patients with pressure ulcers (PU) in old people's home is not a rare event, requiring a higher consumption of human, technical and nutritional resources, since it is known the

influence of nutritional status in the development and the evolution of lesions, among other risk factors. The use of arginine administered in the healing process has been questioned, with controversial results in different studies.
Methods: An observational study was proposed by groups to assess the possible effects of arginine and high protein supplementation in the healing process of PU in institutionalized elderly patients. Observational monitoring the healing process of PU was performed at intervals of six weeks collecting the different variables to study periods beginning, intermediate (6 weeks) and final (12 weeks). Besides data collection of functionality with demographic variables, scale of cognitive impairment, anthropometry and the type of protein intake, arginine supplementation was performed.
Results: It was observed that in the group of patients who took the same normocaloric-normoproteical nutrition, they follow a similar progress throughout the registry. Instead, those groups in which the diet was changed in the middle phase of the study, adding proteins with arginine, obtained a further decline in the score Resvech scale, although not statistically significant. By adding arginine it existis only more likely to improve healing, compared to the other groups, but without achieving statistical significance.
Key conclusions: There is a tend to better healing in those patients who have enriched their basal diet with protein and arginine modules, but has not achieved a significant difference when compared to the other groups.

P-311
Teaching of palliative care in undergraduate nursing

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Introduction: There is a growing demand for Palliative Care (PC) around the world. According to the WHO, each year about 40 million people need PC; of these, 20 million are in the final phase of their lives. A major challenge to establish a PC policy in many countries is the training of health professionals to provide quality care throughout all the life cycle, until death [1]. These skills should begin to be developed during the undergraduate degree. However, the majority of nurses continue to demonstrate that this is one of the areas where they feel more unprepared and that cause greater emotional disorder [2]. Thus, it becomes evident the need for reflection on the teaching process of PC in nursing undergraduate courses.
Methods: An integrative review, conducted through the databases LILACS, PubMed, CINAHL and Scielo, according to PRISMA criteria.
Results: The final sample consisted of 28 studies, mostly from the United States and the United Kingdom. The results indicated a fragmentation in most curricula of nursing courses, with focus on technical disciplines and procedures; gaps in knowledge of new graduates to provide PC and ineffectiveness of the traditional teaching methods to change the fear of personal involvement and suffering.
Key conclusions: It was demonstrated that nursing education in PC is still fragile. Traditional models of medical education have shown to be insufficient to enable nurses to provide appropriate care for death or incurable diseases.

References

1. WPCA, *W. P. C. A. Global Atlas of Palliative Care*. London 2014.
2. Bloomer M. J. *et al.* The "dis-ease" of dying: challenges in nursing care of the dying in the acute hospital setting. A qualitative observational study. *Palliat Med*, 27(8), 757–64, 2013.

P-312
Decision making in geriatric oncology: an ethical approach

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Introduction: In a context of tensions between the promotion of equity in oncological care regardless of age and the risk of unreasonable obstinacy, the sense of medical treatment decision to propose to the elderly cancer patient seems essential. The decision-making procedures and underlying psychical representations appears to be complex.
Objectives: to highlight complexity of treatment decision-makings in case of cancer in older patient.
Methods: The qualitative study was prospective multicentric, using semi-structured interviews to question geriatrician physicians involved in the process of medical decision concerning elderly cancer patients. These interviews were verbatim transcribed and conducted until data saturation. A thematic content analysis was performed in parallel.
Results: A literature review enabled development of semi-structured interview model. Ten interviews were conducted. Content analysis highlighted factors influencing the decision, and psychological representations. The study reveals particularly complex decision-making procedures because of the high number of parameters influencing the decision (n = 86), difficulty of their measurements, their interrelationships, a dual need to consider patient both as a whole and individuality, and, the interface of two distinct medical specialties. The level of uncertainty and subjectivity in decision involve risk taking, leading to a questioning on appropriateness of treatment and threshold of unreasonable obstinacy.
Conclusion: Complexity, uncertainty, thinking on relevance of treatments in oncogeriatric medicine have enriched the ethical thinking with specific issues around personal autonomy, beneficence, non-maleficence and social justice. These issues, however, can affect all patients regardless of their age, the elderly with cancer, being an emblematic case of a particular vulnerability.

P-313
Assessment of DNACPR documentation and metal capacity act

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Objectives: Cardiopulmonary Resuscitation (CPR) involves the delivery Of unsynchronized shocks to the chest, ventilating the lungs and administration of medication to stimulate the heart. For CPR to be successful, a patient needs to possess a good physiological reserve.
Success rates for CPR in patients with multiple comorbidities are likely to be low.
In severely ill and frail individuals, attempts at CPR may subject them a violent and undignified death.
Methods: A Quality Improvement Project (QIP) was conducted to assess Do Not Attempt CPR (DNACPR) documentation and use of Mental Capacity Act (MCA). Single point inspections across medical wards at a Mid Essex hospital occurred on two occasions over a year to compare if improvements had happened from cycle 1 to 2. Implementation for improvement between the two cycles focused on education at geriatric meetings and on medical wards.
Results: 51% of patients were unaware of their DNACPR status in both groups and only 17% of those unaware had MCA2 completed in cycle 1 compared to 33% in cycle 2. There were more relatives unaware of the patients DNACPR status (62%) in cycle 1 compared to 55% in cycle 2.
However, in cycle 2, there was more inadequacy of information regarding families being unaware (i.e. 23% Vs 6% in cycle 1).
Conclusions: DNACPR is an important medical decision that has an impact on patient, family and healthcare professional. Weekly reviews examining DNACPR forms and expanding education could improve standards. Further research into if those on frailty registers are having such discussions with primary care doctors would be helpful as would the addition of a standardised MCA section on DNACPR forms.

P-314

Advance Care Planning (ACP) as exit strategy beyond frailty: respecting View of the Patient, Integrated Care System Planning Association/Assembly (VIP-AA) and Preventing, Avoiding, Postponing or Reducing Frailty Program (PAPRFP) in Japan

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Introduction: Continuous discussion of advance care planning (ACP) between patient and care team throughout from pre-frailty to end-of-life (EOL), is a fundamental of EOL care (EOLC) standing at the view of the patient. That is consistent with patient-centered care principle.
Methods: Organizing-committee (OC) for Preventing, Avoiding, Postponing or Reducing Frailty Program (PAPRFP) for community dwelling seniors and outpatients in National Center for Geriatrics and Gerontology, was established in February 2014. Respecting View of the Patient, Integrated Community Care System Planning Association/ Assembly (VIP-AA) was founded in 2015 and held inter-disciplinary seminars for ACP promotion, for 3 times with pioneers in EOLC standing at the view of the patient in 2015, and once for local health and long-term care community in 2016.
Results: Pilot study group of PAPRFP was consisted of 21 female and 14 male; 78.2 ± 6.7 years. Participants were satisfied with PAPRFP contents and interested in advanced course. OC recognized serious needs of senior people nearing frailty for ACP, because preventing frailty has limitation. On VIP-AA seminars, 68 participants learned ACP in Obu; 155, Kyoto; 53, Tokyo, 2015 and 48 participants in Obu, March 2016. Almost every participant gave positive feedback and agreed with promotion for ACP in Train-the-Trainer strategy.
Conclusions: ACP promotion could be an essential element of "Integrated Community Care System for the Elderly" to continue living with a sense of security in the most aged society, Japan. VIP-AA advocates that ACP is exit strategy beyond frailty and PAPRFP is entrance strategy for high-quality EOLC initiating ACP.

P-315

Patients' views on the impact of multidrug-resistant bacteria (MRB) in end-of-life care – Results of a qualitative study using principles of Grounded Theory

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Objectives: The impact of infection and colonization with MRB on patients in palliative and geriatric wards is mostly unknown. Existing research data from a general population cannot be transferred to a population in need of end-of-life care. Therefore, an interdisciplinary team realized "M-EndoL – MRSA in End-of Life Care". It aims at developing a patient- and family-centered approach to handle MRB, taking into account the needs of hospitalized patients, relatives, professional caregivers and healthcare institutions. The study at hand is a subproject that focuses on patients' reports and aims at assessing the impact of MRB as experienced by the patients.
Methods: Using a semi-structured questionnaire, we interviewed 43 patients in order to explore the consequences of MRB regarding information, communication, ailments, therapy and contact precautions. Verbatim transcripts were inductively analyzed using principles of Grounded Theory. Additionally, we report insights of a focus group discussion.
Results: The impact of MRB varies widely. It ranges from no impact to individually experienced consequences relating to the patient´s physical constitution, social-life and emotional state. The impact often depends on a patient´s health status and MRB-history, main diagnosis and family situation. As they experience the impact, patients cope with this situation as individuals.
Conclusion: The results suggest individual approaches when dealing with geriatric and palliative patients. Team members and institutional stakeholders should be aware that patients might be upset and even burdened by positive MRB-findings and the required contact precautions. Patient's suggestions imply that they would benefit from comprehensible information, empathic communication and individual support.
The project is funded by the Bundesministerium für Bildung und Forschung (BMBF: Versstud12-1-032). There are no conflicts of interest to be reported.

P-316

What is the relationship between socio-economic status and quality of end-of-life care? Preliminary results of cross-sectional data from the PACE study

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Introduction: PACE project ("Comparing the effectiveness of Palliative Care for Elderly people in long-term care facilities in Europe" funded by the EU 7th Frame Programme) was set up to assess effectiveness and quality of end-of-life care for nursing home (NH) residents across European countries: Belgium, Finland, Italy, Netherlands, Poland and United Kingdom.
Objectives: The aim of this analysis is to study the relationship between socio-economic status and quality of end-of-life care for NH residents as assessed by their relatives.
Methods: The PACE study was conducted in 2015 by recruiting a random sample of 322 NHs in 6 countries. A total of 1,622 deceased residents were identified in 3 months' period prior to contact with the facilities. A questionnaire including items regarding socio-economic, educational and demographic characteristics of deceased residents and their relatives and measures of quality of end-of-life care (Satisfaction with Care End-of-Life in Dementia scale) was sent to the relatives.
Results: Across all countries, 840 (58.0%) relatives responded. Cross-national analysis will be presented to show possible factors associated with quality of end-of-life care. We will consider: age, gender, education, financial situation, ethnicity and religion affiliation of deceased NH residents, as well as characteristics of their relatives including: age, gender, marital status, education, employment, religion affiliation, relationship with resident, engagement in care, emotional, physical and time burden.
Conclusions: Preliminary results will be presented of socio-economic status of deceased nursing home residents and their relatives and the association of these factors with quality of care at end of life as assessed by relatives.

P-317

Systematic exposure experience as a condition for person-centered care

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Introduction: Person-centered care requires appropriate attitudes of the caregivers. To foster these attitudes, a systematic exposure experience for geriatric caregivers, using an open interview with a patient followed by a reflection process, was set up.

Methods: All the individual and focus group interviews and discussions held as part of the exposure experience were recorded and transcribed. The data were analysed qualitatively using methods of Grounded Theory and using data and researcher triangulation.
Results: The analysis showed that the participants found it highly relevant to participate. Caregivers show a greater openness to listen and more attention is given to the patients' experiences and concerns. The participants experience this as an important change. Participants report that open, not goal-oriented conversations in which they create a supportive space for the patient lead to a better relationship with the patient. They realize that open conversations from person to person, help to better know the patient and bring them to interventions in care focused on patients' needs. Participants describe having fear that the conversation will not be good enough. They mention great satisfaction in their contact with the patient as soon as they let their fear go.
Conclusion: Participation in the systematic exposure experience using an open interview with a patient followed by a reflection process leads to changes in attitudes of caregivers needed for person-centered care.

P-318
Moral distress in acute geriatric units

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Introduction: Moral distress (MD) is increasingly being recognized as a concern for health care. This study explored the lived experiences of MD among caregivers in acute geriatric units.
Methods: 4 focusgroup discussions with health care providers of 4 geriatric units in Belgium (n = 28) were undertaken to understand the geriatric caregivers confronted with MD. Datacollection and analysis using principles of Grounded Theory (constant comparative method, datatriangulatie, reflection) happened by three researchers.
Results: MD is present in multidisciplinary geriatric teams and affects the identity of health care providers at a deep level. Three levels of barriers to deliver good care are described. Barriers in health care providers, such as lack of knowledge and lack of mandate depriving them from truly taking up a patient advocacy role. Barriers related to patient and families, for example insoluble suffering in the patient that causes feelings of powerlessness. Barriers belonging to the team and the organisation, such as inefficiënt teamwork that counteracts caregivers to deliver person-centered care. Although experiences of MD can be an opportunity to discuss and facilitate improvements in care, caregivers only describe negative effects of MD. A good team climate helps to better cope with MD.
Key conclusions: Geriatric care teamleaders should be aware of MD in individual team members and facilitate a team approach addressing barriers for good care.

P-319
Prevalence and clinical outcome of elderly patients presented with atypical illness presentation in the emergency department

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Introduction: Very few information is available on the prevalence and clinical outcome of elderly patients with atypical illness presentation referred for emergency care. The objective of the study was to determine the prevalence and clinical outcome of elderly patients with atypical illness presentation referred to the emergency department.
Methods: Monocentric retrospective observational study on 355 elderly patients presented at the emergency department. Patients of 80 years and older were included. Data were extracted from the electronical patient file.
Results: A total of 355 patients were included, with a mean age of 86 years. In 53% of the cases, elderly patients demonstrated atypical illness presentation. Most of the time this was due to falling. In 15% of patients with atypical illness presentation, they reported no specific symptoms of the underlying disease. Patients with atypical illness presentation were more likely to have a longer stay in hospital, to be discharged to a health facility, and to have a higher delirium observation score. There was no significant difference in one-year survival.
Conclusion: Atypical illness presentation in elderly patients is highly prevalent in the emergency department. Falling accidents are the most important reason for this. Patients with atypical illness presentation have a worse clinical outcome. Accurate training of emergency staff is necessary to recognize this group of patients to reassure proper clinical monitoring and timely treatment.

P-320
Age-related changes of the left ventricular and association with insulin resistance and leukocyte telomere length in the elderly

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Aim: Cardiac aging is an independent risk factor for cardiovascular disease. The main signs of the aged heart are a thickening of the left (LV) ventricular walls and LV diastolic dysfunction. Insulin resistance (IR) is exacerbating aging-related changes in the cardiac structure and function. One possible mechanism underlying IR-induced cardiac dysfunction with advancing age could be related to decreased telomeres length of leukocytes (LTL). Telomeres are tandem repeats of the DNA sequence at the end of chromosomes and protect DNA molecule from damage. LTL is a marker of replicative aging. Our hypothesis is that IR led to shorter telomeres and senescent phenotypes in the heart.
Methods: We investigated 115 non-obese participants aged 60 to 91 years without history of CVD, diabetes and regular drug medication. All the volunteers underwent standardized transthoracic echocardiography with the available system (iE33; Philips), had an oral glucose tolerance test. HOMA-IR was calculated as fasting insulin (mU/mL) × fasting glucose (mmol/L) (mmol/L)/22.5. IR was diagnosed in case of HOMA-IR elevation >2.5 based on reference. LTL was measured by real-time quantitative polymerase chain reaction. We determined the relative ratio of telomere repeat copy number (T) to single-copy gene copy number (S).
Results: In older individuals HOMA-IR was significantly positively related to LV septal wall thickness ($r = 0.489$, $p < 0.001$), LV posterior wall thickness ($r = 0.458$, $p < 0.001$), E/Em ($r = 0.379$, $p < 0.01$) and inversely correlated with E/A ($r = –0,320$, $p < 0.01$), Em/Am ($r = –0.342$, $p < 0.01$). LTL was significantly and independently associated with age ($\beta = –0.026$, $p = 0.015$) and HOMA-IR ($\beta = –0.176$, $p = 0.027$). Results of analysis of variance (ANOVA) showed that LTL was significantly related to diastolic function indices regardless of age ($p < 0.001$). Older subjects with higher HOMA-IR had a shorter telomeres ($p = 0.046$) and more expressed LV hypertrophy and diastolic dysfunction to compared to subjects with normal HOMA-IR. Individuals with IR did not significantly differ from those with normal HOMA-IR in the proportion of smokers, or levels of blood pressure and BMI.
Conclusions: These findings suggest that insulin resistance is associated with more expressed signs of the aging heart and shorter LTL. Accelerated telomere attrition appears to be the mechanism by which impaired insulin resistance develops into cardiac aging.

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The prevalence of geriatric syndroms among patients in Moscow outpatient setting

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Objective: There is a lack of information on the prevalence of geriatric syndromes in Russia. The aim of our study was to evaluate the prevalence of excepted geriatric syndromes among patients in Moscow outpatient setting.
Materials and methods: The study included 1,220 patients aged 65 years and older who were followed in Moscow outpatient settings. The average age of the patients was 74.76 ± 6.07 years and 75.5% were women. Based on international experience, we have created a 7 = item questionnaire to reveal main geriatric syndromes.
Results: The highest number of positive responses were received to the questions about the reduced vision or hearing, cognitive dysfunction and depressed mood (58.3%, 58.2% and 46%, respectively). Difficulty in walking noted 42% of patients, urinary incontinence – 28.3%, fall-related injuries 21.3%, weight reduction 12.2%. Negative answers to all questions was given by 7% of patients. More than half of the patients (53.2%) responded positively to 3 or more questions. Every eight patients (12.4%) responded positively to 5 or more questions.
Conclusions: According to the results of self-assessment we revealed a high prevalence of geriatric syndromes in patients aged 65 years and older in Moscow outpatient settings. More than half of these patients need geriatric consultation. The most common geriatric syndromes were reduced vision or hearing, cognitive dysfunction and depressed mood.

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High prevalence of cognitive impairment in elderly subjects in primary care

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Aim: To evaluate cognitive function in subjects >65 years consecutively attending a primary care clinic in Moscow.
Methods: The study was organized as a screening program for cognitive function impairment in elderly subjects who consecutively attended a primary care clinic irrespectively of their underling diagnosis. All the subjects underwent complex geriatric assessment. Neuropsychological testing was performed using MoCA, MMSE, CDT, TMT-A tests.
Results: Two hundred fifty eight patients (23% male, mean age 75,6 + 5,9 years) underwent MoCA, MMSE, CDT, TMT-A evaluations. Arterial hypertension was observed in 84% (all treated, mean BP 154 + 12/85 + 8 mmHg, systolic BP <140 mmHg in 31%), diabetes mellitus in 23%, history of myocardial infarction or stroke was positive in 17% and 11%, respectively. Mean score of MoCA test was 23,64 + 3,62, MMSE test – 27,27 + 2,29, CDR test 8,18 + 1,7, TMT-A was 75,62 + 44,24 sec. No cognitive impairment was observed in 17%. Dementia was found in 8%. Non-demential cognitive decline was observed in 75% and it was mainly due to chronic cerebrovascular disease.
Conclusion: The results obtained during this screening program indicate high prevalence of cognitive impairment in patients who consecutively attended a Moscow primary care clinic. Poorly controlled arterial hypertension seems to be the leading factor for cognitive decline in the elderly.

Area: Frailty and sarcopenia

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Association of frailty with procollagen type I N propeptide in elderly women

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Objectives: The aim of this study was to investigate the association between frailty and procollagen type I N propeptide in elderly women.
Methods: A retrospective cross-sectional study was performed in National Osteoporosis Centre based in Vilnius, Lithuania. Women aged ≥60 years were included. Frailty status was defined using Fried's criteria: weakness, low walking speed, low physical activity, weight loss, exhaustion. Participants were classified as robust, prefrail and frail if they scored 0, 1–2, 3 points, respectively. Procollagen type I N propeptide (PINP) concentration in serum was measured with Cobas E411. Multinomial logistic regression was used to determine the association.
Results: The study was performed on 161 women: of them 103 (64%) were robust, 30 (18.6%) prefrail and 28 (17.4%) frail. Robust women group were statistically significantly youngest (mean age 69.43 ± 6.22 years) and had PINP concentration of 54.1 ± 21.2 ng/mL. Prefrail groups' mean age was 70.79 ± 7.92 years, PINP level – 67.2 ± 43.1 ng/mL. The oldest women were in frail group (75.8 ± 5.98 years) and their PINP level was 57.1 ± 20 ng/mL. Unadjusted analysis in prefrailty versus robust group (reference category – robust) showed that higher levels of PINP were statistically significantly associated with being prefrail (OR: 1.01, 95% CI: 1.0; 1.03; p = 0.036). After adjusting for the age, the association between prefrailty and PINP was still statistically significant (OR: 1.02, 95% CI: 1.0; 1.03; p = 0.04). No statistically significant relationships were found in frailty versus robust and frailty versus prefrailty groups.
Conclusion: Prefrailty is associated with higher levels of procollagen type I N propeptide in elderly women.

P-324
Frailty and pain in an internal medicine ward

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Introduction: Frailty is defined as a state of decline and vulnerability in late life, which entails a high risk of adverse outcomes [1,2]. Persistent pain is common among the elderly, with harmful consequences [3].
Methods: To study frailty and pain in patients admitted to an internal medicine ward during April 2016, measured with the Tilburg Frailty Indicator [4] and the Pain Impact Questionnaire (PIQ-6) [5]. Patients with <65 years, with severe intellectual impairment [6] and those who refused to participate were excluded.
Results: From the 63 elderly patients admitted, 41 were included in the study. The mean age was 78.7 ± 6.0 years and 70.7% of the patients were women. There were 58.5% patients considered frail (score ≥6). Pain and frailty were higher in woman, but not significantly. In the ≥80 years old group (48.8%), physical frailty and the pain impact score were also not significantly different. A greater pain impact was correlated with a higher frailty score (r = 0.442; p = 0.004). Patients reported pain in 80.5%, with a mean of 58.5 ± 8.1 in the PIQ-6 score. There was a previous ambulatory prescription of pain medication in 9,8%. During admission, 56.1% had analgesics (87.0% with paracetamol, if needed). At discharge, 11.1% had an analgesic prescription.
Key conclusions: Higher levels of pain were correlated with higher levels of frailty. This emphasizes the importance of early detection and interdisciplinary intervention, aiming to prevent vulnerability and to reduce the incidence of complications. Hospitalization is an opportunity to intervene but there is still much to be done in raising awareness of health professionals.

References

1. Clegg A, Young J, Iliffe S, Rikkert MO, Rockwood K. Frailty in elderly people. *The Lancet*. 2013, 752–62.
2. Coelho T, Paúl C, Gobbens RJJ, Fernandes L. Multidimensional frailty and pain in community dwelling elderly. *Pain Medicine (United States)*. 2015.
3. Kaye AD, Baluch A, Scott JT. Pain management in the elderly population: a review. *Ochsner J*. 2010;10(3):179–87.
4. Gobbens RJJ, van Assen MALM, Luijkx KG, Wijnen-Sponselee MT, Schols JMGA. The tilburg frailty indicator: Psychometric properties. *J Am Med Dir Assoc*. 2010;11(5):344–55.
5. Becker J, Schwartz C, Saris-baglama RN, Kosinski M, Bjorner JB. Using item response theory (IRT) for developing and evaluating the Pain Impact Questionnaire (PIQ-6TM). *Pain Med*. 2007;8(Suppl.3).
6. Pfeiffer E. A Short Portable Mental Status Questionnaire (SPMSQ). *J Am Geriatr Soc*. 1975;23(10):1975.

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Outcomes in a multicomponent exercise programme in frail community-dwelling individuals

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Introduction: The purpose of this program is to examine if a supervised multicomponent exercise program (MEP) in frail elderly people can improve functionality and cognitive status, as well as reduce falls.
Methods: This is a prospective intervention of 38 frail elderly (September 2014–March 2016). The inclusion criteria were balance problems and/or previous falls. The exclusion criteria were to suffer from moderate and sever dementia. MEP includes propioception, balance (balance carpet) and strength (leg press machine) exercises for 60 minutes, twice a week during 12 weeks. We have done pre and post intervention assessment of functional and cognitive values. The functional values were SPPB (short physical performance battery), gait velocity, balance carpet, falls and maximal dynamic strength (RM) measured in kilograms. The cognitive values were MEC (spanish adapted version of MMSE), TMT a, TMT b and two dual cognitive tasks (walk while name animals and walk while substracting).
Results: Of 38 elderly, average age 80, females 51%, barthel 94, lawton 5.46, affective disorders 43%, BMI 25.81, drugs number 5.11, no. of falls 6 months previous to the program 1.24, no. of falls during the program 0.30, poor sleep quality 43%, mild cognitive impairment 10%, mild dementia 2.7%. Statistical analysis was performed with Wilcoxon signed ranks test. We found statistical significant differences pre/post intervention in SPPB (8.46; 9.35 $p = 0.002$), balance carpet (278/300; 294/300 $p < 0.001$), lower-body RM (34.35; 53.22) with an improvement of 54%, gait velocity 6 m (0.81 m/s; 0,95 m/s $p < 0.05$) and no. of falls (1.24; 0.30 $p = 0.006$). We didn't find statistical significance of the rest of results (TMTa, TMTb, MEC and dual cognitive tasks – gait velocity aritmetic task and gait velocity verbal task-).
Conclusions: MEP shows improvements in functional measurements, reduce falls but not improvements in single and in dual cognitive tasks.

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Evaluation of a hospital at home service in older patients with frailty

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Introduction: Emergency admissions to hospital of older people have increased substantially over the last decade, with many of them being frail. Simultaneously, acute hospital bed numbers have reduced thereby putting extra pressure on services. Hospital at Home (HAH) interventions provide active treatment by health and social care professionals in patients' own homes. The aim of this study was to evaluate the effectiveness of a HAH service in frail and non-frail older patients.
Methods: Community dwelling older people, at risk of hospital admission, were referred to a HAH service from a variety of community sources. The service comprised regular assessments and appropriate interventions by a multidisciplinary team including a doctor. We measured the total duration of the HAH service and the proportion of people whose care was transferred to another setting. Frailty status was measured using the Groningen Frailty Indicator.
Results: Forty four patients (61.4% female) were evaluated with a mean age of 80.9 years (SD = 8.3; range = 63–95). The mean intervention time was 15.3 days (95%CI = 12.1–18.5). The proportion of participants classified as frail were 70.5% (95%CI = 68.4–72.5%; n = 31). The proportion of frail patients who remained at home were 71% (95% CI = 68.1–73.8%; n = 22) compared with 76.9% (95%CI = 70.6–83.3%; n = 10) of those without frailty [NS].
Conclusions: These data suggest that a HAH service comprising members of a team that can deliver comprehensive geriatric assessment can effectively manage older people with frailty in their own homes. Such a service has the potential to ease demand on a pressurised acute hospital care system, and warrants further research.

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Prevalence of sarcopenia in patients referred to a secondary care falls clinic

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Introduction: Sarcopenia is characterised by loss of skeletal muscle mass and strength with evidence of adverse outcomes such as physical disability, poor quality of life and death. Both low muscle mass and sarcopenia are independent risk factor for falls, although there are few data available on the prevalence of sarcopenia in fallers. This study aimed to determine the prevalence of sarcopenia in older people referred to a falls clinic.
Method: Consecutive patients referred to a multidisciplinary secondary care falls unit were recruited. Sarcopenia was diagnosed using the European Working Group on Sarcopenia (EWGSOP) definition (both low muscle mass and function) and cut-off points. Bio-impedance (BIA) was employed to measure muscle mass (SMI), gait speed and grip strength were assessed as the functional measures.
Results: Fifty-three patients (62.3% = women) were recruited. Mean grip strength for women and men were 17.9 (SD = 5.0) and 29.9 (SD = 9.0) kg, and mean gait speeds were 0.61 (SD = 0.18) and 0.75 (SD = 0.38) m/s respectively. Six were unable to undergo BIA (2 had pacemaker, 4 unable to stand still). Mean BIA in women and men were 7.0 (SD = 1.0) and 7.7 (SD = 1.0) kg/m^2 respectively ($p = 0.018$). Prevalence of sarcopenia was 41.5% (95%CI = 27.4–55.6%; n = 22).
Conclusion: Sarcopenia, as measured by BIA, is common in older people referred to a secondary care falls clinic. BIA was simple to perform in this setting, although further validation against gold standard methods in this population are lacking. As nutritional and exercise interventions for sarcopenia are now available, simple methods for diagnosing sarcopenia in fallers should be considered.

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Preliminary results of a systematic review focusing on the effectiveness of the interventions in preventing the progression of frailty in older adults

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Introduction: Frailty is a common clinical condition in older adults, which confer high risk for falls, disability, hospitalization and mortality [1,2]. This systematic review, developed within the context of the project "664367/FOCUS" and funded under the European Union's Health Programme (2014–2020), aimed to summarize the best available evidence in relation to the effectiveness of the interventions in preventing progression of frailty in older adults.
Methods: The review process was based on Joanna Briggs Institute procedures [3]. Databases were searched for all published and unpublished studies from January 2001 to November 2015, with participants aged 65 and over, explicitly identified as pre-frail or frail and receiving health care and support services in any type of setting. The interventions of interest were those focusing on the prevention of frailty progress, as compared to usual care, alternative therapeutic interventions or no intervention. Both clinical/medical and economic components of the interventions were addressed.
Results: A total of 2,507 records were screened by title and abstracts and 2,121 irrelevant records were excluded. Presently, 386 full-text articles are assessed for inclusion criteria and methodological quality. The extraction of data from the eligible articles will consider changes in frailty (primary outcome), changes in different functional domains and in indicators of adverse outcomes, and economic data associated with implementing of the interventions (secondary outcomes).
Key conclusions: It is expected that the results of this systematic review will have positive impact on care for older adults, minimizing the risk of adverse consequences and ameliorating the consequences on independence or healthy and engaged lifestyles.

References

1. Clegg A, Young J, Iliffe S, *et al.* Frailty in elderly people. *Lancet* 2013;381(9868):752–762.
2. Fried LP, Ferrucci L, Darer J, *et al.* Untangling the concepts of disability, frailty, and comorbidity: implications for improved targeting and care. *J Gerontol A Biol Sci Med Sci* 2004;59(3):255–263.
3. The Joanna Briggs Institute. *Joanna Briggs Institute Reviewers' Manual*. Adelaide: Author; 2014.

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Handgrip strength and cognitive function in the frail elderly

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Introduction: Handgrip is a reliable single marker of frailty in older people and can predict falls, disability, hospital admissions, and mortality. In primary care units Frailty Ambulatory is dedicated to elderly people and is an example of health innovation. The aim of this study was to investigate the association between handgrip test (HT) and cognitive function in the frail elderly.
Methods: Frailty Ambulatories have to facilitate the "art" of caring complex elderly patients' needs through geriatricians and out-of-hospital network services. The aim of the present study was to analyze data from 300 consecutive patients visited in our ambulatories. The starting point is caring patients and their needs. The first step is represented by over-65 year-old patients' selection according to prefrailty and frailty Fried's criteria. We performed multidimensional assessment and HT in all the patients.
Results: Of 300 patients, 118 (39,3%) were men, mean age 82,79 ± 6,65 years old; BMI was 22,17 ± 2,15 kg/m^2. After performing multidimensional assessment we found the following scores: MMSE 11,05 ± 2,44; ADL 0,95 ± 2,06; IADL 0,04 ± 0,188; CIRS 4,95 ± 1,72. The HT was 28,03 + 8,25 Kg. After bivariate analysis, we found a significant relationship among MMSE and HT, CIRS and number of drugs used. After multivariate analysis the relationship was also present with HT (beta 0,507; p = 0,000) and CIRS (beta –0,345; p = 0,001).
Key Conclusions: Experimental activity in Frailty Ambulatories could offer a tool able to recognize conditions of prefrailty/frailty. Frailty, assessed through HT and cognitive functions are significanty related in the frail elderly.

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No abstract

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Frailty is associated with socioeconomic and lifestyle factors in community-dwelling older subjects

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Introduction: While socioeconomic and lifestyle factors are thought to be related to the health of older people, few studies explored their relationship to frailty. We assessed the association between frailty and socioeconomic and lifestyle factors in community-dwelling older people.
Methods: This was a cross-sectional survey in a population-based sample of 542 community-dwelling aged 65 years and older subjects living in a metropolitan area in Italy. Frailty was evaluated by means of the FRAIL scale proposed by the International Association of Nutrition and Aging. Basal and instrumental activities of daily living (ADL, IADL), physical activity, sociodemographic (age, gender, marital status and co-habitation), socioeconomic (education, economic conditions and occupational status) and lifestyle domains (cultural and technological fruition and social activation) were assessed through specific validated tools. Statistical analysis was performed through logistic regression and cluster analyses.
Results: Impairments in ADL and IADL were significantly associated with frailty (odds ratios[OR] and 95% Confidence Intervals[CI] 1.80, 0.96–3.40 and 4.73, 2.94–7.61, respectively) while moderate and high physical activity were inversely associated with frailty (OR = 0.31, 0.17–0.55 and 0.26, 0.12–0.55, respectively). Being single or divorced/separated, with low levels of education and cultural fruition were also significantly associated with frailty. Cluster analysis revealed six profiles based on three severity grades of frailty for both sexes,

showing that frailty was significantly related to social vulnerability, with greater disadvantage for older and females subjects.
Key conclusions: Socioeconomic and lifestyle factors are associated with frailty independently from functional impairment and low physical activity.

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Geriatric conditions are associated with potential difficulty of walking a distance of 200–300 meters among older adults in Taiwan

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Objectives: Walking a distance of 200–300 meters are important to older adults for disaster prevention and independent living in the community. While geriatric conditions are common problems in the older adults, this study aims to examine the associations of geriatric conditions and ability of walking a distance of 200–300 meters among the elderly people in Taiwan.
Methods: The data was collected from the Longitudinal Study on Aging in 2007 in Taiwan. Basic characteristics, including age, gender, years of education, living status, area of residence, institutional care, chronic diseases, and geriatric conditions were obtained. Participants were asked if they were able to walk a distance of 200–300 meters. Geriatric conditions, including underweight, functional impairment, falls twice or once with injury in the past year, cognitive impairment, depressive condition were assessed.
Results: A total of 2700 older adults aged ≥65 years were enrolled in this study. Multiple logistic regression analysis shows that the elderly people with <6 years of education, chronic diseases of diabetes mellitus, heart disease, stroke, arthritis/rheumatism, hip fracture, osteoporosis; no habit of alcohol drinking, as well as the geriatric conditions, including functional impairment, depressive condition, falls twice or once with injury in the past year were associated with difficulties in walking a long distance.
Conclusions: To improve the walking a long distance of 200–300 meters, screening and managing geriatric conditions, in addition to control chronic disease, must be considered.

P-333
Frailty is associated with long-term adverse outcome among hospitalized older patients: a prospective cohort study in China

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Aim: To evaluate the prognostic effect of frailty on long-term outcome for older patients discharged from Geriatric Unit of a hospital in China.
Methods: From Oct, 2014 to October, 2015, patients admitted to the Geriatric Unit of Zhejiang hospital were invited for study. For all participants, disregard of the disease for admission, they received a comprehensive geriatric assessment and were clinically followed-up after hospital discharge. Frailty was defined by the Clinical Frailty Scale (CFS) and the score >4 was defined as having frailty status. The functional status was determined at the 12-month follow-up and functional decline was defined when the follow-up Barthel Index was lower than the baseline Barthel Index before hospital admissions. The composite adverse outcome was defined as the presence of mortality or functional decline.
Results: Overall, 150 patients (81.5 ± 7.0 years with 64% males) were enrolled for study. Among them, 62% were living alone and 29.3% eventually lived in the nursing homes. The main admission conditions were cardiovascular disease, neuropsychiatric disease and infectious diseases. Compared to non-frail patients, frail patients were significantly older (84.4 ± 5.9 vs 79.3 ± 7.0 years, $P < 0.001$), more living in nursing homes (55.4% vs 9.4%, $P < 0.001$), poorer in baseline functional status (Barthel Index: 63.7 ± 22.4 vs 97.6 ± 5.5, $P < 0.001$ and IADL: 3.9 ± 2.2 vs 7.2 ± 1.3, $P < 0.001$), higher multimorbidity (CIRS-G: 11.0 ± 4.1 vs 9.6 ± 4.0, $P = 0.038$), longer hospital length-of-stay (23.2 ± 13.9 vs 13.7 ± 8.0 days, $P < 0.001$), poorer cognitive function (MMSE: 22.5 ± 5.9 vs 25.2 ± 3.9, $P = 0.024$), poorer nutritional status (MNA-SF: 10.5 ± 2.7 vs 12.3 ± 2.0, $P < 0.001$), and higher CFS (5.4 ± 0.6 vs 3.4 ± 0.6). Cox proportional hazard model showed that frailty (HR: 5.59, 95% CI: 1.58–19.79, $P = 0.008$) and IADL (HR: 0.575, 95% CI: 0.406–0.815, $P = 0.002$) were significantly associated with the composite adverse outcome.
Conclusion: CFS is a useful assessment instrument to predict long-term adverse outcome among patients admitted to the Geriatric Unit, which deserves to be a routine assessment for all geriatric inpatients.

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Determinants of functional decline and entering frailty – results from the Longitudinal Urban Cohort Aging Study (LUCAS)

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Introduction: Prevention in ageing populations is a major challenge for public-health policy, welfare systems, healthcare providers and payers. In the Longitudinal Urban Cohort Aging Study (LUCAS) a functional ability (FA) index was established to screen functional competence and development of frailty (classes ROBUST, postROBUST, preFRAIL and FRAIL) in the community setting [1]. In this analysis, the predictive ability of single baseline marker questions was evaluated.
Methods: ROBUST participants in 2007 with at least one measured follow-up until LUCAS wave 5 (2013) were eligible. The progressions to (a) leave the ROBUST class, and separately (b) to enter the FRAIL class, were analyzed using univariate Cox" cause specific hazards models.
Results: All 820 ROBUST participants (2007) were analysed within the six year time period. 484/820 (59.0%) participants left the ROBUST class and 160/820 (19.5%) entered the FRAIL class. Those LUCAS FA index risk markers depicting performance changes in walking 1km or 500 m, climbing 10 stairs or getting into a car were significantly predictive for (a) leaving ROBUST and (b) entering FRAIL. On the other hand, FA index resource markers depicting moderate or strenuous physical activity were significantly predictive for (a) remaining ROBUST and (b) not entering FRAIL.
Key conclusions: Well established clinical frailty markers measured in the LUCAS FA index such as unintentional weight loss or previous falls were inappropriate (insignificant) for predicting functional decline (postROBUST, preFRAIL) or newly entered frailty. Multivariate Cox" cause specific hazards models incl. backward selection will be performed to confirm present results.
Funding: LUCASIII/PROLONGHEALTH (BMBF01EL1407).

Reference

[1] Dapp U. *et al. BMC Geriatrics* 2014;14:141.

P-335
Assessing the feasibility of frailty tools: a systematic literature review

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Background: This literature review aimed to identify the pre-existing evidence on the feasibility of implementing frailty identification systems in the Emergency Department.
Methods: Medline was searched for evidence of the feasibility of either frailty tools specifically, or the assessment of older people, in

emergency and urgent care, between 2001 and October 2015. Markers of feasibility included the time taken to complete an assessment; acceptability to clinicians; and completion rates of tools.
Results: 1754 titles and abstracts were identified and reviewed by two researchers. 47 full papers were reviewed with nine included in the final critical review. Median CASP score was 75%, interquartile range = 69–81. Eight of the nine papers included information on how long an assessment took to carry out; three assessed completion rates; and one investigated the acceptability of tool domains to clinicians.
Conclusion: There is a paucity of evidence of the practical application of frailty tools and their feasibility. The most commonly assessed feasibility marker is time taken to complete an assessment. Further work is required to better understand the acceptability of frailty identification to ED staff.

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Assessing the feasibility of implementing frailty identification tools in the Emergency Department

A.R. Elliott, S.P. Conroy. *University of Leicester*

Introduction: Identifying frailty in older people in the Emergency Department (ED) is important as ED assessment and initial management substantially affect outcomes. Screening tools can be used for identification but there is relatively little evidence of their practical application.
Methods: A convenience sample of ED clinicians in a large teaching hospital, employing 179 nursing and 104 medical staff, assessed four frailty tools: clinical frailty scale (CFS), ISAR, PRISMA-7 and the Silver Code (SC) against patient vignettes, developed from focus groups. Assessments were timed and participants were asked about: their opinion on the tools; whether they would use them in practice; and how easy they were to use on a scale of 1–5.
Results: 121 staff members were recruited, representing 36% of nursing staff (n = 65), 53% of doctors (n = 55) and one manager. 75% (95% CI 68–80%) of participants would use a frailty tool in future. Proportions who would use each tool again were: • CFS = 75% (61–85) • ISAR = 85% (72–93) • PRISMA-7 = 79% (65–89) • SC = 62% (48–75) Median and interquartile ranges in seconds to carry out the assessment were: • CFS = 41 (28–57.5) • ISAR = 66 (52–93) • PRISMA-7 = 52 (40–77) • SC = 54 (36–86) The silver code's median ease of use score was five out of five, with the rest scoring four out of five.
Conclusion: Implementing frailty tools in the Emergency Department is quick, simple and acceptable. There are no significant differences between the four tools but the silver code appears to be less acceptable with the lowest proportion of people willing to use it and the second longest median time to use.

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Falling of eldery living in the community

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Objectives: The research was aimed to investigate falling prevalance and associated factors among elders who was evaluated in Fatih district geriatric study.
Material and methods: Age range of 60–101 were taken into the study. Falling has been evaluated as an existence of falling within a year. The fragility screened with FRAIL-questionnaire, functional capacity measurement with KATZ-Activities-of-Daily-Living-Scale (ADL) and LAWTON-BRODY-Instrumental Activities-of-Daily Living Scale (IADL), quality of life measurement with EQ5D-questionnaire, cognitive status with Mini–Cog-test, depression with GDS-SF, malnutrition with MNA-SF, balance and gait with Romberg-test and postural-instability-test, were evaluated accordingly.
Findings: 204 cases (94 male–110 female) were recruited in this research. Average age is 75.4 ± 7.3. Case of falling rate is %28.1 in all cases(M: %25.5, F: %30.3). There was a significant difference among falling and number of disease ($p < 0.001$)-number-of-drug ($p = 0.003$)-fragility-score ($p = 0.001$), IADL ($p = 0.019$), EQ-5D score ($p = 0.010$), depression score ($p = 0.023$) but there wasn't any significant finding among falling and age ($p = 0.97$), BMI (0.56), afraid of falling ($p = 0.16$), VAS score ($p = 0.98$), power of muscle ($p = 0.053$), diameter of forelegg ($p = 0.60$), TUG test ($p = 0.96$), UGS ($p = 0.91$), ADL score ($p = 0.065$, BIA parameters (body fat, visceral tallowing, bone), CDT score ($p = 0.08$), MNA score ($p = 0.065$, point of subjective health condition ($p = 0.16$)). Among the group of falling, dementia ($p = 0.003$), chronic pain ($p = 0.028$), dynapenia ($p = 0.028$), level of ambulation ($p = 0.036$), fragility ($p = 0.013$) had a significant difference, however; gender ($p = 0.47$), obesity-DSO($p = 0.69$), level of education ($p = 0.50$), HL ($p = 0.63$), existence of MN ($p = 0.09$), existence of DM ($p = 0.07$), existence of HT ($p = 0.54$), UI ($p = 0.48$), finding of Romberg ($p = 0.51$), postural instability ($p = 0.38$), low UGS ($p = 0.84$), cognitive defect ($p = 0.47$, existance of depresion ($p = 0.35$)) didnot have a significant difference. Falling non-releated factors in regretion analysis in last 1 year scores were; (depending variablitiy: falling/non-depending variability: disease/number of drug/fragility/IADL/GDS-SF/Eq-5d score/demantia/chronic pain/ existence of dynapenia): Existance of demantia (OR = 0.29, $p = 0.012$) and fragility score (OR = 1.43, $p = 0.031$).
Result: Many falling related factors were taken into account. As a result, we think that cognitive defect and fragility are major factors which are the related factor of falling.
Keywords: Falling; Geriatric, Fragility; Cognitive defect.

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Sarcopenia and nutritional status in elderly patients with fragility hip fracture

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Objectives: To describe the prevalence and main characteristics of sarcopenia and malnutrition in hip fracture elderly patients.
Methods: Observational study. Patients aged ≥65 admitted with hip fracture (September 2015–February 2016) were included. Variables: sociodemographic, clinical, functional assessment (Barthel index-BI-, FAC), Comorbidity (Charlson's index-CCI-), nutritional status (BMI, biochemical parameters, MNA), body composition by bioimpedance analysis-BIA-, (MMI, phase angle-PA-), and muscular strength (grip strength). EWGSOP criteria. Statistical analysis: SPSS.
Results: 74 patients were included (mean age 85.2 ± 8, women 76.7%, lived at home 95.9%). BI 85.1 ± 13, CCI 6.71 ± 1.5. 38.4% had a pertrochanteric fracture. Preoperative stay was 4.4 days ± 2.31, length of stay 11 days (IQR 9–15), in-hospital mortality 6.8%. Preoperative measures: serum albumin 3.3 mg/dL ± 0.2, IL-6 47.0 pg/mL ± 45.8, Vit D 15.7 ng/mL ± 8.1. According to MNA score 50.7% were at risk of malnutrition and 4.1% were undernourished. BMI 26.5 Kg/m^2±4.5. 9.45% had sarcopenia (men 29.4%, women 3.6%), MMI 9.53 ± 2.49. Low grip strength: men 88.2%, women 82.1%. There was association between: severe sarcopenia and BI at discharge ($\beta = -0.299$, $p = 0.019$), PA and BI at discharge ($\beta = 0.0256$, $p = 0.029$). There was no association with mortality, co-morbidity, nutritional status, discharge destination. There was association between: discharge destination and BI at discharge (OR = 1.051, $p = 0.002$), length of stay and CCI ($\beta = 0.098$, $p = 0.004$). There was no association with nutritional status, albumin, MMI, age, gender or grip strength.
Conclusions: Sarcopenia was more prevalent in men than in women with hip fracture. Severe sarcopenia was associated with the degree of functional decline at discharge. More than half of patients were at risk of malnutrition or undernourished.

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Frailty and malnutrition

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Introduction: Frailty can be defined as a state of increased vulnerability, with mutually exacerbating cycle of negative energy balance, sarcopenia, and diminished strength and tolerance for exertion. Frailty and malnutrition are frequent conditions in elderly.
Objective: Study the relationship between malnutrition and frailty in elderly.
Methods: A cross-sectional study with 66 hospitalized elderly patients (>65 years). Frailty was defined by the 9-point Clinical Frailty Scale (CFS). Nutritional status was analyzed by Mini-nutritional Assessment-Short Form (MNA-SF, >12 well-nourished, 7–12 under risk, <7 malnourished), anthropometric measures (body mass index, BMI; ideal adequacy of weight by Lorentz formula; mid-arm muscle circumference – MUAMC, <70% severe, 70–80% moderate and 80–90% mild malnutrition) and albumin (normal >3 g/dL). The risk of nutrition-related complications was calculated by Geriatric Nutritional Risk Index (GNRI, >98 no risk, <98 under risk). Categorization in two groups: G1 with CFS ≤6 (normal to moderately) and G2 with CFS >7 (severely frail).
Results: (1) There were included 38 patients in G2, with mean age of 82.1 ± 6.3 years (vs 84.4 ± 5.2; p = 0.116). (2) The mean MNA-SF in G2 was 8.2 ± 3.2 (vs 12.2 ± 2.5; p < 0.01), 44% with MNA-SF <7 (p < 0.001). (3) G2 had lower BMI (22.3 ± 3.3 vs 25.4 ± 4.7; p = 0.003), lower adequacy of weight (101.1 vs 112.9%; p = 0.011), and lower MUAMC (76.8 ± 13.3 vs 84.5 ± 14.6 cm^2; p = 0.053). (4) G2 had more hypoalbuminaemia (52 vs 21.6%; p = 0.046). (5) G2 had lower GNRI (87.4 ± 15.5 vs 98.5 ± 13.4; p = 0.005) and 52.9% were already at risk of malnutrition-complications. (<98, p = 0.185).
Conclusions: Because of the role of nutritional deficiency in the development of frailty, it is important to provide good nutritional support, avoiding health status deterioration and disability in older people.

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Instrumented 6-minutes walk test, an approach to improve the traditional test

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Introduction: Exercise testing is frequently used to assist clinicians in assessing prognosis and evaluating response to treatment. The 6-min walk test is a standardized test of functional exercise capacity.
Objectives: The aim of the present study was to identify and describe the anthropometric characteristics, gait velocity and instrumented 6-min walk test with kinematics parameters from inertial sensor during the test in a Portuguese population of subjects over 65 years.
Methods: They were measured variables related with anthropometrics, the 6-min walk test and kinematics variables in the 6-min walk test related with accelerations and angular velocity.
Results: The results were; six minutes walk (359,26 ± 107.49 meters), initial heart rate (72,95 ± 7,74BPM), final initial heart rate (80,58 ± 13,86 BPM), initial systolic blood pressure (148,42 ± 21,25 mmHg), final systolic blood pressure (164,26 ± 24,49 mmHg), initial diastolic blood pressure (75,63 ± 11,04 mmHg), final diastolic blood pressure (77,00 ± 9,52 mmHg), gait velocity (1,04 ± 0,37 m/s), max rotation rate X (1,05 ± 0,36 rad/s), min rotation rate X (−0,82 ± 0,33 rad/s), max rotation rate Y (2,63 ± 0,96 rad/s), min rotation rate Y (−1,69 ± 0,81 rad/s), max rotation rate Z (1,03 ± 0,33 rad/s), min rotation rate Z (−1,12 ± 0,38 rad/s), max acceleration X (0,77 ± 0,37 m/s^2), min acceleration X (−0,91 ± 0,44 m/s^2), max acceleration Y (0,53 ± 0,23 m/s^2), min acceleration Y (−1,25 ± 0,70 m/s^2), max acceleration Z (0,49 ± 0,14 m/s^2), min acceleration Z (−0,96 ± 0,34 m/s^2).
Conclusions: The only one outcome in 6-min walk the test (total distance in meters), could be complemented with inertial sensor information. This new complement could be interesting in order to understand other dimensions in the 6-min walk or identify changes in function and results in the test after a program to improve physical fitness.

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Fatih province – Geriatric Study: fragility and contributing factors in old population living the community

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Aim: In this abstract, we aimed to investigate fragility prevalence and contributing factors among the old population living in Fatih/Istanbul province.
Material and methods: Age range of 60–101 were taken into the study. The fragility screened with FRAIL-questionnaire, functional capacity measurement with KATZ-Activities-of-Daily-Living-Scale(ADL) and LAWTON-BRODY-Instrumental Activities–of-Daily Living Scale (IADL), quality of life measurement with EQ5D-questionnaire, cognitive status with Mini–Cog-test, depression with GDS-SF, malnutrition with MNA-SF, balance and gait with Romberg-test and postural-instability-test, were evaluated accordingly. We measured muscle mass with bioimpedance analysi s(TANITA-BC532). We evaluated muscle mass using Baumgartner index (skeletal muscle kg/$length^2$). According to our, low muscle mass(young adult average-2SD) and muscle threshold values national data, low muscle mass values are <9.2 kg/m^2 vs 7.4 kg/m^2; <32 kg vs <22 kg in men and women respectively. We defined sarcopenia as decrease in sarcopenic muscle mass and muscle function (muscle strength/OYH) as stated in EWGSOP definition. Obesity diagnosis is evaluated using two alternative method advised in literature:fat percentage >=60 percentile among old case population values (Zoico methodology) or BMI >=30 kg/m^2 (WHO definition).
Findings: We included 204 old cases(94 male–110 female). Average age:75,4 ± 7,3 years.30.4% of the cases were normal,42.6% were pre-frail and 27% were frail. There significant differences in these groups in terms of age/number of diseases/drugs/hand grip strength/daily life activities/EGYA/cognitive state/SÇT (p = 0.001) /MNA/ GDS/Eq-5D score and health state subjective scoring (p < 0.001); BMI (p = 0.032), OYH (p = 0.03), BIA-fat (p = 0.021) and muscle mass (p = 0.019). On the other hand, there were no significant differences in calf diameter (p = 0.25, visceral fat level (p = 0.71). While there were significant differences between the fragility groups, in terms of presence of malnutrition/fear of falling/UI/chronic pain/Romberg's sign/postural instability/ambulation level/presence of depression (p < 0.001)/ dementia (p = 0.001)/falling in past year (p = 0.011) and sex (p = 0.004), there were no significant differences in presence of diabetes (p = 0.90), hypertension (p = 0.065, fecal incontinence (p = 0.10). In regression analysis, independent factors to fragility were (dependent variable fragility (robust vs prefrail + frail), independent variables: age, sex, disease and drug number, muscle strength, egya and EQ-5D scores; cognitive dysfunction-depression, MN, falls, presence of chronic pain) drug number (OR = 1.24, p = 0.036), cognitive dysfunction (OR = 0.3, p = 0.016), EQ-5D (OR = 1.53, p = 0.017).
Results: Our study is a strong study in multiple factors are taken into account regarding fragility. Our results indicate that multiple drug usage, cognitive-dysfunction and low-life-quality perception are related major factors regarding fragility.

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Comprehensively preventive approach against multi-dimensional frailty in the elderly: impact of social engagement

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Introduction: Frailty is accelerated by sarcopenia, age-related muscle loss, and is largely overlapping geriatric conditions upstream of the disabling cascade. These multi-dimensional frailty are affected from

many multi-faced environmental and medical factors that can contribute to the worsening of sarcopenia-based frailty. Therefore, we investigated the association of various contributing factors, including three categories (social engagement, nutrition and physical activity), with frailty.
Methods: A Japanese large-scale longitudinal study, "Kashiwa study", was based on data randomly selected community-dwelling older adults (aged 65–94, Ave 73) who participated in Kashiwa city, Japan.
Results: The fault of all three categories significantly deteriorated odds ratio (OR; 3.5) of risk of sarcopenia compared to the complete attainment of three categories (OR; 1.0 as reference). Intriguingly, using validation of hypothesis model by structural equation modeling, we found that social disengagement affected subsequent unbalanced diet, oral dysfunction and inadequate physical activity, leading to sarcopenia even in the early-stage.
Key conclusions: Our data suggest that the importance of the TRINITY, social engagement, nutrition (i.e., dietary intake and dental/oral management) and physical activity, in comprehensive assessment and effectively preventive approach for sarcopenia-base frailty. Therefore, as a new population approach, we have already developed the community system to carry out the very simple health-checkup conducted by "the healthy elderly citizen supporters" to prevent multi-dimensional frailty. We first have to let the elderly in the community know the fundamental concept of "chew well, eat well, move well, and participate highly in society!" from the earlier stages, consequently leading to their behavior modification.

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Relationship between sarcopenia and metabolic syndrome

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Objectives: Sarcopenia is a prevalent problem in the older population that is commonly considered for its well known adverse functional associations. Cardiovascular diseases and metabolic syndrome are also significant problems whose prevalence dramatically increase with age and remain the main cause of mortality in older adults. These two entities have recently been suggested to be inter-related and significant evidence has accumulated. Previous studies showed conflicting results which may depend on the differences in methodology assessing sarcopenia. In this study, we aimed to investigate the association between sarcopenia and metabolic syndrome components in terms of different sarcopenia methodologies.
Methods: Community dwelling older outpatients were prospectively recruited from the geriatrics outpatient clinics of a university hospital for assessing hand grip strength and gait speed. Body composition was assessed by bioimpedance analysis. Muscle strength was assessed measuring hand grip strength with a Jamar hand dynamometer. We used Turkish population cut-off points according to Baumgartner, Janssen and FNIHa-b definitions while assessing sarcopenia. The cut-off thresholds for muscle mass were defined as the mean-2SD of the values of the young reference study population. Low muscle mass was defined as followings according to Baumgartner, Janssen and FNIHa-b, respectively: appendicular muscle mass/height^2 (kg/m^2), skeletal muscle mass/total body weight*100 (%), muscle mass/body-mass-index (kg/m^2). Hypertension (HT), diabetes mellitus (DM) and increased waist circumference (IWC) (Male–Female >=102 cm vs 88 cm, respectively) were used as the components of metabolic-syndrome.
Results: Total of 970 community-dwelling outpatients between 60 and 99 years of age. 303 (31.2%) were male and 667 (68.8%) were female. Mean age was 75 ± 7.2 years. N = 19 (%2), n = 449 (%46,2), n = 601 (%61,9), n = 178 (%18,3) of total had lower-muscle-mass according to Baumgartner, Janssen and FNIHa-b, respectively. N = 309 (%31.8) had lower gait speed, 363 (%37.4) had lower muscle strength, 479 (%49.3) had decreased muscle functionality. Sarcopenia prevalences were 11 (%1,2), 220 (%22,6), 315 (%32,4), 106 (%10,9) according to Baumgartner, Janssen and FNIHa-b, respectively. Prevalences of HT, DM, increased WC were 25.3%, 75%, 65.6% respectively. In chi-square analyses, lower-muscle-mass was associated with increased HT and WC according to Janssen and FNIHa methodology ($p < 0.05$), while associated with only increased WC according to FNIHb methodology ($p < 0.001$). According to Baumgartner methodology there was reverse-association between lower-muscle-mass and increased HT ($p = 0.055$) and WC ($p < 0.001$). In functional parameters only decreased gait speed was associated with increased WC in MS components ($p = 0.03$). According to Janssen methodology increased HT and WC were associated with sarcopenia ($p = 0.04$ and $p < 0.001$, respectively) while FNIHa-b methodology was associated with only increased WC ($p < 0.001$). Baumgartner methodology showed that sarcopenia is reverse associated with increased WC ($p = 0.001$). There was no association between DM and lower-muscle-mass, gait speed, muscle strength and sarcopenia.
Conclusion: We observed that relationship between sarcopenia and MS depends on the kind of definition in sarcopenia. It seems that Janssen methodology has the highest prediction value in terms of MS in older population.

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Epidemiology of qualitative gait abnormalities of neurologic type in well-functioning older adults without neurological diseases

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Introduction: Gait abnormalities are common in older community-dwellers. These abnormalities, in particular if characterized by neurological features, are associated with outcomes such as disability, falls, incident dementia and death. Few data are available about the epidemiology of neurological qualitative gait abnormalities (NQGA) in the community. We assessed the prevalence of NQGA and its subtypes in a cohort of relatively healthy, well-functioning older community-dwellers.
Methods: Cross-sectional analysis of the Healthy Brain Project, which enrolled community-dwelling older adults without previous, psychological or neurological illnesses. For gait evaluation, after standardized instructions and a visual demonstration, subjects were asked to walk back and forth between two lines 1,5 m apart at usual pace, to turn in place and to walk in tandem. Applying standardized and validated readings of video-records, based on the qualitative classification of gait proposed by Verghese et al., a trained geriatrician defined NQGA, and, in association with neurological exam data, determined subtypes (unsteady, ataxic, neurophatic, frontal, parkisonian, hemiparetic, spastic). Abnormalities of gait of non-neurological type (attributable to rheumatologic, cardio-respiratory reasons etc.), were excluded as NQGA.
Results: In our sample of 183 participants (mean age + SD = 83,2 + 2,6 years, 55,2% women, 58% caucasian), 52 (28%) had abnormal gait. Unsteady gait (37%) was the most frequent subtype followed by hemiparetic (15%), neuropathic (14%), parkinsonian (12%), frontal (10%), ataxic (10%) and spastic gait (2%).
Key conclusions: In our sample of community-dwelling older adults without clinical neurological diseases, almost one third showed neurological abnormalities of gait. Specific subtypes, associated with incident dementia in previous research, were the most prevalent.

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Association of qualitative gait abnormalities of neurologic type with clinical characteristics, in well-functioning older adults without neurological diseases

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Introduction: Gait abnormalities are common even in well-functioning older adults. In particular, those attributable to sub-clinical neurological disease are associated with disability, falls, dementia and death. We evaluated the cross-sectional association of neurologic-type qualitative gait abnormalities (NQGA) with comorbidities and clinical characteristics in older community-dwellers of the Healthy Brain Project.
Methods: The Healthy Brain Project enrolled community-dwelling older adults without previous psychological or neurological illnesses. We detected NQGA using standardized and validated readings of video-records (adapted from Verghese et al). Non-neurological abnormalities were included in the control group. We also assessed demographics, vascular risk factors and comorbidities, a neurological exam, cognitive function (3MSE and Digit-Symbol Substitution test [DSST]), and brain MRI (with measures of cerebral volumes and connectivity).
Results: Of the 183 participants (mean age + SD = 83,2 + 2,6 years, 55% women, 58% caucasian), 52 (28%) had NQGA. Subjects with NQGA were older (p = 0,017), with higher prevalence of diabetes (p = 0,001) and hypertension (p = 0,019), poorer self-reported eyesight (p = 0,02) and self-reported health (p = 0,001). NQGA were associated with abnormal Romberg Test (p = 0,003), abnormal sense of position (p = 0,002) and slower 4-m gait (p < 0,001), as well as with higher white matter hyperintensity volume (p = 0,024), reduced fractional anisotropy (p = 0,031) and worse DSST performance (p = 0,003), but not with 3MS.
Key conclusions: In our sample of community-dwelling older adults without clinical neurological diseases, neurological abnormalities of gait were associated with slower gait, neurological signs, poorer attention and psychomotor speed, leukoaraiosis and reduced white matter connectivity, as well as cardiovascular risk factors. Further investigations should ascertain if subclinical cerebrovascular disease might explain such gait abnormalities.

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Old men in the department of geriatrics have extremely low testosterone levels

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Introduction: Several studies in old men have shown a decline in testosterone with increasing age, and hypogonadism is associated with sarcopenia, mobility limitations, and low physical performance as well as a high risk of falling. Few studies have investigated the oldest part of the male population though. Aim: The aim of this study was to examine testosterone levels in old men admitted to the department of geriatrics in a period of three month.
Method: Total serum testosterone was measured in 38 of 61 male patients admitted to the department of geriatrics. They had an average age of 84.7 (70–96) years. The hospital records were examined for the cause of hospitalization, and comorbidity was registered in the Charlson Comorbidity Index (CCI).
Results: Thirty eight men had an average level of serum total testosterone of 6.1 nmol/L (1.2–20.4 nmol/L). The group of patients had a CCI of average 1.9. Hospital records described that 37% of the group had been falling within 24 hours prior to hospitalization, and 74% were described with risk of falling.
Conclusion: Our findings indicated that the oldest men have an extremely low level of testosterone. They have considerable comorbidity and risk of falling. Their condition seems multifactorial, but the low testosterone levels may be playing a role. Further studies are needed to investigate this very old and frail group of patients to see if testosterone replacement therapy and/or physical training could possibly increase testosterone levels and thereby prevent falls and hospitalization.

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Incidence of sarcopenia in elderly cancer patients

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Objectives: Sarcopenia is associated with age and chronic disease, including cancer, and has been shown to lead to poor physical function, infections, higher morbidity in surgical patients and longer length of hospital stay and rehabilitation periods. Our aim is to evaluate the incidence of sarcopenia in cancer patients, focusing on the elderly subgroup.
Methods: In this study we included 328 patients treated for cancer between March 2015 and January 2016. Of these, 66.5% were male and 33.5% female. 44.5% were younger than 65 years, 30.8% were between 65 and 74 years old and 24.7% were older than 75. All cancer diagnoses were included. Patients who were only eligible for palliative treatment at the time of diagnosis were not included. Sarcopenia was evaluated by use of the CT analysis at the level of the L3 vertebra (Slice-O-Matic V4.3 software (Tomovision, Montreal)). Cutoff values were <38.5 $cm^2 * m^{-2}$ for female patients and <52.4 $cm^2 * m^{-2}$ for male patients.
Results: In patients younger than 65 years, sarcopenia was present in 66.4%. In the elderly group, sarcopenia was present in 76.2% of patients aged 65–74, and in 79.1% of patients older than 75. In all age groups, sarcopenia was more frequent in male than in female patients (66.7% vs 66%, 82.6% vs 62.5%, 86.8% vs 64.3% respectively).
Conclusion: Cancer patients in Greece are susceptible to sarcopenia. Age seems to directly correlate to sarcopenia in cancer patients, leading to increased morbidity and mortality. Accurate evaluation and support is paramount in order to provide better care for elderly cancer patients.

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Sleep apnea, falls and sarcopenia in older adults: preliminary results from the FALL-Aging- SLEEP Study

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Objectives: Sleep disturbances increase the risk of falls among older people. We aimed to examine prevalence of falls and sarcopenia among older patients with and without sleep apnea (SA).
Methods: Acute care setting patients aged ≥75 were proposed to participate to the FALL-A-SLEEP Study since March 2015. Subjective sleep questionnaires (e.g Epworth Sleepiness Scale (ESS)), nocturnal polygraphy (SA defined by AHI > 15/hr), handgrip strength and short physical performance battery (SPPB), Dual Energy X-ray absorptiometry (skeletal muscle mass (SMI)), were performed in a stabilized medical situation.
Results: Complete evaluation was available for 45 patients (mean age 81.9 years, 33 women). Between SA (n = 28, mean AHI = 39.7/hr) and non-SA (n = 17, mean AHI = 4.6/hr) patients, nap was more frequent among SA patients (65.51% vs 29.41%, p-value = 0.023) but ESS (5.9 vs 4.9, p-value = 0.275) was not different. ADL (5.56 vs 5.71, p = 0.883), Charlson score (1.7 vs 2.47, p = 0.301), and Rockwood score (4.37 vs 4.29, p = 0.861) were not different. Falls (77.7% vs 56.25%, p-value = 0.137), mean SPPB score (5.3/12 vs 7.3/12, p-value = 0.0771), SMI (7.03 kg/m^2 vs 6.17, p-value = 0.603), mean handgrip (17.83 kg vs 17.97, p-value = 0.799) and sarcopenia defined by EWGSOP (60.9% vs 61.5%, p-value = 0.96) were not statistically different between SA and non-SA patients. CRP level at the entrance to the hospital (47.44 vs 31.53, p-value = 0.016), duration to get up and sit down 5 times (21.15s vs 12.73s, p-value = 0.05), were statistically different.

Conclusions: These preliminary data of FALL-A-SLEEP Study showed that older SA patients do not present more falls and sarcopenia.

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Insomnia, falls and sarcopenia in older adults: preliminary results from the FALL-Aging- SLEEP Study

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Objectives: Sleep disturbances increase the risk of falls among older people. We aimed to examine prevalence of falls, sarcopenia and several comorbidities among older patients with and without Insomnia.
Methods: Hospitalized geriatric patients aged ≥75 were proposed to participate to the FALL-A-SLEEP Study since March 2015. Subjective sleep questionnaires (reported sleep duration, sleeping habits, insomnia severity index (ISI) and drug use e.g benzodiazepine/hypnotics), handgrip strength and short physical performance battery (SPPB), Dual Energy X-ray absorptiometry (skeletal muscle mass (SMI)) were performed in a stabilized medical situation. Insomnia was defined on ICSD3 criteria.
Results: Complete evaluation was available for 64 patients (mean age 81.9, 47 women), 17 patients never fell. Between insomniacs (n = 33, mean ISI = 10.9) and non-insomniacs (n = 31), ADL (5.32 vs 5.68, p = 0.11), Charlson score (2.81 vs 2.03, p = 0.187) and Rockwood score (4.44 vs 4.67, p = 0.422) were not different. Falls (76.7% vs 65.5%, p-value = 0.344), mean SPPB score (6.57/12 vs 5.36/12, p-value = 0.164), mean handgrip (18.43kg vs 18.14, p-value = 0.778), and sarcopenia (40% vs 37.5%, p-value = 0.655) were not statistically different. But, falls by iatrogenic (40.74% vs 14.28%, p-value = 0.045, OR = 4.125, CI (0.974–17.469)) were more frequent in insomniac patients. Polymedication (more than 5 medications) were present in 66.7% of insomniac and 51.6% of non insomniac patients. Less insomniac patients with falls remained on the ground >1 hr (26.9% vs 57.1%, p-value = 0.036, OR = 0.276, CI (0.081–0.940)).
Conclusions: These preliminary data of FALL-A-SLEEP Study showed that older insomniac patients do not present more falls and sarcopenia, but they present more falls by iatrogenic origin.

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Association between kidney function and frailty in community-dwelling elderly Japanese people

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Introduction: Chronic kidney disease (CKD) and frail has received increased attention as a leading public health problem. The aim of this study was to evaluate the relationship between kidney function and frailty among community-dwelling older adults.
Methods: We analyzed the cohort data from a prospective study entitled National Center for Geriatrics and Gerontology – Study of Geriatric Syndromes. Participants comprised 9,334 community-dwelling older adults who were participating in the Estimated glomerular filtration rate was determined according to creatinine levels, and participants were classified into two categories: ≥60.0, 59–45, <45 mL/min/1.73 m^2. Frailty defined by the CHS index as proposed by Fried et al was identified by the presence of 3 or more of the following 5 components: weight loss, poor grip strength, reduced energy level, slow walking speed, and low level of physical activity. Multivariate logistic regression was used to examine the relationships between kidney function and frailty.
Results: The results suggested that lowest kidney function were at a greater than higher risk of being frail in comparison to highest kidney function (OR:1.37, CI: 1.01–1.85). Furthermore, the analyses showed an even greater increase in the risk of being frail with lower physical activity (OR:3.98, CI:1.67–9.47).
Conclusion: A lower level of kidney function was associated with higher risk of being frail in community-dwelling older adults.

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Creating a hospital protocol on secondary prevention pharmacological therapy for fragility fractures in a Central London major trauma unit

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Objectives: Over 300,000 patients present to hospital each year with fragility fractures, with a cost of £2 million per year. Effective secondary prevention including lifestyle interventions and pharmacological therapy improves bone mineral density therefore reducing risk of further fractures. We aimed to assess current prescribing behaviour and create a hospital protocol on secondary prevention pharmacological therapy for fragility fractures in patients admitted to a major trauma unit in a Central London tertiary hospital.
Methods: A retrospective analysis was conducted on patients discharged November 2015 from the rehabilitation unit. Patient demographics, comorbidities, secondary prevention pharmacological therapy pre- and post-discharge, and evidence of counselling of risks were recorded. A hospital protocol was created to improve secondary prevention prescribing behaviour. A prospective analysis was conducted on patients discharged January 2016.
Results: Data is reported for 20 patients in the initial study period. 18 patients (90%) were discharged with secondary prevention pharmacological therapy. Data is reported for 17 patients in the second study period. 16 patients (94%) were discharged on secondary prevention pharmacological therapy. A significantly low proportion of patients received counselling of the risks of bisphosphonate therapy and need for dental follow-up (11% v 50%).
Conclusions: Between 90% and 94% patients were considered for secondary prevention pharmacological therapy that included bisphosphonate therapy. Reasons for omission included cognitive impairment and need for further outpatient bone health evaluation. We identified a need to improve counseling on risk of osteonecrosis of the jaw and created a modified neck of femur fracture checklist for discharge.

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High or low hemoglobin is not an independent risk factor for mortality in the elderly

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Objectives: Anemia is associated with increased mortality in the elderly. The purpose of this study is to explore the association between anemia and mortality among old people stratified by gender.
Methods: The data was obtained from the first wave of the Toledo study for Healthy Aging (TSHA), a population based study. The hemoglobin levels were recorded into two dichotomous variables, one for levels under the reference interval and another one for levels above the reference interval (12–14 g/dL). The association between vital status and hemoglobin levels was assessed using three Cox proportional hazard models. The first model was the unadjusted, the second model was adjusted by age and comorbidity and finally, the third model was adjusted by age, Carlson Index, urea, albumin and disability.
Results: 1,744 subjects participated, mean age of 75% and 57% women. In women, in the first model, higher hemoglobin was associated with lower mortality (HR 0.65, p-value 0.034); In the second model, lower hemoglobin was associated with higher mortality (HR 1.64, p-value 0.03). In men, lower hemoglobin levels were associated with higher mortality in both the first model (HR 2.4, p-value 0.002) and the second model (HR 2.34, p-value 0.003) and higher hemoglobin levels

were only associated with lower mortality in the first model (HR 0.5, p-value <0.001). In the second model, there was a tendency (HR 0.7, p-value 0.085). There was no association in the third model in both genders.

Conclusion: In elderly people, hemoglobin cannot be used as an independent risk factor for mortality.

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Association between Mini Nutritional Assessment (MNA) and the development of delirium in elderly patients with hip fracture

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Introduction: The presence of delirium in patients undergoing hip fracture is common and this is also true with malnutrition. It seems important to evaluate the association between MNA and perioperative delirium in patients undergoing hip fracture.

Method: All patients ≥80 years admitted in the Orthogeriatric Unit of a tertiary hospital and underwent hip surgery from June 2014 to June 2015 were included. Epidemiologic variables were collected, comprehensive geriatric assessment: Barthel index (BI), cognitive status, visual and hearing deficit, nutritional status, presence of perioperative delirium, basal location and drugs previously taken. Surgical risk was classified by the American Society of Anaesthesiologists Index (ASA). About the type of fracture and anaesthesia, the no authorization of weight bearing, the mean stay and the hospital mortality were collected.

Results: 362 patients were included, 33% with dementia, 56% without visual deficit and 45% without hearing deficit. The 71% was taking more tan 4 drugs. The 52% had ASA III, 51% pertrochanteric fracture and the 94% spinal anaesthesia was used. Weight bearing was not authorized in 8%. The mean stay was 14 ± 6 days and there was hospital mortality of 4%. A 63% had a MNA < 12. A 44% developed a perioperative delirium. The MNA <12 values were associated with the presence of perioperative delirium (p = 0,002). This association remained after the adjustment for age, gender and the presence of dementia (p < 0,05).

Conclusions: The risk of malnutrition assessed by the MNA is associated with the development of perioperative delirium in patients older than 80 who underwent hip fracture surgery.

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Fragility prevalence, and associated factors, based on a multidimensional assessment in people aged ≥70

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Introduction-objective: The Basque "Elderly Care Program" (PAM) is developed based on a multidimensional geriatric assessment, focused on a predominant preventive and functional component. Elderly typologies and frailty are defined regarding their functionality [1–3]. The study objective is to analyse the prevalence of frailty and factors and conditions associated with this state.

Methods: Transversal study in Primary Care, based on data from the PAM pilot study. It included community dwelling people aged ≥70; the study being approved by the Ethics Committee of Euskadi.

Considering the most unfavourable situation (50%), an accuracy and degree of confidence of 5%, a sample of 377 subjects was needed. A total of 666 persons was assessed, 569 had the typology stablished.

Typologies were defined, considering functionality (iADL Lawton-Brody index; bADL Barthel index), existence of relevant chronic diseases, and life expectancy <6 months, in: "healthy", "with chronic disease/s without important functional impairment", "frail" (iADL Lawton alteration, Barthel >59, without terminal state), "dependent", "at the end of life". Other variables were associated, statistical significance p = 0.05.

Results: A 19.2% (95% CI 16.1–22.6) was frail, women 21.2% (17.2–25.9), men 16.1% (11.9–21.4), p 0.125. Frailty was associated -p < 0.001- with age (32.1% in aged >80 vs 10.7% in aged 70–80), physical activity (42.1% actives vs 76.7% non-actives), number of chronic medications (mediane 8 -IQR 5-13- in frail people vs 13-8-17- in non-frail). Without statistical association with gender, BMI, social support. Bone/osteoarthritis and cardiovascular diseases are significantly higher in frail people.

Conclusions: Frailty is a common syndrome in dwelling elderly people, associated with factors such as older age, increased activity, bone/osteoarthritis and cardiovascular diseases, and they take many medications although less than in non-fragile.

References

1. *Osakidetza elderly care program (PAM)*. Health Basque Department/ Service-Osakidetza. Vitoria, Spain 2016.
2. Consensus document on frailty and falls prevention among the elderly (strategy for health promotion and prevention in the Spanish National Health System). *Sub-Directorate General of Health Promotion and Epidemiology, Directorate General of Public Health, Quality and Innovation, Spanish Ministry of Health, Social Services and Equality*, 2014. Available from: http://www.msssi.gob.es/profesionales/saludPublica/prevPromocion/Estrategia/docs/Frailtyandfalls_Elderly.pdf
3. Martín-Lesende I, Gorroñogoitia A, Molina M, Abizanda P. Frail elderly people: Detection and management in primary care. *Eur Geriatr Med Eur Geriatr Med* 2015; 6 (5): 447–455. http://dx.doi.org/10.1016/j.eurger.2015.05.014 http://www.sciencedirect.com/science/article/pii/S1878764915001473

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Validity and reliability of two hand dynamometers for measuring grip strength in hospitalised elderly people. Preliminary results

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Introduction: Hand grip strength is a useful measure of functional capacity in older people. It has predictive value for several outcomes. Hydraulic Jamar® dynamometer (HJD) is the gold standard and the most used instrument, but there is increasing interest in digital instruments. Our aim was to know the validity and reliability of DynX® digital dynamometer (DDD) compared with HJD.

Objective: (1) To test the precision of both dynamometers. (2) To compare the reliability among the two dynamometers in a series of patients.

Methods: (1) Measurements were taken of several known weights (every 5 Kg, from 5 to 40). (2) Grip strength testing was conducted on 100 older patients hospitalised in geriatric acute wards. Pearson correlations, intraclass correlation coefficient (ICC) and repeatability coefficients and paried t test were used.

Results: (1) Both dynamometers showed excellent correlations with known weigths (R2 = 0.999 for DDD, and R2 = 0.997 for HJD). (2) Ninety four of 100 patients were able to complete the tests. Mean age was 87.2(±5.9) years, 71% were women. There were no differences among the first and the second test with each dynamometer (ICC = 0.96 (CI95%: 0.95–0.98) and ICC = 0.97 (CI95%: 0.95–0.98) respectively. Significant differences were found between mean grip scores obtained on the DDD (12 ± 5.5 Kg) and the HJD (14.5 ± 6.1 Kg) (2.62 Kg, (IC95%: 2.04 to 3.21, p < 0.001).

Conclusions: Both tested dynamometer correlated well with known weigths. Most hospitalised older patients were able to complete the tests. HJD exhibited higher strength readings than DDD.

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Geriatric study in municipality of Fatih: sarcopenia and sarcopenic obesity in elderly patients according to different indexes

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Introduction: In our study we evaluate patients with different definitions of sarcopenia and sarcopenic obesity and compare prevalence of cases.
Methods: We enrolled patients ages between 60 and 101. Skeletal muscle mass were measured with bioimpedance analyse (TANITA-BC532). Muscle mass assessed with Baumgartner-index. In addition; muscle mass values calculated according to Janssen, FNIHa and FNIHb definitions and low muscle mass evaluated according to national data base. Low body mass was defined as a <9.2 kg/m^2 and <7.4 kg/m^2 or <32 kg and <22 kg in male and female patients respectively. Sarcopenia defined as low-skeletal-muscle-mass-index and decreasing in muscle function according to EWGSOP's-sarcopenia definition. Our population's data <33 cm accepted as a low-calf circumference. Together with, obesity assessed with two different definition; a percentage body fat >=60TH percentile or BMI 30 kg/m^2 suggested in literature.
Results: This was a study of 204 elderly patients.(mean-age:75,4 ± 7.3). Sarcopenia and its components' prevalence are as follows: Sarcopenia (S) according to Baumgartner index: 5.3%, low muscle mass: %9.8, dynapenia: %51.5, slower walking tempo: %25.6. On the other hand; S-prevalence according to Janssen, FNIHa&FNIHb were: 29.3%,37.9% and 18%, respectively. Lower calf circumference as an indirect indicator of lower body-mass was %15,8. SO-prevalence measured with Baumgartner-BMI is 0%, with FNIHa-BMI is 24.9%, with FNIHb-BMI is 13.2%. Besides; SO-prevalence measured with Baumgartner-Zoico ile 2.1%, with Janssen-Zoico is 18.2%, with FNIHa-Zoico is %23.4, with FNIHb-Zoico is 14.7%. S-prevalence is higher among women with Janssen and FNIHa ($p < 0.001$). Similarly, SO-prevalence is higher among women with Janssen-BMI, FNIHa-BMI, FNIHb-BMI, Janssen-Zoico&FNIHa-Zoico ($p < 0.001$, $p < 0.001$, $p = 0.02$, $p < 0.001$, $p = 0.003$). According to Baumgartner-Zoico definition women don't have SO thereby it is more common in men, meaningfully ($p = 0.012$).
Key conclusions: SO-prevalence have been the lowest according to Baumgartner index. The highest S-prevalence has been detected with FNIHa description and the lowest has been detected with FNIHb. S&SO correlation with gender vary among different methods. Our results have shown that S&SO is most likely higher in women.

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Hip fracture mortality and grip strength. Any relationship?

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Objective: To identify variables related to mortality after hip fracture treatment in elders.
Methods: This prospective observational study included 127 patients who were admitted to Orthogeriatric Unit of Infanta Sofia's Hospital for hip fracture surgery from April 2013 to April 2014. The main objective was to evaluate the impact of grip strength as predictor of functional recovery. This is a mortality sub analysis.
At the time of admission were recorded: age, sex, functional status (Barthel Index), mental status (Cruz Roja Index) and hand grip strength. Follow-up was performed 3 months after discharge to assess functional status and survival.
Results: Out of 127 subjects, 103 were women and 24 were men. Mean age was 85,1 ± 0,6 years. Hand grip strength was obtained in 85 patients (76.5%), values were between 3,3 and 24,8 Kg and 81 patients (95,2%) had values below cut-point for sarcopenia.
19 patients died during the three months follow up (15%). Hand grip strength was obtained in nine of them; mean value was 10,7 ± 0,5 Kg and no relation was founded between grip strength and mortality ($p = 0,79$).
By simple linear logistic analysis sex ($p = 0,03$) and Barthel Index ($p = 0,01$) at admission shown relation to mortality. In the multiple linear regression sex was the most strongly associated with mortality ($p = 0,02$).
Conclusions: Hip fracture has a significant impact on mortality among elders.
Hand grip strength had no relationship with mortality in hip fracture patients.
Factors related to mortality were sex and previous functional status.
The authors have no financial support from commercial parties.

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Comparison of frailty screening instruments in the emergency department

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Introduction: Although several frailty screens may be suitable for use in the Emergency Department, it is not known which is most accurate and practical to deploy in clinical practice.
Methods: We compared the accuracy of three validated, short, frailty and risk-prediction screening instruments to predict frailty at triage in a university hospital ED. Consecutive older adults aged >70 years self-administered the PRISMA-7 and the ISAR on arrival to ED triage. Trained nurses independently scored the Clinical Frailty Scale (CFS) blind to the diagnosis and the results of the self-administered screening. A consultant physician using a battery of frailty instruments including the FRAIL Scale independently determined each patient's frailty status.
Results: In total, 210 patients were screened, median age (interquartile range +/−) 79 (+/−9) years of which 47% were male. Based upon the FRAIL scale classification 28% of patients were classified as robust, 40% pre-frail and 32% as frail. The median ISAR score was 3 (+/−3), CFS 4 (+/−2) and PRISMA-7 3 (+/−2). Inter-rater reliability of the CFS was strong, $r = 0.78$. The most accurate instrument for separating frail from non-frail (including pre-frail) was the PRISMA-7,(AUC 0.88; 95% CI:0.83–0.93) followed by the CFS (AUC 0.83; 0.77–0.88) and the ISAR (AUC 0.78; 0.71–0.84). The PRISMA-7 was statistically significantly more accurate than the ISAR ($p = 0.008$), but not the CFS ($z = 1.4$, $p = 0.15$). The PRISMA-7 was also the most accurate at differentiating pre-frail from frail (AUC of 0.71; 0.62–0.79).
Conclusion: Screening for frailty in the ED with a selection of short screening instruments is reliable and accurate The PRISMA-7 was the most accurate, consistent with findings in primary care.

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Point prevalence of frailty in the emergency department

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Introduction: Although frailty is common among older adults presenting to the Emergency Department (ED), its prevalence is not well described.
Methods: We assessed consecutive older adults, aged >70 years, attending a large university hospital ED, 24-hours/day for a two week period in March 2016, for frailty using a battery of frailty measures including the FRAIL Scale, Clinical Frailty Scale, Groningen Frailty Indicator, Mini-Nutritional Assessment (MNA), body mass index (BMI), Alzheimer's disease 8 (AD8) cognitive test, the Euroqol-5D and the Caregiver Burden Score (CBS).
Results: In all, 307 patients were available. Of these, 280 were included with a median (interquartile) age of 78 (83–73 = +/−10) years. Most, 53.6%, were female. The number considered globally frail by physician assessment was 161, a point prevalence of 58%. Using the FRAIL scale alone, the point prevalence of frailty (cut-off ≥3/5) and pre-frailty (cut-off <3/5 but ≥1/5), was 29% and 41% respectively. Frail patients were significantly more likely to be older ($p = 0.003$), have lower MNA ($p < 0.001$), higher AD8 ($p < 0.001$), poorer Euroqol-5D scores ($p < 0.001$), and a higher CBS ($p = 0.01$), compared to those scoring as non-frail (pre-frail or robust). There were no differences in gender or BMI. Pre-frail patients had significantly better MNA, AD8, Euroqol-5D and CBS scores than frail patients but were similar in age, sex and BMI.
Conclusion: The point prevalence of frailty and pre-frailty in an Irish university hospital ED is high. Frail and pre-frail older patients report more cognitive impairment, are more likely to screen positive for malnutrition, report lower quality of life and have higher caregiver burden scores.

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The relationship between frailty, functional capacity, nutritional status and mobility in males and females aged 70 years or older

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Objectives: In this study we aimed to investigate the relationship between frailty, functional capacity, nutritional status and physical mobility in males and females aged 70 years or older.
Methods: The patients were recruited from a university hospital geriatric outpatient clinic. 183 were male (mean age: 78,9) and 277 were female (mean age: 78,2). Frailty status was assessed by FRAIL questionnaire; functional capacity was assessed by Katz activities of daily living (ADL) and Lawton-Brody instrumental activities of daily living (IADL), nutritional status was assessed by mini-nutritional assessment short form (MNA-SF), physical mobility was assessed by timed up and go (TUG) test.
Results: When compared with the males having similar age and body mass index; ADL ($p = 0.004$), nutritional status ($p = 0.005$) and physical mobility ($p < 0.0001$) were worse and frailty was more common ($p = 0.001$) in the female patients. In both males and females, there was significant correlation between the frailty scores and ADL scores ($r = -0.37$, $r = -0.33$; $p < 0.0001$), IADL scores ($r = -0.42$, $r = -0.50$; $p < 0.0001$), MNA scores ($r = -0.52$, $r = -0.50$; $p < 0.0001$), and physical mobility scores ($r = 0.38$, $r = 0.43$; $p < 0.0001$), respectively.
Conclusion: Our results suggest that in both older males and females, frailty status is significantly associated with worse functional, nutritional and mobility status.

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The impact of ACE I/D polymorphism in sarcopenia and osteoporosis

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Objectives: To evaluate, in a sample of Portuguese centenarians, the distribution of ACE-genotypes associated with sarcopenia and osteoporosis.
Methods: We performed an observational cross-sectional study in a nationwide population of 253 Centenarians. Sarcopenia was determined using a muscle mass (MM) index cutoff ≤16.7 kg/m^2. Osteoporosis was defined through estimated bone mass (BM), according to gender and body weight. Genotyping of Angiotensin Converting Enzyme (ACE) (rs4646994) was performed through a high-throughput DNA Microchip platform using iPlex MassArray system from Sequenom. PCR Malditof mass spectrometry.
Results: In our study, 230 Centenarians were genotyped (79.1% women), being 6.5% II-genotype, 48.3% ID-genotype and 45.2% DD-genotype. Taking in consideration the ID+DD-genotypes (vs. II-genotype) and DD-genotypes (vs. II + ID-genotypes) we verified significant differences in relation to the prevalence of sarcopenia ($P = 0.016$) and osteoporosis ($P = 0.032$), respectively. In a univariate analysis, DD-genotypes centenarians had a significant 5.02-fold increase to have osteoporosis (95%CI [1.065–6.716], $P = 0.036$) and ID + DD-genotype centenarians had a significant 2.67-fold increase to have sarcopenia (95%CI [1.200–21.045], $P = 0.027$). The ID + DD-genotypes adjusted for gender, BMI < 18.5 Kg/m^2, total body water (TBW, %), osteoporosis and age were risk factors in favor of sarcopenia (OR = 12.63, CI95% = 1.517–105.065, $P = 0.019$). Whereas, the DD-genotype adjusted for BMI < 18.5 Kg/m^2, TBW, sarcopenia and TUG-test>12s was a risk factor in favor of osteoporosis (OR = 5.12, CI95% = 1.151–22.741, $P = 0.032$).
Conclusions: Multivariate-analysis for these genetic models showed that BMI < 18.5 Kg/m^2 and age were independent predictors of sarcopenia/osteoporosis in centenarians. ACE I/D polymorphism may be a possible marker associated to sarcopenia and osteoporosis, being ID + DD-genotypes in favor of sarcopenia and DD-genotype in favor of osteoporosis.

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Various diagnostic criteria of frailty as predictors for falls, weight change, quality of life, and mortality

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Objectives: Whether various criteria identify the same people as frail and predict the same outcomes are unknown. To shed light on this issue, we examined the cohort in the Helsinki Businessmen Study (HBS), a long-term observational study of men born in 1919–1934.
Methods: The three criteria compared were the modified Fried criteria of phenotypic frailty (1) in the HBS and (2) in the Women's Health Initiative Observational Study (WHI-OS), and (3) the Frailty Index (FI) consisting of 20 criteria. We investigated how these three criteria separated not frail, prefrail, and frail individuals, and predicted mortality, falls, weight change, and health-related quality of life (HRQoL, 15D instrument) during a 5-year follow-up. All three criteria were available for 480 men, whose average age was 73 years at the start of follow-up.

Results: Both HBS and modified WHI-OS identified 35 persons (7.3%) as frail, partly comprising different individuals, whereas FI identified 86 persons (17.9%) as frail. Of the men, 102 (21.3%) were classified as frail by at least one of the criteria. All three criteria significantly predicted higher mortality (for HBS $p < 0.001$, for WHI-OS $p < 0.001$, for FI $p < 0.001$), higher number of fallers (for HBS $p = 0.027$, for WHI-OS $p = 0.023$, for FI $p = 0.016$), and lower HRQoL (for HBS $p < 0.001$, for WHI-OS $p < 0.001$, for FI $p < 0.001$) for frail participants. There was no difference in weight change according to frailty.
Conclusions: Frailty can be identified using a simple mailed questionnaire. While all three criteria separated frailty and predicted important outcomes, FI identified more individuals as frail.

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Sarcopenia prevalence: a retrospective study in a geriatric day hospital

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Introduction and purpose: To assess sarcopenia status in the geriatric day hospital of CHR Citadelle according to the European Working Group on Sarcopenia in Older People (EWGSOP) and to determine sarcopenic risk status. Afterwards, we try to establish a method to detect patients who have risk of sarcopenia.
Method: It was an retrospective study included 494 patients who went to geriatric day hospital from February 2014 to November 2014. Sarcopenia status was determined according to the EWGSOP guidelines. We use the 4 meter gait speed, the grip strength and the bioelectrical impedance. We collect demographic, anthropometric, medical and functional variables in patients' medical history. Result: In these study, sarcopenia status was assessed among 136 patients (28.9%). A logistic regression analysis was performed. Sarcopenia was significantly detected when ($p = 0.040$ age grows), among women ($p = 0.040$) and when BMI was low ($p < 0.0001$). When age, sex and BMI were include any other variable was detected as significantly. A predictive model build with age, sex and BMI was established but its sensibility is low.
Conclusion: This retrospective study of 494 patients who went to geriatric day hospital of CHR Citadelle. Sarcopenia was assessed for 136 patients according to the EWGSOP guidelines. Only age, sex and BMI show significantly influence on sarcopenia prevalence. Any method included good sensibility and specificity was established to identify sarcopenia risk among older patients.
Keywords: Sarcopenia; Prevalence; retrospective study; Geriatric day hospital.

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Association between lean mass and dietary protein intake in postmenopausal women

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Introduction: The skeletal muscle is a key component of the body composition, and it is highly correlated with physical activity. There are many factors leading to age-related muscle mass loss. Recent studies attest to a strong connection of dietary peculiarities and the body composition of elderly people. In this context, protein with its prominent dietary status gains an especial standing as far as the older population's health is concerned. The aim of the study was to evaluate the appendicular lean mass depending on the dietary protein intake in the Ukrainian postmenopausal women.
Materials and methods: The study involved 63 women aged 52–89 years, who, depending on their ages, were divided into groups: 52–59 years ($n = 9$), 60–69 years ($n = 26$), 70–79 years ($n = 21$), 80–89 years ($n = 7$). To assess the dietary habits of women, we used the three-day sampling method and SEC «Viria» software. Lean mass was evaluated using a dual-energy X-ray absorptiometry (Prodigy, GE). We also calculated appendicular lean mass index (ALMI) by the formula: ALMI = lean mass of upper and lower extremities (kg)/height (m^2).
Results: Examination of patients' dietary habits showed an age-related decrease. Women of 80–89 years consuming less than 1.0 grams of protein per 1 kg of body weight accounted for more than a half of their group (57.1%), which is significantly different from the parameters established in women of 52–59 years (22.2%). For the purpose of quartile analysis, women were divided into 4 groups depending on their ALMI values: Q1 – ALMI = 5.20–5.84 kg/m^2 ($n = 15$), Q2 – ALMI = 5.85–6.25 kg/m^2 ($n = 17$), Q3 – ALMI = 6.26–6.56 kg/m^2 ($n = 16$), Q4 – ALMI = 6.57–7.65 kg/m^2 ($n = 15$). Women with the lowest ALMI values consume the lowest amounts of dietary protein ($F = 3.67$; $p = 0.02$). Significant correlations among dietary protein, nonessential, essential aminoacids and ALMI values ($r = 0.40$, $t = 3.44$, $p = 0.001$; $r = 0.39$, $t = 3.30$, $p = 0.002$; $r = 0.35$, $t = 2.91$, $p = 0.005$; accordingly) were determined.
Conclusion: Further studies are needed to elaborate a set of recommendations aimed at correction of nutritional habits observed in older women of different countries.

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Skeletal muscle and vitamin D level in women of various ages

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Introduction: In recent years there has been a number of studies examining the correlation between vitamin D status and skeletal muscles. However, there are many different approaches to the role of vitamin D metabolism and function of skeletal muscles. The aim of the research conducted at the SI «D.F. Chebotarev Institute of Gerontology NAMS of Ukraine» was to study the correlation between skeletal muscles and vitamin D level in women of different ages.
Materials and methods: The study involved 122 healthy women aged 20 to 83 years. According to the gerontological classification, the examined women were divided into groups: younger – up to 44 years ($n = 35$), middle – 45–59 years old ($n = 26$), older – 60–74 years ($n = 44$), senile age – 75–89 years ($n = 17$). Lean mass of the total body, upper and lower extremities was evaluated using Dual X-ray absorptiometry (Prodigy, GEHC Lunar, Madison, WI, USA). Strength of skeletal muscle was evaluated using springy carpal dynamometer. To determine the functional capacity of skeletal muscle we used a «four-meter» test. To determine the level of 25(OH)D electrochemiluminescent method was used with Elecsys 2010 analyzer (Roche Diagnostics, Germany).
Results: We determined a significant correlation between parameters of lean mass ($r = 0.45$; $t = 2.08$; $p = 0.05$) and the level of vitamin D in women of middle (45–59 years) age; skeletal muscle functionality ($r = –0.51$; $t = –2.29$; $p = 0.04$) and the level of vitamin D in women of older (60–74 years) age. We did not find the significant correlation between parameters of muscle strength and level of vitamin D.
Conclusion: Significant correlation between parameters of lean mass, skeletal muscle functionality and the level of vitamin D was determined in women of middle and older age.

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Sarcopenia in Ukrainian older women

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The aim of this study was to evaluate the frequency of sarcopenia in the healthy Ukrainian women. Materials and methods. 390 women aged 20–87 years (mean age – 57.50 ± 15.99 years) were examined. All subjects were free of systemic disorders and obesity, and were not taking medications known to affect the skeletal and muscle metabolism. The lean and fat masses were measured by the DXA method (Prodigy, GEHC Lunar, Madison, WI, USA). Appendicular skeletal mass (ASM) was measured at all the four limbs with DXA. We've also calculated the appendicular skeletal mass index (ASMI) according to the formula: ASM/height (kg/m2). Low muscle mass values conform to the following definitions: European guidelines (ASMI <5.5 kg/m^2) (EWGSOP, 2010), less than 20% of sex-specific normal population and

two SD below the mean of the young adult Ukrainian females (20–39 yrs). We also assessed handgrip strength and measured gait speed. The sarcopenia was determined using EWGSOP-suggested algorithm.
Results: The ASMI values corresponding to a cutoff of low muscle mass by the definitions used were as follows: <5.5 kg/m^2 (European guidelines), <5.7 kg/m^2 (<20th percentile of sex specific population), <4.8 kg/m^2 (two SD below the mean of young Ukrainian females aged 20–39 yrs). The frequency of low muscle mass in women aged 65 yrs and older based on the above three criteria was 12%, 16% and 1.7%, respectively. The frequency of sarcopenia increased with age: in women 50–59 yrs – 5.1%, 60–69 yrs – 3.7%, 70–79 yrs – 18.4%, 80–80 yrs – 30.8%. The mean frequency of sarcopenia in women aged 65 yrs and older was 21.3%.
Conclusion: The cutoff value of ASMI (<4.8 kg/m^2) defined as two SD below the mean of reference young population was lower in this study compared with the Rosetta Study (<5.5 kg/m^2). As for the sex specific cutoff (ASMI <5.7 kg/m^2), this index was similar to the data of the Health ABC study (<5.67 kg/m^2) (EWGSOP, 2010). The mean frequency of sarcopenia in Ukrainian older women was 21.3%.

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Effects of resistance muscle training in prevention of sarcopenia in ageing adults – systematic review

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Objectives: Sarcopenia describes a progressive and generalized loss of skeletal muscle mass and strength. It's a complex medical condition that leads to loss of independence, high risk of falls, decreased quality of life, increased expenses in health and increased morbility. We aimed verify the resistance muscle training effect in Lean Body Mass (LBM) or Tight Lean Mass (TLM) in ageing adults.
Methods: PEDro, PubMed and CochRane Library were searched (January 2005–May 2015), using predefined research terms, Randomized Controlled Trials (RCTs), with a study population aged 65 and up, that went through a resistance muscle training (RMT) based intervention, with assessment of body composition by Dual Energy X-ray Absorptiometry or Computed Tomography Scan technology, were analyzed. The internal validity of each article was assessed using the PEDro scale.
Results: From a total of 125 studies, five RCTs met the inclusion criteria. All the studies had a score of 5/10 on the PEDro scale. Main results show that both, high intensity or low intensity resistance training, increased Muscle Quality Index, Cross Sectional Area, strength of the quadriceps, TLM/LBM and functionality (gait speed, time sit-to-stand and Timed up & Go). Even on the detraining period, there were no significant losses of the above mentioned.
Conclusions: RMT has shown increase LBM or TLM and that could contribute to sarcopenia prevention leading to a better functional capacity and reduced risk of falls, which could increase quality of life in older adults.

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Improving the diagnosis and recording of clinical frailty in the acute hospital setting. The introduction of "frailty tab" on the electronic discharge letter (EDL) template at MEHT

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Objectives: The aging population in the UK is dramatically increasing and thus so is the prevalence of frailty. Our ability to recognize frailty as a syndrome and record it as a diagnosis can facilitate risk stratification and promote advanced care planning.
Methods: Data was collected retrospectively before introduction of the frailty score tab on the EDL, 60 patients (>75 years) admitted to acute geriatric wards were randomly selected.

EDL's were analyzed for a

A diagnosis of Clinical Frailty
A Clinical Frailty Score(CSF)

For patients with a CFS of >5, whether or not the GP was notified about adding them to the frailty register. Data was then collected for 60 patients discharged after the introduction of the frailty tab of the Rockwood CFS on the EDL prospectively.
Results: Cycle 1: 0% patients had a CFS but 14% did have the term "clinical frailty" written on the EDL whilst the remaining 86% had neither. 8.6% of those without a CFS had detailed information on mobility allowing calculation of the CFS.
Cycle 2: 74% of patients had a CFS and all patients with a CFS in the tab also had a diagnosis of clinical frailty in the diagnosis box of the EDL.
Conclusion: Introduction of a simple frailty tab on the EDL has dramatically improved the coding of clinical frailty in EDL.
The frailty tab can be used by GPs to recognize frailty and ensure patients are registered on local "frailty networks". This allows access to appropriate community support.

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Prevalence of sarcopenia in very old hip fracture patients

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Objectives: This is a substudy of an ongoing study that aims to identify biological markers (inflammatory and neuromuscular markers) for the early diagnosis of sarcopenia in patients older than 80 years hospitalized for the surgical treatment of a hip fracture. The aim was to assess the prevalence of sarcopenia (defined as low muscle mass and strength).
Methods: Patients admitted to an orthogeriatric unit who gave the informed consent for the biomarker's study. Muscle mass was assessed preoperatively using bioimpedance analysis, Janssen's (J) and Masanés (M) Spanish reference cutoff-points were used to define low muscle mass. Strength was assessed with handgrip strength (Jamar's dynamometer). Assessment included socio-demographic data, cognitive status(Pfeiffer, GDS-Reisberg), functional status(Barthel, Lawton, FAC), nutrition(MNA, BMI), number of falls, medications.
Results: N = 87. Mean age:88.0 ± 4.7. Women:82.8%. Sarcopenia prevalence varied from 8.8% (FJ) to 33.7% (FM). 74.5% had independent ambulation before the fracture, 69% reported two or more previous falls. 30% had dementia, 18.8% moderate to severe dementia. 75.3% had mild to moderate dependence before admission, only 12.9% were independent for BADL. MNA:10.4 ± 2.7. BMI = 25.6 ± 14–7. 83.7% were on 4 or more drugs before admission. In multivariate analysis, only the type of fracture was associated to the presence of sarcopenia (subcapital fractures more frequent, p = 0.018).
Conclusion: The prevalence of sarcopenia in our patients with hip fracture varies according the muscle mass reference cutoff-points used, been more frequent with national references. Most hip fracture patients do not have pre-fracture sarcopenia. Subcapital hip fractures were more frequent in sarcopenic patients. Funded with a grant from FundaciónMutuaMadrileña

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Sarcopenia does not predict one-year-mortality after a hip fracture

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Objectives: This is a substudy of an ongoing study that aims to identify biological markers (inflammatory/neuromuscular) for the diagnosis of sarcopenia in patients older than 80, hospitalized for the treatment of a hip fracture. The aim was to explore if sarcopenia is linked with outcomes in this patients.

Methods: Patients admitted to an orthogeriatric unit who gave informed consent for the biomarker's study. Muscle mass was assessed using bioimpedance analysis, Janssen (J) and Masanés (M) reference cutoff-points were used. Strength was assessed with handgrip (Jamar's dynamometer). Assessment included socio-demographic data, cognitive status (Pfeiffer, GDS-Reisberg), functional status (Barthel, Lawton, FAC), nutrition (MNA, BMI), number of falls, medications. After one year, by phone-call, mortality, functional status, cognitive status, visits to Emergency Department (ED), hospitalizations, falls and institutionalization were collected.
Results: N = 87. Mean age:88.0 ± 4.7. Women:82.8%. Sarcopenia prevalence varied from 8.8%(J) to 33.7%(M). One-year-mortality: 16%. Visits-to-ED:0.7 ± 1.1. Hospitalizations:0.2 ± 0.5. Falls:1.4 ± 1.6. No ambulation: 38.1%. 45.7% had at least one visit to the ED, 20.5% one or more hospitalizations. Independent for ADL 14.3%, severe dependency 57.1%. Only 14.3% were independent in more than three IADL. 55% had at least one fall, 15% ≥ 4 falls after discharge. In multivariate analysis, sarcopenia was not predictive of mortality. The only predictive factor of mortality was male gender(p = 0.012).
Conclusion: Sarcopenia, assessed by international (Janssen) and local (Masanés) cutoff-points, did not predict one-year-mortality in this small sample of patients hospitalized for the surgical treatment of a hip fracture. This should be confirmed with a larger sample. Male gender is a risk factor for one-year-mortality in this population.
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Prevalence of malnutrition in a post-acute care geriatric unit: applying the new ESPEN definition

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Introduction: The European Society of Clinical Nutrition and Metabolism (ESPEN) recently proposed a consensus definition of malnutrition. Using these criteria, prevalence of malnutrition in hospitalized older diabetic and community-dwelling population (middle-aged, geriatric outpatients, healthy old, and healthy young individuals) has been reported. However, determining prevalence in older deconditioned in-patients due to an acute process is needed. Our aim is to assess malnutrition in post-acute care applying ESPEN definition.
Methods: Eighty-eight in-patients aged ≥70, body mass index (BMI < 30 Kg/m^2) were included (84.1 years-old; 62% women) by screening for malnutrition risk using Mini-Nutritional Assessment-Short Form (MNA-SF). ESPEN definition of malnutrition, i.e. low BMI (<18.5 kg/m^2) or a combination of unintentional weight loss and low BMI/low fat-free mass index (FFMI) was applied. Malnutrition biochemical markers were determined.
Results: From 88 in-patients screened as "at risk" by MNA-SF, 27 (30.7%) noticed unintentional weight loss. First option of ESPEN criteria (BMI < 18.5 kg/m^2) found a prevalence of 4.5% (4 patients); second option, (unintentional weight loss plus low BMI), 7.9% (7 patients), and third option (unintentional weight loss plus low FFMI), 17% (15 patients). Malnourished patients according to ESPEN criteria were 17 (19.3%). No statistical differences in biochemical markers were found between patients with and without malnutrition.
Conclusions: Applying ESPEN definition, malnutrition prevalence was 19.3% in post-acute geriatric in-patients. Combining ESPEN malnutrition criteria, with MNA-SF as a screening tool, seem to be a valid, reliable, and feasible instrument in post-acute care. Further work is needed to determine implications of ESPEN consensus among related clinical conditions such frailty, sarcopenia, and caquexia.

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Validity of the Kihon checklist for predicting adverse health outcomes in the clinical setting

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Introduction: The Kihon checklist (KCL) was developed by the Ministry of Health, Labor, and Welfare in Japan to identify at-risk elderly who would require support/care in community-dwellers. However, it is obscure whether this checklist could predict adverse health outcomes in the clinical setting. This study was conducted to validate the ability of the KCL for predicting adverse health outcomes in regular outpatients with chronic diseases.
Methods: Of 212 regular outpatients who had consulted with geriatricians, 135 patients were analyzed in this study. We assessed their physical functions, activities of daily living (ADL), comorbidity, memory, and mood, as well as the KCL at registration. We had observed the incidence of any adverse events, such as ADL decline, emergent admission, moving into nursing home, or death for 2 years.
Results: The mean age, body mass index (BMI), and Charlson comorbidity index (CCI) were similar in the event group (n = 50) and the non-event group (n = 85). The event group showed slower gait speed, higher depressive score, lower cognitive score, and higher total KCL score than the non-event group. The total KCL score had a multicollineality with actual measurements of physical, psychological, and cognitive functions. Logistic regression analysis adjusted for age, sex, BMI, and CCI showed that the classification of frailty status by total KCL score (total KCL score ≥8) was significantly associated with the incidence of adverse health outcomes (odds ratio: 3.215 [95% confidence interval: 1.355–7.627]).
Conclusion: KCL showed a predictive ability for identifying frail elderly patients who would have adverse health outcomes in the future.

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Kihon Checklist (KCL), as a surrogate marker of frailty, predicts outcomes in Japanese elder outpatients with chronic obstructive pulmonary disease (COPD)

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Introduction: COPD is a prevalent, preventable and treatable chronic systemic inflammatory disease. Kihon Checklist (KCL) is a self-administrated questionnaire for screening users of preventive care and remains to be investigated for clinical application.
Methods: Stable COPD outpatients in National Center for Geriatrics and Gerontology: 40 male and 3 female; 74.9+/−5.9 (65–87) years, underwent comprehensive geriatric assessment (CGA). We followed for 3 years with repeated annual CGA. We adopted cut-off value in Obu Study of Health Promotion for the Elderly: walking speed <1.0 m/s, grip strength male <26 kg, female <17 kg and 5% body weight loss in 2 years.
Results: Initial KCL was 5.2/25 +/− 4.4 (0–18) and positively correlated with Fried's frailty (r = 0.71, p < 0.001). Of 7 frail by Fried, 5 were KCL >8/25 (cut-off value for frailty by KCL). KCL was associated with CGA parameters. During 3-year observation, 10 deaths (7: KCL > 4, cut-off value for pre-frailty), 13 admissions for exacerbation of COPD (9: KCL > 4), 13 falls (11: KCL > 4) and 16 emergency admissions (11: KCL > 4) were observed. A frail by Fried (KCL = 16) died of suffocation with aspiration pneumonia. Among dead 7 pre-frail, respiratory failure (KCL = 8), 2 heart failure (6, 4), 3 cancer (6, 3, 1), sepsis with pneumonia and severe decubitus ulcer (5) were observed. A robust (KCL = 4) died of heart failure and another (1) died of brain infarction.
Conclusions: KCL was concordant with Fried's frailty criteria and might predict outcomes in COPD patients. KCL could be a useful evaluation tool for inter-disciplinary integrated care team.

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Predictors of two years mortality in a cohort of acute geriatric inpatients: Low body weight stands out. A retrospective study

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Introduction: This study aims to identify clinically relevant predictors of two years mortality in a cohort of acutely ill elderly hospitalized in a geriatric ward.
Methods: Between June 1 2013 and January 31 2014, 307 unique acutely ill patients were hospitalized at the Geriatric Clinic, Västmanlands hospital Västerås, Sweden. The association between routine clinical parameters and two years all-cause mortality was studied.
Results: The study cohort comprised 195 women and 112 men; mean age 86 years (survivors 84, dead 87). The mean age for women was 87 (survivors 85, dead 88) and for men 85 (survivors 83, dead 86). More than half of the patients (54.7%) died within 2 years after discharge. The survivors were heavier and had higher BMI in both women (64.2 vs 58.6 kg, $p = 0.008$; BMI 25.1 vs 22.8, $p = 0.003$) and men (77.9 vs 66.7 kg, $p < 0.001$; BMI 25.2 vs 23, $p = 0.015$). Heart failure was associated with significantly higher mortality ($p = 0.030$). Survivors had significantly higher estimated glomerular filtration rate (54.4 vs 43.5 mL/min/1.73 m^2, $p = 0.003$). Among male survivors, hemoglobin was significantly higher (127.5 vs 116.6, $p = 0.001$).
Conclusions: Low body weight is strongly associated with increased 2-years mortality. This association deserves increased attention by front line clinicians. Our results raise the question whether underweight affects mortality and whether interventions to counteract underweight can lead to better survival. We plan to start a major prospective study of the associations between nutrition, body weight and survival.

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The brain-muscle loop and the need of combined assessment of physical and cognitive function in older frail subjects

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Introduction: Early changes in physical function are known to predict deterioration of cognitive function in older community-dwelling individuals. However, the combined evaluation of physical and cognitive function is rarely performed in clinical practice.
Methods: With the aim of investigating the relationships between balance, grip strength and cognitive status, we prospectively enrolled 194 community-dwellers (84 M, aged 83 ± 9) undergoing ambulatory multidimensional geriatric assessment. Balance deficit, assessed through sub-tests of the Short Physical Performance Battery (SPPB), was defined as inability to maintain the tandem position for 10 seconds. Grip strength was measured by hand-held dynamometer. Cognitive function was evaluated with the Mini-Mental State Examination (MMSE). The relationship between these variables was assessed by multivariate-adjusted linear regression analysis.
Results: The prevalence of cognitive impairment (MMSE <25/30) and balance deficit was 63% and 72%, respectively. Mean MMSE score and grip strength were 22.6 ± 7.3 and 23.9 ± 9.1 kg in males and 18.9 ± 7.4 and 14.1 ± 5.9 kg in females, respectively. In both genders, MMSE was significantly associated with grip strength ($\beta = 0.41 \pm 0.09$, $p < 0.001$ adjusted for age, sex and BMI). This relationship persisted after stratification of participants according to the presence of cognitive impairment. Balance deficit was inversely associated with hand-grip strength ($\beta = -0.018 \pm 0.006$, $p = 0.003$ adjusted for age, sex, BMI and MMSE score).
Key conclusions: In a group of older community-dwellers, objective measures of cognitive and physical frailty were significantly associated, allowing to hypothesize the presence of a "brain-muscle loop", with balance as a promising cross-road parameter. Integrated cognitive and physical function evaluation should be implemented in the geriatric setting.

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Obesity and sarcopenic obesity in community-dwelling older adults

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Objectives: Aging is associated with increase in body fat and decline in muscle-mass and strength. Sarcopenia may lead to decreased physical activity and further increase obesity. We aimed to investigate the prevalence of obesity and Sarcopenic obesity(SO) in community-dwelling older adults.
Methods: We enrolled subjects between the ages of 60–99 years old. We measured muscle-mass using bioimpedence analysis. Definition of low-muscle-mass was by Baumgartner (skeletal-mass kg/height squared). Sarcopenia was defined according to EWGSOP recommendations as sarcopenic muscle mass and function (usual gait speed or muscle strength). Obesity was defined by two different methods, a fat percentile above 60th percentile (Zoico method) or a BMI of ≥30 kg/m^2 (WHO definition).
Results: We enrolled 992 subjects (308 men and 684 women). The rates of obesity according to WHO-definition were 29.2% and 53.7% for men and women. The prevalence of sarcopenia was 3.1% in men and 0.4% in women. The rate of SO was 0.3% and 0.1% in men and women when obesity was assessed with Zoico-method and 0 in both sexes when obesity was assessed using WHO definition.
Conclusion: Prevalence of obesity in both sexes was higher in our population compared with other populations according to both Zoico and WHO definitions. The rate of sarcopenic muscle-mass was similar for men and lower for women compared with other populations. The findings of this study indicate that the prevalence of SO in the community-dwelling older adults in our country is low and comparable to other populations.

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Assessment of physical activity and its association with muscle mass, handgrip strength and gait speed in a general population

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Objectives: Physical activity is an important factor in human health and well-being affecting muscle mass, muscle strength and physical performance. In older adults, these measures were found to be inversely associated with self-reported physical activity. As this information is likely biased, objective measures of physical activity are needed. This study aimed to assess the association between instrumented physical activity (I-PA) and muscle-related parameters in a general population of middle-aged and older adults.
Methods: A total of 256 community dwelling participants attending a lecture series on "Grey Power" in November 2014 at the VU university medical center, Amsterdam were included. Questionnaires were

used to assess e.g. age, sex, and subjective achievement of the Dutch physical activity guideline, defined as 30 minutes of moderate physical activity for at least 5 days. Physical activity was measured using 7-day accelerometry. Muscle-related parameters included absolute and relative muscle mass, handgrip strength and gait speed. Data analysis was stratified by age.
Results: 192 (80.9%) participants reported to meet the recommended Dutch physical activity guideline whereas this was actually the case in 50 (21.2%) participants. The association of I-PA with muscle mass, handgrip strength and gait speed was age dependent. In middle-aged adults, I-PA was not associated with muscle mass, handgrip strength or gait speed. In older adults, I-PA was significantly associated with handgrip strength and gait speed, but not with muscle mass.
Conclusions: Physical activity should be measured objectivity. The complex interrelation between physical activity, muscle measures and physical performance is highly dependent on age.

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Lack of knowledge and diagnostics hinders the implementation of sarcopenia in daily practice

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Objectives: Sarcopenia is an emerging clinical challenge in an ageing population and is associated with negative health outcomes. Healthcare professionals play a key role in diagnosing and managing sarcopenia. This study aimed to assess the current state of knowledge regarding the definition of sarcopenia, strategy diagnosing it and involved collaborating healthcare professionals among a group of Dutch healthcare professionals attending a lecture cycle on sarcopenia.
Methods: The Sarcopenia Road Show comprised lectures and workshops on the pathophysiology of sarcopenia in one session, influencing factors and respective interventions at multiple locations in the Netherlands in 2015. Attending health care professionals were asked to complete a questionnaire (n = 223) before, directly after and after five months.
Results: 69.7% of healthcare professionals stated to know the definition of sarcopenia and 82.6% had treated patients with suspected sarcopenia. Only 21.4% indicated to know how to formally diagnose sarcopenia; 47.5% used their clinical view. If diagnostic measures were used, handgrip strength was the most frequent one (33.9%). Five months after attendance, muscle mass was measured by 13.9%, handgrip strength by 50.6% and gait speed by 54.4%. Bottlenecks during the implementation of diagnosing sarcopenia were experienced by 67.1% participants; lack of knowledge among collaborating healthcare professionals, the acquisition of equipment and time constrains to perform the diagnostic tests were most often reported.
Conclusions: The concept of sarcopenia is familiar to most and diverse healthcare professionals, however lack of formal knowledge hinders the implementation of diagnostics and intervention of sarcopenia in daily practice; collaboration should be improved.

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The European Working Group on Sarcopenia in Older People (EWGSOP) definition of low muscle mass is associated with functionality and nutritional status in residents of a nursing home

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Objectives: To determine the prevalence of low muscle mass(LMM) and the relationship between sarcopenic LMM with functionality and nutritional status as defined using the European Working Group on Sarcopenia in Older People(EWGSOP) criteria among male residents in a nursing home.
Methods: Male residents aged >60 years of a nursing home located in Turkey, were included in our study. Their body mass index(BMI) kg/m^2, skeletal muscle mass(SMM)kg/m^2, and skeletal muscle mass index (SMMI) kg/m^2 were calculated. Functional status were evaluated with Katz activities of daily living(ADL) and Lawton Instrumental Activities of Daily Living(IADL). Nutritional assessment was performed using the Mini Nutritional Assessment(MNA). The number of drugs taken and chronic diseases were recorded.
Results: One hundred fifty-seven male residents were enrolled into the study. Their mean age was 73.1 ± 6.7 years with mean ADL score of 8.9 ± 2.0 and IADL score of 8.7 ± 4.6. One hundred twelve (71%) residents were aged >70 years. Thirty-five (23%) men had sarcopenic muscle mass in group aged >60 years, and twenty-eight(25%) subjects in the group aged >70 years. MNA scores were significantly lower in sarcopenic residents compared with nonsarcopenic males(17.1 ± 3.4 vs. 19.6 ± 2.5, p = 0.005). BMI was significantly lower in the sarcopenic group compared with the nonsarcopenic subjects (19.6 ± 2.7vs. 27.1 ± 4.1, p < 0.001). ADL scores were significantly different between sarcopenic and nonsarcopenic subjects in those aged >70 years (8.1 ± 2.6 vs. 9.1 ± 1.6, p = 0.014).
Conclusions: There is a strong association of sarcopenic muscle mass with functionality and nutritional status within the nursing home setting using the EWGSOP criteria with Turkish normative reference cut-off values.

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Validation of a new mortality risk prediction model for people 65 years and older in northwest Russia: the crystal risk score

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Introduction: Prediction models of adverse outcomes for older adults may help physicians make decisions about screening, diagnosis and treatment. Neither the classical phenotype, nor the accumulated deficit model and self-report approach of frailty appeared to be valid in our cohort. This study aims to develop a risk score that predict short-term mortality and perform its internal and external validations.
Methods: In a population-based prospective cohort study of 611 community-dwelling individuals 65+, mortality risks over 2.5 years follow-up were determined based on the results obtained from anthropometry, medical history, physical performance tests, spirometry and laboratory tests. C-statistic, Risk Reclassification analysis, Integrated Discrimination Improvement analysis, decision curves analysis, internal validation and external validation were performed.
Results: Older adults were at higher risk for mortality [HR(95%CI) = 4.5 (3.7–5.5)] when two or more of the following components were present: poor physical performance, low muscle mass, poor lung function, and anemia. If anemia was combined with high C- reactive protein (CRP) and high B-type natriuretic peptide (BNP) was added the HR(95%CI) was higher (5.8(4.7–7.1)) even after adjusting for age, sex and comorbidities, but reclassification measurements did not

show improvement. Our model was validated in an external population of adults 80+. The model with CRP and BNP had higher risk of cardiovascular mortality [HR(95%CI) = 5.1(2.2–11.4)] and had a better predictive capacity compared with baseline model [HR(95%CI) = 2.2 (1.2–4.0)].
Conclusion: We have developed a new score that may be used as an instrument to predict the risk of total and cardiovascular mortality in the older adults.

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Testing the acceptance of a community-based, technology-supported service for detecting and preventing frailty

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Introduction: Frailty is a condition that affects many older adults and for which few preventive services are available. Within the PERSSILAA project, we developed a service for preventing frailty in community dwelling older adults via physical and cognitive training, and by educating them about healthy nutrition, either in the older adults' neighborhood or online.
Methods: We tested the acceptance of this service among 46 older adults and 42 stakeholders (geriatricians, policy makers, etc.) in the Netherlands and Italy. They were shown an animation explaining the service, and were asked questions about their intention to use, its perceived value, and their (dis)likes.
Results: Older adults' intention to use scored a mean of 3.78 (st dev 1.21; five-point scale). In the Netherlands 75% of the older adults preferred the online services, in Italy 25%. Healthcare professionals awarded a mean of 4.10 (st dev .96; five-point scale) when rating the usefulness of the service; other stakeholders gave an average score of 4.00 (st dev .74). Often mentioned positive points were that the service provides early detection of health issues, allows for tracking one's health, and can combat loneliness. Negative points included that the service may be considered patronising, and that some older adults lack digital skills or access.
Conclusion: Frailty prevention services that utilise local facilities and online technology have a high chance of success, as long as they provide freedom of choice to the older adult and are integrated with ICT training in the community, providing the added benefit of socialization.

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Improvement in Quality of life (QoL) of two cohorts of frail older people at three and six months after hospitalization

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Introduction: This study aims to compare the results of QoL using The Nottingham Health Profile (NHP) of two cohorts of frail older people who were discharged from the hospital to either a postacute care unit (PCU) or home.
Methods: Prospective observational study of 75 patients hospitalized in an acute hospital ward, aged ≥65, who fulfilled the inclusion criteria: inability to transfer from the chair/bed, inability to walk alone, altered mental status, absence of severe dementia/terminal disease and availability of an informal caregiver. Patients could choose between admission to PCU or discharge home. At discharge, 3 and 6 months later we gathered information on QoL using the NHP(range 0–100, with higher scores indicating worse QoL) and each of its six dimensions. Improvement of QoL was defined as a decrease in the score of NHP or/and an effect size (ES) ≥0.8 (large change).
Results: 42 patients were admitted to PCU while 35 were discharged home. Participants were comparable in terms of functional, cognitive and social variables studied. At 3 months we found a significant improvement in the social isolation dimension of NHP in PCU group (31.4 ± 29.4 vs 48.4 ± 24.5, p = 0.04, ES:1.08). At six month we found significant improvements in the global NHP score (32.1 ± 21.8 vs 54.5 ± 16.2, p = 0.041, ES:1.16) and in the following dimensions: energy (33.3 ± 31.4 vs 70.3 ± 30.9, p = 0.033, ES:1.18), social isolation (16.0 ± 15,7 vs 35.5 ± 16,6, p = 0.033, ES:1.2) and emotional(25.5 ± 28.7 vs 60.6 ± 26.3, p = 0.014, ES:1.27).
Key conclusions: Patients admitted in PCU after hospital discharge, might have better quality of life after three and six months compared with those who were discharged home.

P-384
Sufficient levels of 25-hydroxyvitamin D and protein intake required to increase muscle mass in sarcopenic older adults – The PROVIDE study

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Objectives: Inadequate nutritional intake and altered response of aging muscles to anabolic stimuli from nutrients contribute to the development of sarcopenia. Nutritional interventions show inconsistent results in sarcopenic older adults, which might be influenced by their basal nutritional status. The objective was to test if baseline serum 25-hydroxy vitamin D (25(OH)D) concentrations and dietary protein intake influenced changes in muscle mass and function in older adults who received nutritional intervention.
Methods: Post-hoc analysis of the PROVIDE study was performed to assess whether baseline serum 25(OH)D levels and dietary protein intake influenced the intervention effects of the 3 month supplementation with vitamin D and leucine-enriched whey protein medical nutrition drinks among 380 sarcopenic older adults. A baseline serum concentration of 50 nmol/L 25(OH)D and baseline dietary protein intake of 1.0 g/kg/d were used as cut offs to define groups.
Results: Participants with higher baseline 25(OH)D concentrations and dietary protein intake had, independent of other determinants, greater gain in appendicular muscle mass in response to the nutritional intervention. There was no effect modification of baseline 25 (OH)D status or protein intake on change in chair-stand test.
Conclusion: Sufficient baseline levels of 25(OH)D and protein intake may be required to increase muscle mass as a result of a 3 month intervention with vitamin D and leucine-enriched whey protein supplements in sarcopenic older adults. This suggests that current cut-offs in the recommendations for vitamin D and protein intake should be considered the "minimum" for adults with sarcopenia in strategies to attenuate muscle loss.

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Hand tactile discrimination, social touch and frailty criteria in elderly people: a cross sectional observational study

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Objectives: Frailty is a common syndrome among elderly and sensory decline may exacerbate functional decline. The hand function, the manual dexterity, the performance of the daily living skills and the social interactions are determined, in a large degree, by sensory integrity. However, hand tactile sensory deterioration has been little

explored in frailty. Our goals were (1) to analyze the relationship between tactile discrimination (TD) of the hand, avoidance behaviours and attitudes towards social touch (BATST) and phenotype frailty criteria (unintentional weight loss, self-perception of exhaustion, decrease grip strength – GS, slow walking speed, low level of physical activity), (2) to explore whether other variables can contribute to explain the differences between pre-frail and frail elders.
Methods: We performed a cross sectional observational study with 181 of institutionalized elders. From the initial sample we selected 50 subjects (68–99 years) who met the inclusion/exclusion criteria.
Results: The results showed that increasing age is related to decline of TD of the hand (p = 0.021) and to decrease in GS (p = 0.025); women have significantly lower level of GS (p = 0.001); TD decrease is correlated with higher avoidance BATST (p = 0.000) and with lower GS (p = 0.000); Lower GS corresponds to more avoidance BATST (p = 0.003). Hand TD also can differentiate frail and pre-frail elderly subjects in this sample (p = 0.037).
Conclusions: Decreased TD of the hand may have implications on the functionality and on interpersonal relationships. TD of the hand also explains frailty levels in this sample. Hand TD should be used in assessment and intervention protocols in pre-frail and frail elders.

P-386
Prevalence and evaluation of sarcopenia in patients admitted in acute geriatric unit

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Background: Sarcopenia is a syndrome characterized by progressive and generalized loss of skeletal muscle mass and strength with a risk of adverse outcomes such as physical disability, poor quality of life and death. Aims: To examine prevalence of sarcopenia, identify cofactors associated to sarcopenia and determine the nutritional needs of patients hospitalized in acute geriatric unit.
Method: Fifty-five patients (mean age 85.6 years) were prospectively enrolled. Sarcopenia was defined according the European Working Group criteria. Muscle mass was measured by Bio impedance analyse, muscle strength by handgrip strength and physical performance by gait speed and Short Physical Performance Battery. Nutritional assessment was performed by the Mini Nutritional Assessment (MNA) and biological data. Resting energy expenditure is measured using indirect calorimetry. Three months after discharge, deaths, readmission, falls and institutionalization were studied.
Results: Twenty (36.4%) patients had the diagnosis of sarcopenia. Patients with sarcopenia tended to be older (p = 0.05), were predominantly of male gender (p = 0.002), had lower body mass index (p = 0.002), albumin and pre-albumin level (p = 0.02 and 0.03), and displayed lower MNA (p = 0.004). No significant differences were found with activity of daily living and energy requirements measured by calorimetry between groups. At 3 months the rate of death, readmission, falls and institutionalization were similar in patients with or without sarcopenia.
Conclusion: Prevalence of sarcopenia in patients hospitalized in acute geriatric unit is likely high. Although undernutrition appears a predominant cofactor of sarcopenia, there were no significant differences on energy requirement and early outcomes. These results require further investigations.

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Hospitalisation for colorectal surgery or acute medical illness is associated with weight loss in older adults

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Introduction: Acute sarcopenia secondary to hospitalisation is an emerging concept affecting older adults. This is hypothesised to occur due to a combination of muscle disuse and acute inflammatory burden. Weight loss can be caused by sarcopenia, cachexia or starvation, with overlap between these conditions.
Methods: A retrospective study of routinely collected electronic data for patients aged 65 years or older across cardiac surgery, colorectal surgery and general medical specialties was conducted at the Queen Elizabeth Hospital Birmingham (QEHB). Patients admitted during 2015 with length of stay of two days or greater were included. Weight measurements on admission and discharge were collected. Patients with estimated or incomplete weights and who died during admission were excluded. Outlying measurements beyond three standard deviations from the mean were excluded.
Results: 80 patients admitted for an elective coronary artery bypass graft, 62 for elective colorectal surgery and 2,345 under general medicine with an infection were included in analysis. Medical patients had a mean weight loss of 0.75 kg (p = 0.00) or 0.99% (p = 0.00) and colorectal patients a mean weight loss of 1.76 kg (p = 0.01) or 2.26% (p = 0.01). Mean change in weight was not significant for cardiothoracic patients but there was a trend towards weight loss; 0.67 kg (p = 0.061) or 0.76% (p = 0.099).
Conclusions: Patients admitted for an infective process under general medicine or elective colorectal surgery lose weight between admission and discharge; further research is needed to evaluate the nature of the weight loss and its relationship with acute sarcopenia.

P-388
Initiating frailty screening in primary care to identify high risk older adults for CGA

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Introduction: In primary care older, adults at risk of hospital admission are identified using risk stratification profiling. This approach may fail to recognise frailty as a risk factor in hospital admission, thus excluding patients from primary care interventions to reduce risk and possibly avoid admission.
Aim: To trial frailty screening in primary care using validated tools in addition to risk profiling. Enhanced screen was used to identify vulnerable patients for comprehensive geriatric assessment and management. four cycles PDSA cycle (Plan-Do-Study-Act Cycle) were undertaken, Cycle 1: the primary care team identified suitable frailty screening tools for use within their practice, Cycle 2: training of staff, Cycle 3: testing the integrating the Frailty Assessment Tool, Cycle 4: upscaling screening.
Findings and conclusion: A two stage approach to frailty screening was adopted, patients self completion PRISMA 7 [1], staff completed the Rockwood Clinical Frailty Scale [2]. 470 assessments completed showed that thirty-three per cent of patients were frail and 20 per cent as pre-frail, the previous Risk Stratification Profiling identified 27 per cent (76/279) had been flagged as frail, and no level of frailty was recorded. As a result of the enhanced screening a dedicated frailty clinic led by the nurse consultant was established to undertake Comprehensive Geriatric Assessment [3] as part of the frailty pathway. One outcome has been an increase in anticipatory care planning with patients. Concluding, that risk profiling without frailty screening underestimates the high risk primary care population. Managing frailty within a primary care team requires time and resources, but can deliver real benefits to patients and families.
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References

[1] Raiche M *et al.* (2010). Impact of PRISMA, a coordination-type integrated service delivery system for frail older people in Quebec (Canada): a quasi-experimental study. *J Gerontol B Psychol Sci Soc Sci* 2010;65B:107–18. doi: 10.1093/geronb/gbp027

[2] Rockwood, *et al.* (2005). Fit for Frailty: Consensus best practice guidance for the care of older people living with frailty in community and outpatient settings. British Geriatric Society (2104).

P-389
Is cognitive frailty "functional sarcopenia"?

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Introduction: Sarcopenia is defined as low muscle mass (LMM) and low muscle strength (LMS) or poor physical performance (PPP); with low muscle mass being considered a pre-requisite and severe sarcopenia present when all three parameters are positive. Cognitive frailty is the presence of both physical frailty and mild cognitive impairment (without dementia). We hypothesised that cognitive frailty would impact on physical performance, causing a state of "functional sarcopenia".
Methods: Muscle mass (bilateral quadriceps ultrasound), muscle strength (hand grip strength), physical performance (timed 4 metre walk), and cognitive impairment (Addenbrooks Cognitive Examination) were documented in 33 highly characterised >65 yr olds. Participants were divided into four groups: normal muscle mass (NMM) and normal cognitive function(NCF)(n = 11), NMM and cognitive impairment(CI)(n = 4), Low muscle mass (LMM) with NCF (n = 11), LMM and CI(n = 7).
Results: NMM and CI and LMM and CI had similarly poor physical performance outcomes (number of falls, distance walked outside, short physical performance battery) while NMM with NCF and LMM with NCF had similarly high scores across all these performance outcomes. For example mean distance walked; NMM + CI = 88 m + 43; LMM + CI = 91 m + 44; NMM + NCF = 7455 m + 981; LMM + NCF = 7918 + 1004. Differences could not be explained by age.
Conclusions: Mild cognitive impairment is associated with poor physical performance, causing a state of "functional sarcopenia" in the absence of low muscle mass. The mechanism linking these conditions is unclear but inflammageing can impact both on muscle strength and cognitive ability. Ultimately this may provide a pathway to severe sarcopenia.

P-390
Ultrasound echogenicity is a better predictor of strength and speed than age

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Introduction: Muscle quality is increasingly recognised as important as muscle size in sarcopenia. Ultrasound echogenicity, reported as a grey-scale value (GSV), is significantly associated with intramuscular adipose tissue [1]. We hypothesised that muscle quality (grey-scale value) would be an important tool to diagnose sarcopenic obesity.
Methods: Participants were recruited to three groups: healthy younger adult s(HY < 35 yrs; n = 16), healthy older adults (HE >65 yrs, no chronic inflammatory diseases, n = 9) and frail older adults (FE >65yrs, positive Frailty Index, n = 6) [2]. Participants were extensively clinically characterised including bilateral ultrasound image capture of the thigh using an established protocol [3].
Results: The three groups had significantly different GSV (HY-57.5 + 3.7; HE-54.2 + 8.7; FE-41.2 + 6.4; p = 0.037) with the FE group being significantly lower than the HY group (p = 0.029). The GSV correlates with adjusted hand grip strength significantly (R = –0.566, p = 0.002) and adjusted walk speed (R = –0.374, p = 0.055) when controlling for age. This correlation is far stronger than the correlation of adjusted muscle depth with adjusted hand grip strength (R = 0.003, p = 0.986) and adjusted walk speed (R = 0.02, p = 0.944) when controlling for age. GSV do not correlate with BMI or adjusted subcutaneous tissue depth (BMI r -124, p = 0.5; adjusted subcutaneous tissue depth r 0.031, p = 0.867).
Conclusions: We have demonstrated that ultrasound echogencity is a predictor of strength and speed when controlling for age. It is also a better predictor than muscle size. Intramuscular adipose tissue is neither related to BMI nor adjusted subcutaneous tissue depth. These data suggest an assessment of sarcopenia should include a measure of intramuscular adipose tissue. Further studies will be needed to confirm this finding.

References

1. Reimers *et al.*, 1993.
2. Mitnitski *et al.*, 2001.
3. Strasser *et al.*, 2013.

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Associations between frailty and no prescription of anticoagulant therapy among older inpatients

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Background and Purpose: Preventing embolic cerebral infarction is important since it decreases activity of daily living and quality of life in old people. However, appropriate use of anticoagulants is difficult in frail old people because of increasing risk of bleeding events. Thus the present study examined the association between no prescription of anticoagulant therapy and frailty in older inpatients.
Methods: 835 patients aged ≧65 who were admitted to the geriatric ward of The University of Tokyo Hospital between 2013 and 2015 were enrolled. 100 patients (men 48%, mean age 84.4 ± 7.4 years) had atrial fibrillation. Comprehensive geriatric assessment was performed and frailty was evaluated by BMI, IADL scale and Barthel index, MMSE, vitality index, GDS15, and by living alone or not.
Results: Among them, 44% were taking anticoagulant therapy. On univariate analysis, higher age, lower body mass index, vitality index, IADL and Barthel index were significantly associated with no prescription of anticoagulant therapy. On multiple logistic regression analysis, older age and higher BMI were associated with no prescription of anticoagulant therapy, independent of other factors that were significantly associated in univariate analysis.
Conclusions: In older inpatients with atrial fibrillation, lower BMI, a component of physical frailty was associated with no prescription of anticoagulant therapy. Further studies are needed to clarify the medical appropriateness of prescription of anticoagulant therapy.

P-392
Feasibility of general medicine to make an assessment of frailty in patients who are over 65 years old. Regarding a prospective study over a three-month period.

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Our aim was to find out if SEGA/Fried scores were applicable to general medicine. Prospective study carried out. For each patient and before calculating frailty scores, the general practitioner and the intern assessed the presence, or not, of frailty and of the quality of aging. 38 patients were included. The average age is 78.3 years. The average Fried score is 1.9. As concerns frailty, according to SEGA, the non-frail represent 17 patients (44.7%), the pre-frail are 4 patients (10.5%) and the frail 17 patients (44.7%). According to Fried, the non-frail account for 9 patients (23.7%), the pre-frail in 17 patients (44.7%) and the frail in 12 patients (31.6%). For the concurrence of Doctor vs. SEGA and Doctor vs. Fried, the assessment of the concurrence shows an excellent agreement (Kappa = 0.8924) in relation to the SEGA score, whereas this agreement is moderate with Fried's score (Kappa = 0.4627). For the concurrence Intern vs. SEGA and Intern vs. Fried, we find once again an

excellent agreement with SEGA (Kappa = 0.9465) and moderate with Fried (Kappa = 0.5026). For the concurrence of Doctor vs. Intern Frailty, the agreement between the protagonists is excellent (Kappa = 0.9456) before using frailty scores. For the concurrence of Doctor vs. Intern aging, there is a good agreement between the protagonists for pathological aging (Kappa = 0.6316) and successful aging (Kappa = 0.6275) and moderate for physiological aging (Kappa = 0.4906). Current data leans towards the great relevance of prevention of frailty by the general practitioner.

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Evaluation of nutritional status in an acute geriatric unit: prospective study and analysis of frailty using two scales FRIED/ SEGA

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Introduction: The aim of our study is to evaluate the nutritional status in an acute geriatric unit.
Method: Inclusion of patients hospitalized in the acute geriatric unit, during a period of 6 months. Nutritional status was evaluated with anthropometric measurements, MNA, and biological measurements (albumin). Frailty was evaluated using two scales: FRIED and SEGA.
Results: 359 patients were included. 34.64% had a BMI of <20 kg/m^2, 32.24% had a brachial circumference of <21 cm, 59.22% had a calf circumference of less than <31 cm, and 53.37% had hypoalbuminemia. 16.67% were malnourished and 42.95% were at risk of being malnourished (MNA). According to FRIED, 1.95% of the population was pre-frail, and 98.05% frail. According to SEGA, 10.86% were non-frail, 15.88% were at risk of frailty, and 73.26% were frail. No correlation found between frailty and MNA, whether using FRIED (p = 0.95) or SEGA (p = 0.074), nor between BMI and frailty (FRIED p = 0.34; SEGA p = 0.4), nor between brachial circumference and frailty (FRIED p = 0.38, SEGA p = 0.1), nor between calf circumference and frailty (FRIED p = 0.22; SEGA p = 0.06), nor between hypoalbuminemia and frailty according to FRIED (p = 0.16). The only significant result was for hypoalbuminemia and frailty according to SEGA (p = 0.023).
Conclusion: Our study does not show evidence of a significant link between malnutrition according to the MNA and anthropometric measures, and frailty. We find a link between hypoalbuminemia and frailty according to SEGA.

Area: Geriatric education

P-394
Geriatrics and paediatrics teaching in Portuguese Medical Schools

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Introduction: Motivated by the contracting nature of the Portuguese age pyramide, and thereby the ever increasing Geriatric population associated with a decreasing Paediatric population, our goal is to assess the adequacy of Geriatrics versus Paediatrics teaching (GT and PT, respectively) in Portuguese Medical Schools (PMSs) offering Master degrees in Medicine.
Methods: Comparison of European Credit Transfer and Accumulation System Credits (ECTSs) of PMSs' curricula, accessed online in April 2016. Only 7 PMSs were considered, since the remaining are not ECTS conformant.
Results: Geriatric-related courses (mandatory or optional) account for 10.5 to 80 ECTSs (2.9–22.2%): only 5 PMSs offer Geriatric-specific courses (5.1 ECTSs, on average). In contrast, Paediatric-related courses account for 33 to 103.5 ECTSs (9.2–28.8%). There are specific Paediatric courses in 6 PMSs, representing an average of 18.8 ECTSs.
Key conclusions: Even though, epidemiologically, Geriatric and Paediatric populations are comparable in size, the PMSs devote a significantly larger share of the ECTSs with PT than with GT. Also, we observed a larger availability of Paediatric-specific courses when compared with Geriatric-specific courses. Since the ratio between Geriatric and Paediatric populations is expected to increase, we suggest a re-evaluation of the teaching necessities taking into account the actual needs. Strengthened by the fact that Portugal is soon facing a scenario of Paediatrician unemployment, this re-evaluation may not only improve the population's quality of life but also the quality/ efficiency of service.
Keywords: geriatrics; gerontology; elder; ageing; children; paediatrics; adolescent; youth; juvenile.

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Geriatrics teaching in Portuguese Medical Schools

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Introduction: Motivated by the fact that, in 2014, the Geriatric population (over 64 years old) accounted for 20.1% of the Portuguese population, our goal is to determine the prevalence of Geriatrics' Teaching (GT) in Portuguese Medical Schools (PMSs) offering Master of Science degrees in Medicine.
Methods: Comparison of European Credit Transfer and Accumulation System Credits (ECTSs) of PMSs' curricula, accessed online in April 2016. Only 7 PMSs were considered, since the remaining are not ECTS conformant. Keywords: geriatrics, gerontology, elder, ageing.
Results: Most of the ECTSs concerning Geriatrics are integrated in courses such as Internal or Family Medicine: only 5 PMSs offer courses specifically oriented to the Geriatric Population. The ECTSs concerning mandatory Geriatrics-related courses range from 10.5 to 65 (2.9–18.1%) of the total 360 ECTSs. Regarding the optional courses, the offer varies from 0 to 15 ECTSs (0– 4.2%). Finally, Geriatrics-specific courses' ECTSs range from 1.5 to 8 ECTSs (0.4– 2.2%).
Key conclusions: Considering the contracting nature of the Portuguese age pyramid, and thereby the ever increasing Geriatric population, we can conclude that the panorama of GT in Portugal is sub-optimal. This can be further observed in higher levels of education by the non-recognition of Geriatrics as a medical speciality. We suggest that efforts should be made to improve GT to better prepare future physicians for the population's needs. The suitability not only arguably improves the population's quality of life but also the quality/efficiency of service.

P-396
Discussion of falls at outpatient visits in the elderly: a learning opportunity

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Introduction: Falls are common in the elderly and are associated with adverse outcomes. Traditional care models and teaching may not incorporate screening for falls. We conducted this study to evaluate documentation and assessment of falls at outpatient visits among elderly patients who had previously reported falls with injury.
Methods: This was a retrospective analysis of office visits over a 3 year period by patients over 65 years in an academic internal medicine outpatient practice. Data were obtained from electronic medical records (EMR) of a computer generated random sample of 216 (50%) patients who had self-reported falls with injury in the past year. We studied differences in the documentation and evaluation of falls based on visit type; acute (30 minutes) or preventive (45 minutes), and provider type; experienced or trainees.
Results: 165 (76%) of the visits were for acute care and 51(24%) were for preventive evaluation. History of falls was acknowledged in 33%

(72/216) of all visits. Documentation of falls was higher in preventive visits (37%) compared to acute visits (32%) and among experienced providers (35%) vs. trainees (20%). Documentation was highest among geriatricians at preventive visits (55%). When falls were acknowledged, we found varying documentation of medication review, physical and cognitive examination, orthostatics, gait evaluation, physical therapy, gait aid prescription, and screening for vitamin D deficiency or osteoporosis.
Key conclusions: Pre-visit screening for falls is useful only if providers have training, opportunity and time to address falls. There is need to educate both patients and providers about the importance of discussing falls at outpatient visits.

P-397
Ageism among medical students

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Introduction: Negative stereotypes concerning elderly persons are widespread in general population. When they are adopted by health care professionals, it can decrease the quality of care or even induce disability. That's why medical curriculum should take the question of ageism in consideration. Though, little is known about ageism among medical students and its determinants.
Methods: We conducted a study on Rennes University (France) medical students (year 2 to year 6) using on line questionnaire. Validated tools, such as Fraboni Scale of Ageism, and innovating ones, such as verbal fluency task about aging and youth, have been proposed. **Results** have been compared with those obtained in Liège, Belgium, and analyzed according to age, gender, year of study, geriatric training and contacts with elderly persons.
Results: Response rate was above 90%, leading to 814 replies. Replies, especially at the verbal fluency task, demonstrate the strength of negative stereotypes, with similar results in Rennes and Liège. No effect of courses or internship in geriatrics has been identified. Negative stereotypes seem lower in female students, and in those who have regular contact with elderly persons, especially if these contacts are good.
Conclusion: Ageism is widespread in French medical students, whatever the year of study. Enhancing positive contacts between elderly persons and medical students may be an effective way to prevent it, but may be challenging to implement. Further studies could focus on implicit stereotypes to underplay the social desirability bias.

P-398
"We need you for geriatrics!" – Using YouTube videos to promote geriatrics

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Introduction: The increasing life expectancy contributes to the ageing of the population. This results in a growing need for physicians and other healthcare professionals who apply the principles of geriatric care in their daily practice. However, recruitment into the field of geriatrics has been modest.
Methods: Students of the XIth Advanced Postgraduate Course of the European Academy for Medicine of Ageing (EAMA) were asked to make a video to promote geriatrics as an attractive medical specialty. The aim of the videos is to stimulate medical students and young doctors to choose a career as geriatrician.
Results: Over a six-month period, three videos were made and placed on YouTube in January 2016 (https://youtu.be/LEFgxmQO_Gs; https://youtu.be/iMAbwpoaEIg; https://youtu.be/5hM3wjqxLQc). The videos have been promoted on social media, EUGMS website, and in national and international geriatric conferences, as well as by mailings to members of national geriatric societies and the EAMA network. Geriatricians were asked to show the videos to their medical students and young colleagues. By the end of May 2016, the videos have been watched more than 6,000 times by individuals from more than 70 countries.
Conclusion: Short videos seem to be a feasible means to promote geriatrics and can be produced even without previous experience on making videos. Wide international audience can be captured using YouTube. Participants of the 2016 EUGMS conference are kindly asked to distribute the links to the videos to help us to encourage young colleagues to find their future as geriatricians.

P-399
Effectiveness of falling prevention program for elderly people undergoing fracture treatment in Turkey

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Objectives: Falls cause high mortality and morbidity among elderly people. Identification and modification of risk factors and developing prevention strategies are necessary for falls prevention. The aim of study was to determine the effectiveness of falling prevention program for elderly individuals.
Methods: The study was conducted as single group intervention study. The sample of the study included 52 patients undergoing treatment of fracture due to falls between November 15, 2014 and August 25, 2015 with three phases. The data were collected with Personal Information Form, Fall Risk Factors Form, Falls Prevention Knowledge Form and Katz Activities of Daily Living Index. Ethical approval was obtained. In first phase of implementation, basic evaluations were made in hospital; in the second and third phases home visits were performed. Falling prevention program was applied including evaluation of risk factors, knowledge levels and home environment and education of elderly people for prevention of falling. Effectiveness of the program on falling risk factors and level of knowledge were evaluated.
Results: With implementation of falling preventing program; percentages of urinary incontinence and constipation problems and using medicine/herbals without physicians' advice were reduced, percentage of using a material that prevents slipping and handrails in bathroom and toilet and making regular exercises was increased. Fall-related risk factors reduced and knowledge level of elderly about prevention of falls increased.
Conclusion: It was determined that fall prevention program was effective in reducing fall-related risk factors and increasing the level of knowledge of elderly. Implementation of falling prevention programs including home visits for elderly people was recommended.

P-400
Interprofessional education on frailty in an urgent care setting

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Objectives: Interprofessional education (IPE) is defined as "occassions when two or more professions learn with, from and about each other to improve collaboration and the quality of care" (Barr 2002). We designed and developed IPE sessions for Geriatric Emergency Medicine (GEM) team, who care for older people with urgent care needs.
Methods: An initial learning needs assessment was undertaken, drawing upon perspectives of the GEM team, and supplemented by reference to the EU GEM curriculum (Conroy 2016).
Teaching was delivered for 30 minutes once fortnightly, using an interactive structure and following the principles of IPE including listening and valuing each profession's in-puts.
Feedback was obtained after each session to rate the quality of sessions (1 – least positive, up to 10 – most positive).

Results: Nine sessions were delivered over six months on topics such as community services, mobility, dementia, frailty, occupational therapy, polypharmacy, and delirium.
Sessions were attended by physiotherapists, occupational therapists, nurses, advance nurse practitioners, case-managers, doctors, pharmacists, and students from respective professions including the ambulance service.
Sessions scored 8.1/10 on average. 100% (22/22) of responders agreeing these sessions helped them to deepen their understanding of other professions and helped promote effective team working. We also received positive comments from those unable to access the face-to-face teaching following dissemination of summaries by email and website (http://em3.org.uk/).
Conclusions: Interprofessional education is feasible and valued in GEM settings. Mixed dissemination techniques allow a broader range of access than just face-to-face teaching.

P-401
Effects of inpatient diabetic education on glycemic control and prevention of diabetic complications: a nationwide survey of 1200 Japanese diabetologists

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Objective: Although the utilization rate of inpatient diabetic education (IDE) has decreased in most countries, diabetes prevalence has profoundly increased.
Research Design and Methods: 1,200 diabetologists, certified by Japan Diabetes Society (JDS), were randomly selected to participate in the study. Additionally, 1,208 patients, experienced IDE (IDE group), and 1,208 patients, not experienced IDE (control group), were followed up for 1 year.
Results: 691 diabetologists participated (58%), representing 78% of JDS approved hospitals. The patients' diabetes duration (longer than 10 years) and advanced age (older than 75 years) did not influence their admission (89%, 100%). When plasma glucose levels had deteriorated, they were admitted and evaluated for plasma glucose control(100%) as well as for microangiopathy (88%), macroangiopathy (60%), and occasionally, dementia (34%). In IDE group, mean patient age was 62 years (27.7%: older than 75 years). Hospitalization period ranged from 2 days (weekend) to 2 weeks (mean: 10.8 days). Patients' profiles before admission, at discharge, and one year later were assessed. Their mean values: BMI: 25.7, 24.4 and 22.9; hemoglobin A1c: 9.82, 9.21 and 7.79%; fasting plasma glucose(FPG): 192, 141 and 144 mg/dL; blood pressure(BP, systolic/diastolic): 132.8/75.4, 121.2/71.8, and 126.2/71.9 mmHg; LDL-C:124.1, 95.1 and 101.3 mg/dL. In control group, the initial data were not different from those in IDE group, whereas one year after registration, those were: BMI, 25.7; hemoglobin A1c7.99%; FPG178 mg/dL; BP, 130.7/76.8 mmHg, and LDL-C114.8 mg/dL. These data were superior to those in control group. Moreover, medical economic analyses revealed that a frequency of admission of less than every 6 years is cost-effective to prevent complications.
Conclusions: IDE improves diabetic status for a longer period and effectively prevents complications. This finding is important for aging societies and has applicability to develop educational systems in many countries.

P-402
Level of health literacy in Thai elders, Bangkok, Thailand

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Introduction: Thailand's population is rapidly aging. Although growing attention among Thai health practitioners for improving health literacy on health outcome across country, information about the status of health literacy in Thailand remains scarce.
Objectives: The study objectives were to assess the health literacy level and determine the demographic characteristics associated with health literacy among Thai elders.
Methods: The health literacy survey was conducted in 440 Thai elders. The respondents were randomly selected. Data collection was based on the Thai elder health literacy questionnaire in paper-assisted personal interviews. The data was analyzed using descriptive statistics and the status of health literacy was categorized into three levels included functional, interactive, and critical health literacy. The Chi-square and Fisher's exact test were used to determine the association among the factors related the health literacy.
Results: The 2 in 440 (0.5%) respondents showed interactive health literacy and 438 in 440 (99.5%) expressed functional health literacy. None of the participants had critical health literacy. Results indicated that factors significantly associated with health literacy included education, history of occupation, visibility, and reading ability.
Conclusion: The status of health literacy, especially functional level were considered as having the limited literacy, among Thai older persons represents an important challenge for Thai health policies and health practitioners across Thailand. Knowledge of health literacy is needed to provide the foundation for developing strategies to mitigate effects of low health literacy on health outcome. The social gradient could be taken into account when developing public health strategies to improve health equity.

P-403
Is dementia and delirium an important topic for junior doctors?

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Introduction: Dementia and delirium affects more than a quarter of in-patients at any one time. These patients have a higher mortality, complication rates and increased length of stay. This has prompted the development of the Commissioning for Quality and Innovation (CQUIN) target and guidelines highlighting the importance of cognitive screening in elderly patients admitted as an emergency. Our project looked at if junior doctors felt that assessing memory and identifying delirium, as an important part of the initial assessment of elderly patients admitted acutely.
Methods: 30 junior doctors (ranging from FY1-ST7) undertook a questionnaire on completing AMTS (abbreviated mental test score), CAMs (confusion assessment method) and their importance. In addition, the questionnaire asked what could be done to increase completion of such screening tools.
Results: 20% of doctors felt that completing AMTS was not that important, and only 13% answered that they always completed it. The main reasons for not completing was "rushed for time" and "language barrier". In addition, 33% of doctors did not know what CAMs was and its importance. More than 75% of doctors who did not always complete these assessments, felt that additional education and a structured clerking booklet, would increase the likelihood of completion.
Conclusions: Some junior doctors do not recognise the importance of assessing cognition and confusion on elderly patients. However, by improving their education and creating special sections on the clerking booklet, junior doctors are much more likely to screen for cognitive impairment. Thereby identifying and managing delirium and dementia more effectively.

P-404
Gerodontology teaching amongst European dental schools – a European College of Gerodontology survey

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Objectives: In 2009, the European College of Gerodontology (ECG) published the Gerodontology undergraduate teaching guidelines. Seven years later the ECG conducted a survey to explore the current status of Gerodontology teaching amongst the European dental schools.
Methods: The ECG Education Committee developed an electronic questionnaire that was emailed to the Deans or other contact persons in 185 dental schools in 40 European countries. The questionnaire recorded the prevalence, contents and methodology of Gerodontology education. Two weeks later a reminder was sent to non-respondents.
Results: The first wave of responses included 70 dental schools from 28 European countries. Gerodontology was included in the undergraduate curricula of 77% of the respondents and was compulsory in 61% of them. The course was usually offered in senior students and was interdisciplinary; the educators included dentists, physicians, nurses and other care providers. Lecturing was the most common educational technique (75%), and the most common topics included medical problems in old age, pharmacology and polypharmacy, the association between general and oral health, nutritional and chewing problems, xerostomia and prosthodontic management. Clinical training was usually offered within the dental school clinics (50%) and less often in remote locations (nursing homes, geriatric hospitals, day centers).
Conclusions: An increasing number of European dental schools teach Gerodontology at the undergraduate curriculum. The study is still ongoing, but a "worst case scenario" has to be born in mind, where dental schools, who failed to participate in the survey, may not be teaching in Gerodontology.

P-405
Geriatric medicine teaching in core medicine; where are we currently and where do we need to be

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Introduction: The United Kingdom (UK) Population is aging and it is critical that effective geriatric medicine teaching programmes are established to train the physician workforce to effectively care for an ageing population. We sought to establish what Geriatric medicine training have been established as part of the University College London partners and Imperial teaching programmes to adequately prepare Core medical trainees (CMT) to care effectively for an ageing population.
Methods: All regional teaching days from 2012 to 2016 were reviewed looking at their Geriatric Medicine content. The content was then assessed against the 2009 CMT curriculum from the Joint Royal Colleges of Physicians Training Board.
Results: 15 regional teaching days in Geriatric medicine were identified from 167 training days. Two other training days were identified with topics pertaining to Geriatric medicine. The commonest topics taught were delirium (7), polypharmacy (6), cerebrovascular disease (6), falls (5) and ethical dilemmas in nutrition and end of life (4). Syncope, dementia, incontinence, Parkinson's disease, osteoporosis and fragility fractures, comprehensive geriatric assessment, frailty and sarcopenia, mental health and capacity act and models of care were less commonly taught. There were no sessions on elder abuse, malnutrition, depression, hypothermia, skin care and effects of ageing.
Conclusion: Regional teaching programmes cover a significant proportion of the required Geriatric medicine curriculum in Core Medical training. However important gaps still exist and it is important to ensure their inclusion in regional as well as local core medical teaching programmes so that core trainees are equipped to care for the expanding ageing population.

P-406
Prescribing cascade game

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Objectives: Although associated with adverse drug events in the elderly, prescribing cascades are often not recognized in clinical practice. The objective of this prescribing cascade game was engage students in learning how to prevent, detect and understand prescribing cascades.
Methods: This activity was part of a 3-credit course in the geriatrics pharmacotherapy course at the Faculty of Pharmacy at the University of Montréal. Five different prescribing cascades that were detected in clinical practice were used. Each cascade contained four elements (medication-side effect-medication-side effect). Students were divided into 17 groups with two students per group. Each group selected one card on which one of the elements was written; either the name of a medication or a side effect. All 17 groups were then asked to work together to reconstruct the five different prescribing cascades. Once all four elements of the four prescribing cascades were identified, they were asked to explain how these cascades took place.
Results: 34 students participated in the game. It took 15 minutes for the students to get organize and reconstruct the five prescribing cascades. In general, students appreciated this activity. The majority mentioned that having to find the different element of the cascade raised their awareness at the detection of future cascade.
Conclusions: This activity was used to understand, apply and retain information on prescribing cascade They were able to discover the four different elements of their respective cascade and to explain them using pharmacokinetics, pharmacology and pharmacodynamics principles.

P-407
Prevention of falls in the community: the role of community pharmacist

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Objectives: Falls represent an important cause of injury in the elderly population. It is reported that 30% of older adults (>65 years) living in the community fall each year. Medication review has been identified an intervention that can help reduce falls. The objectives of this study is to develop and valide an algorithm to identify patients at risk of falling in community setting.
Methods: The first part of this pilot project was to review the literature and develop an algorithm to help the community pharmacist identify patients who had a fall or were at risk of falling. The second part was to validate this algorithm in a community pharmacy. It was tested in elderly patients living in the community when they came to visit their community pharmacist. The study was done during a 1-month clinical rotation by a 4th year Doctor of Pharmacy student under the supervision of a community pharmacist
Results: A total of 26 patients were identified using the algorithm. All patients had a private consult in the community pharmacy. The mean time for the consult was 38 minutes. A total of 69% of patients had >1 antihypertensive agent, 65% had a psychotropic medication and 15% had an opioid medication. Elderly patients had 77% of potentially inappropriate medications as per the Beers Criteria. A number of 25 "pharmaceutical opinions" were send to the family physician. Results of the changes made by the family physician will be presented.
Conclusion: The algorithm was easy to identify older patients that had a fall in community setting. This project will continue next year; a fall clinic will be implemented in this community pharmacy.

P-408

The Older Person's Nurse Fellowship: innovation in higher specialist nurse education

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Background: A shortage of nurses in the speciality of older people's combined with outdated models of nurse preparation has contributed to a deficit in higher level leadership and expert knowledge in gerontological nursing. Innovation in education is required to meet the challenges of an ageing population with complex needs yet restricted economic resources.
Aims: The Older Person's Nurse Fellowship (OPNF) is a higher level programme designed to develop senior clinical nurses to lead innovation and quality improvement (QI) in older people's services. The programme integrates models of comprehensive geriatric assessment (CGA) and QI with core nursing values of compassionate and dignified care for older people.
Model: The 12 month programme combines updates in clinical knowledge (CGA, frailty, deprescribing) with QI methodology to deliver service improvement projects for older people. In 2015, eighteen nurses lead a range of projects including: implementation of frailty pathways in emergency department (ED), acute, primary care and nursing homes, depression, delirium and dementia screening in ED, mental health and acute care, enhanced therapeutic environment in mental health and acute care. Programme evaluation by students and organisation stakeholders indicates benefits to patients and organisations, career progression opportunities, national project awards as well as the emergence of a critical discourse on workforce development.
Conclusion: The OPNF within 12 months delivered a cadre of future nurse leaders with the knowledge, skills and confidence to modernise services for older people. The programme highlights the potential of clinical nurse leaders to deliver real improvements for older people with modest financial investment.

P-409

The impact of a structured education program on the knowledge of evidence based secondary stroke prevention strategies: preliminary study

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Introduction: People who have had a stroke are at increased risk of stroke recurrence, which is as high as 30% and can be more devastating. Secondary stroke prevention practices according to evidence based researches if fully and rightly implemented can reduce the risk of stroke recurrence [1,2]. This preliminary study aimed to explore the knowledge and the impact of a structured education program on current evidence based secondary stroke prevention strategies by the doctors working in a stroke unit.
Methods: The doctors in the National Rehabilitation Hospital (NRH) Ireland, were surveyed using paper based anonymised questionnaires before and after the delivery of a brief structured educational program on current secondary stroke prevention strategies. Both surveys were carried out on all eligible doctors in NRH. The brief structured educational program on secondary stroke prevention strategies was given over three sessions involving the multidisciplinary team and the electronic copies of the teaching materials made available on the hospital intranet prior to the repeat survey.
Results: Although the doctors in the NRH showed appreciable knowledge of current secondary stroke prevention strategies in the first survey, the repeat survey showed an overall improved knowledge post the structured educational program.
Conclusion: Future studies are relevant to ascertain if the doctors' improved knowledge and its sustenance ultimately translates to improved stroke management and prevention practices. It was beneficial to leave the education materials for future intakes of doctors on the hospital intranet.

References

[1] Hankey G.J. Secondary Stroke Prevention. *The Lancet Neurol*. 2014; 13: 178–94.
[2] Mohan K.M., Wolfe C.D., Rudd A.G., Heuschmann P.U., Kolominsky-Rabas P.L., Grieve A.P. Risk and Cumulative Risk of Stroke Recurrence: A Systematic Review and Meta-Analysis. *Stroke*. 2011; 42(5): 1489–1494.

P-410

Allergies in elderly residents of a long term care institutions

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Objectives: verify the prevalence of allergies, characterize the socio demographic profile of the elderly population with allergies, identify the type of more common allergy and establish the measures used to prevent allergic events in elderly residents of a Long-Term Institution (LTI).
Methods: descriptive research, exploratory, of retrospective character, based on quantitative analysis, level I. A study conducted in LTI - Residencial Israelita Albert Einstein (RIAE), where 150 elders lived during the data collection period.
Results: 150 records analyzed, 18.7% (28) of the elderly had some type of allergy being registered: 75% (21) drug allergy, 28.6% (8) foods and 14.3% (4) other types of allergies. Regarding the characteristics of this group of seniors: 75% (21) were female, mean age of 84 and SD (7.5), 43% (9) widowed, 78.6% (22) patients with arterial hypertension, dementia 42.8% (10) and depression 32.1% (9). The most prevalent type of drug allergy was to antibiotics 40% (10)% Iodine 20% (5) and 16% to analgesics (4). In relation to food allergies 21% (3) had lactose intolerance. We found three measures to prevent allergic events: label in the cover page of medical records and in the medical prescription indicating the type of allergy, as well as electronic signage in hospital management system.
Conclusion: the information gathered here promotes the recognition of the most common allergies in this group of elderly. The importance of preventive measures and clinical protocols are essential to improve the service and ensure the control and prevention of allergies, preventing most severe cases which are the anaphylaxis.

P-411

Geriatrics: a needed reality in Portugal

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Introduction: Portugal is one of the most aged population in Europe. It is therefore important to understand the aspects that can contribute to a better assessment of this population and consequently improve patient's outcome.
Methods: A cohort study was conducted by evaluating the clinical files of patients with 65 years old and above, admitted in Internal Medicine ward of Hospital Vila Franca de Xira on the 19th of February 2016. Demographic and variable analysis was conducted using Excel 2013®.
Results: Of 144 admitted patients, 71,5% were 65 years old or more. Average length of stay was 11 days. 76% had 1 to 5 comorbidities and 51% took more than 6 drugs. 19% had a hospital admission on the last 30 days. 30% of files lacked information about dependency status; of those mentioned 55% were dependent. 54% lived at home and 25% at care facilities; 21% had no reference to current housing. Cognitive status was mentioned in 97% patient records. A large percentage lacked nutritional and mood status information (81% and 96% respectively) and 39% of files did not refer the risk of institutionalization.
Key conclusions: In our Internal Medicine department a large proportion of patients are elderly and health professionals seem rather aware of some of the particular aspects concerning the approach of these patients. However there are some areas that are still lacking evaluation and clinical record supporting the importance of the

implementation of specific education and practice protocols to improve the outcome of this significate number of patients.

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Collaborative education between Internal Medicine and Geriatric Medicine. A literature review

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Objectives: To identify and describe comprehensive approaches to the care of elderly people that incorporate the complexity of age-related issues into the routine clinical practice and decision-making of Internal Medicine residents.
Background: Elderly people are now the most rapidly growing part of the patient population worldwide. Despite efforts, there is also a growing shortage of specialists in geriatrics. In this paper, we address the initiative to prepare internal medicine physicians to provide expert geriatric care across the clinical spectrum within team-based models.
Methods: This literature reviews searched English, Portuguese and Spanish journal articles in PsycINFO, EBSCOhost, PubMed and Google academic databases from 2010 to 2016. 96 abstracts were evaluated, 71 were excluded and 25 articles were included.
Results: some internal medicine programs focused on a disease-oriented approach, which did not take account of age-related changes, functional, cognitive impairment or personal preferences where transformed to embraced a geriatric multisystem approach, taking account the complexity and over-lapping health and social problems of elderly patients.
Conclusions: Combining expertise of geriatric medicine and internal medicine educators improve residents' skills in assessing and managing the medical challenges of caring for geriatrics patients, to teach future generations of physicians, and to conduct research on the quality of geriatrics care. The field of geriatric medicine provides a framework for others to use when analyzing how to improve care delivery systems responsive to the needs of older adults.

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Social gerontology students and outcome expectations for functional focused care

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Objectives: Functional Focused Care (FFC) is a philosophy that stimulates older adults (OA) to perform as much as possible on their own. The perceived benefits of FFC for gerontology students (GS) may have a role in the care provided. This study aims to analyse the outcome expectations (OE) regarding FFC among GS.
Methods: A cross-sectional study was conducted with 120 GS, studying for a Bachelor degree. The survey included sociodemographic variables and the OE scale was administered. A higher score (range from 9 to 45) indicates lower OE. Statistical analyses (factor analysis, reliability, One-Way ANOVA/Mann-Objectives: Functional Focused Care (FFC) is a philosophy that stimulates older adults (OA) to perform as much as possible on their own. The perceived benefits of FFC for gerontology students (GS) may have a role in the care provided. This study aims to analyse the outcome expectations (OE) regarding FFC among GS.
Methods: A cross-sectional study was conducted with 120 GS, studying for a Bachelor degree. The survey included sociodemographic variables and the OE scale was administered. A higher score (range from 9 to 45) indicates lower OE. Statistical analyses (factor analysis, reliability, One-Way ANOVA/Mann-Whitney/Kruskall-Wallis tests) were performed using SPSS and $p < .05$ was considered statistically significant.
Results: The majority of the sample is female (90%) and without previous training in gerontological care (83.3%). A 2-factor solution was obtained (expectation toward professional performance and expectation toward OA), with Cronbach's alpha ranging from 0.83 to 0.79. The mean of professional expectation and OA was 6.71 ± 2.88 and 7.43 ± 2.75, respectively. The academic year mean score ranged 6.21–8.27. No statistically significant differences were found between the sexes and having or not having previous training ($p > .05$). Statistically significant differences were found between the 1st and 2nd year students in expectation regarding OA ($p = .023$), with 1st Year GS presenting higher OE.
Conclusion: The GS have strong beliefs (lower scores) in encouraging FFC activities. It seems that OE isn't influenced by sex and former training experiences. The differences between 1st and 2nd years suggest that gerontological education can foster a sense of confidence to promote FFC.

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Theoretical testing of functional focused care among gerontology students

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Objectives: The promotion of functionality for older adults (OA) is the corner-stone of care since functional decline often leads to institutionalisation. Gerontology students (GS) must be proficient and knowledgeable in promoting Functional Focused Care (FFC) and high-quality care. This study aims to test the theoretical knowledge of FFC among GS.
Methods: A cross-sectional study was conducted with 120 GS, studying for a Bachelor's degree. A survey that included sociodemographic variables and the Theoretical Test of FFC was administered. Scores range from 0 to 15, the higher score indicating more knowledge. Statistical analyses were performed using SPSS and $p < .05$ was considered statistically significant.
Results: Ninety per cent of the participants were female and 83.3% did not have previous training in gerontological care. The mean knowledge scores were 9.79 ± 1.91 with the majority (87.5%) obtaining more than 7 correct answers. One-Way ANOVA showed no statistically significant differences between the sexes and having or not having previous training in gerontological care or knowledge of FFC. Statistically significant differences were found between the 1st ($M = 8.56 \pm 2.01$) and 2nd years ($M = 10.09 \pm 1.60$) ($p < .001$) and 1ST ($M = 8.56 \pm 2.01$) and 3rd year ($M = 10.67 \pm 1.49$) ($p < .001$).
Conclusion: Knowledge among GS about promoting functionality was found adequate, considering the curriculum structure of the undergraduate course (more focused on social issues of ageing). Students from 2nd and 3rd Years demonstrated significantly more knowledge than the 1st Year students. A possible explanation could be that the first year curriculum doesn't addresses restorative care. The study findings support the need for improving the 1st Years' knowledge of FFC.

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Factors influencing teenagers' choice of living with and caring for ageing parents in the future

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Background: The Singapore General Household Survey in 2015 showed a 7% (69% to 62%) decrease in seniors staying with their children compared to 2005. This study explores the factors that influence teenagers' decision to live with and care for their ageing parents in the future.
Methods: One thousand four hundred and five teenage students ($M_{age} = 14.9 \pm 1.30$) attending a schools' outreach programme on ageing and dementia answered a purpose-designed questionnaire comprising 4 questions regarding the quality of their relationship with grandparents and 10 Likert-scaled statements about their perception towards ageing. Univariate analysis and logistic regression were performed to evaluate factors that influenced their decisions on staying with and caring for their parents.
Results: Majority of the students (83.1%) chose to stay with their parents in the future and having a positive perception of seniors as wise increased the likelihood ($\beta = 0.579$, $OR = 1.78$, 95% CI =

0.110–1.05). However, negative perceptions of seniors as stubborn (β = –0.503, 95% CI = –0.820 to –0.187) as well as not seeing grandparents on a daily basis (β = –0.450, 95% CI = –0.775 to –0.126) were associated with lower probability of choosing to stay with parents. The model containing these 3 factors was statistically significant, χ^2 (3, N = 1,335) = 24.1, p < 0.001.
Conclusions: The study has identified key factors that shape teenagers' impressions on future care of their parents. If the family is to continue to be the social safety net for more frail seniors in the future, efforts to nurture positive attitudes of the young towards seniors and foster closer ties are necessary.

P-416
Diabetes education in the elderly: are the targets different?

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Introduction: Type 2 diabetes is frequent in the elderly and is the fasting growing segment of the diabetic population. Comorbidities are frequent with and have ab impact on life expectancy. Targets for cardiometabolic parameters are probably different in this population.
Method: A cohort of 198 diabetic subjects >65 years old was recruited in 2002 in the Sherbrooke area for the evaluation of hypertension prevalence. 83% of the subjects were actively treated for hypertension. 193 subjects had a 24 hour ambulatory blood pressure monitor. This population was reassessed 8 years later to analyse the factors associated with an increased mortality. Twenty-seven subjects died in the interval. In multivariate analysis, factors identified as associated with an increased total mortality were waist circumference <94 in men, <80 cm in women, creatinine level >84 μmol/L and diastolic blood pressure <67 mm Hg on the ambulatory blood pressure monitoring. Considering the sample size, HbA1c levels were not associated with a difference in mortality.
Conclusion: In older patients with diabetes, weight management should be adapted to individual situations. Hypertension treatment should be tailored to avoid diastolic blood pressure in the hypotensive range. Declining kidney function is probably a reflect of systemic multiorgan declining function. Glycemic targets remains a question of debate in the older diabetic population and an individual approach is suggested.

P-417
Dementia and behaviours that challenge: how new communication skills raise hospital staff confidence – a comparative study in interprofessional education

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Objectives: Older patients with dementia and delirium often have reduced ability to deal with stress (e.g. infection), resulting in behaviours that challenge (prevalence 16% to 50%; aggression (48%) and wandering (25%) most common). These can have negative impact on the quality of care, but good communication skills could aid effective management. Oxford Medical School communication skills workshop was adapted for hospital staff, delivered by inter-professional teams focusing on: non-verbal skills, patient distress, techniques to calm patients, patient/staff safety.
Methods: Anonymous written feedback from 138 hospital staff (doctors, nurses, porters etc.) and 104 students, before and after sessions, was compared, concerning perceived confidence in communication with patients with dementia and behaviours that challenge, using a 4-point Likert scale with corresponding numerical value (low (1), medium (2), high (3), very high (4)).
Results: Before the workshop, rates of high or very high confidence were higher among staff (22%, vs. 4%students), while low confidence rates were higher among students (50%, vs. 15.2%staff). After the workshop the increased perceived confidence was 63% staff vs. 86.5% students, of which 5% saw confidence rise by 2 or more points (vs. 14.4%students). More staff than students reported no change in confidence (36% vs.14.4%). Both groups had almost identical post-workshop levels of low confidence (1% staff vs. 2% students).
Conclusion: Changes in confidence ratings from pre- to post-intervention were positive for the majority of staff and students taught at these workshops, being statistically significantly higher after (M = 2.8, SE = .05) than before (M = 2, SE = .06), t(137) = –13.48 p = .000.

P-418
Use of organisation and patient outcomes to evaluate education programmes for health care professionals in older adult's care: the Older Person's Nurse Fellowship (OPNF) initiative

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Background: Evaluating of education programme often rely only on self-reports from course participants. It is rare to consider the perspective of third party stakeholders, yet the value of health care professionals' education should also be judged by the impact on the organisation and patient outcomes.
Aims: This study examined the impact of an education programme for senior nurses in older adult's care, the Older Person's Nurse Fellowship (OPNF), from the perspective of senior clinical and nurse managers (stakeholder) from students' organisations.
Methods: An on-line questionnaire survey using a 360 degree evaluation post-test/pretest design was utilised. The questionnaire included open and closed ended questions on five domains: (a) quality improvement, (b) leading change, (c) results driven, (d) leading people, and (e) building coalitions/communication.
Results: Twenty-three stakeholders provided feedback on 14 of the OPNF students (85%). Twenty-two stakeholders believed that the Quality Improvement projects positively impacted on patient outcomes and organisational goals. Projects improved patient outcomes, and the overall patient journey, through the careful process of decision making and care planning, the utilisation of screening tools, and the development of more proactive approaches to care. Project benefits on organisational goals involved reducing the length of patients' stay and cost, improving communication across specialities, better meeting the needs of patients, and more accurately recognising higher risk patients. Finally, stakeholders rated OPNF students' ability as high to very high across the remaining domains.
Conclusion: It is important that curricula can demonstrate organisational benefits in terms of improving professional competencies that meet organisations strategic goals.

Area: Geriatric rehabilitation

P-419
Fear of falling in the study I-DONT-FALL

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Goals: The European study I-DONT-FALL evaluates the effectiveness of different tools Technologies Information and Communication on the prevention of falls. Your goal besides preventing falls also it includes the impact on their quality of life as is the fear of falling.
Methodology: A total of 500 participants are included over a period of 3 years in 8 pilot centers. Its design provide four randomized branches (physical therapy, neuropsychology, mixed group, and control group). We analyze the fear of falling in our pilot center by FES-I scale at

baseline (V0) and at the end of intervention (V1) into two groups: high risk (HR) (two or more falls in the previous year or an index lower Tinetti 17 points) (n 22) and low risk (LR) (n 15).
Results: The group of HR has a FES-IV0 of 32.14 and the group of BR of 23.8 (p = 0.008). The FES-IV1 is of 30.45 in the group of HR and 20.72 in the group of BR (P = 0.004). Two other groups are analyzed according to whether it has reached the goal of preventing falls: is prevent (n 32), FES-IV0 28.63, versus not prevented (n 5) 29.6 (p = 0.69). After the intervention the group that was prevented has FES-IV1 of 24.22 and the group was not prevented has 39.8 (p = 0.048). In the whole study European helps to reduce the fear of falling into the physical therapy group, but not in our group. When comparing different groups compared to placebo found no significant differences in the evolution of fear of falling.
Conclusions: The fear of falling tends to decrease in all study groups except those who fail to prevent new episodes of falls. Both the initial group at highest risk of falling, such as patients in which episodes of falls are not prevented fear of falling is not reduced, so we believe that should be the target groups to strengthen and monitor in handling.

P-420
Indoor geriatric early rehabilitation; a randomised outcome study of 2,308 patients

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Introduction and aims of the study: Stationary geriatric early rehabilitation is very well implemented and sufficiently standardized in many countries. But is stationary geriatric early rehabilitation sufficiently in functional outcome for patients from all assigning specialist departments? Purpose: Is it possible to reach for all stationary geriatric early rehabilitation patients no matter from which department they come from a sufficient therapeutic progress in functional outcome?
Methods: The retrospective study includes all the patients from 2008 to 2014 which our department of Geriatrics and Remobilisation took over from the neurologic, traumotologic, orthopaedic and internal/cardiological departments. The development was measured with the FIM (functional independence measure). The take over FIM was taken inside 72 hours after arriving and the discharge FIM was taken inside the last 48 hours before leaving.
Results: The study contains 2.308 patients, 753 orthopaedic patients with an average age of 76,59 years, a residence time from 17,43 days and a FIM development from 98 to 113 points; 637 traumatological patients with an average age of 81,89 years, a residence time from 18,78 days and a FIM development from 83 to 103 points; 632 neurological patients with an average age of 76,62 years, a residence time from 19,22 days and a FIM development from 73 to 90 points as well as 286 cardiological/internal patients with an average age of 80,02 years a residence time from 18,23 days and a FIM development from 77 to 96 points. The IM development of all patient groups is 1,22 (+/−0,17 points) per therapeutic day. The recommended aim value of the American Rehabilitation Counselling Association (ARCA) amounts to1 FIM point per therapeutic day.
Conclusions: It is possible to obtain a sufficient functional progress for all patients in stationary early geriatric rehabilitation independently from which specialist department they were overtaken from.
Keywords: early geriatric rehabilitation; functional outcome; FIM.

P-421
Functional decline in hospitalized elderly patients: a prospective study with 6 months follow-up

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Introduction: Previous studies demonstrate that 30 to 60% of the elderly develop new limitations performing activities of daily living (ADLs) after hospitalization.
Objectives: To evaluate variability and associated factors of functional decline after acute care hospitalization (ACH).
Methods: We performed an observational, prospective study, of a sequent sample with patients >65 years with a Katz index (KI) >0 admitted to a hospital ward. Evaluation of functional capacity (FC) was performed using modified KI and Barthel Scale (BS) in 2 moments. The first evaluation of FC was carried out up to 24 hours after admission and the second at time of discharge. Sociodemographics and clinical data were collected. After discharge patients were evaluated for hospital readmission and mortality rate at 6 months.
Results: 55 patients satisfied the established criteria (median age of 81 years). Previous to admission, 65% (KI) and 84% (BS) presented some degree of limitation performing ADLs. During hospitalization, 16% of the patients were referred to evaluation by Physical and Rehabilitation Medicine, a median of 3 days prior to discharge. At discharge, 44% (KI) and 62% (BS) of the patients presented functional decline in at least one ADLs relatively to admission (p < 0,001). Transfers, gait and climbing stairs were the ADLs with greater functional decline. The age of patients and residence in health care institutions were associated with functional decline after hospitalization (p < 0,05). At 6 months follow-up, 29% rehospitalization rate and 9% mortality rate was observed. Between those with functional decline during hospitalization, 33% were rehospitalized and 12% mortality rate was found, however between those without functional decline 24% rehospitalization rate and 5% mortality rate was noticed.
Conclusions: ACH represents an important risk factor for elderly to develop new functional limitations. The activities related to mobility are most affected.

P-422
Berg balance scale and timed up and go test as suitable measures for monitoring rehabilitation in fallers

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Introduction: Falls in older people are common and are associated with significant morbidity. Multifaceted interventions can reduce falls rates. Berg Balance Scale (BBS) and Timed Up and Go test (TUG) are commonly used to assess balance and mobility respectively, and poor performance in both predict falls. This service evaluation explored if these tests were responsive to change in a falls intervention programme.
Methods: Consecutive patient referred to a secondary care falls unit, who underwent strength and balance exercises as part a multifaceted falls prevention intervention were evaluated. Patient records were used to ascertain the patients' age, sex, BBS and TUG scores at the first and last visits. The mean changes in BBS and TUG were determined.
Results: Seventy patients (58.6% women, mean age = 78.5, range = 55–98 years) were evaluated. Baseline BBS score (/56) and TUG (seconds) were 36.0 (SD = 11.5) and 27.8 (SD = 16.1) respectively. Mean changes in BBS and TUG were +9.1 (95%CI = 7.7–10.5) and −7.3 seconds (95% CI = −4.3 to −10.3) respectively. With the BBS, only 5.7% showed either a negative or no change, whereas with the TUG 25.4% showed no change or a change in the wrong direction (mainly because the requirement for walking aids subsided).
Discussion: Both BBS and TUG showed good responsiveness in the majority of patients undergoing a rehabilitation intervention in falls patients. Where patients improve and no longer require walking aids that were previously used, then the change in TUG scores were less useful. Both BBS and TUG provided objective evidence for improvement in patients' balance and mobility respectively.

P-423
The positive experience of geriatric unit pioneer in Portugal

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Introduction: Portugal is one of two countries in Europe where there is still a lack in the specialty of geriatrics. The first unit of Geriatrics in Portugal was created in the Pulido Valente hospital in Lisbon in 2010. The model of the unit implemented was based on international

models in order to organize a comprehensive geriatric assessment of the patient. There are used several scales that assess the nutritional status, screen for depression and evaluates mobility problems and social problems, among others. We present the results of scales which, in our view, identify key issues that might affect the functionality and autonomy of the elderly, leading to the patient adjustment, guidance and correction.
Methods: The evaluation of the Geriatric Unit is repeated annually and brings together the results of Katz scales, Mini Mental State Evaluation and Geriatric Depression Scale as well as physical therapy assessment, nutrition, psychological and finally the assessment of the Geriatric doctor.
Results: In the annual comparison of results obtained with the 100 patients followed it appears that, in the case of Katz scales and MMSE (Mini Mental State Evaluation), 93% and 88% of the monitored cases show positive development and stability compared to the previous assessment. In the case of EDG (Geriatric Depression Scale) 70% of the cases studied show an improvement/stability of their depressive state.
Conclusions: These results demonstrate the importance of the multidisciplinary approach to patients. In this case, this consists in a team of doctors, nurses, pharmaceutical, Gerontologist, psychologist, social worker and physical therapists, all volunteers. The comprehensive geriatric assessment serves to identify and address problems that may be prohibitive of a life without limitations, more confident, independent, enabling the elderly patient to have a better quality of life for as long as possible. These results show the importance of the persistence of the team to implement the University Geriatric Unit and the commitment to the continuity of its operations. In a country without specific assistance to the elderly, this practice is a positive experience and a gain of knowledge that is the basis for replication of other units in Portugal.

P-424
A forgotten item for exercise prescription in elderly

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Introduction: Exercise is believed to be one of the most effective of all interventions proposed to improve functionality and quality of life in elderly. The aim of this study was to assess the effect of fun physical activity on muscular performance of nursing home residents.
Methods: 63 home residents in Mashhad were randomly split into intervention & control group who received fun physical activity & routine physical activity respectively. Duration & Frequency of programs was 20 minutes, 3 times per week for 2 months. Balance & muscle strength was assessed by Balance assessment score & dynamometer in both groups.
Results: Balance assessment score was significantly better in intervention group (34/3 ± 8.1) comparing to control group (46/2 ± 15.6) The average of grip strength was also better in intervention group (17.9 ± 1.2) than controls (15.6 ± 1).
Conclusion: Exhilarating physical activities are strongly related to improved beneficial effects of exercises on muscular performance in elderly.

P-425
General health status views of older adults: gender differences in Turkish sample

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Introduction: Preventive geriatric rehabilitation program helps ageing population is to be healthy. Self-evaluations of general health status can be used as a sensitive predictor in geriatric rehabilitation program. It is a valid and reliable measure among older adults without cognitive impairment. Health professionals need to know how older adults think about their health status. This study was carried out to determine the gender differences in terms of general health status view and affecting illnesses among the elderly.
Methods: A total of 278 older adults (Male: 158; Female: 120) aged 65–90 (mean = 71.7 ± 5.5 yrs.) without cognitive impairments according to the Hodkinson Mental Scale Score included this study. The participants were asked to rate their general health status on Centers for Disease Control and Prevention-4 Questionnaire (CDC-4 first question was used only). In addition to this all participants were asked to define the most affecting health problems (max. 5 illnesses) their general health and quality of life.
Results: 11.2% of Female participants defined their general health status as "good" while 38% of males defined as "good". No women reported as "perfect". 5.7% of males reported "perfect". Hypertension was reported as the most affecting illness by males (31%) and females (34.2%) older adults. Spinal pain (8.9% by males) and pulmonary diseases (10% by females) were rated as less percentage by the both gender.
Key conclusions: The results of this study showed that the male participants reported as good-perfect compared to the females. Both gender had chronic illnesses affecting their general health and quality of life. That's why preventive geriatric rehabilitation program is vital for ageing older adults, especially women to improve their general health and quality of life.
Keywords: Health Status; Older adults; Gender; Quality of Life.

P-426
Every step you take: does a cut-off of 7500 steps per day differentiate between older people with regards to health and physical functioning?

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Background: Public health recommendations include being moderately to vigorously physically active for at least 30 per day for health purposes. It has been suggested that walking ≥7,500 steps per day may be sufficient to meet this recommendation. For this cut-off to be meaningful, it should differentiate between older people on well-known parameters of health and physical functioning.
Methods: Volunteers wore a step-counting sensor for three days. Health and physical functioning was measured with preferred walking speed over 6.5 meters (PWS) and the SF36 Physical Function (PF) scale (0–100). The participants were split into less or more than 7,500 steps per day (inactive vs active). The groups were then compared with regards to PWS and the SF36 PF scale. ROC-analysis was performed to investigate the sensitivity and specificity of the 7,500 cut-off.
Results: 46 persons were included (mean age 76, 61% women). On average, the participants walked 7,368 steps per day (±2,389). The inactive group had significantly lower PWS (p = .024) but not self-reported physical functioning (p = .074). ROC-analysis showed an area under the curve of less than .700 for both PWS and the SF36 PF scale.
Conclusion: Although some support for a 7,500 steps cut-off was found, ROC-analysis showed moderate sensitivity and specificity. Alternative cut-offs should be investigated. Inferences about causality may not be made with this cross-sectional design.

P-427
A feasibility study of a tailored physical and cognitive exercise intervention to reduce falls in older adults with mild dementia

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Background: Older adults with mild dementia are at a high risk of falls.
Methods: A pre-post feasibility study tested the components and acceptability of a combined 6 week physical (strength and balance) and cognitive (dual-tasking) exercise-based fall prevention intervention. Outcome measures collected pre and post the intervention included: Physiological Profile Assessment (PPA), Berg Balance Scale (BBS), Timed Up and Go (TUG), spatial-temporal gait parameters in

three conditions (normal walking, backward-counting and verbal fluency) in order to calculate the dual-task cost. Field notes completed by the interventionist were collected.
Results: Ten adults (median age 84, range 69–89; 50% women) with a mild cognitive impairment (median MoCA 21, range 16–26) were recruited. Adherence to the sessions was high with 84% of the total possible number of sessions completed and a mean 10 intervention sessions (range 6–12) per participant. Mean differences between pre and post intervention assessment demonstrated improvement in the PPA (MD = −0.6; CI −1.5,0.3), BBS (MD = 2.8; CI 0.9,4.7) and TUG (MD = −0.9; CI −3.5,1.7). Improvements in dual-task cost assessments were only found in step width (back-count MD = −10.6; CI −24.4,3.1: verbal fluency MD = −7.4; −16.1,1.4) and step time variability (back-count MD = −40.2; CI −114.2,33.7: verbal fluency MD = −11.6; CI −64,40.8) after the intervention. Thematic analysis of field notes produced two major topic's including 16 themes.
Conclusion: A combined physical and cognitive exercise-based intervention was deliverable, feasible, and acceptable to older adults with mild cognitive impairment. Recommendations are made for the content and delivery of the intervention for future evaluation.

P-428
Risk of falls in elderly: exploratory study

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Introduction: Older people have multiple characteristics which increase the risk of falling and ultimately decrease quality of life. The purpose of this study is to assess the risk of falling in the elderly by studying history of falling, fear of falling, personal and functional characteristics.
Methods: This is an exploratory, transversal and quantitative study. Elders from 2 institutions in the district of Lisbon were included in the analysis (n = 54). Two instruments were used: (1) a questionnaire to assess personal and demographic characteristics (age, sex, actual diseases, other clinical conditions, medication), history of falls (within 1 month, 3 months and more than 3 months), fear of falling, and functional characteristics (physical activity and walking aids); (2) the Timed Up and Go test (TUG) whose patients with TUG ≥ 13.5 sec, were considered at risk of falling.
Results: Among 54 participants (average age: 74 years; 72% female), 78% were medicated (mostly with hypertensive drugs), 65% reported visual or auditory impairment, 76% underwent physical activity of light and moderate intensity with most participating in sedentary leisure activities. As for the history of falls, 50% had more than 13.5 seconds in TUG (risk of falling), 80% had fallen, mainly at home (48%) and 65% reported fear of falling.
Keys conclusion: A substantial part of the population studied has falls risk factors, evoking the need to increase physical activity and integration on a physical therapy program to prevent falling.

P-429
The role of spa therapy in consequences of osteoarthritis

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Introduction: The OA (osteoarthrosis) is a health problem very prevalent in elderly people. Elderly people frequently have multiples comorbilities what limited therapeutic options. Spa therapy is an option with few adverse effects, and is very search by these people. The aim this study is verify the evidence on effectiveness of spa therapy (balneotherapy) in OA.
Methods: We performed a brief review and searched studies in PubMed and Google Search data from 2010 up to December 2015 that evaluated the role of balneotherapy in improvement of pain, function and quality of life, of elderly people with osteoarthritis.
Results: We found 68 studies in PubMed. We selected the most relevant reviews, that were eight. In all studies balneotherapy were more effectiveness than no treatment, in improvement of pain, function and quality of life, overall in osteoarthritis of knee. All reviews consistently found in RCT's evaluated a decrease analgesic intake. This fact, contributed the review of OARSI guidelines for the non-surgical management of knee osteoarthritis. Two reviews concluded that the effects of spa therapy was maintained for long terms, comparative to rehabilitation non thermal, but the studies that support these reviews was poor quality.
Conclusions: Although of poor quality of trials that support reviews, it's considered that balneotherapy is more effective that no treatment, in improvement of pain, function and quality of life. Furthermore, apparently there are a decrease of relative costs, with less consumption of analgesic. So, this alternative treatment is an option to consider, but is needed more quality trials.

P-430
Four step square test results in older adults: gender differences

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Objectives: In the elderly population, loss of balance is a common health problem. That's why; measuring the balance ability in older adults is vital. Four Step Square Test (FSST) is also widely used to measure balance disturbances in geriatric rehabilitation. The reliability and validity of the FSST has been appraised in a group of Turkish older adults age 65 and over. The aim of this study was to show the effect of gender in older adults, who are independent in daily living activities. On the other hand, we aimed to search the relation between age and FSST score in the sample.
Methods: A total of 80 volunteer older adults aged 65–85 included in this study, broken into two groups by gender; (1) women mean age = 72.3 ± 5.5 yrs. (n = 36); (2) men mean age = 72.9 ± 4.7 yrs. (n = 44). The FSST was used to evaluate the sample.
Results: The scores of FSST the compared groups are as follow: women = 15.7 ± 5.4 sec.; men = 14.8 ± 4.7 sec. There was not significant difference between women and men ($p \geq 0.05$). A significant positive relation was found between age and the FSST score of the sample ($p \leq 0.05$).
Conclusion: The findings obtained from this study indicate that gender has not impact on the FSST score in older adults. However ageing has negative effect on the FSST score. Ageing makes the FSST score longer.

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The association between the upper extremity function and balance performance in older adults

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Introduction: The development of trunk stability and central axis control is considered to be a prerequisite to upper extremity function and hand usage. It is hypothesized that proximal stability as a surrogate of balance allows for the independent use of the arms and hands in manipulative and purposeful activity. The purpose of this study was to investigate the association between the upper extremity function and balance performance in older adults.
Methods: Eighty older adults from community and a nursing home participated in this cross-sectional study. The upper extremity function in terms of fine manual dexterity or the manipulative skill was assessed with the Nine-Hole Peg Test (9HPT). The balance performance was assessed with commonly used clinical tools including the Berg Balance Scale, Timed Up and Go, Timed Up and Go-cognition, and Four Step Square Test.
Results: There were 44 female and 36 male participants with a median age of 75 (min-max: 60–90) years. There were moderate to strong significant correlations between the 9HPT and all the measures of balance performance ($p < 0.05$).

Conclusions: This study suggests that there is an association between the upper extremity function and balance performance in older adults. Clinicians should focus on development of balance performance to enhance performance of the upper extremity function or vice versa.

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The association between the lower extremity muscle strength and performance in balance and walking in older adults

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Objectives: In older adults, balance and walking are important prerequisites for the independent life and high performance of activities of daily living. The aim of this study was to investigate the association between the lower extremity muscle strength and performance in balance and walking in adults older than 60 years.
Methods: This cross-sectional study included older adults from community and a nursing home. The muscle strength of hip abductors and knee extensors were assessed with a hand-held dynamometer. The performance in balance and walking were assessed with commonly used clinical tools including the Berg Balance Scale (BBS), Timed Up and Go (TUG), TUG-cognition, and Four Step Square Test (FSST), 10-Meter Walk Test (10MWT), and Six-Min Walk Test (6MWT). Fear of falling was assessed with the Fall Efficacy Scale - International (FES-I).
Results: There were 80 participants with a median age of 75 (min-max: 60–90) years. There were significant correlations between the muscle strength of hip abductors and knee extensors and BBS, TUG, TUG-cognition, FSST, 10MWT, 6MWT, and FES-I ($p < 0.05$).
Conclusions: This study has indicated that there was an association between the lower extremity muscle strength and performance in balance and walking in older adults. Fear of falling was also associated with decreased lower extremity muscle strength. It is important to assess the lower extremity muscle strength for both the identification of decreased performance in balance and walking and the development of better preventive rehabilitation programs in older adults.

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Determinants of gait speed in female older adults

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Objectives: Reduced gait speed is associated with a higher risk for falls, disability, hospitalization, and increased mortality in both frail and well-functioning healthy older adults, especially among females. A better understanding about the predictors of gait speed in older female adults is very important to design interventions that can improve their gait speed. The aim was to identify factors affecting the gait speed in female older adults.
Methods: In total, 44 female participants older than 60 years were included in this cross-sectional study. The 10-Meter Walk Test (10MWT) was used to assess the gait speed. The lower extremity muscle strength, mobility, balance, activities of daily living, fear of falling, physical activity, and exercise capacity were assessed with commonly used clinical tools, including hand-held dynamometer assessments, Berg Balance Scale, Timed Up and Go Test (TUG), Four Step Square Test, 30-s Chair Stand Test (30CST), Fall Efficacy Scale-International, Barthel Scale, Rapid Assessment of Physical Activity, and Six-Min Walk Test.
Results: The 10MWT was significantly correlated with age, height, and all the performed measures ($p < 0.05$). The 30CST and TUG were the strongest determinants of 10MWT, explaining 95% of the variance (adjusted $R2 = 0.95$).
Conclusions: The results of this study have indicated that gait speed was associated with performance in lower extremity muscle strength, mobility, balance, activities of daily living, fear of falling, physical activity, and exercise capacity. The functional lower extremity strength, balance and mobility should be considered the first while designing the interventions that can improve gait speed in female older adults.

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The prevalence of frailty in older people admitted to hospital with vertebral fragility fractures

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Introduction: Vertebral fragility fractures (VFF) are the most prevalent fragility fracture. Despite adjustment of risk factors and co-morbidities, it is associated with significant mortality felt to be related to an underlying frailty syndrome within this cohort. This evaluation aims to identify the degree of frailty among hospital patients admitted with VFF using clinical frailty scales.
Methods: Patients >65 years old were screened over 6 weeks using the hospital radiology system for a radiological diagnosis of vertebral fracture. Data was collected on patients' demographics, mobility (timed-up-and-go test, TUG), activities of daily living (Barthel Index), cognition (abbreviated mental test, AMT) and frailty. As there is no universally accepted frailty scale, the PRISMA-8, Groningen Frailty Index (GFI), and Edmonton Frail Scale (EFS) were selected as these were advocated by a national document on frailty management. Cut-off points to indicate frailty were ≥ 3 for PRISMA-7; ≥ 4 for GFI; and ≥ 8 for EFS.
Results: Data was collected from 24 patients [16 female (66.7%); 8 male (33.3%)] with a mean(SD) age of 81(8.3). Pertaining to patient characteristics, average co-morbidities were 3 per-patient; 19 patients (79.2%) were admitted with a fall; 75.0% had a fall in the past year (range 1–10); 83.3% were taking ≥ 4 medication; 29.2% needed assistance with daily living; Barthel Index mean(SD) was 17(4); AMT mean(SD) was 8(3); and 75.0% needed >20 sec to perform a time-up-and-go test. Fractures were centred on the thoraco-lumbar region (T7-L5; 94.3%). With regards to the frailty indices, PRISMA-7 identified 70.8% of patients as frail; 66.7% on GFI; and 33.3% according to EFS. A further 20.8% were considered vulnerable to frailty on the EFS. A total of 29.2% were frail on all 3 three indices.
Conclusion: A significant proportion of patients with VVF in hospital are frail with co-morbid conditions related to older people. Treatment of VVF in hospital needs to include management of their frailty using a multidimensional interdisciplinary process, the comprehensive geriatric assessment.

P-435

Geriatric study in the district of Fatih: Sarcopenic obesity in the elderly population: how frequent?

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Aim: The aim of this paper is to determine the prevalence of sarcopenic obesity in the elderly population of the Fatih District that take part in this geriatric screening survey.
Materials and methods: Bioelectrical-impedance- analysis (BIA) (TANITA-BC532) was used to measure the muscle weight. The muscle mass was evaluated with Baumgartner index (skeleton muscle weight/height 2). Low muscle weight (average of young adults-2SD) and the threshold for muscle strength are evaluated as the following according to our national data -men and women respectively, low muscle weight: <9.2 kg/m^2 vs 7.4 kg/m^2; <32 kg vs <22 kg. In addition, value of class-1 low muscle weight was determined as 10.1 and 8.2 kg/m^2. The definition of sarcopenia was determined through

EWGSOP algorithm and reduction of low muscle weight (SMMI) and muscle functions (OYH or muscle strength). The definition of obesity was evaluated through two alternative procedures, which are recommended by the literature as Zoico methodology: the percentile of fat belonging to elderly population is >=60 or WHO definition: BMI >=30 kg/m^2.
Results: 204 of elderly population was recruited in the study (110 women-94 men). The average age is 75.4 ± 7.3. The features of the study population including gender differences are summarized in Table 1. The determination for sarcopenic obesity was absent in both genders according to WHO definition, whereas the determination for sarcopenic obesity was present as %4.6 for males and %2.1 for the entire population according to Zoico methodology.
Conclusion: The fact that our study determined the SO as 0 according to the WHO criteria suggests that with this methodology, sarcopenia is absent in obese cases. Therefore we suggest that Zoico methodology could be more convenient in evaluating SO.

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Improvement in health perception of patients after an interventional program in a geriatric day hospital (GDH): a prospective observational study

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Objectives: To ascertain whether admission to a GDH modifies health self-perception and each of the Quality-of-life (QOL) dimensions using the Nottingham Health Profile (NHP) instrument.
Method: A prospective observational study that included all the patients admitted and discharged from GDH between January 2007 and December 2011 who were attended during a minimum of 7 sessions. Evaluated parameters at admission and discharge were: Barthel and Lawton indexes, Folstein's Mini-Mental State Exam, Charlson index for comorbidity, Geriatric Depression Scale, Timed Up&Go test, Tinetti walking test and NHP for health self-perception. Patients with Mini-Mental <10, aphasia or poor collaboration were excluded. Both, the total score and the dimensional score from NHP (pain, emotional reactions, energy, sleep, social isolation, physical mobility) were analyzed, with results ranging from 0 to 100 and a higher score indicating worse health perception.
Results: Out of 369 patients, 38 (10.2%) were excluded and in 85 (25.6%) NHP was not register at the time of discharge, remaining 246 for study. Average age was 76.9 ± 10.5 being 58.9% women. A significant improvement was found in NHP total score (admission: 35.7 ± 20.9 vs. discharge: 30.5 ± 21.2, p = 0.000), and the dimensions physical mobility (50.1 ± 29.6 vs. 41.9 ± 29.3, p = 0.000), social isolation (22.6 ± 22.4 vs. 18.6 ± 20.8, p = 0.006), pain (33.5 ± 30.1 vs. 26.8 ± 29.1, p = 0.000), and emotional reactions (35.1 ± 27.7 vs. 26.6 ± 26.1, p = 0.000).
Conclusions: Admission to a GDH may improve global health perception of patients, particularly the dimensions of physical mobility, social isolation, pain and emotional reactions. Further studies should confirm these results.

P-437
The relationship between health-related physical fitness, balance and fear of falling in healthy elderly fallers and non-fallers

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Objectives: Declining physical fitness, increased falling risk and fear of falling (FOF) can be observed in elderly people over aged 65. In the last stages of life, these situations are important in terms of morbidity, mortality and economic costs. The aim of this study was to examine the relationship between health-related physical fitness and falling risk, FOF in healthy elderly fallers and non-fallers.
Methods: 76 elderly (67 female, 9 male) whose mean age was 72.76 ± 6.58 years were included in the study. Participants were grouped as fallers and non-fallers. For the measurement of health related physical fitness, chair stand test (CST), modified push up test (MPUT), six minute walking test (SMWT), flexion, extension, right and left lateral flexion flexibility of trunk tests were applied to the subjects. Falling risk and FOF were evaluated by Berg balance scale (BBS) and Tinetti's Fall Efficacy Scale (TFES) respectively.
Results: 29(%39.2) subjects had reported one or more falls and 47(% 61.8) subjects had not reported a fall. BBS and TFES had a positive and medium significant correlation with CST (rBBS:,506; rTFES:,449), MPUT (r:,529; rTFES:,445), SMWT (r:,604; rTFES:,436), extension (r:,490; rTFES:,356), right lateral flexion (r:,536; rTFES:,349) and left lateral flexion (,544; rTFES:,335) flexibility of trunk tests. Non-fallers had better aerobic endurance and flexion of trunk flexibility than fallers (Chi-square test, p < 0.05).
Conclusion: Our results support that falling risk and FOF increases with declining physical fitness. However, falling history affects aerobic endurance and lower body flexibility in healthy elderly.
Keywords: physical fitness; falling risk; fear of falling.

P-438
The investigation of relationship between physical activity level and physical performance in elderly people living at home

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Objectives: Physical inactivity is an important problem which may affect daily activities by decreasing physical performance. The aim of this study was to examine the relationship between physical activity level and performance more closely in elderly people living at home.
Methods: Fifty volunteer elderly people, 36 males and 14 females, aged between 65 and 85 years participated in this study. The Seven Day Physical Activity Recall Questionnaire (SDPARQ) for physical activity level and 4- Meter Walk Gait Speed Test (4MWGST), five repetition sit to stand test (5RSST) and standing tests (ST) which are the subtest of the Short Physical Performance Battery (SPPB) for physical performance were used.
Results: The average age of elderly people was 69.89 ± 4.95 years and the average Body Mass Index (BMI) of the subjects was 28.01 ± 4.22 kg/cm^2. SDPARQ scores showed a positive and moderate significant correlation with 4MWGST scores (r = 0.318; p = 0.024) and, 5RSST scores (r = 0.556; p = 0.01). There was not a correlation between SDPARQ and ST (r = 0,094; p = 0,516).
Conclusion: The results of our study showed that the increase in physical activity affects physical performance positively among the elderly.
Keywords: physical activity; physical performance; elderly people.

P-439
Maximal oxygen consumption, dynamic balance and quality of life in community dwelling elderly with different physical activity level

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Objectives: It is accepted that physical activity level (PAL) has a major effect on cardiorespiratory fitness, balance and the quality of life. The aim of this study is to compare VO2max, dynamic balance and the quality of life in elderly with different physical activity levels.
Methods: Totally, 84 elderly (74 female, 10 male) were divided into two groups as the group with low PAL (Group 1, n = 43) and the group with high PAL (Group 2, n = 41). Cardiorespiratory fitness was evaluated by calculating maximal oxygen consumption (VO2max) during six minute walk test. Dynamic balance and quality of life were assessed with Time up and go test (TUGT) and the SF-36 quality of life questionnaire respectively.

Results: While VO2max scores of group 2 were better than group 1 (p = 0.001) significantly, TUGT scores were similar in both groups (p > 0,91). There was a significant difference between groups in terms of physical function (p = 0.001), general health (GH) (p = 0.001), vitality (VT) (p = 0.001), role-emotional (p = 0.013), mental health (p = 0.048). However Groups were similar with regard to bodily pain (BP) (p = 0.124), role-physical (p = 0.260), social function (SF) (p = 0,956) parameters of SF-36 questionnaire (p > 0,05). On the other hand, a significant relationship was found between VO2max and GH, VT, SF. TUGT was significantly corralated with BP, GH, VT, SF (p < 0,05).
Conclusion: In this research it was concluded that high PAL increases VO2max level and quality of life in community dwelling elderly.
Keywords: aging; physical activity; cardiorespiratory; fitness.

P-440
Fatih district of geriatrics study: effective factors on depressive mood in elders living in the community

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Background: Geriatrics syndromes are clinical status that related morbidity and mortality. The prevalence of geriatric syndrome, have been reported in the elderly admitted to the polyclinic or hospitalized in our contry. However, there is no similar study reported on the elderly living in the community in the field. Within this scope, a screening study was organized on the elderly living in the community in Istanbul Province, Fatih District. Depression is increasing incidence of aging and is a problem which plays an important role for morbidity and mortality in elderly. In this report the effective factors on depressive mood in the elderly who evaluated in geriatric study was investigated in Fatih district.
Methods: The elders who lives in Fatih/Istanbul were chosen by cluster sample. The third and forth grade students of Istanbul Faculty of Medicine were served as interviewers. Interviewers took the standard training about measurement. The elders who is age of between 65 and 101 were taken for research. Cognitive states were screened with GDS-SF to measure of life quality were surveyed EQ5D, we evaluated with KATZ Activities of Daily Living Scale (ADL), LAWTON-BRODY Instrumental Activities of DailyLiving Scale. Disease, number of drugs, hypertension (HT), diabetes mellitus (DM) and hyperlipidemia have been noted.
Results: 204(94 males, 110 females) elderly person were taken to the study. The average of age was 75,4 ± 7,3 years. It is summarized that demografic, cognitive, mood, functionality, verifies quality of life assessment mutual distribution among the sexes in research population. Illiteracy rates (p = 0,04), female gender (p < 0,001) demans diagnosis and positive scanning of cognitif disorders (p = 0,04/ p < 0,001), dependence on ambulation (p < 0,001), fear of falling (p = 0,001), the prevelance of chronic pain (p < 0,001), uriner incontinans (p < 0,001), malnutrition (p = 0,002) are more common in depressed patient. But there is no significant difference for the preserce of fall DM HT obesity. Depressive events were more elder, more morbidity, more using drugs and scores of fragility are higher score of ADL, IADL, CDT, MNA, EQ5D and subjective health situation were less than other people. Depressive mood related factors in regression analyze (the dependent variable is depressive scanning positive, the independent variables are age, gender, education, the number of drug and disease, malnutrition, fragility the presence of cognitive disorders, DLA scores, life quality score) female sex (p = 0,027) the cognitive of screening test positive (p = 0,005) and low quality o life was (p = 0,014).
Conclusion: Female gender, cognitif disorder, poor quality of life are outstanding risk factor for depressed mood in elders who live in society mood situation assessment is specially important in elders who have this risk factor.
Keywords: elderly; geriatric; depressed mood; daily living activities.

P-441
Is inspiratory muscle strength related with functional capacity?

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Introduction: The decrease in inspiratory muscle strength may affect the respiratory health, especially in the elderly. Generally, the handgrip strength is used as functional capacity indicator. Thus, our objective was to verify inspiratory muscle strength in a sample of elderly and investigate possible associations with measured handgrip strength.
Methods: Maximal inspiratory pressure (MIP in cmH2O) was assessed using a dynamometer for respiratory muscles (MicroRPM®), whereas handgrip strength (HG in kg) was evaluated using a hydraulic dynamometer (JAMAR®). Body mass index (BMI in kg/m2) was calculated from weight (kg) and height (m). The association between MIP and HG was analysed based on Spearman's rank correlation coefficient for $p < 0.05$.
Results: A sample of 21 older day-care center attendants (2 males and 19 females) aged 79 ± 6 years old with a BMI (29.6 ± 3.5 kg/m^2) were assessed. MIP scored 64.0 ± 19.8 cmH2O for males (around 65% of the expected 98.2 ± 2.7 cmH2O) and 39.1 ± 19.5 cmH2O for females (around 60% of the expected 64.1 ± 3.2 cmH2O). Moreover, a HG of around 30.0 ± 9.9 kg and 24.2 ± 3.9 kg was obtained for males and females, respectively, which were below average for both genders. Lastly, a positive relation indicator between HG and MIP was attained with $p = 0.001$ and $rs = 0.660$.
Conclusions: Results suggest an association between the diminishing of MIP and the decreasing of the functional capacity measured by the HG, indicating the importance of inspiratory muscle training in elderly. Nevertheless, further studies with larger samples are recommended to validate these results.

P-442
Immigrants in geriatric rehabilitation: assumptions and opinions about self-reliance and healthcare

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Introduction: In our multicultural society, cultural diversity is an increasingly important topic in healthcare. Standards and values about self-reliance and healthcare is influenced by cultural aspects. It is unknown which cultural aspects are important in geriatric rehabilitation, and whether the current geriatric care offered is in line with frail elderly immigrants expectations.
Methods: The goal of this qualitative research is to explore assumptions and opinions about geriatric rehabilitation, provision of care and cultural aspects of healthcare. Included patients were admitted in geriatric rehabilitation for stroke or hip fracture in one of the three participating skilled nursing facilities. All patients were living at home and were not diagnosed with cognitive disabilities before admission. All underwent a semi-structured interview.
Results: Interviews with 9 patients were analysed. Two types of patients were identified: (1) Patients with a high self-reliance, who are still in working life and have a spouse. They actively participate in rehabilitation. (2) Patients with a low self-reliance, most of whom are without a spouse. Goal of rehabilitation was often unclear and participation in rehabilitation was low. There is an overall preference for provision of care by informal caregivers when patients need help with their (instrumental) activities of daily living.
Conclusions: Broadly 2 types of patients could be identified during rehabilitation. In both groups the knowledge and purpose of geriatric rehabilitation before admission was low or absent. Language-barrier

could be a contributing factor for this lack of information. There is an overall preference for provision of care by informal caregivers when patients need help, nevertheless almost all patients receive professional help. Generally it seems important to explain more about geriatric rehabilitation before admission and include caregivers in planning healthcare.

P-443

Relationship between gait parameters, functional tasks parameters during the test timed up and go extended with clinical variables (quality of life) in frail and non-frail elderly population

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Introduction: The physical fitness level expressed through gait and other functional tasks parameters are variables to consider in the perception of quality of life in healthy elderly and frail elderly.
Objectives: The aims of the present study was to analize the relationship between gait parameters, functional taks parameters during the test Timed Up and Go Extended with clinical variables (Quality of Life) in both groups.
Methods: A cross-sectional study in 30 subjects over 65 years, 14 frail and 16 non-frail. Participants were classified with frail syndrome by the Fried criteria. They were measured variables related with anthropometrics, Frail Syndrome and total and partials score (seconds) in the Timed Up and Go Extended Test. The partials in the Timed Up and Go Exteded were: sit to stand, gait go, turn, gait come and stand to sit. Clinical variables measured were Euro-QoL 5D questionnaire.
Results: Significant correlation in the non-frail group were between the perception in the quality of life with two partial time scores and total time score in Timed Up and Go test Extended ($p > 0.05$). Significant correlation in the frail group were between the perception of quality of life with the total time score and five partial time scores in the segmental analysis ($p > 0.05$).
Conclusions: From the linear correlations, we could conclude that there is a statistically significant relationship between variables derived from the Timed Up and Go test Extended (total and partial scores) and perception of quality of life in a frail and non-frail older population.

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Orthogeriatrics Unit: an opportunity to medication reconciliation in the elderly with hip fracture

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Introduction: The elderly with hip fracture register a common prescription habit of 8 medicines, with possible adverse reactions – inadequate polypharmacy.
Objective: Therapeutic adjustements (TA) in patients with hip fracture admitted in an Orthogeriatric Unit were performed. Its registration and follow up were pursued.
Material and methods: Epidemiologic, observational, descriptive study performed during 30th April 2015 – 8th June 2015. Population: elderly patients with admission diagnosis in an Orthogeriatrics Unit of hip fracture in this period of time. Pharmacological treatment information sources: MedoraR, JimenaR, FarmatoolsR, anamnesis. Bibliographic sources: STOPP-START criteria. Database and its analysis: File MakerR.
Results: 189 TA were registered in 58 patients (42 women, 16 men). Mean age 86 (+/−8) year-old. 3,7 TA were registered per patient and 6,2 per workday. The most frequent TA implied were: 46 medicines were switched because of absence in hospital pharmacological guide (mainly ARA II and statins). Posology adjustment to admission's clinical situation was performed in 16 of 20 TA: antihypertensives in 9 AT and oral antidiabetics in 7. More adequate medicines in the frail patient were the option in 10 of the 12 TA, 8 of which being psychotropic agents.
Conclusion: The elderly admission in an Orthogeriatric Unit due to hip fracture may be a golden opportunity to review and adjust pharmacological treatment in inadequate polypharmacy. Antihypertensive drugs, statins, oral antidiabetics and psychotropic agents were the most often adjusted medicines.

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Impact of body composition and its changes on all-cause mortality in subjects older than 65 years

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Objectives: A low or high body mass index (BMI) has been associated with increased mortality risk in older subjects without taking into account body composition like fat mass index (FMI) or fat-free mass index (FFMI). This study aims to determine the influence of body composition and its changes, on mortality in older subjects.
Methods: We included all adults over 65 years old who were living in Switzerland and had a body-composition measurement by bioelectrical impedance analysis at the Geneva University Hospitals between 1990 and 2011. The impact of body composition and its changes were evaluated by Cox regression models while adjusting for sex, age and co-morbidities. Mortality data were retrieved from the hospital database, the Geneva death register, and the Swiss National Cohort until December 2012.
Results: Of 3,181 subjects included, 766 women and 1,007 men died at a mean age of 82.8 and 78.5 y, respectively. Sex-specific Cox regression models showed that body composition did not predict mortality in women. In men, risk of mortality was lower with FFMI in quartile 4 (HR: 0.72; 95% CI: 0.54, 0.96). Regarding the changes of body composition, 791 persons had at least two measurements. Among these people and after adjustment for sex, age and co-morbidities, a loss of FFMI, but not of FMI or BMI, increased the risk of mortality (HR 2.02, 95%CI 1.28–3.19).
Conclusion: Low FFMI but not FMI is a predictor of mortality in older men but not in older women. Furthermore, FFMI loss is related to increased mortality in older persons.

P-446

The effect of falling history on balance among hypertensive geriatric individuals

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Objectives: The higher incidence of hypertension and impaired balance are common among elderly people. This study is designed to find out the relationship between falling history and the balance behavior of the elderly people among hypertensive and normotensive groups.
Methods: 61 geriatric individuals were included in our study. All the patients were 65 years old and older. Demographic and clinical information of the participants were recorded. Gait was measured by Timed Up and Go Test (TUG) and balance performance was measured by Nintendo Wii.
Results: While only 23.3% of the participants in the normotensive group had a history of falling, 41.9% of the participants in the hypertensive group had a history of falling.
Participants with a history of falling presented the same balance performance in both hypertensive and normotensive groups. Therefore by having a history of falling, balance performance seemed to be independent to hypertension. Statistical analysis also showed that the participants without a history of falling showed

different performances in TUG and Nintendo Wii parameters between two groups. There was a significant statistical difference in TUG, Wii single leg balance seconds, Wii single leg balance performance percentage and Wii Fit Age between hypertensive and normotensive groups ($p < 0.05$).
Conclusion: Not having a history of falling does not guarantee the good balance among hypertensive geriatrics. For the elderly people without a history of falling but presence of hypertension, attention to balance performance and physical activities is suggested.

P-447
Lipid peroxidation in elderly patients with rheumatoid arthritis (RA)

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Objectives: Inflammatory rheumatic disorders such as rheumatoid arthritis, diabetes and cardiovascular diseases are characterized by an important oxidative stress. The oxidative stress is a marker of inflammation and mutagenesis that contribute to the cardio-vascular diseases. Lipid peroxidation is a marker of oxidative damages in lipids and it is implicated in the development of atherosclerosis. We aim to evaluate the prevalence of oxidative stress in elderly with RA based on lipid peroxidation : dosage of malondialdheyde MDA and conjugated diene CD (in plasma and erythrocyte).
Methods: Our study included 80 patients (53,19 ± 10,9 years) with RA with a period of evolution of the disease 11,39 ± 8,16 years. They were recruited from the Rheumatology and Internal Medicine department of F. Bourguiba Hospital in Monastir (Tunisia). We divided these patients into two groups depending on the age: G 1 (age <60, n = 55), and G 2 (age ≥60, n = 25).
Results: The levels of MDA and CD were achieved in the Research Laboratory (LR12ES05 Faculty of Medicine in Monastir (Tunisia).
Results: The level of MDA in plasma is higher in G 2 than in G 1 (0,97 ± 0,25 vs 0,84 ± 0,21; p = 0,43) while the level of MDA in erythrocytes is not significant between the two G. The levels of CD in plasma and erythrocytes are higher in G 2 respectively (162,98 ± 38,39 vs 135,28 ± 46,59; p = 0,008; 262,66 ± 55,52 vs 209,40 ± 73,05; p = 0,001). Conclusion: The levels of MDA and CD in plasma and erythrocytes are higher in elderly.
Conclusion: We can conclude that there is a significant association between the oxidative stress and aging of patient with RA.

P-448
The role of the ortho-geriatrician in the management of the patient with fracture

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Objectives: The management of fragility, fractures requires a collaborative multi-disciplinary approach to care optimal patient outcomes. The Orthogeriatric Unit has been shown to be one of the most beneficial units. It is important to evaluate the model of care admission to orthogeriatric units improves clinical outcomes for patients with hip fracture. patient with hip fracture, due to their characteristics, require a specific care. The aim of this study were to compare the patient profile at orthogeriatric unit and classic geriatric unit
Methods: This is a partially concurrent prospective study, taking place in a large urban academic hospital GHdC in Belgium. The participants were 87 consecutive elderly people, admitted directly to a geriatric-based orthogeriatric ward (ORTG). 107 patients were admitted to the geriatric unit (GG).
Results: The two groups were similar, yet ORTG patients were somewhat older (85.2 vs 83.8 years, $p < 0.07$), were cognitively better preserved (MMSE: 20.6 vs 17.4, $p < 0.01$), have a lower ADL score (12.2 vs 14.2, $p < 0.02$) and Vit D level (17.9 vs 21.2 ng/mL $p < 0.001$). Patients of the ORTG have more confusion compared to GG (55% vs 32%, $p < 0.001$). The MNA score, Tinetti and The length of hospital stay were similar for the two groups.
Conclusion: This study contributes to the increasing body of evidence for best practice in the management of elderly patients after fracture in the orthogeriatric unit to benefit from multidisciplinary expertise. Admission to orthogeriatric units improves clinical outcomes for older patients with a geriatric profile.

P-449
30 day and 180 day readmission following geriatric in-patient rehabilitation

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Introduction: Recently hospitalized patients are recovering from acute illness, alongside experiencing a period of generalized risk of adverse health events. This study used routinely collected data, to characterize patients readmitted to hospital after rehabilitation at a geriatric rehabilitation unit within 30-days and 180-days of discharge.
Methods: Admissions for in-patient rehabilitation over a 10-year period were identified at one site. Data were available regarding demographics, comorbid disease, admission and discharge Barthel scores, length of hospital stay (LOS), and number of medications on discharge. Multivariate analyses were performed to examine differences between readmission groups and those not readmitted.
Results: A total of 3,984 patients were included in the analysis. After adjustment for age, gender and comorbidities, for patients readmitted within 30-days, age (0.979 [0.960–0.998] p = 0.029), LOS (0.996 [0.992–0.999] p = 0.018) and congestive cardiac failure (CCF) (1.621 [1.065–2.468] p = 0.024) were statistically significant. For patients readmitted within 180-days, age (0.987 [0.979–0.996] p = 0.003), gender (0.809 [0.715–0.916] p = 0.001), LOS (0.996 [0.995–0.998] p = <0.001), previous myocardial infarction (MI) (1.265 [1.077–1.485 p = 0.004), CCF (1.551 [1.278–1.884] p = <0.001), diagnosis of cancer (1.251 [1.053–1.487] p = 0.011), chronic obstructive pulmonary disease (COPD) (1.246 [1.062–1.468] p = 0.007) and medication count on discharge (1.027 [1.008–1.047] p = 0.005) were statistically significant.
Conclusion: CCF, younger age and shorter LOS were associated with readmission within 30-days. Younger age, males, shorter LOS, previous MI, CCF, diagnosis of cancer, COPD and medication count on discharge were associated with readmission within 180-days. Interventions focused upon coordinating discharges for patients with the highest risk of readmission will be the focus of future research.

P-450
Geriatric assessment data on elderly men and women living in the society the relation with gender

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Aim: This paper aims at investigating geriatric assessment data and its association with gender in the elderly men and women assessed within the scope of geriatric study in Fatih District/Istanbul Province.
Tools and methods: The study recruited elderly cases between the age of 60 and 101, who live in society. The questionnaire covered KATZ/Daily-Life-Activity-Scale (DLA) and LAWTON-BRODY-Instrumental-Daily-Life-Activity-Scale (IDLA) for the functional capacity measurement, Q5D-life-quality survey for life-quality-measurement, a mini-cog test for cognitive status, GDS-SF for depression, a FRAIL survey for vulnerability, a Romberg test and a postural instability test for balance and walking.
Findings: The study recruited 204 elderly cases (94 men, 110 women). Mean age: The mean age was 75,4 ± 7.3 years. Demographics, functionality, geriatric syndrome data of the study population and mutual distributions among genders are presented. Out of our study

population, elderly women's numbers of chronic diseases and medications, GDS-SF score, EQ-5D score, fear of falling, urinary incontinence, VAS score, chronic pain complaints and FRAIL score were higher while their educational level, instrumental daily life activity score and subjective health status score were lower. No significant difference was observed between two genders in terms of age, basic DLA score, existing dementia, HT, DM, HL diagnoses, subjective health status score, rates of falling within the last 1 year, fecal incontinence, Romber maneuver, need for assistance in ambulation, and cognitive disorder presence assessed by a mini-cog test. The postural instability was more common for the elderly women whereas it was within the limit of significance (p = 0.07).

Conclusion: The prevalence of geriatric syndromes was found higher in the elderly women living in society than in men. The findings of our study suggest that geriatric assessment is likely to be much more beneficial in women.

Keywords: geriatric assessment gender.

P-451

Fatih Geriatrics Trial: how often is sarcopenia, low muscle mass and muscular performance decrease for the elderly people living in society?

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Objective: In this abstract, it is aimed to determine the prevalence of sarcopenia and its components in the elderly people who are evaluated by Fatih/Istanbul Province geriatric survey research.

Methods: In the study, the sample changes from 63 to 101 years old people. Muscle mass is measured by bio impedance analyze (TANITA-BC532) and is evaluated by Baumgartner Index (skeletal muscle kg/length2). According to our national data, low muscle mass (the average of adult-2SD) and muscle power threshold are determined for men and women: <9.2 kg/m^2, 7.4 kg/m^2 and <32 kg, <22 kg respectively. Also, Class 1 low muscle mass level is determined as 10,1 and 8,2 kg/m^2. The definition of sarcopenia is defined as low muscle mass (SMMI) and reduction of muscle function (OYH or strength of muscle) by definition of EWGSOP. Additionally, calf girth is noted. According to our national references, the low calf girth is determined as being the diameter of calf girth lower than 33 cm.

Table 1
Results of the research population by gender

	Men (n = 94)	Women (n = 110)	Total (n = 204)	p
Age	74,7 ± 6,6	76 ± 7,8	75,4 ± 7.3	0,19
Height	167,1 ± 7,4	153,2 ± 7,5	159,5 ± 10,2	<0,001
Weight	75,9 ± 14,1	73,1 ± 16,5	74,3 ± 15,7	0,2
BMI	27,1 ± 4,5	31,3 ± 6,9	29,4 ± 6,3	<0,001
Falling (last 1 year)	25,5%	30,3%	28,1%	0,47
Fear of falling	18,1%	45%	32,5%	<0,001
Inability to walk without help	19,1%	23,6%	21,6%	0,25
Strength of hand grip	32,1 ± 8,8	19,8 ± 5,5	25,6 ± 9,5	<0,001
Dynapenia	43.6%	58.5%	51,5%	0,036 (men <32 kg, women <22 kg)
Calf Girth	36,1 ± 4,8	37,8 ± 6,1	37 ± 5,6	0,03
Low calf girth	19.1%	12.8%	15.8%	0.24
OYH	1,09 ± 0,40	0,98 ± 0,34	1,03 ± 0,38	0,051
Low OYH	21.3%	29,8%	25,6%	0,21
Muscle mass (kg)	52 ± 7,8	41,6 ± 8,7	46,4 ± 9,8	<0,001
SMM	29,4 ± 4,4	23,5 ± 4,9	26,3 ± 5,5	<0,001
Low SSMI (Baumgartner)	17.9%	3%	9,8%	0,001
Sarcopenia Baumgartner	8.2%	2.9%	5.3%	0,11

Results: 204 cases (94 men, 110 women) were included in the research. Median age was 74,5 ± 7,3 years. The characteristics and their distributions by gender are summarized in the Table 1. The prevalence of sarcopenia and its components are by order: sarcopenia 5.3%, low muscle mass 9.8%, dynapenia 51.5%, low walking speed 25.6%. Low calf girth-an indirect indicator of low muscle mass-was observed in the 15.8% of the cases.

Conclusion: Our results of study show that the sarcopenia prevalence of elderly people in our society is low which is similar in other population; however, dynapenia and the low level of walking speed are very common problems.

P-452

Long-term home-based physiotherapy for older people with signs of frailty or consequent to a hip fracture operation – Design of RCT (NCT02305433)

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Objectives: There is increasing need to develop rehabilitation models to postpone older people's disabilities and institutional care. One alternative is home-based rehabilitation with emphasis on functional-based exercises. Our aim is to study home-based physiotherapy for 12 months with 12 months' follow-up in older people either with signs of frailty or consequent to a hip fracture operation.

Methods: Three hundred frail (>65 y) persons and 300 persons with hip fracture (>60 y) will be recruited in Eksote District, Finland (population 131,000). Both groups are randomized separately to a physiotherapy (60 minutes 2 times weekly) arm, and a usual care arm. Assessments, including modified Fried's frailty criteria, SPPB, FIM, IADL, 15D, MNA, FES-I, MMSE, GDS-15 and SPS, are performed by an assessor-physiotherapist at the participant's home at baseline, 3, 6 and 12 months. The primary outcome is duration of living at home at 24 months (a difference of six months between the groups is hypothesized). Secondary outcomes are physical functioning, frailty status, health-related quality-of-life, use and costs of health and social services, falls, and mortality.

Results: Recruitment will continue until the end of 2016. By May 2016, 277 frail persons and 46 persons with hip fracture have been randomized. Hundred persons (90 and 10, respectively) have completed 12-month assessment, and 33 persons have discontinued.

Conclusions: Our trial will provide new knowledge on how to implement intensive long-term home-based physiotherapy and whether it improves physical functioning of persons at risk for disabilities, to postpone institutional care. – Supported by Social Insurance Institution.

P-453

Outcomes in an orthogeriatrics Portuguese unit

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Background: Hip fracture is common in older adults and is associated with high morbidity, mortality and a common cause of long hospital stay in the elderly. A pilot orthogeriatric unit was established in a Portuguese Tertiary Hospital in October 2015 to ascertain if such a unit would improve patient outcomes. The aim of this study is to evaluate the efficiency of a multidisciplinary team.

Methods: A retrospective cohort study was performed between October 2015 and April 2016. We assessed hospital length of stay and time to perform surgery, the degree of prior functional dependence in admission and discharge of the unit, comorbidities, complications and mortality.

Results: Of 110 elderly had median age 83.5 (max 100 years and minimum 65 years); 84.5% were women. The hospital stay was 8.1 days and the average time to perform surgery of 2.88 days. The degree of functionality prior to event was 40.9% Katz A and 73.6% had

mRankin = <2. Were identified comorbidities in 84.5% of patients and the complications, the prevalence of anemia was (53.03%) and urinary tract infections (19.70%). There was a gain in functionality regarding in admission to the unit in 82.7% and to the previous functional status of 24.5% (p = .0001). As to mortality we had 0.9% and 82.7% were discharged to home.
Conclusion: Our study indicates that co-management of hip fracture patients by multidisciplinary team is effectiveness in the control of comorbidities, reduced complications, gains in functionality and low mortality. The concept should be further developed particularly among the frail elderly.

P-454
Gender differences in caregiver strain? A post hoc analysis

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Introduction: After rehabilitation, most stroke survivors are discharged home, where the informal caregivers provide the care that is needed to function in the home-situation. We hypothesized that these caregivers experience strain based on functional abilities as well as neuropsychiatric symptoms of the person they provide care for.
Methods: The Caregiver strain Index (CSI), used to determine caregiver strain, was dichotomized at the cut off of 7/14. Barthel Index (BI) was used for assessing functional abilities and the neuropsychiatric Inventory (NPI) was used to assess neuropsychiatric symptoms. Data were collected 3 months after discharge from geriatric stroke rehabilitation in patients and their informal caregivers. A multivariate binary regression model was built to determine the independent relationship of BI and NPI with caregiver strain.
Results: Our sample consisted of 72 patients with an average age of 78 years. Thirty-one patients were male. The data showed a significant interaction for BI and gender, resulting in 2 different models. For males BI as well as NPI independently related to CSI, with an odds ratio of 0.61 (95% CI 0.40–0.94) and 1.32 (95% CI 1.04–1.67) respectively. This was not the case for female stroke survivors. The BI nor the NPI showed an independent relation with caregiver strain.
Key conclusions: We found that caregiver strain was determined by lower functional abilities and higher scores on the NPI, but this was only the case in male stroke survivors. We hypothesize that most male stroke survivors will have female spouses, putting these caregivers at higher risk for greater strain.

P-455
New technologies in rehabilitation of upper limbs

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Objective: To show the latest trends in technology for the rehabilitation of the upper limb, its impact on research and clinical practice and the current lines of development.
Method: Systematic review. The search for articles was conducted in the databases PudMed and PEDro, using as restrictors date of publication in the last 10 years and randomized controlled trials. The selection criteria were: articles in which the effects of new technologies in patients with upper limb functional deficits were evaluated. Only those studies that referenced in the title to virtual reality, robotics and telemedicine/remote rehabilitation, telerehabilitation or new technology were included in the review.
Results: 17 articles were selected, in which different treatments based on the use of new technologies were applied. Almost all analyzed articles described the advantages of using new technologies in the treatment of patients who had suffered a CVD, with the exception of a study that referred to humerus fracture treatment. Two of them focused on virtual reality, 7 were related to robotics, 3 addressed the issue of telerehabilitation, and 5 considered a combination of devices. The variables under study were: main motor function, range of motion and ability to perform activities of daily living. The scales used for the assessment were the Fugl-Meyer, the Action Research Arm Test, a scale to measure the range of motion and the Barthel index.
Conclusion: The use of new technologies appears to be effective in the recovery of upper limb function, being adaptable to each case, increasing patient's adherence to treatment and allowing assistance whatever the location of the patient.

P-456
Chronic diseases in RITH (rehabilitation in the home): a cross-sectional descriptive study

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Objective: To describe the most prevalent disorders in chronic patients referred to RITH (Rehabilitation in the home) in Almería province (South Spain).
Methods: We carried out a cross-sectional descriptive study to describe the home care provided, the characteristics of its implementation, and its results on patients and their functional independence.
Results: The main diagnoses were motor impairment, hip fracture and replacement, stroke, knee replacement, chronic obstructive pulmonary disease and Alzheimer's disease. In relation to the descriptive study about RITH developed in Almería province, it was shown that the aim of this service (bring the physiotherapy service to the home) is to fulfill the social and health needs of those patients with functional limitations due to different diseases, for whom the transfer from their home to the rehabilitation center is not only difficult and highly cost, but also stressing and tiring for the patients themselves, with risk of new comorbidities. In addition, it was proved that this service improved the functional ability of the patients, according to the Barthel Index. The effect in user's satisfaction confirms the effectiveness of this service (as users would ask for this service again in the future), and provides us with results criteria in the terms of the person that receives the service.
Conclusions: Innovative approaches in the management of chronic diseases have become a basic tool for decision making in healthcare systems, in order to prevent looses in quality of life and personal autonomy related with disability.

P-457
Elderly functional assessment outcomes: two years analysis of a tertiary hospital population sent to long-term care

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Background: Functional capacity refers to autonomy in performing activities of daily living (ADL) that predict mortality and hospitalization of dependent older people. We conducted a 2-year retrospective cohort study of elderly living in long-term care facilities (LTC), aiming to assess: functional capacity at discharge using the Katz scale (KZ), its association with readmission to acute care and mortality.
Methods: Participants were the referenced patients to National Network of Long-Term Integrated Care [RNCCI] from January 2013–December 2014. The KZ was stratified and applied on discharge. Statistical analysis utilized chi-squared for pvalue < 0.05 and relative risk.
Results: 387 patients were referenced to RNCCI, and 81.4% (315/387) were identified as elders (age ≥65 years), 58.1% of the patients were females, the median age was 80 and interquartile range 68–84 years. When stratifying using the KZ: minimal change in functionality in 1.3% [n = 5], moderate change in 50.6% [n = 196] and total dependence in 48.1% [n = 286]. The overall mortality in RNCCI was 151 (39%). Bivariate analysis related to total dependence: the mortality was 1.94 (95% CI: 1.58–2.38), and readmission rate was 1.34 (1.06–1.69). The older group is not associated with mortality, readmission and total dependence. Nevertheless, the older with total dependence is associated to mortality: 2.11 (CI 1.68–2.71), and readmission: 1.54 (CI 1.01–2.51), respectively.

Conclusions: A significant proportion of elderly patients was admitted to long-term care. High dependent for ADL when evaluated by KZ was of note. Elders with greater dependence associated with worse vital prognosis.

P-458
Hypervitaminosis B12: early marker of breast cancer in the elderly?

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Introduction: Low vitamin B12 levels are associated with conditions such as anemia and neuropsychiatric/neurocognitive disorders, while high vitamin B12 levels have been linked to a number of other diseases, such as acute or chronic liver diseases, renal failure, hematologic malignancies and other cancers. Breast cancer (BC) is the world most common cancer among women (23% of the female cancers that are newly diagnosed each year). It is also a major cause of cancer related deaths among elderly women. The probability of developing BC increases with age. Therefore, more than 50% of women with BC are older than 65 years at time of diagnosis. Clinical Case: Female, 87 years old was hospitalized due to unquantified weight loss, consumptive frame, non-selective anorexia, asthenia and dyspnea for small efforts. Analytical results demonstrated a normochromic anemia with hypervitaminosis B12 > 2,000 ng/mL without a history of vitamin B12 supplementation. No impaired renal or hepatic function and no other major changes were observed. She was oriented to internal medicine follow-up clinic. One month later a lump of right breast was identified and mammary ultrasound and mammography confirmed suspicious nodule with BI-RADs4 classification. Biopsy of the nodule yielded invasive carcinoma of the breast. The patient was subsequently referenced for oncology and surgery.
Discussion/Conclusion: With this case we emphasized the importance of hypervitaminosis B12 as neoplastic marker in patients without renal or liver function impaired. The highest rate of vitamin B12 is associated with poor prognosis.

P-459
Orthotic management of diabetic foot

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Objective: It is estimated that by 2035 the global prevalence of diabetes will rise to almost 600 million, and around 80% of these people will live in developing countries. Foot problems complicating diabetes are a source of a major patient suffering and societal costs. Foot ulcers are the most prevalent problem, with a yearly incidence of around 2–4% in developed countries. The aim of this study is to assess the effectiveness of footwear and foot orthoses (FO) on the main complications of the diabetic foot.
Methods: It is a study of cross-sectional descriptive and correlational approach, with a sample selected by convenience. For this investigation the need to build a form consisting of demographic data, clinical data, treatment data and complications was recognized. The parameter risk of falling was assessed by the Performance-Oriented Mobility Assessment tool (POMA). The study was developed in a sample comprising of 40 individuals with high level of foot complications.
Results: The use of footwear and foot orthoses proved to be an important feature of foot protection (p = 0,024). Individuals with appropriate footwear and OF tended to have no ulcers (46,7%), while those without appropriate footwear and OF tended to have ulcer at least at least once (88%). The risk of falling among users of footwear and OP was average, while subjects who did not use footwear and OP the risk of falling was high, verifying statistically significant differences (p = 0,034).
Conclusion: In fact, the evidence found shows that the diabetic foot has important individual and social consequences and is predominantly linked to the epidemic DM, deserving special attention. It highlights the importance of more effective action for the prevention of complications of patients with diabetic foot, as well as education of the subject.

P-460
The rising incidence of frailty in a community hospital? – a 6 year analysis

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Introduction: Frailty is a state associated with accumulation of deficits and loss of physiological reserve. Increasing severity of frailty is associated with escalating care needs and greater risk of acute deterioration. With an ageing population and a focus on care closer to home there is a risk that the severity of frailty in community hospitals may be rising. A service evaluation was undertaken to determine this and aid in staff planning.
Methods: The multidisciplinary discharge letters of 225 patients who were admitted to a local community hospital in July during 6 consecutive years (2010–2015) were reviewed. 17 records were incomplete leaving 208 patients. A regression analysis was performed to identify any significant trends.
Results: From 2010 to 2015, there was an increasing percentage of patients with incontinence (25.92% in 2010, 42.86% in 2015; p = 0.046), diagnosis of dementia (11.11% in 2010, 28.57% in 2015; p = 0.011), requiring assistance to mobilise (33.33% in 2010, 75.51% in 2015; p = 0.007), requiring further care or rehabilitation at home (51.85% in 2010, 89.13% in 2015; p = 0.011) and average charlson co-mobility score (1.00 in 2010, 2.20 in 2015; p = 0.032).
Conclusions: Over the 6 years there were statistically significant increasing trends in multi-morbidity and dependency. These factors all indicate that the frailty of patients in our community hospital is increasing with time with an ensuing impact on staffing levels and funding requirements.

P-461
Effects of an exercise protocol in frail and pre-frail elderly

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Background: Low physical activity has shown to be one of the most common components of frailty and numerous studys have demonstrated the importance of exercise in preventing and even reversing this syndrome.
Objectives: To describe an exercise protocol designed for pre frail and frail older adults; to determine the effects of this exercise protocol in a population of pre frail and frail adults.
Methods: 38 frail (n = 19) and pre-frail (n = 19) older adults (mean age = 80) were assigned to a 24 week group exercise program. Exercise sessions took place twice a week, last for an hour and focused on increasing strength and endurance and improving mobility and balance. The Tinetti Balance Scale (TBS), Timed up and go Test (TUG), Funcional Reach Test (FRT) and Gait Funcional Classification (GFC) were applied before the program and by the end of the 24 weeks.
Results: Subjects showed a general improvement: 30% of the sample changed their frailty status; in the Tinetti scale results TUG i. – TUG f. = 3,5 seg.) and in the ΔTin.i. – Tin. f. = 2), in the TUG (Δ(FRT i. – FRT f. = 4 cm). We found the GFC results lacked expression. ΔFRT (Limitations of the study included the size of sample, its heterogeinity and a high prevalence of comorbidities among the subjects.
Conclusions: This study suggest that frail and pre frail older adults seem to benefit from this exercise intervention protocol.

P-462
Cardiovascular rehabilitation in the elderly – functional assessment

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Objectives: Understand the functional impact of the Cardiovascular Rehabilitation Programme (CRP) of the Centro Hospitalar Lisboa Norte – Hospital Pulido Valente (HPV-CHLN) in a group of elderly; Assess the relevance of the following intruments: Tinetti Scale, Timed up and Go Test (TUG) and the Functional assessment of balance and gait (FABG), used in the Comprehensive Geriatric Assessment (CGA).
Methods: 25 adults (9♀ and 16♂) over 65 years old ($\chi = 72$ years) submitted to coronary artery bypass graft surgery or valve replacement surgery were assigned to the 12 week Cardiovascular Rehabilitation Programme of the CHLN – HPV. An inicial assessment was made in the beginning and again by the twelveth week using the following instruments: Tinetti Scale, TUG and the FABG as well as the 6 minute Walking Test and the International Physical Activity Questionnaire (IPAQ).
Results: A clear improvement in PM 6′, TUG and IPAQ after three months was observed. CFM and Tinetti showed unrepresentative results. Some limitations to the study include the size of the sample and the fact that all subjects were post surgical patients.
Conclusion: The functional impact of CRP in the elderly is clearly positive. The application of TUG in the functional assessment of elderly proved to be pertinent. It´s of the utmost importance to increase the referentiation for CRP of the elderly patient, including post surgical.

P-463
Improving general ward outcome in female geriatric rehabilitation unit through evidence-based practice: a collaborative approach

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Introduction: Best Care Always Campaign was designed by Hamad Medical Corporation (HMC) in partnership with Institute of Healthcare Improvement (IHI) The campaign aim is to build the capability within HMC to deliver the safest and the most effective care to the people of Qatar which is HMCs strategic vision of healthcare. Female Geriatric and Rehabilitation Unit (FGRU) was selected as pilot unit in Rumailah Hospital. Problems were identified, change concepts were prioritized and the work started by running small tests until we reach the reliable process.
Aim: To improve the general ward outcome by providing the safest and quality care to the patients in specific time period. Ensure early identification of patients at risk of deterioration in 100% of incidents Avoid unnecessary catheterization for all patients in unit. Ensure at least 90% compliance to the 5 moments of hand hygiene. All geriatric patients are included in the monthly multidisciplinary round and monthly goals set for them. Conduct safety briefing at least once daily with as many as possible of multidisciplinary team members. Use SBAR tool for at least 95% of all phone communication between RN and doctors.
Methodology: Use the Model for Improvement. Frequent Small Test of Change. Empowerment of front-line staff thru training and education. Display of real-time data on the Best Care Always Board. Committed Multidisciplinary Team Approach. Leadership Active Involvement Key Learning: Blame hides the truth about error. Culture must be change. Communicate clearly. Document the facts. Focus on prevention. Learn from your mistakes and others mistakes.

P-464
Facing the traumatic brain injuries in elderly people

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Introduction: Traumatic Brain Injuries are serious traumatic situations worldwide.
Aim of this study was to highlight the etiological pattern and the distribution of Traumatic Brain Injuries in Elderly People in the area of Magnesia Regional Unit in Central Greece. According to the most recent data (2011), the population stands at 190,010 people.
Methods: From May 2014 to May 2016 (24 months), more than 400 elderly patients (>65 years old) presenting to Volos General Hospital Emergency Department with Traumatic Brain Injuries were included in this study.
Results: All the patients underwent clinical and radiological evaluation. Injuries were caused mainly by 1. falls-domestic accidents, 2. road traffic accidents and 3. other types (assault, sport injuries, other).
Conclusions: The appropriate neurosurgical care (3 consultant neurosurgeons) and the neurosurgical evaluation are very important in order to minimize the serious consequences of the Traumatic Brain Injuries, specially in elderly patients.

P-465
Factors effecting quality of life of elderly in community

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Introduction: One-of-the-main-objective-of the geriatric approach is to provide a better quality of life. In-this-study, we-aimed-to-investigate the factors associated-with-quality-of-life in community-dwelling elders.
Methods: Community-dwelling-elders between 60 and 101 years of age included in the study. KATZ Activities of Daily Living (ADL) Scale and the Lawton-Brody Instrumental ADL scale, EQ5D (Euro-Quality-of-life five dimensions questionnaire), GDS-SF (Geriatric Depression Scale), MNA-SF (Mini Nutritional Assessment-Short-Form) and FRAIL scales were used to evaluate functional dependency, quality-of-life, depression, Malnutrition, and fragility, respectively.
Results: We included total of 204 elders (94 male-110 female). Mean age was 75 ± 7.2 years. Age, sex, number of diseases and medications, urinary incontinence, falls in last year, chronic pain, functionality score, MNA and GDS scores were adjusted in multivariate analysis. Worse quality of life score was independently associated with following factors: advanced age ($OR = 0.047$, $P = 0.001$), urinary incontinence ($OR = 0.94$, $p < 0.001$), chronic pain ($OR = 1.02$, $p < 0.001$), lower ADL scores ($OR = -0.16$, $p = 0.001$), lower MNA score ($OR = -0.15$, $p = 0.001$), high depression scores ($OR = 0.24$, $p < 0.001$). There was no association between neither number of disease nor number of medications.
Conclusions: We observed that functionality, chronic pain, mood disorders, malnutrition, urinary incontinence get more place than the number of drugs and disease with regard to quality of life in the elderly. Screening and management of geriathric syndromes should be the main principle in the geriatric evaluation.
Keywords: Geriathric; Sarcopenia; Nutrition.

P-466
The implications of a program physical activity in relation on quality of life in the elderly population in Portugal

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Objectives: Be physically active is very important for the independence, self-determination and quality of life (QOL) of the elderly. The aim of this study is to show the importance of a program to promote physical activity on quality of life in elderly population.
Methods: This is a prospective study. The study includes 17 people, aged between 66 and 83 years old, 75% female, 65% married, were all retired and all had functional independence. The data collection was performed on seniors universities. To access QOL we use the questionnaire The Short Form Health Survey (SF-36), that includes eight functional dimensions.
The program consists of an intervention to promote physical activity with groups of eight people, in once a week sessions of 90 minutes. The program was held for seven weeks. In each session were performed a

set exercises for a specific thematic related with functional limitations in daily live, then counseling for de facilitation of movement. We analyze the results with dimensions of SF-36, for the differences at the beginning and the end of the program.
Results: research show statistically significant differences for all dimensions of QOL, between the beginning and the end of the program. We use non parametric test, for related- samples Wilcoxon signed ranks test.
Conclusions: There are statistically significant differences between the two moments of assessment, suggesting that physical intervention programs for promotion of physical activity can play an important role for the QOL of elderly population.

P-467
Physical activity programs in patients with Alzheimer's disease. What does the practice based on evidence in physiotherapy

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Objectives: Alzheimer's disease is progressive and irreversible and results in cognitive and/or motor disturbances. The objectives of this study is to review the literature-based evidence on the efficacy of a physical activity program designed by physical therapy in controlling the progression of Alzheimer's disease.
Method: The research was performed in the databases MEDLINE and PEDRO, where articles in English and Portuguese idioms published from 2011 to 2016 were selected. We used the following keywords: "alzheimer's" and "physical activity" and "physiotherapy", having as result 112 articles in MEDLINE, and 21 in PEDRO. We applied the following Exclusion criteria in the selection of articles: All articles that did not register data recommendation for physiotherapy, those patients submitted to pharmacological tests. At the end articles 18 were selected.
Results: The studies recommend performing aerobic exercise of moderate intensity for a total of 20 to 30 minutes per session, alternating with rest periods, two to three times per week, have benefits for cognitive component of these patients. The balance training improves posture of individuals affected by Alzheimer's disease, and thereby reduce the risk of falling. The program of activities including, aerobic exercise (walking, swimming, cycling) and strength training, proved to be particularly effective in improving posture and reducing the risk of fall as well as improved physical function and cognitive these patients.
Conclusion: We found scientific evidence that exercise programs and physical activity promotion in people with Alzheimer's disease. may have a significant impact on its functionality, and possibly to improve cognition in individuals with Alzheimer's disease.

P-468
The rise of a fall prevention program

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Introduction: According to the World Health Organization elderly falls are a public health concern, with around 424 thousand being fatal annually. Many risk factors lead to a growing prevalence, with the higher living expectancy being one of the leading causes, determining the need for special care in fall prevention on this frail segment of the population.
Methods: The Physical and Rehabilitation Department of the Hospital Beatriz Ângelo, has created in January 2016 a Fall Prevention Program targeting the elderly with 65 years-old (yo) or above, and with a high risk of falling. It consists of a 12 session biweekly group class, in which the patients perform a rotation between four exercise stations focusing on aerobic and isometric strengthening, coordination, balance/vestibular, plyometric and stretching exercises. Patients are evaluated with strength, balance and functional tests in the first and last sessions, using BERG balance test (BERG), Timed-up and Go (TUG), Functional Reach Test (FRT) and global lower limb strength evaluation (MRC scale).
Results: So far seven patients have been enrolled in this class (ratio women: men, 1 : 1), mean age 78 yo ranging from 65 to 85 yo. Although a total of 15 patients were prescribed to the program, eight didn't complete the whole program or did not attend it at all, and thus were excluded. A positive progression tendency was encountered in TUG, BERG and FRT scales, although not statistically significant.
Conclusion: Maintenance of this Program will allow further statistical analysis and a better understanding of the importance of this intervention in preventing elderly falls.

P-469
Nutritional intervention among geriatric patients after discharge – baseline findings

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Introduction: Malnutrition is common among hospitalized older adults and nutritional status may deteriorate during hospital stay. Recovering from acute disease, however, requires good nutritional status and adequate energy, protein and other nutrient intake.
Methods: The randomized, controlled trial is used to investigate the effectiveness of tailored nutritional guidance on nutrient intake, quality of life and physical performance after discharge among independently living older adults with normal cognition. The MNA is used to assess nutritional status and three-day food diaries are collected shortly after discharge to assess nutrient intake. The tailored nutritional guidance includes at least one home visit, personalized nutritional care plan, written material, and ONSs when needed. The study is ongoing.
Results: To date, 33 (52% women) older adults, with the mean age 77.4 years have been recruited to the trial. At baseline, 52% were at risk for malnutrition according to the MNA. The mean energy intake was 1,283 kcal (SD 469), the mean protein intake 62 g (SD 25), dietary fiber 15 g (SD 5.6), calcium 814 mg (SD 380), vitamin C 87 mg (SD 72), and folate 186 μg (SD 113). The 67% of participants had the protein intake under 1 g/bodyweight in kg, and only 18% reached the protein intake of 1.2 g/bodyweight in kg.
Conclusions: The risk of malnutrition and poor nutrient intake is common among geriatric patients after discharge. Tailored nutritional guidance and use of ONSs are needed to ensure the adequate nutrition, which is essential when recovering from acute disease.

P-470
Barriers and facilitators to delivering a chair based exercise programme

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Introduction: Chair based exercise (CBE) is encouraged for older people who are unable to take part in standing exercise programmes and is currently delivered across health and social care with little standardisation in practice. A CBE programme has now been developed using a consensus definition derived from the views of clinical experts. This qualitative study aimed to explore barriers and facilitators to delivering the CBE programme in order to improve future delivery.
Method: Thirteen community dwelling older people were recruited to a chair based exercise programme. A researcher maintained field notes and recorded barriers and facilitators to delivering the programme from the participant and therapist perspective. Content analysis was used to identify themes from the textual data of the field notes. The frequency of themes was recorded to establish the most commonly occurring barriers and facilitators.
Results: 19 themes relating to facilitators and 18 themes relating to barriers were identified. Facilitators included participants being able

to see a benefit (n = 29) and reported enjoyment from attending the programme (n = 27). Finding the programme sufficiently challenging was considered a facilitator with barriers to engagement when participants find the programme too easy. Medically related issues (n = 30), participants requiring close supervision (n = 16) and fatigue (n = 12) were the most commonly reported barriers requiring modification of the programme.
Conclusions: CBE programmes need to be individually tailored to ensure older adults can perceive an individual benefit and that the programme is delivered at a challenging level for all participants, whilst acknowledging medical conditions and fatigue.

P-471
Risk factors for falling, benzodiazepines and fear of falling: is there any relationship?

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Aim: To assess relationship between fear of falling and risk factors for falling. Patients and method: prospective and observational study of 62 patients (72.6% women); mean age 81.5 ± 7.9 years, admitted in an intermediate care unit. The following risk factors for falling were registered: orthostatic hypotension, intake benzodiazepines, visual and hearing impairment, delirium and depression. Fear of falling was assessed by the Falls Efficacy Scale (FES) when patients began walking in the rehabilitation ward. It was considered to have fear of falling when the score in the FES was more than 70 points.
Results: Mean value of FES was 54.8 ± 21.7. Of the 16 patients with FES> 70, 12 (75%) were treated with benzodiazepines and 4 (25%) were not ($p < 0.005$). Of the 46 patients with FES ≤ 70, 8 (17.4%) had hearing impairment and 38 (82.6%) had not ($p = 0.002$). There was no relationship between FES > 70 points and others risk factors for falling registered.
Conclusions: (1) Intake benzodiazepine was significantly associated with a greater fear of falling. (2) Absence of hearing impairment was significantly associated with lower fear of falling. (3) No relationship between increased fear of falling and other risk factors was found.

P-472
Fear of falling and functional gain in patients admitted to an intermediate care unit

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Objective: to assess the relationship between the fear of falling and the functional gain.
Methods: prospective and observational study of 60 patients (73.3% women); mean age: 81.5 ± 7.9 years. Main diagnosis, functional status at admission [Barthel index (BIA)] and at discharge (BID) were registered. Functional gain (FG) was calculated by the difference between BID and BIA (in two patients FG was not calculated because they did not complete the rehabilitation program because of medical complications). The fear of falling was evaluated by the Falls Efficacy Scale (FES) when patients began walking in the rehabilitation ward. The relationship between a functional gain ≥20 points and the FES was evaluated.
Results: Main diagnosis: 46 (76.7%) fracture, 5 (8.3%) neurological, 3 (5%) cardiorespiratory and 6 (10%) others. The mean score of FES in 55 patients with a functional gain ≥20 points was 51.8 ± 20.7 and in the remaining 3 was 82.3 ± 4.7 ($p = 0.0169$).
Conclusions: Fear of falling at the beginning of the rehabilitation program was significantly lower in patients who achieved greater functional gain during admission.

P-473
Quality improvement project to develop and implement a self-management strategy into a rapid response and rehabilitation model

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Introduction: Despite a national policy focus on supported self-management, within a community rapid response and rehabilitation team, an internal audit identified that there were minimal structured health promotion and self-management plans developed with service users. The aim of this quality improvement project was to implement a self-management strategy for adult service users engaged with the Rapid Response and Rehabilitation Team.
Methodology: The quality improvement intervention, based on the plan, do. study, act (PDSA) model included: PDSA 1- the development of a self-management plan (based on the principles of personalised care planning, incorporating goal setting, problem solving and regular reviews). PDSA 2- staff education focused on supporting service users to self-manage using motivational interviewing techniques. PDSA 3- piloting the self-management plan with three service users. PDSA 4- roll out of the self-management plan and PDSA 5- monthly audit and feedback.
Evaluation: The evaluation involved an audit of the number and quality of self-management plans developed with service users, and measurement of staff self-reported knowledge and confidence to support service users to self-manage pre and post intervention.
Conclusions: This quality improvement project demonstrates that service user self-management can be successfully incorporated into a rapid response and rehabilitation model and staff can adapt motivational interviewing techniques to support individualised goal setting and action planning.

P-474
The prevalence of vitamin D deficiency and functional capacity in elderly patients undergoing cardiac surgery

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Introduction: The prevalence of vitamin D deficiency is common among the elderly, as well as the increase of diseases associated with lack of vitamin D. The muscle weakness, gait instability, fatigue and depression are symptoms of vitamin D deficiency affecting functional capacity. Some studies have demonstrated a relationship between vitamin D deficiency and increased mortality associated with cardiovascular events. The purpose of this study is to evaluate the prevalence of vitamin D deficiency in patients over 65 years old undergoing cardiac surgery before starting the cardiac rehabilitation program (CRP), and to analyze the correlation between vitamin D levels and functional capacity.
Methods: Were included prospectively 35 patients over 65 years old (24 males, 11 females, mean age 72). Serum vitamin D was assessed by quantitative determination of serum 25-hydroxyvitamin D (25(OH)D), and levels <20 ng/mL were considered as vitamin D deficiency. Vitamin D was checked on admission at CRP and functional capacity assessment instruments in the elderly where applied: Timed Up and Go Test (TUG), 6-minute walk test (6MWT) and International Physical Activity Questionnaire (IPAQ).
Results: 28 patients (80%) had 25(OH)D <20 ng/mL. Higher 25(OH)D concentrations were associated with higher functional scores.
Conclusions: We found high prevalence of vitamin D deficiency in the sample. Patients with vitamin D deficiency had lower functional scores. Follow-up studies are needed to demonstrate whether the increase in functional capacity, provided by the CRP, is higher in patients with vitamin D normalized levels. Important limitation is a small sized sample which comprises only surgical patients.

P-475

Early supported discharge following mild stroke: a qualitative study of patients' and their partners' experiences of rehabilitation at home

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Objectives: Early supported discharge (ESD) allows mild-to-moderate stroke patients to return home as soon as possible and continue rehabilitation in familiar surroundings and at their own pace. Thus, the main responsibility for further rehabilitation is put in the hands of patients and their partner, who must collaborate to adjust to post-stroke everyday life. However, couples' joint experiences of stroke, early discharge and rehabilitation at home remains poorly investigated. Aim: To investigate how mild-to-moderate stroke patients' and their partners' experience and manage everyday life in a context of ESD.
Methods: Qualitative interviews were performed with a purposive sample of 22 ESD patients and 18 partners. Interviews were performed 3–6 weeks after stroke and data was analysed using thematic analysis.
Results: The analysis identified three themes: "Home as a healing place" involved the couples' experiences of a well-informed discharge from hospital. They trusted the health professionals' assessment that the patient was ready to come home. Home was described as a comforting and calm place, where recovery could meaningfully take place. "Flow of everyday life" comprised the experiences of adapting to and continuing everyday life. Most interviewees had relatively little physical and cognitive impairment and at this point patients and partners were hopeful of full recovery in a foreseeable future. "Professional safety net" involved the much appreciated stroke team. Though most participants had only had one visit from the team, knowing that they were an accessible resource was of great importance for the couples.
Conclusion: ESD was experienced as a meaningful and adequate rehabilitation service that allowed patients and partners to collaboratively re-invent and re-build their flow of everyday life by jointly adjusting routines, activities and their relationship.

P-476

Patient-centred goal setting in geriatric rehabilitation: a feasibility study

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Background: Goal setting is considered essential in geriatric rehabilitation. It can result in higher levels of motivation, self-efficacy and health related quality of life. Currently, no standard method is available for geriatric rehabilitation which combines patient-centred goal setting with the use of valid measurement instruments. Objective: To determine the feasibility of a new goal setting intervention with active patient participation and evaluation of rehabilitation goals by means of standardized functional measurement instruments.
Design: This qualitative study assessed the feasibility of the intervention on two geriatric inpatient rehabilitation wards. Both patients and professionals participated in open interviews. Patients were interviewed once their rehabilitation period was finished and the professionals at the end of the study period. Interview transcripts were analysed qualitatively using a framework analysis according to six pre-established feasibility criteria: acceptability, demand, implementation, practicality, adaptation and integration.
Results: A total of eight stroke patients and three professionals participated in the study. Both patients and professionals expressed a need for patient-centred goal setting. The content and the design of our intervention was considered appropriate by both groups. No adverse effects were reported. The professionals reported that they did not consistently carry out the intervention. The main reasons for this were lack of time and falling back in old patrons. Finally, professionals found it difficult to apply this method to patients with communication problems.
Conclusion: Adaptions are needed before the intervention can be successfully implemented in current practice. Recommendations for implementing this new goal setting intervention will be presented at the conference.

P-477

Preventing falls in the rehabilitation setting

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Background: Systematic reviews suggest that multifactorial assessment and intervention can reduce falls by 20–30%. A quality improvement initiative was implemented on four hospital rehabilitation units. The initiative involved an implementation of the key components of multifactorial interventions. The aim of the initiative was to reduce falls by 20% over 12 months and further 20% by 10 months.
Methods: Quality initiative was implemented in 4 rehabilitation units. The project included application of falls care bundle to all patients. The falls leads nurses used PDSA cycle to implement and to sustain the falls care bundle. Data on falls were collected from incident reports. Data on falls care bundle compliance were collected each month by falls lead nurses.
Results: In June 2014, the falls rate was 7.1 falls per 1,000 bed days. In April 2015, the falls rate decreased to 4.2 falls per 1,000 bed days and in April 2016 the falls rate decreased to 2.5 falls per 1,000 bed days. Concurrently, the compliance with the fall care bundle in June 2014 was 11%, in April 2015 was 56% and in April 2016 was 73%. Overall, the initiative lead to increased awareness of falls among staff and patients, improved falls risk assessment and falls care planning. Additionally, a falls huddle was introduced as a part of the post-fall assessment.
Conclusion: Introducing evidence-based fall care bundles of multifactorial assessment and intervention using a quality improvement approach resulted in improved delivery of multifactorial assessment and intervention and a significant reduction in the fall rates.

P-478

Reducing pressure ulcer development and increasing patient engagement in an elderly rehabilitation population

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Background: The development of a pressure ulcer is a serious complication not only in terms of patient safety but also in terms of patients' overall experience. Collaborative quality improvement initiative was introduced to one of the hospital's rehabilitation units (n = 27 beds). The goal was set to reduce the incidence of avoidable pressure ulcers to 0% within 6 months.
Methods: The quality improvement initiative collaborative is centred on the introduction of the SSKIN (surface, skin inspection, keep moving, incontinence, nutrition) care bundle, which is an evidence-based tool to prevent pressure ulcers. PDSA cycles were used by the nurse lead to implement the SSKIN care bundle with patients who were at risk of developing a pressure ulcer and were also used to increase patient engagement in preventing pressure ulcers. Data on the incidence of pressure ulcers and patient engagement was collected each month from incident reports and from the safety cross calendar.
Results: The results from this collaborative showed a 75% reduction in pressure ulcers development. The compliance with the SSKIN care bundle increased to 80% in 6 months. Furthermore, screening of patients for the risk of pressure ulcer development increased in 6

months from 40% to 100%. Additionally, patient awareness of pressure ulcer prevention increased from 26% to 73%.
Conclusion: Overall, the reduction in the incidence of pressure ulcers together with increased patient engagement for the risk of pressure ulcers contributed significantly to an improved quality of life in elderly patients in the rehabilitation unit.

P-479
Outcomes of elderly Portuguese patients referred to a long-term care facilities from a tertiary hospital along two years

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Introduction: The elderly Portuguese patients have reported higher Hospital admission rates. Many of this patients are referred to a Long-Term Care Facility (LTC). Therefore, this study was aimed to identify a relation between the patient age, orientation in the Network and mortality rate in the National Network for Integrated Continuous Care (RNCCI).
Methods: The authors conducted a retrospective, observational, single-center audit from the electronic records of the patients who were referred to Midterm Rehabilitation (UMDR) and Long Term Maintenance (ULDM), both part of RNCCI, at the time of discharged and between the period January 2013 and December 2014.
Statistical analysis used Chi-squared for pvalue<0.05 and relative risk.
Results: Over 24 months, 387 patients were referred to RNCCI, with a median age of 80 years (percentile 25th – 68 years) and 58.1% were female. Of these, 315 patients (81.4%) had age ≥65 years. The most common cause for referral are diseases related to the Neurological an Respiratory System (43.2% and 15.2% respectively). 280 patients were referred to UMDR (72.4%). The overall mortality rate in RNCCI was 39% (151 patients), with high mortality rates in ULDM (72%) compared to UMDR (26.4%), which was RR = 4.01 [IC = 2.77–5.80]. With respect to the elderly, there was no statistical significant difference in the assesssment for the two facilities ($p = 0.771$) as for mortality ($p = 0.595$).
Conclusion: We have identified a higher percentage of elderly patients referred to Long-Term Care Facilities. Despite the high mortality in the RNCCI, especially in ULDM, there is no statistical significant difference between elders and adults patients. This illustrates the utilization of LTC for palliative care.

P-480
Effects of cognitive-motor dual task training with the BioRescue force platform on cognition, balance and dual task performance in institutionalized older adults

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Introduction: Impairment of balance, cognition and dual tasks are a common problem in institutionalized older adults. This study investigates the effect of Virtual reality training in combination with balance training as an alternative form of therapy to improve cognition, balance and dual task performance.
Methods: Randomized Control Trial; Twenty institutionalized older adults (13 female, 7 male; 87.2 ± 5.96 years) were randomized to the intervention or usual activity control group. The intervention group took part in a 6-week training program using the BioRescue to perform cognitive-motor dual tasks. The control group maintained their daily activities. At baseline and after 6-weeks of training, all participants were evaluated with the BioRescue (posturographic parameters), Tinetti and Instrumented Timed Up-and-Go Test (iTUG) for the measurement of static and dynamic balance. In addition, the iTUG in combination with a cognitive task was used for the evaluation of the cognitive-motor dual task and the Montreal Cognitive Assessment (MoCa) for the cognitive function. The Observed Emotions Rating Scale (OERS) and the Intrinsic Motivation Inventory (IMI) evaluated the emotions experienced during the exergaming and the motivation, respectively.
Results: The iTUG improved significantly in the interventiongroup ($p < 0.01$). A tendency towards significance was found for the iTUG with dual-task ($p = 0.08$). The IMI and OERS showed that the BioRescue is a pleasant and interesting treatment method, well suited for institutionalized older adults.
Key conclusions: The BioRescue could be a fun alternative exercise tool for institutionalized elderly. More studies including larger sample sizes and a longer training duration are needed.

P-481
The effect of a video-based group exercise program on strength, functionality and balance in older adults suffering from dementia: a non-randomized controlled trial

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Objectives: Physical activity has a positive influence on strength, balance, gait and functionality. A recent study has shown that a video-based group exercise program in elderly with dementia is feasible. Further research was necessary to investigate the effects of a video-based exercise program on strength, balance, gait, mobility and functionality.
Methods: 19 elderly (average age 85.8 ± 6.1, MMSE <24), recruited from 2 care homes were included in an intervention group (video based exercise program, 6 weeks, 3x/week) and control group (usual care). Randomization was not performed due to practical reasons. Balance (Functional Reach, 4 test Balance scale), Strength (Biceps, Quadriceps) measured by a mircofet dynamometer, Gait (Tinetti Gait subscale) and functionality (5 Times Sit-To-Stand Test) were measured at the start and 6 weeks after the intervention.
Results: A video-based exercise program of six weeks showed a significant improvement of quadriceps strength ($P = .027$) and balance (Functional Reach: $P = .027$) in older people with dementia living in a care home. No significant improvements were seen in biceps strength, gait and functionality. The control group showed a trend to significant improvement in quadriceps strength ($P = .065$), but also a trend to significant decrease in functionality (5 Times Sit-To-Stand Test: $P = .051$). No significant differences were seen between groups.
Conclusion: A video-based group exercise program of six weeks can improve quadriceps strength and balance in older people with dementia living in a care home. Further research is needed to confirm the findings.

P-482
The association between cardiopulmonary fitness and gait endurance following total knee arthroplasty in elderly people

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Introduction: The purpose of this study was to evaluate the cross-sectional associations of cardiopulmonary fitness with ambulatory function in patients undergoing total knee arthroplasty (TKA), especially early after surgery.
Methods: A total of 41 patients (10 males and 31 females ; average age 72.9 ± 6.6 years) undergoing a primary TKA were tested one month after their surgery. 10-meter fast-pace gait speed test (10MWT) and gait endurance assessed by using 6-min walk test (6MWT) were used as measures of ambulatory function. Peak cardiovascular responses were measured by the performance of an incremental exercise test with use of lower body positive pressure treadmills. Knee pain using a visual analog scale (VAS) and measurement of balance using timed up and go (TUG) test were also assessed.
Results: Mean peak oxygen consumption (Vo2 peak) was 15.3 ± 3.9 mL/kg/min. 10MWT correlated significantly with Vo2 peak ($r = 0.34$,

p < 0.01), however, this association was no longer significant in regression analysis after adjustment for other independent variables. 6MWT correlated significantly with Vo2 peak (r = 0.54, p < 0.01), VAS (r = –0.55, p < 0.01) and TUG (r = –0.61, p < 0.01), and in regression analysis, Vo2 peak and VAS were significant independent predictors of 6MWT (R2 = 0.46).
Conclusion: Results from this study indicate that cardiopulmonary fitness has significant impacts on gait endurance. And aerobic exercise can be prescribed based on the baseline assessment of peak cardiovascular response on lower body positive pressure treadmills, which has the potential to accelerate the rehabilitation process in the early postoperative period after TKA.
Keywords: cardiopulmonary fitness; 6-min walk test; total knee arthropalsty.

P-483
Nutritional supplementation during hospitalization is associated with an earlier decrease in suPAR in acutely ill older medical patients with SIRS

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Objectives: Systemic inflammatory response syndrome (SIRS) and malnutrition are frequent in older hospitalized patients leading to wasting and mortality. We investigated whether - an intervention of exercise and protein supplements led to faster resolution of inflammation. - nutritional and functional parameters influenced the resolution of inflammation.
Methods: Patients aged >65 acutely admitted with SIRS were randomized to:
- a high-protein diet (1.7 g/kg/day) during hospitalization, and 3 weekly resistance training sessions and daily protein supplements (18.8 g) for 12 weeks after discharge (Intervention, n = 14)
- standard-care (Control, n = 15).

Plasma soluble urokinase plasminogen activator receptor (suPAR), interleukin-6, C-reactive protein, and albumin levels were measured at admission, discharge, and four and 13 weeks after discharge. Functional parameters were assessed at admission. Nutritional intake during hospitalization was recorded.
Results: Patients had a mean age of 72.8 years. All inflammation biomarker levels improved significantly during the study. The Intervention group had an earlier decrease in suPAR than the Control group: –16.2% vs +5.7%, P = 0.04 between admission and discharge; –1.7% vs –25.7%, P = 0.02 between discharge and four weeks. The intervention did not influence levels of the other biomarkers. When comparing patients according to their actual nutritional intake, a higher protein intake and energy intake during hospitalization were also associated with an earlier decrease in suPAR.
Conclusion: Nutritional support during hospitalization was associated with an accelerated decrease in suPAR, whereas the exercise intervention did not appear to affect the inflammatory state. Our results suggest that improving nutrition during hospitalization may accelerate recovery in older acutely admitted patients.

P-484
Characteristics of non-participants in an RCT evaluating effectiveness of homebased exercise after hip fracture

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Introduction: Selection bias and low retention rate is a challenge in geriatric research. Exercise interventions have been shown to improve mobility and gait after hip fracture. However, generalisability of the results could be questioned. Aim of the present study was to describe characteristics of participants who are excluded, refuses or drop-out during a RCT on effectiveness of a homebased exercise program.
Method: Eligible participants were identified through screening of operations lists and invited to participate within 5 days following surgery. Inclusion criteria were community dwelling at time of the fracture, age >70 yrs and ability to walk at time of randomisation. After a four months run-in period baseline registrations were performed and participants randomised to either a ten week homebased exercise program supervised by physiotherapist or follow-up as usual. Study registrations were performed at inclusion, baseline, and 3 and 8 months following baseline.
Results: 223/250 (89%) of eligible participants were included (mean age 83.3 yrs (± 6.1), 70% women. By randomisation 49 declined participating in the exercise program, 13 had died and 18 were excluded due to medical reasons. Randomised participants had higher prefracture I-ADL and cognitive function (p > .001) compared to non-randomised participants. Drop-outs at 3 and 12 months had lower cognitive (MMSE) (p = .019) and physical function (SPPB) (p = .001) compared to completers.
Key conclusions: Cognitive and physical impairment seems to be a barrier to participation and retention in exercise interventions, suggesting that risk of bias is especially important to address in clinical trials including elderly with hip fractures.

Area: Geriatrics in organ disease

P-485
Posturography and Fear of Falling Syndrome: FISTAC study

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Objective: To analyze the association between the Fear of Falling (FoF) Syndrome and Balance with different Posturography tests.
Methods: 182 participants older than 65 years, with a history of previous falls from the FISTAC Study underwent posturography with the following tests: Balance tests, Limits of stability, Rhythmic change of weight, Stand up from a chair, Tandem walk, Fast turn, and Obstacle crossover. FoF was determined with 3 validated questions and the FES-I scale.
Results: Mean age 78.4 (SD 5.6). 147 women (80.3%). 140 participants with FoF. Mean FES-I scale 33.0 (SD 12.4; 16–19: 16.7%, 20–27: 24.7% and 28–64: 58.6%). Mean Geriatric Depression Scale Yesavage 5.4 (SD 3.5), 5.9 in those with FoF and 3.5 without FoF (p < 0.001). Those with FoF presented more frequently balance impairment with foam and eyes opened (76.6% vs 61.0%; p < 0.05) without differences in other balance tests, suggesting visuovestibular impairment. FoF participants also presented more frequently global stability impairment (93.1% vs 80.0%; p < 0.05), mainly forward stability impairment (84.5% vs 67.5%; p < 0.05). FoF participants presented lower weight bearing foot charge (21.7% vs 27.6%; p < 0.05) and longer stepping time (2.7 sec vs 2.1 sec; p < 0.05) in the obstacle test, and greater impairment in the fast turn test (58.5° vs 52.4° right and 60.5° vs 54.3° left; p < 0.05). We couldn't find differences in the other tests. Participants with balance impairment presented a higher risk of FoF Syndrome (OR 2.48, 95%CI 1.04–5.91) adjusted for age, sex and depression.
Conclusions: FoF Syndrome is associated with balance impairments, suggesting an organic etiology.

P-486

Bone mineral density and trabecular bone score in the treatment of postmenopausal osteoporosis

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Objectives: To analyse the changes of bone mineral density and microarchitecture in women with postmenopausal osteoporosis treated with anti-resorptive medication.
Methods: This retrospective cross-sectional study was performed on three groups of patients aged 50 years and older treated with ibandronic acid, alendronate or strontium ranelate. The control group consisted of untreated women with postmenopausal osteoporosis. The lumbar spine L1-L4 bone mineral density (BMD) and trabecular bone score (TBS) was evaluated after 2 years of treatment. Lumbar spine BMD was examined by dual X-ray absorptiometry (iDXA, Lunar GE, USA). TBS was calculated using "TBS iNsight®" software. Data was analyzed using „SPSS 18.0 for Windows" program.
Results: In total, 63 postmenopausal women were included: 13 subjects were treated with ibandronic acid, 16 women used alendronate, 13 women used strontium ranelate, and 21 women were controls. After 2 years of therapy with ibandronic acid, the lumbar spine BMD changed from 0.790 ± 0.112 g/cm^2 to 0.795 ± 0.098 g/cm^2 (1 ± 3.6%), in alendronate group – from 0.805 ± 0.073 g/cm^2 to 0.824 ± 0.069 g/cm^2 (2.7 ± 7%), and in strontium ranelate group – from 0.838 ± 0.078 g/cm^2 to 0.901 ± 0.084 g/cm^2 (7.7 ± 5.7%, $p < 0.001$). TBS changed from 1.152 ± 0.106 to 1.175 ± 0.104 (2.1 ± 4.8%) in women treated with ibandronic acid, from 1.187 ± 0.076 to 1.202 ± 0.097 (1.3 ± 5%) in alendronate group, and from 1.213 ± 0.104 to 1.231 ± 0.070 (2.0 ± 7.1%) in those who used strontium ranelate. In control group BMD change was from 0.804 ± 0.067 g/cm^2 to 0.797 ± 0.059 g/cm^2 (0.7 ± 3.6%), and TBS – from 1.122 ± 0.069 to 1.123 ± 0.065 (0.1 ± 2.8%).
Conclusion: A statistically significant increase in bone mineral density of 7.7 ± 5.7% was found in osteoporotic women, treated with strontium ranelate.

P-487

Why do maximum conservative management patients end up on dialysis?

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Introduction: Maximum conservative management (MCM) for chronic kidney disease is a popular option, particularly in co-morbid or older patients. Some patients appear to change their minds, and the question of whether dialysis should be initiated arises. We explored the treatment modality changes in our MCM population, to quantify how many end up receiving renal replacement therapy (RRT), the reasons behind why MCM patients end up being dialysed long-term and the survival in these patients who initially chose MCM then had dialysis.
Methods: The renal unit's database was searched (2012–2016) for all patients who had the modality of MCM at some point which changed to RRT or death. This generated a list of hospital numbers, which were reviewed through the database and clinic letters.
Results: 43 of 563 MCM patients changed modality and received RRT, with median age at initiation of 78 years. 36 commenced haemodialysis, 6 peritoneal dialysis and 1 was transplanted. 5 died within 3 months. Overall median survival was 29 months. 25 patients changed their modality in hospital (3 by intensive therapy unit); most (12) were because of fluid overload. 15 changed their modality after clinic discussion.
Key conclusions: Only 15 patients changed their minds through clinic, the ideal route for considering dialysis to avoid acute crisis or an unplanned start. To reduce RRT initiation during hospital admission, deeper discussions in clinic may be required. Patients should be allowed to change their mind within reason as median survival of 29 months is considerable.

P-488

Giant insulinoma

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Introduction: Islet-cell tumors are the most common neuroendocrine tumors that arise from the endocrine pancreas. They are typically benign and sporadic.
Diagnosis is generally established late because clinical signs lack specificity. The insulinoma is difficult to localize since it is very small in size, often not exceeding 2 cm.
Case report: We report an exceptional case of giant insulinoma initially revealed by a pseudo-polycythemia in an 80-year-old man. He had been treated for hypertension for a few months. Routine biological investigations showed elevated hematocrit and haemoglobin, suggesting Vaquez disease. History taking revealed recent episodes of nocturnal agitation. On admission, he had reddish skin with a suspected enlarged spleen, but total blood volume was normal. Imaging studies showed a voluminous tumor located between the pancreas and the spleen. The presence of an insulinoma was confirmed on the basis of an elevated level of proinsulin at the time of an asymptomatic episode of hypoglycemia. Spleno-pancreatectomy was performed. Histopathological examination revealed a malignant, well-differentiated neuroendocrine malignant tumor.

P-489

Cutaneous symptoms revealing acute myeloid leukemia: a case report

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Introduction: Leukemia cutis (LC) is not rare in acute myeloid leukemia (AML) but exceptionally reveal it. Most authors think that they have poor prognosis. We report the case of a man with isolated cutaneous involvement at the time of diagnosis of leukemia.
Case report: A 66-year-old man was admitted for investigation of fever and generalized cutaneous nodules. One month before, he started to exhibit temperature elevation, arthralgia and generalized cutaneous nodules. At the time of admission, he had generalized cutaneous, erythematosus, not pruriginous nodules; Peripheral blood count revealed normochromic anaemia at 9.7 g/dL, a leukocyte count of 24,500 with myelemia at 16% and a thrombopenia at 53,000/mm^3. He had also biological inflammatory syndrome with VS at 102 and PCR at 164 mg/L. Serum LDH was elevated at 1,694 UI/L and uricemia at 998 µmol/L. Bone marrow aspiration showed AML M4. The histopathologic examination of the skin lesion confirmed the diagnosis of leukemia cutis. The patient was dead before any chemotherapy.
Conclusion: Specific skin lesions are usually observed in patients with an aggressive clinical course and are associated with a poor prognosis. In some instances, such lesions might provide the initial diagnosis of leukemia.

P-490

Takayasu's disease in elderly women revealed by an inflammatory syndrome

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Introduction: Takayasu's arteritis (TA) is a chronic vasculitis mainly involving the aorta and its main branches. It commonly affects patients in 2nd and 3rd decade of life. Females are affected more commonly than males. The onset of symptoms occurs before 30 years of age in most patients. It is rare in the elderly and it is a rare cause of fever of unknown origin.
We report two cases of Takayasu's disease occurring in elderly women and revealed by fever and biological inflammatory syndrome.

Case report 1: A 61-year-old woman, without notable medical history, was followed for 3 years for joint pain associated with an inflammatory syndrome. Physical examination was normal except for blood pressure asymmetry of upper limbs. Biology was objectifying a biological inflammatory syndrome. Etiological explorations of this inflammatory syndrome were negative: Chest X ray, bacterial culture of the urine, lumber puncture, myelogram, viral serology, tumour marker, immunological investigations and echocardiography. A thoracic and abdominopelvic CT showed circumferential wall thickening of the aorta, the supraaortic and iliac arteries. An additional angiographic had found a Takayasu's arteritis. Therapeutic abstention was appropriate and symptomatic treatment was initiated.
Case report 2: A 66-year-old woman, without notable medical history, was admitted for impaired general condition, joint pain and fever. Physical examination was normal except. Biology was objectifying a biological inflammatory syndrome. Etiological explorations of this inflammatory syndrome and fever were negative: Chest X ray, bacterial culture of the urine, lumber puncture, myelogram, viral serology, tumour marker, immunological investigations and echocardiography. A thoracic and abdominopelvic CT showed circumferential wall thickening of the aorta. An additional angiographic had found a Takayasu's arteritis. Therapeutic abstention was appropriate and symptomatic treatment was initiated.
Conclusion: Takayasu's disease is rare in the elderly, its diagnosis is difficult. TA should be considered in the differential diagnosis of fever of unknown origin and chronic biological inflammatory syndrome, especially in elderly women.

P-491
Macrocytic anemia in the elderly subject: outcome and etiological research

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Objectives: Macrocytic anemia is in third position in order of frequency of anemia in the elderly, after iron deficiency and those related to a chronic inflammatory disease. The aim of this study is to identify the clinical, biological and etiological profile of macrocytic anemia in the elderly in Tunisia from hospital data.
Methods: We performed a retrospective comparative study. It has involved 30 patients aged 65 and older hospitalized in internal medicine department at the Habib Thameur hospital between 2005 and 2015.
Results: There were 13 women and 17 men whose mean age was 74.3 years. The anemic syndrome was less common among the elderly. However, neuropsychiatric signs were more frequent in the study group. The mean hemoglobin was lower in the elderly. The deficiency origin was reported in 93.3% of cases. Vitamin B12 deficiency was the most frequent. Macrocytic anemia in the elderly didn't seem very different from that of younger patients.
Conclusion: The deficiency was the first etiology of aregenerative macrocytic anemia in our patients so it is important to identify risk groups, especially prevention through diet and good oral dental in our subjects.

P-492
Relationship between blood pressure and frailty in older hypertensive outpatients

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Introduction: The benefits of treating hypertension in very old patients are debated. Current guidelines on the management of hypertension recommend, in patients aged above 80s, a systolic blood pressure (SBP) between 140 and 159 mmHg if patients are in good health. In this study we aimed to assess the degree of frailty in old hypertensive outpatients and the relationship between blood pressure and measures of frailty.
Methods: Frailty was assessed retrospectively by using a 22-item frailty index (FI) in 56 hypertensive old outpatients treated pharmacologically. Patients with an FI > 0.25 were classified as frail. Cognitive status was evaluated by using the short portable mental status questionnaire (SPMSQ). Gait speed was evaluated over a marked distance of 4 m.
Results: The mean age was 80 (SD 7.5) and the mean FI value was 0.37 (SD 0.14). 45 out of 56 (80%) had a FI > 0.25. Patients with SBP≥140 mmHg had a lower FI when compared with those having SBP < 140 mmHg (0.34 ± 0.15 vs 0.43 ± 0.11, p = 0.006). A statistically significant inverse correlation was found between FI and SPMSQ score (r = –0.370, p = 0.005), gait speed (r = –0.426, p = 0.001), SBP (r = –0.319, p = 0.016), orthostatic SBP (r = –0.408, p = 0.002), orthostatic DBP (r = –0.299, p = 0.025), orthostatic PP (r = –0.297, p = 0.026).
Key conclusions: Our findings suggest that frail elderly hypertensive outpatients are often over-treated and FI can be utilized in clinical practice to identify this category of subjects. Physicians should take into consideration the frailty status of elderly patients in the therapeutic decision-making to prevent the consequences related to over-treatment of hypertension.

P-493
Diseases of older people referring to elderly centers of Tehran

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Introduction: Aging is a natural experience which is usually accompanied by a variety of diseases. This study was conducted to describe the older people's disease rate and the number of times they refer to elderly centers in Tehran.
Methods: This descriptive study was conducted on older people above 60 years old of Jahandidegan Centers of Tehran. 400 elder persons were selected of research centers based on stratified sampling. Self-report socio-demographic and diseases rate questionnaires were used for data collection. Data were analyzed with SPSS software.
Results: 300 (75%) of older people were female and 100 (25%) male with a mean age of 67.65 (±6.38). Besides, 160 (40%) people had heart diseases, 137 (34.3%) musculoskeletal diseases, and 83 (20.8%) endocrine diseases. Moreover, 381 (95.2%) participants had referred to doctors and therapeutic centers at least once during the last year. Furthermore, 177 subjects (44.2%) were hospitalized at least once last year.
Key conclusions: The prevalence of diseases in older people is more than expected. Most older people refer to doctors and therapeutic centers, which is indicative of the fact that they suffer from diseases and need varied health services in a developing country. Tailored and targeted strategies to improve the health status of older people are necessary.
Keywords: Disease; Health Status; Aging.

P-494
Atrial fibrillation in seniors: data from "Slovak Atrial FIbrillation audit in Seniors" (SAFIS)

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Introduction: Atrial fibrillation (AF) is the most common arrhythmia in seniors and a major risk factor for stroke. The quality of health care is in part country-dependent. Real-life studies can help to identify weak

points of provided care. The aim of the "Slovak Atrial FIbrillation audit in Seniors" (SAFIS) study was to collect national data characterising AF and its management in seniors.
Methods: 4,252 patients (mean age 80.9 years) aged ≥65 years with AF hospitalised in acute geriatric departments during 2.5 years were included. In each patient 122 basic parameters were obtained.
Results: AF occurrence was 28.4%. The most common type of AF was permanent (39.1%). AF was the primary reason for hospital admission in 5.3% of all hospitalised patients. Out of patients with first diagnosed AF episode 40% were admitted primarily not for AF. Antiplatelet therapy was suggested for 36.7% of discharged patients (increasing from 29.9% in youngest up to 51.2% in patients ≥90 years) and with decrease during study years. Low molecular weight heparins were used in 21.4% of patients. Anticoagulation therapy was given in 36.8% of patients (decreasing from 44.5% in youngest to 17.5% in patients ≥90 years) and with an important increase of novel oral anticoagulants usage during the study. Some form of pharmacologic thromboembolic prevention was prescribed in 91.5% of patients.
Conclusions: SAFIS data were also used when developing "Guidelines of Slovak Society of Gerontology and Geriatrics on the management of AF in elderly people".

P-495
Prevalence of orthostatic hypotension

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Background: Orthostatic Hypotension is defined as a reduction of at least 20 mmHg in systolic blood pressure or a reduction at least 10 mmHg in diastolic blood pressure within 3 minutes of orthostatic position or head-up tilt to at least 60° on a tilt table.
Objectives: determine the prevalence of orthostatic hypotension in a sample of older adults and evaluate the association between orthostatic hypotension, comorbidities and drugs.
Methods: A cross sectional study was made in a department of Internal Medicine of a tertiary hospital, from July to September 2015. Sixty five elders were included. After giving their informed consent, the patients answered questions about their clinical background. Blood pressure was evaluated in the supine position and after 3 minutes of standing.
Results: Prevalence of orthostatic hypotension was 12.3%. In the outpatients clinic the prevalence of orthostatic hypotension was 14.0% and in medical ward it was 6.7% (p = 0.669). There was not statistic difference between genders (14.3% women versus 10.0% men; p = 0.716). Institutionalized patients presented a higher risk to develop orthostatic hypotension (OR: 18.67; IC95%: [1.47–237.59]). In this study, no important associations were found with heart disease, hypertension, drugs or falls.
Conclusion: Orthostatic hypotension is common in the elderly and often affects institutionalized patients. It is an important predictor of morbidity and mortality.

P-496
Is there a proper management of the elderly diabetic patient?

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Objective: to evaluate the A1C goals, and the adequacy of the prescription of the diabetic patients who entered in our nursing homes in the past two years.
Material and methods: descriptive study of the socio-demographic, clinical, cognitive, and functional variables of all diabetic patients. They were considered A1C goals according to the ADA depending on macro and microvascular complications, functional status (MBI) and cognitive impairment (MMSE). The inappropriate prescribing is definied in relation to drugs with high potential for development of hypoglycemia.
Results: we studied a population of 88 people, corresponding with a 19.81% of the income patients. They presented a median age of 86.01 years (75–99), 64% women, and a moderate dependency for ADL [MBI Me 37 (0–100)]. 66% presented target organ injury, there were diagnosis of dementia in the 75.86% of diabetics, with a median MMSE of 12 points (2–22). We differentiate the show into three categories, depending on target organ injury (A1C goal 6,66 ± 1,07, inappropiate prescribing 11,76%), evidence of cognitive impairment (A1C goal 6,26 ± 1,18, inappropiate prescribing 12,28%) and functional dependency (A1C goal 6,30 ± 1,12, inappropiate prescribing 10,77%).
Conclusions: Diabetes is a prevalent chronic disease, in most cases with evidence of vascular complications. Furthermore, the coexistence of dementia and above all, functional impairment is common. In this sense, we showed that the values of glycosylated hemoglobin of the diabetic patients to their entry into residence, are far from recommended in clinical guidelines, and drugs contraindicated in elderly, due to high risk of hypoglycemia, are used in the therapeutic approach.

P-497
Aortic stenosis in the elderly patients aged 80 and over: risk assessment and predicting outcomes

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Objectives: Technical and procedural advances have led to an increase in older patients with severe aortic stenosis (AS) who can undergo an invasive treatment strategy (ITS). The purpose of this study was to identify the prognostic factors for mortality among these older patients.
Methods: We recruited 151 consecutive hospitalized patients ≥80 years old with severe AS treated with surgical (SAVR) and transcatheter aortic valve replacement (TAVR) or medical therapy (MT). We analyzed the predictors of mortality after 449 days.
Results: 64 men and 87 women, mean age of 84 years (80–96). SAVR was performed in 46 patients (30,5%), TAVR in 16 (10,6%). The 62 patients on ITS were younger than those on MT (82 vs 85, p < 0.001) and had lower dependence in routine activities (1% vs 30%, p < 0.001). TAVR patients had the highest Euroscore II : 6.93 vs 2.48 SAVR and 5.20 MT. Mortality was increased in patients on MT: 49% vs 22% SAVR vs 12% TAVR, p < 0,001. Charlson Comorbidity index (CCI) >6 was associated with higher cardiac death in ITS patients: 22.6% vs 5.4% ICC < 6, p < 0.034. Cerebrovascular disease (HR 3.871, CI 1.74 to 8.62), cardiac failure (HR 2.053, CI 1.06 to 3.97), aortic regurgitation (HR 1.58, CI 1.09 to 2.30) and MT (HR 3.49, CI 1.64 to 7.45) were found independent predictors of mortality.
Conclusions: In this cohort of elderly patients with severe AS, the interventional approach improved survival rate, resulting TAVR in the best outcomes. CCI helps predict cardiac death in patients undergoing SAVR and TAVR.

P-498
Melatonin – does it play a role in the elderly hypertension?

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Introduction: The blood pressure (B.P) has a circadian variation with diurnal rising and nocturnal fall which define the dipping status. The old hypertensive patients are generally non-dippers and are more exposed to complications in cardiovascular area. On the other hand, the melatonin secretion during the night decrease the B.P values. But in the old age the melatonin secretion is low, going on to insomnia and agitation, and so, its role to fall down B.P disappear.
Goal: The present paper reveals the relationship between nocturnal B. P and melatonin levels in the elderly hypertensive patients, and how Melatonin drug could play a role in current therapy of them.
Method and results: We studied 10 old patients, 6 males and 4 females aged between 76 and 79 years old, 5 dippers and 5 non dippers. We determined the urinary excretion of 6 sulfatoxymelatonin

(6-SMT) – the main metabolite of melatonin - during daytime (12 hours) and during nighttime (12 hours). The same determination we did after 3 month of 3 mg Melatonin drug administration every evening, added to antihypertensive treatement. We observed in the dippers the nocturnal levels of 6-SMT was rising, while in nondippers the levels were flatten. After 3 month of Melatonin administration, the dipping pattern was changed and B.P values falled down like in the dippers.
Conclusion: It is a relationship between circadian rhytm of melatonin secretion and nocturnal variation of B.P in the hypertensive old patients. The complementary addition of 3 mg Melatonin in the evening decrease B.P in nondippers hypertensive elderly.

P-499
Nitric oxide as a signaling molecule in regulation of subclinical inflammation and apoptosis in hypertensive elderly patients

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Objectives: Nitric oxide (NO) – a signaling molecule is determined by a high capacity to synthesize and penetrate into target cells by controlling their metabolism and realizing intercellular interactions. For estimation the effect of NO and its products on the subclinical inflammation and apoptosis of endothelial cells in the development of endothelial dysfunction 66 elderly patients with arterial hypertension (AH) of II stage and 24 persons of similar age without cardiovascular diseases were examined.
Methods: The degree of endothelial dysfunction was examined by dopplerography of brachial artery, the endotheliocytemia level - by the Hladovec and Rossmann method, the NO concentration - in the Griess reaction, the levels of C-reactive protein, tumor necrosis factor (TNF)-α, caspase-3 and nitrotyrosine – were determined by the immune enzyme method.
Results: In the progression of endothelial dysfunction (ED) from state of light relaxation to vasotonic disorders a number of phases were identified: a compensation phase with increased secretory activity of endothelium, an intermediate phase when the balance is disrupted due to changes in the secretion process of production and inactivation of endothelial factors, a decompensation phase as a result of structural and metabolic disorders of endothelium resulting in its functional failure, death and desquamation. Regulatory effect of NO on subclinical inflammation and apoptosis intensity was confirmed by its strong inverse correlation with the level of TNF-α and caspase-3.
Conclusion: Various concentrations of NO does not only determine vasotonic disorders, but also change the structure of the vascular wall as a target organ in hypertension.

P-500
Diagnosis of crystalline arthritis by joint aspiration is improved by use of portable ultrasound

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Introduction: Crystalline arthritis commonly affects older patients and is increasing in prevalence. Joint aspiration is oftentimes performed for definitive diagnosis. The first metatarsophalangeal (MTP) joint is commonly involved in acute crystalline arthritis and is difficult to aspirate because of the relatively small size of the joint, surrounding soft tissue swelling, and pain in the joint associated with an acute exacerbation. We have recently implemented the use of portable ultrasound to improve the procedure with the goal of increasing the likelihood of obtaining a sample adequate for diagnosis by microscopic crystal analysis.
Methods: We compared the likelihood of obtaining an adequate first MTP joint aspirate sample without and with the use of ultrasound. For our baseline data, without the use of ultrasound, we carried out a review of our Mayo Clinic electronic medical record of 25 consecutive patients seen by our most experienced physician for first MTP joint aspiration. In this group anatomic landmarks alone were used to determine the joint location for the procedure. An aspiration sample was considered adequate if a sufficient quantity of synovial fluid was obtained to prepare a slide for diagnosis by microscopic crystal analysis by polarized light microscopy (approximately 10 µL). We compared this to a group of 25 consecutive patients seen by the same physician as the baseline group or a second experienced physician for first MTP joint aspiration with the use of ultrasound to visualize the joint either before or during the procedure. Patients were included only if they were undergoing joint aspiration for diagnosis of possible crystalline arthritis.
Results: In the baseline group, where anatomic landmarks alone were used to determine joint location, 52% of MTP joint aspirates were adequate for diagnosis (total n = 25; 13 of 25 adequate). In the group where portable ultrasound was used to assist the procedure, 92% of aspirates were adequate for diagnosis (total n = 25, 23 of 25 adequate).
Key conclusions: In patients with suspected crystalline arthritis, the use of portable ultrasound to visualize the first MTP joint before or during aspiration markedly increased the likelihood of obtaining an aspiration sample adequate to make a diagnosis.

P-501
Use of noninvasive ventilation in the elderly, in an Internal Medicine Ward

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Introduction: Noninvasive ventilation (NIV) is frequently used for the management of acute respiratory failure (ARF) in elderly patients, often in the context of a do-not-intubate order (DNI).
Methods: A retrospective descriptive study of the elderly patients (>65 years) admitted to the medical ward of a tertiary hospital during a 3-month period in two consecutive years, managed with NIV. Characterization made according to age, gender, functional status, underlying pathology, medication and one-year survival/readmission.
Results: Of the 456 patients admitted, 18 (3.95%) received NIV. Among these, 44.4% were >80 years old, 33.3% female, 83.3% lived at home, 22.2% were independent for activities of daily living and 50% were previously on long term NIV. The average number of prescribed drugs at admission was 9.4 and at discharge 10.3. The average Charlson index was 10.6. One-year mortality was 25% in patients with >80 years and 50% in patients <80 years. Among the discharged patients 88.9% were discharged on NIV. There were 66.7% readmissions at one-year due to worsening of the respiratory symptoms.
Discussion: The sample was small sized. However the mortality rate was higher in the patients with ≤80 years, with a lower average Charlson index 9,4 vs.11,4 and lower number of prescribed drugs 6,5 vs.11 but with higher dependency level.

P-502
Safety of single chamber pacemakers (AAI) in sick sinus syndrome (SSS)- does the advancement of old age matter?

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Introduction: Sick sinus syndrome (SSS) is a disease of old age, and cardiac pacemaker implantation is the only form of the therapy. The aim of the study was to evaluate revalence of adverse events (defined as the necessity of upgrade to dual chamber (DDD) pacemaker, onsets of atrial fibrillation, and death) in people with SSS treated with AI pacemakers, with regard to patients age.
Methods: 8-year long retrospective analysis of 103 consecutive patients with AAI pacemaker implemented in 2004–2008 was performed, based on medical records of the department of cardiology and outpatient peacemaker control clinic. Comparisons between two age strata among these patients were made to clarify differences between the young-old (60 to 74 years), and the old- old (75 years and older).

Results: The majority of patients were women (86/83,5%), and both age groups were represented at similar rates (49/47,6% at age 60–74). The mean age at the moment of AAI implantation was 74,9 ± 5,7 years. The mean observation time was 62,1 ± 23,3 months. Both mortality and frequency of paroxysmal atrial fibrillation were similar in both groups, while AAI had to be replaced with DDD significantly more frequently in the younger age group. However, the prevalence of severe defects of atrioventricular conduction was low in both age groups. The mean time to the replacement was 5,6 ± 1,9 years.
Conclusions: AAI stimulation in patients 75+-year-old seems to be as safe as in the young-old.

P-503
Outcomes in an orthogeriatrics Portuguese unit

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Introduction: Pernicious anemia accounts for 80% of case of megaloblastic anemia. It is an autoimmune disorder with an insidious clinical course and highly variable clinical spectrum, including constitutional, neurological, hematological and gastrointestinal symptoms. A systematic approach is essential for the establishment of a definitive diagnosis and institution of an appropriate treatment plan.
Case Report: A 76 year-old woman living in Portugal, with a personal history of asthma and chronic venous insufficiency, under no chronic medication and having regular nutritional habits, who was admitted for investigation of a clinical picture of asthenia, anorexia, 6% of body weight, symmetric lower limb paresthesias and cognitive impairment with 6 months of evolution. At physical examination normal cognitive function and pallor of the skin and mucous membranes. Laboratory tests showed pancytopenia (WBC) of 2.10×10^9/L, with macrocytic anemia (Hgb) 7.1 g/dL and platelets 71.000×10^9/L. Evidence of hemolysis on peripheral blood smear, haptoglobin <8 mg/dL and lactate dehydrogenase 1,528 U/L. Significantly, vitamin B12 was low <108 pg/mL, and testing for parietal cell, and intrinsic factor antibodies resulted positive, confirming the diagnosis of pernicious anemia. For further investigation she underwent an upper gastrointestinal endoscopy, which described atrophic gastritis of the body of the stomach, The patient began intramuscular cyanocobalamin replacement therapy, with clinical stability and reversion of symptoms and hematologic disturbances
Conclusion: The diagnosis of anemia in the elderly is important to investigate and treat the underlying cause. Aging, by itself, is not a cause of anemia. When pancytopenia exists as initial presentation, the etiologic diagnosis is complex. Early testing should be encouraged as the treatment is simple and procures a good prognosis.
Keywords: anemia; pernicious; megaloblastic; pancytopenia; vitamin B12; elderly.

P-504
Cancer in elderly patients: anatomo-clinical aspects and therapeutic strategy

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Objectives: In Tunisia, we are witnessing an increase in life expectancy but also an incidence of cancer in the elderly population. We aim to identify the anatomoclinical features of elderly suffering cancer in southern Tunisia, describe the main geriatric assessment tools and reporting published data on the general principles of the elderly care cancer.
Methods: This is a prospective study focusing on a case study of 65 elderly suffering from cancer in the Medical Oncology Service of the Regional Hospital of Gabes between January the 1st 2013 and October 31, 2013. All patients had evidence of cancer and input data were proved by the SPSS 18.0 software.
Results: The average age of patients was equivalent to 75 years and 6 months (ranging from 65 to 93 years). The median was equal to 75 years. Our study consisted of 39 men and 26 women. Most of the patients were from Gabes governorate (52%). 77% were retired people. 72% had an average financial level. The financial resources were mainly a monthly pension for 49 patients (75%). 85% were insured by CNAM. 50.8% were smokers, 18.5% were occasional alcoholics. 50.8% had high blood pressure, 30.8% were diabetes and 10.8% were suffering cardiac disease. The most common types of cancer were colorectal cancer (21.5%) and lung cancer (24.6%). In the bronchial cancer group was the predominant epidermoid carcinoma (12 cases). The length of consultation period ranged from 1 to 12 months (the average of 4.5 months). The majority had a locally advanced tumor or metastatic cancer. The tumor was classified as T3 for 38% and T4 for 49% of cases. The tumor was associated with lymph node damage in 59% of cases. 47% had metastases at the time of diagnosis and thus classified M1. Our patients were classified according to geriatric evaluation scale defined by Balducci with 3 classes: Autonomous without frailty criteria (37 patients), vulnerable (20 patients) and critical (8 patients). 29 patients (44.6%) made surgery on early-stage cancer. 49 patients (75.4%) had received chemotherapy for palliative stage IV disease in 49% of cases, healing in 51% of cases. 15.4% had had x-ray therapy. Only one patient had received in adjuvant Herceptin. The average survival time was 11 months (ranging from 3 to 22 months).
Conclusion: A close collaboration between oncologists and geriatricians is needed in order to properly assess the elderly and to optimize the therapeutic strategy. The inclusion of elderly in clinical testing is recommended.

P-505
Is malnutrition a cardiovascular risk factor for heart rhythm disorders in elderly?

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Objectives: Normal ageing is associated with a higher incidence of cardiac arrhythmias due to multiple factors: physiological changes in cardiovascular system, the constant increase of cardiovascular risk factors. Malnutrition is an "untraditional" but independent cardiovascular risk factor for senior population, but with few data regarding the relationship with arrhythmias.
Methods: We present a prospective, observational study on 481 patients over 65 years of age, which were divided into two groups: with and without arrhythmias. They all underwent a geriatric evaluation including Mini Nutritional Assessment (MNA) and other geriatric evaluation scales. We measured serum levels of all "traditional" risk factors; also all patiens had an ECG and echocardiography.
Results: 66.32% patients had arrhythmias, with no significant differences regarding gender, body mass index, smoking status. Arrhythmias were significantly higher in patients over 75 years ($p = 0.034$). There was no difference between groups regarding some "traditional" cardiovascular risk factors and "nontraditional" risk factors such as ventricular mass, and nutritional status. The arrhythmia group had a higher level of cholesterol ($p = 0.005$), triglycerides ($p = 0.015$), uric acid ($p = 0.018$) and also a significant difference regarding inflammatory status ($p = 0.017$). There were no differences regarding studied geriatric syndromes between groups.
Conclusion: The influence of traditional and nontraditional risk factors is not the same in arrhythmias as part of cardiovascular diseases. Some of them have a constant negative influence but there are factors such as malnutrition, depression, LDL-C, and HDL-C levels that have a smaller impact on arrhythmias in senior population.

P-506

Determinants of health related quality of life in elderly hemodialysis patients

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Introduction: The aim of this study was to identify clinical and demographic determinants that can influence health related quality of life in elderly hemodialysis patients in Turkish population.
Methods: A total of 39 elderly hemodialysis patients participated in the study. Demographic and clinical data including age, gender, marital status, education period, duration of hemodialysis, comorbidity, serum level of hemoglobin, albumin, parathyroid hormone, AST, ALT, calcium, phosphorus, urea, creatinine were recorded. Health related quality of life measured using Nottingham Health Profile was investigated. Depression was evaluated using Beck Depression Inventory. Determinants for quality of life were identified using multiple logistic regression analysis.
Results: Beck Depression Inventory was significantly associated with the six domains of Nottingham Health Profile excluding energy domain ($p < 0.05$). The factors that significantly affected quality of life were albumin, hemoglobin, phosphate, creatinine, being married, number of comorbidities, presence of cardiac disease ($p < 0.05$).
Conclusion: Depression, some metabolic parameters and number of comorbidities seemed as the primary determinants of quality of life in elderly hemodialysis patients.
Keywords: Elderly hemodialysis patient; quality of life; depression.

P-507

Colonoscopy in the old: a geriatric dilemma

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Introduction: Colorectal cancer is the third most common cancer in the Netherlands [1]. Seventy percent of the patients is aged 65 years or older [2]. The gold standard to diagnose colorectal cancer is colonoscopy with histology [1].
Methods: Retrospective cohort study of all patients aged 80 years or older that underwent colonoscopy between January 1st 2014 and December 31st 2015 at Jeroen Bosch Hospital, a non-academic teaching hospital.
Results: 465 patients were included with an average age of 82.6 years. 78 patients (16.8%) were diagnosed with colorectal cancer. 70.5% of the performed colonoscopies had consequences, in 22.2% the colonoscopy was incomplete, in 4.5% a complication occurred and 13.5% had a bad or reasonable quality of preparation.
Key conclusions: A high incidence of colorectal cancer is found with colonoscopy, with a low incidence of complications or bad preparation. However, in almost 1 out of 4 patients, the colonoscopy was incomplete.

References

[1] Landelijke werkgroep Gastro Intestinale Tumoren. Oncoline. http://www.oncoline.nl/colorectaalcarcinoom version: 3.0, last updated 2014–04-16, consulted at 2016-01-21.
[2] Integraal Kankercentrum Nederland. Cijfers over kanker. http://cijfersoverkanker.nl/2011-2016. Consulted at 2016-01-21.

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Health conditions, life conditions and fragility of elderly patients hospitalized

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Objectives: increase in life expectancy of the population Tunisian, the fragility of the elderly has become a major issue in public health for the coming decades. This phenomenon should be anticipated by preventive and curative interventions.
Methods: It's through a retrospective study of patients aged 65 years and over hospitalized in internal medicine between 2004 and 2016, we propose to describe the living and health conditions in order to identify vulnerable subjects based on a comprehensive geriatric assessment and level of fragility with ten criteria, a minimum of three criteria were used.
Resultats: 120 patients were identified. The average age was 76 years, the fragility assessment showed that 70% of subjects were fragile. The fragility factors found are: impairment of higher functions (depression and/or dementia) (82%), complex treatment (59%), loss of more than two IADL (58%), female sex (57%) and postural instability (57%). The analysis of the link between the different clinical criteria of fragility shows that there is a statistically significant relationship between the age of more than 75, female gender, impairment of mental ability and loss of autonomy. There is a statistically significant relationship between the get up test and the pathological go (there is a risk of falling) ant postural instability: 63% of the unstable had a pathological test while only 9% of the stable had had it.
Conclusion: A better understanding of the health and living conditions of the elderly can identify those who are most vulnerable among them.

P-509

Do elderly breast cancer patients with primary endocrine treatment receive second line treatment?

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Objectives: Primary endocrine therapy (PET) for non-metastatic breast is increasingly prescribed in elderly women in the Netherlands (up to 28% in 2008). Nevertheless tumor progression is observed in a substantial portion of PET-treated patients. The aim of our population-based study was to evaluate prescription of PET in more recent years (2009–2014) and to describe the use of second-line therapy.
Methods: Patients above 74 years, diagnosed with breast cancer (T1-4NxM0) between 2009 and 2014, were selected from the Dutch National Cancer Registry. Data were extracted on hormonal status, prescription of PET, second-line therapies (initiated 6 months after starting PET) and vital status up to 1-2-2015. In a regional subset of the Registry comorbidities at time of diagnosis were recorded.
Results: Use of PET increased during the study-period (27% to 32%). 4,111 patients with T1-3NxM0 (31% had stage 1, 65% and 4% respectively stage 2 and 3) and 736 patients with T4NxM0 breast cancer received PET. 96% of the tumors were estrogen positive. Respectively, 64% and 51% of patients with T1-3 and T4 cancer had ≥2 comorbidities. In T1-3 tumors 6% had surgery as second-line treatment, while 2% received radiotherapy; In T4 stage 8% received surgery and 5% radiotherapy. 0% received chemotherapy. Within median follow up of 20.3 months, 43% of women with T1-3 tumors and 49% with T4 tumors had died.
Conclusion: Use of PET in elderly women aged with non-metastatic breast cancer still increases over time. Only a small minority receives second-line therapies after starting PET. Both, relatively high short-term mortality and the incidence of multimorbidity suggest PET is a valuable treatment option in these patients.

P-510

A propose of a geriatric case: dural arterio-venous fistula (DAVF) left in a 81-years-old, geriatric patient

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Introduction: Intracranial dural arteriovenous fistulas (DAVFs) are acquired lesions characterized by the focal area of abnormal arteriovenous fistulous connections with in the dura. The main symptoms are pulsatile tinnitus, ocular pain, diplopia and exophthalmia. and Intracranial DAVFs can culminate in acute intracranial hypertension and focal neurological signs due to intracranial hemorrhage. In this report, one related unusual clinical case which was resolved in our department, is presented, followed by a review.

Case report: F.C. 81-years-old men was addressed to our department due to suffering from clonic tonics movements and dysarthria but conscious on. He had headache for 3 days, and from the pathological history, arterial hypertension, Malta fever and dizziness were verified. The general evaluation (EKG, blood tests, chest x-ray) was an unremarkable neurological exam and an ophthalmologic exam which show a progressive axial exophthalmos as well as decresed visual acurity in the left eye and vascular episcleral congestion. Cranial CT reported intraparenquimatoso bleeding. Therefore, CT angiography was requested in order to confirm malformations or DAVFs., and cerebral angiography was also done to definite the diagnosis. Finally, the patient's state was discussed with neurosurgery dept. and the treatment with Levetirazetam and a sugery were ordered.
Conclusion: DAFVs are very interesting pathological entities. The treatment is complex in most case and surgery is sometimes necessary to complete the cure or to evacuate a hemorrhagic post rupture hematoma. The meticulous angiographic study of venous drainage is the key of treatment.

P-511
Unrecognized polycythemia vera

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Introduction: Polycythemia vera (PV) is a clonal disorder involving a multipotente hematopoietic progenitor cell. The etiology is unknown. Uncontrolled erythrocytosis causes hyperviscosity, leading to neurologic symptoms. Case description. 79 year-old man. Hypertension and dyslipidemia. Bifrontal headache. Decreased visual acuity. Papilledema. Normal cranial CT scan. Aggravation of pain. Intracranial hypertension. Lumbar puncture was performed. Magnetic resonance angiography revealed thrombosis of sigmoid and transversus sinuses and right jugular vein. Anticoagulation was started. Possible occult malignancy. Probable peripherical embolization of the fifth right toe, with amputation. Persistently elevated hematocrits. Low eritropoetin. Ecographic splenomegaly. Thoracic, abdominal and pelvic scan with no other abnormalities. JAK2 positivity. Bone marrow biopsy supported hypothesis of high risk PV. Hydroxyurea and acetilsalic acid were started. On follow up, complete remission on symptoms. Magnetic resonance angiography documented partial recanalization. Discussion. Clinical course in PV is complicated by thrombotic and hemorrhagic events. The former may manifest in the preclinical process. Acquired thrombophilias should be looked up in these circumstances.

P-512
Cardiovocal syndrome; a case report

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Case report: A 90-year-old patient noticed gradual progressive loss of voice for 12 months. Her medical history includes severe congestive cardiac failure. On examination she was "whispering" and difficult to hear. Her JVP was elevated with ankle oedema. Auscultation revealed murmurs of AS and MR and bilateral basal crackles. Her FBC, LFTs, Ca and TSH were normal. CXR demonstrated marked cardiomegaly with no lung pathology. Echocardiography demonstrated severely dilated left atrium (volume is 171 mm), mildly dilated right atrium (volume is 22 mm), severe AS, severe MR, moderate TR and pulmonary hypertension (estimated PASP 54–59 mmHg). The ENT surgeon clinically diagnosed recurrent laryngeal nerve palsy however laryngoscopy was unsuccessful due to exaggerated gag reflex. She refused CT of the neck and chest.
The gradual progressive loss of voice in presence of marked cardiomegaly with biatrial enlargement and pulmonary hypertension and in the absence of evidence of malignancy suggest cardiovocal syndrome.
Cardiovocal syndrome or Ortner's syndrome is hoarseness of voice due to left recurrent laryngeal nerve palsy caused by mechanical effect on the nerve by enlarged cardiovascular structures.
Discussion: Hoarseness of voice is a common symptom; recurrent laryngeal nerve lesion can be the cause. Surgical trauma and malignant tumours are the most common causes of unilateral recurrent laryngeal nerve injury. Compression of left recurrent laryngeal nerve by enlarged cardiovascular structures can rarely be the cause of hoarseness. Nobert Ortner in 1897 described three patients with hoarseness of voice and severe mitral stenosis. He attributed the hoarseness to compression of the left recurrent laryngeal nerve by the enlarged left atrium. Subsequently hoarseness of voice was described in patients with congenital heart disease, mitral regurgitation, isolated ductus aneurysm, pulmonary hypertension either primary or secondary, tortuosity of the great vessels and ventricular and aortic aneurysms.
Postulated mechanisms of left recurrent laryngeal nerve palsy include compression from a dilated pulmonary artery, atherosclerotic pulmonary artery, right ventricular hypertrophy, ligamentum arteriosum, the left bronchus, inflammation or scarring in the aortic window or compression of the left recurrent laryngeal nerve between the pulmonary artery and the aorta.
Prognosis depends on the underlying cause of the nerve palsy and reversibility depends on the duration of injury.

P-513
Diuretics use in patients with Parkinson's disease or Parkinsonism

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Introduction: Urinary symptoms are common in Parkinson's disease (PD); mainly irritative due to detrusor over activity. Obstructive symptoms may also be seen due to obstructive uropathy, anticholinergics or point to multiple system atrophy. Diuretics increase these symptoms and may cause incontinence.
The BNF licensed indications for diuretics are pulmonary or peripheral oedema due to heart failure. They should not be used continuously on a long-term basis for gravitational oedema.
Diuretics increase the risk of falling in view of hyponatraemia, hypotension, postural hypotension and increase of urine frequency. Diuretics are not the best option in older people especially those with poor mobility, lack of balance, overactive bladder syndrome or incontinence.
Aim: To study the use of diuretics in patients with PD and Parkinsonism.
Method: Prospective study of diuretics use in 200 consecutive patients attending PD clinic in a UK teaching hospital. Patients' notes and electronic records were reviewed. Data were collected on excel and descriptive statistics were used.
Results: 200 patients were included; 115 males and 85 females with mean age of 73 and 72 years respectively. 88% of patients had PD, 10% had secondary Parkinsonism and 2% had Parkinson's plus syndrome. 33% of patients had 1 or 2 falls in the previous 6 months, 18% had 3 or more falls. 8% had a previous fracture.
31% of patients (62) were on diuretics; 21% of whom (13 patients) had left ventricular failure, 10% (6 patients) had congestive cardiac failure and 69% (43 patients) were prescribed the diuretic for oedema.
Conclusion: Diuretics are commonly prescribed. In this study 31% of Parkinsonian patients were on diuretics however just 31% of these had heart failure.
Use of diuretics in older people in general and Parkinsonian patients in particular should be limited to the licensed indications. Alternative, age friendly, medications should be considered first.

P-514
Monitoring of cohort of patients with moderate or severe aortic stenosis

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Introduction: Elderly patients requiring cardiac surgery for degenerative aortic stenosis has increased, but often are not refered only because of advanced age.
Methods: 97 patients with moderate or severe aortic stenosis seen in outpatient cardiology clinic were recruited. Echocardiographic, geriatric assessment and surgical risk evaluation by Euroscore scale were done. The number of admissions for all causes and for heart failure (HF) was assessed. Follow-up was at 6 months and a year.
Results: Mean age was 86 y. 61% were women. The average body surface was 1.6, no sex diference. 70% overweight or obese. Most common symptom was dyspnea 71%. Average modified Charlson Index (MCHI) was 2. Patients > 85 years had higher MCHI ($p < 0.02$). The mortality risk estimated by logistic Euroscore was 18.5 (SD ± 14.96). 44.3% were in NYHA functional class IV. 44% had entered at least once because of heart faillure (HF) (average 1 IC (DE ± 0.7–1.2)). The mean ventricular eyection fraction was 65%. The indexed aortic valve area 0.40 cm^2/m^2. Mortality was 20.6%, for valve disease 21% and overall cardiovascular causes 57.9%. The actual treatment is conservative in 76%, 14.4% refused surgery and in 6.2% TAVI was implanted, and surgery was performed in 3.1%.
Conclusion: We observed most frecuently patients were small, obese and women. Modified MCHI increases with increasing age of patients. HF and cardiovascular mortality is high in patients who did not undergo surgical treatment, but by the time in octagenarian and nonagerian population conservative treatment is still the most common.

P-515
Recurring polyserositis as manifestation of occult tumor in an edlerly patient

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Polyserositis is a serous membrane chronic inflammation that results in fibrosis and fluid in the pleural, pericardial and peritoneal cavities. It can be induced by autoimmune diseases, medications, infections and neoplasm's. Pleural metastasis generally appear after the primary neoplasm is diagnosed and are a late complication with poor prognosis. It is more frequent in breast and lung cancer, leukaemia and lymphoma, ovary cancer and only then gastrointestinal cancer. Citology is positive in over 50% of patients.
79 year old male, admitted with chest pain, dyspnoea with 2 months evolution, orthopnea and oedema of the lower extremities. Lab panel showed Ureia 144 mg/dL, Creatinine 3,46 mg/dL and respiratory insufficiency. Chest X-ray had bilateral pleural effusion. Was admitted with cardio-renal syndrome. Submitted to several thoracocentesis with relapsing pleural effusion and paracentesis, with presence of cancer cells in all citology exams. Pleural biopsy showed malignant cells, suggestive of adenocarcinoma of the Gastro Intestinal Tract. Endoscopy, colonoscopy and thorax, abdomen and pelvis CT showed pleural and peritoneal fluid and had no evidence of the primary neoplasm. Prostatic ultrasound was negative. The patient had an unfavourable evolution and was put on palliative care after oncology evaluation.
This case reflects the difficulty in the diagnosis of the primary tumor. In the elderly it can be even more challenging to diagnose due to all comorbilities associated. The presence of cancer cells in all cytology and in pleural biopsy led to a more extensive study, but even with immunohistochemistry indicating Gastro Intestinal origin the primary cancer wasn't found.

P-516
Therapy-related leukemia after lung cancer chemotherapy

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Background: Therapy-related leukemia defined by the World health Organization 2008 classificationscheme of hematolymphoid tumors including therapy-related acute myeloid neoplasms (t-AML), myelodysplastic syndrome (t-MDS). They occur as late complication of cytotoxic chemotherapy, radiation therapy and molecular target agents therapy against primary neoplasms. Recently, for lung cancer chemotherapy, new anti-cancer agent and molecurar target agents are increased and more intensification chemotherapy performed. We report that we reviewed t-AML cases who survived from lung cancer and sufferd t-AML.
Methods: We intended for multiple neoplasms 342 cases including hematological malignancy. We reviewed 39 multiple neoplasms including the lung cancer. In 39 cases, second neoplasms that were acute myeloid leukemia cases were 2 cases. We selected more than 65 years patients. All patients were followed up until death or untile December 2014. Survival was measured from the diagnosis of multiple cancer to time of death or last contact. We investigated cytogenetic abnormality, therapy, clinical outcome, prognosis, and cause of death.
Results: There were 3 cases multiple neoplasms including lung cancer and acute myeloid leukemia. In 3 cases, metachronous type and primary neoplasms that were lung cancer were 3 cases. This 2 cases were diagnosed therapy-related leukemia by WHO2008 classification. 2 of cases were male and femal 1 respectively, primaly diagnosis were small cell carcinoma, squamous carcinoma. Previous cases, he treated operation and radiationtherapy, another cases treated operation and chemotherapy that included cisplatin and camptotecin. One case was acute promyelocytic leukemia(t-APL) that had t(15;17) and PMLRARα, another case was M2 type(French-American-British Classification) that indicated t(8;21) abnormality. About t-APL, he treated by all-trans retinoic acid and he reached complete response. T-M2 type, he treated by chemotherapy included daunorbicin and Ara-C (DC3-7), she did not achieve complete response. About prognosis, t-APL case, he lived 1 month after complete response, he died by lung cancer, t-AML cases, she lived 25 months after partial response, she died by t-AML relapse and refractory for salvagy chemotherapy.
Conclusion: As the number of lung cancer survivors increased due to improvement in chemotherapy, clinician must more take attention of therapy-related leukemia and myelodysplastic syndrome by previous treatments.

P-517
Paraneoplastic RS3PE – a case report

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Remitting seronegative symmetrical synovitis with pitting edema (RS3PE) is an uncommon type of acute polysynovitis affecting older patients. It has a good outcome if no underlying disorder is identified. In some cases is associated with other pathologies, namely autoimmune or neoplastic. We present a case of a 78 years old female patient who had acutely developed edema of the extremities, associated with arthralgia affecting bilateral proximal interphalangeal and metacarpophalangeal joints, wrists and ankles. She also reported significant weight loss and asthenia. There was a positive past medical history of arterial hypertension, type 2 diabetes, atrial fibrillation and chronic renal disease (stage 3). Examination revealed bilateral pitting edema of dorsum of hands and feet and synovitis at proximal interphalangeal joints and wrists, with functional limitation. Blood tests revealed normochromic and normocytic anemia (haemoglobin of 9,9 g/dL) and raised erythrocyte sedimentation rate (110 mm/h). Autoimmunity screening detected a low titer of anti-nuclear antibodies (1:160), with a dense fine speckled pattern and negative rheumatoid factor and anti-CCP antibody. Radiological findings of hands and feet did not show any erosions. The patient performed a colonoscopy that revealed a lesion within 20 cm from the anal verge, which histopathological analysis was compatible with adenocarcinoma. No metastasis were identified at a thoraco-abdomino-pelvic CT scan. The treatment was started with methylprednisolone 16 mg with a satisfactory response. She was referred to a surgeon and a left

hemicolectomy was performed. RS3PE can be a paraneoplastic manifestation of an occult malignancy and an extensive clinical evaluation may be beneficial to exclude secondary causes.

P-518
Drug-induced lupus – a diagnostic challenge

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Autoimmune diseases are not limited to younger ages and their manifestations in the elderly frequently require a high level of suspicion. We present a case of a 74 years old female patient, who had multiple hospitalizations during the past year due to anorexia, asthenia and significant weight loss, developing slowly through the last months. At the beginning of the symptoms she had bilateral thrombosis of internal saphenous vein. Subsequently the patient developed chronic non-bloody diarrhea, ascites and leg edema. Her family reported cognitive deterioration and decreased visual acuity. She suffered from type 2 diabetes, arterial hypertension, dyslipidemia and peptic ulcer disease. The patient's medication history included pantoprazole, linagliptin, furosemide, carvedilol, atorvastatin, mirtazapine and enoxaparin. The physical examination was compatible with severe sarcopenia, ascites, leg edema and bilateral pleural effusion. We also identified triphasic Raynaud's phenomenon. The neurologic exam revealed left homonymous hemianopsia and right homonymous quadrantanopsia, with anosognosia. After exclusion of an infectious disease and with an unremarkable colonoscopy, the laboratory findings revealed mild bicytopenia and proteinuria. Furthermore, the autoimmunity screening detected a high titer of anti-nuclear antibodies (1:1280), with a homogenous pattern and the presence of anti-dsDNA antibody (8,67 IU/mL) and anti-histone antibodies (>200 U/mL). Complement levels (C3 and C4) were decreased and antiphospholipid syndrome antibodies were absent. We assumed the diagnosis of drug induced lupus possibly secondary to consumption of statins or angiotensin converting enzyme inhibitors. After suspension of these medications, the treatment was started with prednisolone (1 mg/Kg) and hydroxychloroquine with initial satisfactory response.

P-519
Outcomes in older patients with advanced chronic kidney disease: six-month follow-up

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Objectives: To evaluate the occurrence of fatal and nonfatal events in older patients with Advanced Chronic Kidney Disease (ACKD) during a 6-month follow-up.
Methods: Patients ≥65 years old assessed in ACKD clinics (not on dialysis) with estimated glomerular filtration rate (eGFR) <20 mL/min (CKD-EPI formula). Baseline variables: socio-demographic data, functional status (Barthel, Lawton, Functional Ambulation Classification), comorbidity (CIRS-G), drugs, basal lab tests. Outcomes included Fatal events: initiation of Renal Replacement Therapy (RRT) and/or death; and Non-fatal events: hospitalization due to medical causes.
Results: 80 patients, mean age 78.3 years (±7.4). Rate of fatal events 13.8%. Analysis showed protective association with albumin <3.5 g/dL (OR 0.03), prealbumin <22 mg/dL (OR 0.09), and increased risk with HUGE formula >8 (OR 13.81). Statins showed a protective tendency (OR 0.17). Rate of Nonfatal events 38.3%. Analysis showed association with atrial fibrillation (AF) (OR 3,142), potassium levels >5 (OR 2.9). Cardiovascular complications were associated with age ≥80 years (OR 4.5) and AF (OR 3.9). There was a high risk of bleeding in users of acenocumarol (OR 10.7).
Conclusions: These preliminary results show that mortality and initiation of RRT were related to malnutrition parameters and higher scores on the HUGE formula. Also, that AF increases the risk of hospital admissions, and the use of acenocumarol the risk of bleeding, and finally that patients older than 80 years and those with AF have higher risk of cardiovascular complications.

P-520
Risk factors and complications of arterial hypotension in older people

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Introduction: Arterial hypotension is a major problem in elderly and has significant consequences: syncope, falls, stroke, myocardial infarction, even death. Study objective was to identify risk factors and complication of this condition in elderly.
Material and methods: A total of 277 subjects, age-range 44–95 years, were included. They were divided into two groups, both presenting arterial hypotension: 136 adults (44–64 years) 136 and 141 elderly (75–95 years).
Results: Three types of arterial hypotension have been identified in elderly: orthostatic hypotension, post-prandial, post-exercise hypotension. In our sample, most cases had orthostatic hypotension, other variants had less than 4% prevalence. Parkinson disease was more often seen in older patients ($p < 0.05$). Type 2 diabetes mellitus and chronic renal disease were also more prevalent in elderly ($p < 0.05$). Smoking was more prevalent in adult males. Three groups of medicines were involved: psychoactive, antiparkinsonian, vasodilator drugs. Age of menopause younger than 46 years was more prevalent in elderly women with arterial hypotension (chi square = 9.762, $p < 0.05$). Anemia was significantly more prevalent in elderly ($p < 0.001$). Stroke and myocardial infarction was significantly more prevalent in elderly patients ($p < 0.01$). Vertigo and syncope occurred as complications of arterial hypotension more often in elderly ($p < 0.01$), as well as falls, fractures and ischemic heart disease. Orthostatic hypotension was identified in elderly more than twice in adults. Headache and asthenia occurred more often in elderly ($p < 0.05$).
Conclusions: Identifying arterial hypotension, its forms and addressing some of its most important risk factors, could improve standing and prevent falls and other complications in elderly.

P-521
Prostate intrafraction motion during radiotherapy of prostate cancer assessed by cone beam CT

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Background: Radical prostate radiotherapy is one of the prostate cancer treatment's options. Daily cone beam CT (CBCT) helps to create an irradiation target, but prostate motion problem remains. Aim: To assess prostate intrafraction motion during radiotherapy in geriatric patients.
Methods: We analized 335 CT fractions in 12 prostate cancer patients, which were treated in Lithuanian University of health sciences, Oncology and Hematology clinic, Radiotherapy Department in 2012–2013. Before treatment a pre-treatment CBCT and immediately after treatment, a second CBCT was performed.
Results: Patients median age 70.58 years. Fraction time 6.5 ± 1.19 min. Post-treatment CBCT showed the prostate motion in sagital axis was from 0 to 22 mm (mean – 1.81 ± 2.27), transverse motion: 0 to 12 mm (mean – 0.73 ± 1.17), vertical axis motion: 0 to 24 mm (mean – 2.16 ± 2.92). The post-treatment prostate position deviations showed that prostate motion in the transverse axis is significantly lower than in the vertical or sagital axes ($p < 0.001$). The evaluation of the prostate motion in two time groups showed that during radiotherapy

fractions that lasted <7 minutes the motion in all axes is statistically significantly ($p < 0.003$) lower than in the radiotherapy fractions lasting ≥7 minutes.
Conclusions: During radiotherapy fractions prostate motion is greatest in the vertical and sagital axes. During radiotherapy fractions that lasts ≥7 minutes prostate motion is greater than in procedures that lasts <7 minutes.

P-522
The older patient with dysautonomia. A syncope unit experience

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Objectives: dysautonomia can be primary or related to typical diseases of the older adult and is often misdiagnosed. Our Unit has decided to extend its activity, applying the screening for cardiovascular autonomic failure and assessing its reliability and diagnostic yield in the clinical practice.
Methods: Between March 2014 and July 2015, 26 consecutive patients referred from Neurology and Cardiology department, underwent 60°-tilt testing, deep breathing, hand grip, mental stress, Valsalva manoeuvre, cold pressor test, hyperventilation and active standing test, under continuous monitoring (Nexfin®).
Results: The mean age was 63.5 ± 18.8. Cardiovascular autonomic failure was diagnosed in 5 patients (19.2%), 1 with AL amyloidosis, 3 with Parkinson's disease and 1 with Multiple System Atrophy: the Valsalva manoeuvre was blocked in 13,6% of the patients, orthostatic hypotension was detected in 65,4%. Orthostatic hypotension was confirmed in 12 patients, with normal Valsalva, complaining syncope (50%), pre-syncope and dizziness (66.7%).
Conclusions: The present evaluation allowed the detection and better understanding of complex clinical conditions, highlighting the need for cooperation between different medical specialties in the assessment of dysautonomia, both for the diagnosis and the treatment, in order to reduce symptoms and improve patient's quality of life.

P-523
Cardiovascular risk factors associated with aortic stenosis in octogenarians and nonagenarian patients

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Introduction: Degenerative aortic stenosis (DAS) has become the most frequent type of valvular heart disease. Cardiovascular risk factors (CRF) involved in the development of DAS share similarities with atherosclerosis.
Methods: Prospective longitudinal study from June 2014 to April 2016 that included 97 over 75 years old patients with moderate or severe AS stenosis seen in outpatient cardiology clinic. Epidemiological, anthropometric and CRF data was collected. They underwent transthoracic echocardiography. Surgical risk logistics Euroscore scale mortality prediction was quantified. The variables analyzed were CRF and the ones included in Charlson index.
Results: 52.6% had severe and 47.4% moderate AS. The average age was 86 y (IQR 79–90) and 69.1% were women. 71% were symptomatic. Dyspnea was the most frequent symptom followed by chest pain 3.1%. 32% were obese and 38% overweight. The most common CRF was hypertension (HTA) 90.7% followed by dyslipidemia 56.7% type 2 DM 37% and smoking 2.1%. 42% of patients presented atrial fibrillation and 13,4% had history of coronary events. 46.6% were under statins treatment. In the multivariate analysis, only dyslipidemia was the CRF associated with aortic stenosis.
Conclusion: There is a high prevalence of cardiovascular risk factors associated with EA. Modification of atherosclerotic risk factors must be strongly recommended, especially dyslipidemia, to slow progression or prevent the disease.

P-524
Late onset lupus – a case report

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Introduction: Systemic lupus erythemtous (SLE) is a multissystemic autoimmune disease, traditionally considered a disease of young women. However several reports have described SLE in elderly populations, with a 9% development after the age of 50 in the Euro-Lupus cohort.
Case presentation: 71- year old woman with chronic heart failure class II (NYHA), atrial fibrillation, hypertension and dyslipidemia treated with furosemide, valsartan+ hydrochlorothiazide, lercanidipine, diltiazem, synvastatin and rivaroxaban, admitted with an acute decompensated heart failure. X-ray: increased cardiothoracic index. Echocardiogram: large pericardial effusion without evidence of hemodynamic compromise, tricuspid regurgitation and right ventricular dysfunction. During the hospitalization she manifested biphasic Raynaud, that she had been presenting for 7 years, and non-erosive arthritis. She reported a history of arthritis at 12 and 4 years before, treated with corticosteroids and occasional painless oral ulceration. Additional study: sedimentation rate 56 mm, positive antinuclear antibodies (1/320), anti-dsDNA (62 UI/mL), anti-SSA/Ro (17 U/mL) and C3 consumption. Serologic tests for syphilis and virus and neoplastic markers were negative. Thoraco-abdomino-pelvic CT: small pericardial effusion and small pleural effusion. The diagnosis of systemic lupus erythematosus was made and she began treatment with hydroxychloroquine with good response.
Conclusions: The low prevalence of SLE in the elderly and its non-specific symptoms make the diagnosis difficult and may reflect senescence of the immune system. Due to all the potential differential diagnosis and the consequences of polymedication, it also gets mis- or undiagnosed. As early diagnosis and treatment is necessary for these patients, careful attention needs to be paid to symptoms and laboratory findings.

P-525
Is age a discriminative factor? – patients with breast cancer older than 80

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Introduction: Longer life expectancy results in more cancer in elderly. According to the National Cancer Institute's Surveillance Epidemiology and End Results (SEER) half of breast cancer patients are over 65 years old, 25% between 75 and 84 years and 10% over 85.
Methods: Retrospective, observational, descriptive study, between 01.2010 and 06.2015, of breast cancer patients 80 years or older.
Results: 93 women. Minimum age: 80 and maximum: 96 years. 22 in stage IA; 3 IB; 19 IIA; 10 IIB; 9 IIIA; 12 IIIB; 4 IIIC; 14 metastasized: bone (n = 6), lung and skin (n = 2), lymph node (n = 3) and brain (n = 1). Histological Subtypes: 31 Luminal A, 48 Luminal B, 12 Triple negative, 2 HER2. Neoadjuvant Hormonotherapy (HT): 7. Surgery: 71 (21: modified radical mastectomy; 9: Simple mastectomy; 21: lumpectomy + GS 14: lumpectomy, 6: lumpectomy + GS). 5 refused surgery. Adjuvant therapy: 2 chemotherapy and 60 HT (Tamoxifen: 20; Aromatase Inhibitor (AI): 40). Patients who didn't underwent surgery: 1 vinorelbine+trastuzumab, 20 HT, 2 RT (anti-Algic), 1 never met conditions for treatment. 55 would have indication to QT, but only 3 did. HT was suspended in 3 patients: 1 stroke, 1 toxidermia, 1 headache. Three deaths (2 stage IV and 1 IIA). Progression-free survival: 15 months. Overall survival: 31 months. Median value of Charlson comorbidities index: 7.9%, translates relative mortality risk: 19.37%.

Conclusions: Studies don't include patients in this group, which entails complex decisions. We conclude that treatment should focus on functional status and not in patients age.

P-526
Nutritional assessment of elderly people with pressure ulcer occurrences

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The objective of this study was the assessment of the nutritional situation of a population of elderly individuals and its possible association with Pressure Ulcer (PU) occurrences. 80 elderly patients (40 with PUs and 40 without PUs) have been assessed from January to March 2016 on parameters such as sociodemographic background, clinical history, anthropometric parameters (Body Mass Index (BMI), Arm Circumference, Geminal Perimeter (GP), Triceps Skinfold, Sub-Scapular Skinfold), body composition (Fat Free Mass (FFM), Fat Mass (FM), Phase Angle), nutritional risk (MUST®), subjective nutritional assessment (MNA®) and biochemical parameters (haemoglobin, total proteins, albumin and total cholesterol). The risk of development of PUs has been assessed through the Braden Scale. 40 patients from the Case Group (Case), 72.5% women and 27.5% men, averaging 83.5 ± 6.3 years old and 40 patients from the Control group (Control), 50% women and 50% men, averaging 81.6 ± 8.4 years old. As per BMI, 45% of the Case patients showed malnutrition, while in the Control it was 32.5%. Following MNA®, 97.5% of patients showed malnutrition in Case, while only 7.5% in Control. 92.5% of the patients from Case revealed albumin concentration under 3.5 mg/dL, while in Control it was only 22.5%. Between both groups, statistical differences have been seen in GP (Case = 27.7 cm and Control = 30.3 cm; p = 0.008), FFM (Case = 35.3 cm and Control = 41 cm; p = 0.002), albumin (Case = 2.7 mg/dL and Control = 3.8 mg/dL; p = 0.000) and total cholesterol (Case = 121 mg/dL and Control = 148.9 mg/dL; p = 0.000). Albumin (OR: 0.99, 95% CI [0,001–0,102], p = 0,000) and total cholesterol (OR: 0.974, 95% CI [0,948–1,000], p = 0,000) have been seen as a protective factor for the occurrence of PUs. An appropriate nutritional assessment of patients with PUs can reduce further deterioration of general health condition, reduce hospital stay and reduce overall care and treatment cost, ultimately contributing improve patients quality of life.

P-527
Breast cancer incidence and survival in elderly women during the 1989–2012 period: a population based-study in a French area

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Introduction: The purpose of our study is to analyse incidence evolution of breast cancer diagnosed from 1989 to 2012 in elderly women (>75 y), in a French area. We compared it to other age group (50–74 years) and established overall and relative survivals at 1 year, 5 years, 10 years.
Methods: This cohort study was based on appropriate population-based cancer registry data. We used the software JoinPoint to identify trend break and estimate annual incidence change.
Results: 6,172 women aged 50 to 74 years and 1,893 women aged over 75 years were analysed. The incidence increased, per year, by 7.5% (IC 95%: 4.1–10.9%) and by 1% (IC 95%: 0.4–1.5%) for elderly women who had in situ and invasive breast cancer respectively. Overall survival of women aged over 75 years was 87% (IC 86–89%), 57% (IC 54–59%) and 31% (IC 73–76%) at 1 year, 5 years and 10 years respectively and was 97% (IC 97–97%), 85% (IC 84–86%) and 74% (IC 73–76%) in women aged of 50 to 74 years. Relative survival for women aged over 75 years with invasive breast cancer was 93% (IC 91–94%), 78% (IC 75–82%) and 67% (IC 61–74%) at 1, 5 and 10 years respectively and was 98% (IC 97–98%), 89% (IC 88–90%) and 82% (IC 81–83%) for women aged of 50 to 74 years.
Conclusion: Women aged over 75 years exhibited more stage IV. They underwent less surgery and lower survival. A greater disease severity at the time of diagnosis, and less-effective treatments given to elderly patients are the most plausible explanations for lower survival.

P-528
Gastric antral vascular ectasia – a rare cause of gastrointestinal bleeding in the elderly

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Introduction: Gastric antral vascular ectasia (GAVE) syndrome, also known as watermelon stomach, is a rare but significant cause of acute or chronic gastrointestinal blood loss in the elderly. The initial presentation may include occult blood loss leading to transfusion-dependent chronic iron-deficiency anemia, severe acute upper-gastrointestinal bleeding, nonspecific abdominal pain, or even gastric outlet obstruction.
Clinical case: A 87-year-old female patient is brought to the emergency department for blood transfusion due to anemia. Past medical history included arterial hypertension, hypothyroidism, diet-controlled diabetes mellitus and chronic kidney disease for which she was medicated with darbepoetin alfa for 9 months. She presented with asthenia and denied visible blood loss. At the admission she was conscious, hemodynamically stable and presented with skin pallor. There was no acute blood loss. Laboratory findings showed microcytic hypochromic anemia (hemoglobin 5.8 g/dL, mean corpuscular volume 76.5 fL, mean corpuscular hemoglobin 22.4 pg), ferritin 8 ng/mL, creatinine 1.5 mg/dL, normal hepatic function, platelet count, prothrombin time, and international normalized ratio. Upper endoscopy revealed extensive friable vascular ectasias. Although the anemia was consistent with iron deficiency, the hemoglobin level invariably decreased to pretransfusion levels within two weeks of blood transfusion (with a minimum of 3.9 g/dL). After 5 treatment sessions with argon plasma coagulation, she finally reached a stable hemoglobin value of 14.4 g/dL.
Conclusions: Althoug GAVE syndrome is a rare medical condition and represents a diagnostic challenge, it is a cause to consider in elderly patients with severe anemia and occult or profuse gastrointestinal bleeding.

P-529
Is the risk of malnutrition associated with NTproBNP concentration in the elderly?

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Objectives: The aim of the study was to assess relationship between nutritional status and NTproBNP concentration in older person.
Methods: NTproBNP concentration, medical history and risk of malnutrition with Mini-Nutritional-Assessment was evaluated in patients followed in geriatric outpatient clinic. Body composition was measured with dual energy X-ray absorptiometry. Relationship of nutritional status with NTproBNP concentration (in quartiles) was assessed.
Results: Mean age of 106 examined persons (58.5% men) was 73.1 ± 8.99 years. Heart failure was diagnosed in 77 (72.6%) patients, in 6 (22.3%) in 1st quartile of NTproBNP concentration, in 19 (73.1%) in 2nd quartile, in 26 (96.3%) in 3rd, and in 26 (100%) in 4th quartile. Risk of malnutrition was recognized in 30 (28.3%) patients, and percentage of patients at risk increased in subsequent NTproBNP quartiles from 18.5% in 1st to 46.2% in 4th quartiles (p = 0.019). Also BMI decreased from 29.4 kg/m^2 in 1st to 26.8 kg/m^2 in 4th quartile (p = 0.048), and total body fat decreased from 40.6 ± 6.4 kg in 1st quartile to 30.3 ± 8.2 kg in 4th quartile of NTproBNP concentration

(p = 0.001). In logistic regression analysis adjusted for age and sex, the risk of malnutrition was associated with increase in NTproBNP concentration (per quartile) – OR 2.23; 95%CI 1.37–3.63; p = 0.001. NTproBNP concentration in 4th quartile was associated with almost 8 times higher risk of malnutrition (OR = 7.9; 95%CI 1.79–34.98; p = 0.006) as compared to the lowest concentration. With increase of NTproBNP by 100 pg/mL the risk of malnutrition was higher by 3%.
Conclusions: In the elderly, there is a strong correlation of NT-proBNP level with the risk of malnutrition and fat tissue.

P-530
Appropriateness of prescribing in nursing home residents with impaired renal function

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Introduction: The overall aim was to investigate the appropriateness of prescribing in nursing home residents (NHRs) with impaired renal function.
Methods: Data were obtained from the Come-On study, a cluster controlled trial in 54 Belgian nursing homes (NH), including 1,886 residents (70.4% female). A cross-sectional analysis of baseline data was performed. Data relative to renal function included the latest value of the eGFR using the MDRD formula. NHRs with an impaired renal function were categorized into five stages (KDOQI classification). According to a consensus document, based on existing guidelines, potentially inappropriate medicines of NHRs with stage 3 and 4 were classified as contraindicated, inappropriately or appropriately dose-adapted.
Results: Data about eGFR were lacking for 48.5% of NHRs. According to the available data, the prevalence of stage 3 and 4 CKD was 36.7% and 5.2% respectively. Based on the consensus document, 996 drugs used by stage 3 NHRs required further attention. Fifteen drugs (1.5%) were identified as contraindicated and 143 drugs (14.4%) were classified as inappropriately dose-adjusted. In stage 4, 158 drugs were further evaluated; 18 (11.4%) were contraindicated and 28 (17.7%) were inappropriately dose-adjusted.
Key conclusions: For almost half of NHRs, data on eGFR were lacking. A systematic determination of eGFR should be implemented to allow for an appropriate management of CKD in Belgian NHs. The results demonstrate potentially inappropriate prescribing in NHRs with CKD. Further research should reveal whether some of the discrepancies can be justified by patient-specific factors.

P-531
Self-rated health and mortality in the Polish elderly – PolSenior project

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Objectives: Prognostic value of self-rated health (SRH) on elderly mortality was observed in many surveys. We analyzed this association in a representative cohort of the Polish elderly.
Methods: The PolSenior project was conducted between 2007 and 2012 in a sample of 2,412 females and 2,567 males aged 65 years and over. Evaluation of SRH was performed in respondents with preserved cognitive function and measured using Visual Analog Scale (range 0–10 points), where 0 meant the worst and 10 the best imaginable health status. The score of 0–3 points was interpreted as poor, 4–6 as fair, and 7–10 as good SRH. Socio-economic factors, functional status, vision and hearing acuity, morbidity and life-style factors were also accounted for.
Results: During the 5-year period, 730 females (30%) and 1,009 males (39%) have died. Significant hazard ratios for all-cause mortality were observed for females and males with poor (HR 2.48, 95%CI [1.83–3.37]; HR 2.62, 95%CI [2.04–3.36], respectively), as well as those with fair SRH (HR 1.29, 95%CI [1.03–1.60]; HR 1.29, 95%CI [1.10–1.52], respectively) as compared to those with good SRH. Cox proportional hazards regression model adjusted for all covariates confirmed that SRH was associated with mortality in females, but not in males. Significant differences in the risk of mortality were observed only between females with poor and good SRH (HR 1.77, 95%CI [1.11–2.82]).
Conclusion: SRH may be a valid predictor of all-cause mortality in elderly females, but not in males. Implemented under publicly-funded project no. PBZ-MEIN-9/2/2006, Ministry of Science and Higher Education.

P-532
Acute coronary syndrome in octogenarian patients: renal function as a determinant factor in their treatment

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Introduction and objective: The worsening of renal function (RF) in context of an ACS has been described as a deleterious factor in the prognosis, associating more cardiovascular events and an increase in morbi-mortality. Chronic kidney disease (CKD) is considered a limiting aspect for an interventionist attitude in the ACS, being more restrictive in the elderly. Our objective was to determine the significance of the RF in the decision-making in octogenarians with ACS, as well as analyze the factors related to its worsening.
Methods: We included 300 consecutive patients with ACS ≥80 years treated in our hospital (2013–2015). Multivariate statistical analysis with SPSS stadistics 18. GFR determined using Cockcroft-Gault formula and subclassified by stages (CKD1 with GFR > 90 mL/min; CKD2 60–90 mL/min, CKD3 30–60 mL/min, CKD 15–30 mL/min and CKD5 <15 mL/min).
Results: Mean age of 85.42 ± 4.108 years. 58% males; 80% hypertension; 66.7% diabetic and 41.3% dyslipidemia. 18% with cognitive impairment and 48.1% high Charlson comorbidity index (ChI) (6.974 ± 2.054 (IC 95% 6.7–7.2)). NSTEMI the most frequent form of presentation (57.7%), followed by STEMI (25.3%) and unstable angina (17%); with a 56.7% of invasive management. On admission, the majority have CKD 2 or 3 (CKD1 8%, CKD2 25%, CKD3 49.5%, CKD4 14.4% and CKD5 3%); with GFR medium of 52.4 ± 25.6 mL/min (CI 95% 49.5–55.3) worsening during hospitalization up to GFR medium of 44.16 ± 21.9 mL/min (CI 95% 41.6–46.6). Resulted in a progression in the GFR stage at 25.1% (CKD1 3%, CKD2 22.7%, CKD3 44.1%, CKD4 23.4%, and CKD5 6,7%). Variables affecting the worsening of RF are: female sex (p = 0.049), hypertension (p = 0.009), high ChI (p = 0.001), coronary angiography performed (p < 0.001), development of shock during hospitalization (p < 0.001) and HF (p < 0.001). Not related to kinds of ACS, number of vessels involved, type of stent as well as complete revascularization. The worsening of the RF had no effect on survival in our serie.
Conclusions: The main factors in the worsening of the RF in octogenarians with ACS are hypertension, elevated ChI, shock, HF and coronary angiography performed. Neither kinds of ACS, number of vessels involved, type of stent or perform a complete revascularization influenced in renal impairment.

P-533
Implantable loop recorder in cryptogenic stroke: a cardio-geriatric experience

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Introduction: Around 1/4 of the strokes is cryptogenic. 25% of the strokes is related to atrial fibrillation (AF), which is often asymptomatic and difficult to detect. Implantable Loop Recorder (ILR) proved to be superior than conventional follow-up in detecting AF after a cryptogenic stroke (1).
Methods: Between 2010 and 2016, 26 patients with cryptogenic stroke underwent ILR implantation, aimed at detecting AF; 2 other patients with a complex clinical scenario, have been implanted to better guide the therapy.
Results: Mean age was 69 years. 67% of the patients was on acetylsalicyclic acid, 10.7% on thienopyridines and 7.1% of the patients was on double anti-platelet therapy. 2 patients with a complex clinical scenario were on oral anticoagulant therapy.
After a mean follow-up of 10 ± 12 months, AF was detected in 7 patients, two of whom also experienced asystole. One patient with AF, stroke and syncope showed an asystole lasting 20 seconds. One patient with paroxysmal AF after an acute myocardial infarction, showed recurrence of AF, that led to maintain oral anticoagulation. A pacemaker was implanted in 3 patients, 4 patients started warfarin and 2 patients new oral anticoagulant therapy.
Conclusions: The ILR is a useful device both in the diagnosis of arrhythmias and in guiding the therapy in complex clinical scenarios.

Reference

1. Sanna T, Diener HC, Passman RS *et al.* Cryptogenic stroke and underlying atrial fibrillation. *N Engl J Med*. 2014;370:2478–86.

P-534
Should we use Cystatine C based equations to estimate GFR in elderly patients 80 plus?

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Background: The incidence of chronic kidney disease (CKD), heart failure (HF) and atrial fibrillation (AF) is increasing with age. Aim of the study was to analyze the correlation between creatinine and/or cystatine based estimated GFR equations and NT-proBNP or AF, respectively.
Methods: 100 consecutive patients, mean age 86 (80–95), 81% females were included. eGFR was calculated employing MDRD, CKD-Epi 2009 (creatinin based), CKD-Epi 2012 (creatinine/cystatine based) and Grubb equation (cystatine/age) respectively. NT-proBNP was measured. Additionally the prevalence of AF was determined in the study population. Anova, Spearman's and Pearson-Correlation-Test, Mann-Whitney U Test, Chi squared Test, logistic regression test were applied.
Results: NT-proBNP (median 3,617 pg/mL with 779 pg/mL without AF) correlated highly significant (p 0,0001) with AF NT-proBNP higher than 500 pg/mL showed lower eGFR (p 0,019) (Grubb Formula). Cut off point was 900 pg/mL (p 0,054) for MDRD Equation. Patients with AF showed lower eGFR (Grubb Formula: p 0,032); (CKD-Epi 2012: p 0,042); (CDK-Epi 2009: p 0,05); (MDRD: p 0,07 ns).
Conclusion: Cystatine C based equations to estimate GFR in elderly patients showed a higher association with cardiovascular risk factors as HF and AF, than creatinine based formulas. Reliable risk stratification may help to avoid over- or undertreatment, especially in the elderly.

Area: Infectious diseases and vaccines

P-535
Golden hours of sepsis for long term patients in Enaya Specialized Care Center

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Introduction: The Enaya Specialized Care Center is a support facility that works with Hamad General Hospital and Rumailah Hospital and provides 24-hour care to long-term patients. The center features 156 patient beds, is the only specialized facility of its kind in Qatar, and one of the first in the Arab World. Sepsis is one of the most prevalent diseases and one of the main causes of death among hospitalized patients. The Severe Sepsis 3-Hour Bundle represents a distillation of the recommendations found in the practice guidelines published by the Surviving Sepsis Campaign.
In Enaya, there was low rate of compliance (52%) with 3 hours sepsis bundle (blood cultures, intravenous fluids, lactate level, antibiotics) in patients with sepsis which leads to increased morbidity and mortality. A quality improvement project was carried out from September 2015 to December 2015.
Aim: To increase the compliance rate of 3 hour sepsis bundle from 50% to 80% in patient with sepsis in ENAYA.
Methodology:

- Data collection and analysis
- Educational sessions and surveys
- Designed pocket cards on systemic inflammatory response syndrome and sepsis for nurses and doctors
- Designed, piloted and implemented a compliance monitoring tool for the monitoring compliance to sepsis bundle

Results: By the end of December 2015, the compliance to sepsis bundle improved from 52% to 100%. In the months thereafter, the effect of our project was sustained through January-March 2016, with compliance rate average of 94%.

P-536
Clostridium difficile infection mortality prediction model in geriatric patients

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Introduction: Clostridium difficile infection (CDI) is becoming a serious problem predominantly in geriatric patients, who are a significant risk group. The goal of this study was to evaluate the risk factors for mortality in CDI patients and to construct a binary logistic regression model which describes the probability of mortality in geriatric patients suffering from CDI.
Methods: In this retrospective study the group of 235 patients over 65 years of age with confirmed diagnoses of CDI, hospitalised at the Department of Internal Medicine, Geriatrics and General Practice, Brno, from January 2008 to December 2013, were evaluated. The examined group consisted of 148 women (63%) and 87 men (37%). For the diagnosis of CDI, confirmation of A and B toxins in the patients' stool or autopsy confirmation was crucial.
Results: The impact of antibiotic therapy in patients' histories on the increased incidence of CDI was clearly confirmed in our study group. Other risk factors included cerebrovascular disease, dementia, the presence of pressure ulcers and immobility. Our new model consisted of a combination of the following parameters: the number of antibiotics used from patients' history, nutritional status (Mini Nutritional Assessment short-form test), presence of pressure ulcers, and occurrence of fever.
Conclusion: Our logistic regression model may predict mortality in geriatric patients suffering from CDI. This could help improving the therapeutic process.

P-537
Seroprevalence of hepatitis B and hepatitis C virus infections in elderly residents in nursing homes in a metropolitan area of Sicily

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Introduction: The hepatitis B virus (HBV) and hepatitis C virus (HCV) prevalence in Italy is reported to be significantly higher in elderly

subjects compared to the general population. In particular, epidemiological studies mainly performed in the "90s in rural towns of the South of the country found a HCV prevalence up to 42% in over 65-year-old individuals.
Aim of the study: To evaluate the prevalence of HBV and HCV infections in a population of elderly residents in nursing homes of a Sicilian urban area.
Methods: A total number of 316 subjects (mean age 83.5 ± 7.5 SD; 63.6% female) hosted in two nursing homes in Messina from June 2014 to December 2015, were consecutively tested for HBV and HCV serum markers (namely, HBsAg, anti-HBs, anti-HBc, anti-HCV).
Results: Three/316 individuals (0.95%) tested HBsAgpositive. Serological markers of HBV previous infection (anti-HBs and/or anti-HBc) were found in 80/316 cases (25.3%). Nine/316 cases (2.3%) tested positive for anti-HCV. Neither the HBsAg nor the anti-HCV positive subjects had any laboratory or clinical evidence of liver disease.
Key conclusions: Prevalence of HCV infections in elderly subjects living in nursing homes of a Southern Italian city is low, in contrast to what expected on the basis of the previous epidemiological studies. On the contrary, prevalence of HBsAg positivity appears to be constant over time. Lack of liver disease in both HBsAg and anti-HCV positive subjects suggests that development of a virus-related hepatic illness is generally incompatible with reaching an old age.

P-538
No age limits on HIV infection

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Introduction: Throughout a long period the human immunodeficiency virus (HIV) was considered a disease of the youth. The number of elder HIV infected people is increasing, factor that can be correlated with the perception of a diminishing risk of HIV infection, lack of sexual transmitted diseases tests and the non-use of contagious protection measures. This case demonstrates that doesn't exists age limit for HIV transmission.
Clinical Case: A 73 year-old man, married, autonomous, without relevant medical history and without regular medication, was sent to a medical appointment due to non-intentional weight loss already with a 4 month duration period. The patient presented a 19% weight loss with no other associated symptoms'. Through physical exam it was found three round papular whitish lesions at the glans. Analytically there were no significant alterations. A test for venereal infections demonstrated a negative RPR and positive for HIV. The patient, when questioned about the origin of the infection, assumed a sexual relation with a sex worker 7 months earlier. The patient presented an initial immunological status of CD4 146 cells/μL and a viral HIV load of 238.285 copies. Started antiviral therapy with Efavirenz, Emtricitabine and Tenofovir and prophylatic cotrimoxazole which resulted in a good immune and viral response.
Conclusion: With this age group increasing, it's important the attention of all medical professionals in screening, early detection and health education. The elderly may not be aware of the risks and therefore they require more information, education and behaviour adjustments.

P-539
Efficacy of the Multidimensional Prognostic Index (MPI) in predicting clinical outcomes in older outpatients treated with parenteral antimicrobial therapies in a Geriatric Home-care Service

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Introduction: Outpatient parenteral antimicrobial therapy (OPAT) has become a routine recommendation in many infections, despite some concerns about feasibility and toxicity in elderly frail patients. Therefore we need clinical tools to assess the risk-benefit ratio in elderly patients on OPAT.
Methods: We evaluated 48 consecutive elderly patients (+60 years) during OPAT, followed-up by our Home-care Service for acute infections. The Multidimensional Prognostic Index (MPI) was measured at the beginning (T0), at the end of treatment (EOT), and 14 days after EOT (FUP14); a telephone call was made 28 days after EOT (FUP28). Statistical analysis: T-test.
Results: We studied 14 men and 34 women (mean age 86.6 ± 9.8 years), with a baseline MPI value of 0.68 ± 0.20. OPAT was not completed in 8 patients (16.7%): 5 died before EOT (3 due to the infection); 2 were hospitalized (non-infective diseases); one case of treatment failure. We observed a significant decrease in EOT-MPI (0.62 ± 0.22, $p < 0.001$). Thirty-nine patients were evaluated at FUP14 (one patient re-hospitalized due to a leg fracture). The mean FUP14-MPI (0.57 ± 0.22) was significantly lower than both T0-MPI ($p < 0.001$) and EOT-MPI ($p = 0.001$). At FUP28 three patients had died and 4 required a new antibiotic therapy. The dead or hospitalized patients (12) had higher values of T0-MPI compared to those who completed OPAT (0.80 ± 0.8 and 0.64 ± 0.21 respectively, $p = 0.015$), even though they were not older.
Key conclusions: Our study demonstrated the efficacy of MPI to predict clinical outcomes of older outpatients treated with parenteral antimicrobial therapies in a Geriatric Home-care Service.

P-540
Clinical development of the Takeda norovirus vaccine candidate in adults

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Introduction: Norovirus (NoV) is the world's leading cause of acute gastroenteritis. NoV infections can be particularly severe in older adults, especially those with co-morbidities. As NoV outbreaks are unpredictable, and there is no effective treatment, vaccination may be the best option to avoid moderate and severe illness. Takeda Vaccines are developing an intramuscular bivalent virus-like particle (VLP) vaccine candidate.
Methods and results: Proof of concept studies in NoV human challenge trials have shown that NoV VLPs can reduce the severity of NoV disease. The two component VLPs of the Takeda vaccine candidate, against genotype GI.1 and a consensus sequence of three GII.4 viruses, are designed to provide broad protection against the most common disease-causing genotypes. Ongoing Phase II studies to assess the best formulation in terms of antigen content and the necessity of adjuvantation with Al(OH)3 or MPL, have demonstrated robust immune responses when measured as IgG or IgA antibodies, histo-blood group binding antigen blocking antibodies (a possible correlate for protection), and cell-mediated immunity. Such responses persist above baseline for at least a year. Vaccination is generally well tolerated, the most frequent adverse reactions consisting of mild and transient pain at the injection site, or mild to moderate headache.
Key conclusions: Currently available data suggest the Takeda norovirus vaccine candidate is immunogenic and well-tolerated, and may prove to be a useful tool to prevent norovirus illness that is frequent in older adults living in long-term care facilities that can have severe consequences in those with underlying medical conditions.

P-541
Pneumococcal serotype distribution: a snapshot of recent data in adult populations around the world, 2014–15

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Background and aims: Pneumococcal disease remains a global health problem despite availability of vaccines, including pneumococcal polysaccharide (PPV23), and conjugate vaccines (PCV). Non-vaccine

serotypes continue to emerge among over 90 pneumococcal serotypes. As part of an ongoing surveillance program, the literature was reviewed to inform recent changes in serotype distribution.
Methods: A review of Medline, EMBASE, Ingenta, Cochrane reviews, CDC, WHO, and recent meetings was performed from March 2014 to March 2015, using the terms serotype, serogroup, pneumococc*, streptococcus pneumoniae; serotype distribution data for adult invasive pneumococcal disease (IPD) and non-invasive pneumonia were extracted and summarized, by region.
Results: Serotype data were available in 34 articles/presentations covering varying time periods beyond 2010, mostly from areas where pediatric PCV was part of the immunization program. Globally, serotypes 3, 19A, 1 and 7F were the most prevalent PCV-serotypes whereas 22F, 8 and 12F were the most common non-PCV serotypes. Non-PCV13 serotypes with the highest prevalence in adults were as follows, by region: In Europe, 12F, 22F, 8 and 9N; in North America, 22F, 23A, 6C and 12F in those with IPD; in Asia-Pacific, 34, 35B, 15A/F and 22F; in Latin America, 12F, 8, 22F and 11A; and in Africa-East Mediterranean, 12F, 15A, 8 and 16F. Serotype distribution tended to be similar for IPD and non-invasive pneumonia.
Conclusions: A few years after PCV adoption in various countries, several PCV- and non-PCV serotypes remain a significant source of burden among adults.

P-542
Descriptive study of elderly HIV-infected patients in Loire Valley area in France

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Introduction: New antiretroviral drugs have helped to improve quality of life and reduce mortality. HIV patients are ageing, with more and more comorbidities, yet few epidemiological, clinical and therapeutic studies are available.
Method: This descriptive study of HIV patients over 75, was conducted in six hospitals of the Loire Valley. Clinical and biological data, were collected via an electronic medical record software (Nadis®); Simplified geriatric assessment was conducted during a HIV routine visit to assess their frailty.
Results: Among the 3,965 patients followed in the Loire Valley centers, 65 (1.6%) were aged over 75. 51 patients were included in the study between January and May 2016 with a median age of 78.7 years, 74.5% were men and 98% lived at home. The median follow-up of HIV infection was 18, 8 years, median CD4 nadir was 181 cells/mm^3. At the last visit all patients were on antiretroviral therapy and 98% had an undetectable viral load (<50 copies/mL). Results of the simplified geriatric assessment showed that 21.6% of the patients appeared in the process of fragility, 3.9% as fragile. 60.8% of them had cognitive disorders, 35.3% had depression, 25.5% had an undernutrition status, 45.9% had an insufficient vitamin D level. The median number of therapeutic lines was 6.
Conclusion: old HIV patients are well managed and controlled for their HIV infection but the prevalence of geriatric syndroms is important and makes them vulnerable. Coordinated management of HIV infection and Geriatric approach is the key to support these patients.

P-543
Efficacy and immunogenicity of an investigational subunit adjuvanted herpes zoster vaccine in older adults in Europe: results from the ZOE-50 and ZOE-70 efficacy studies

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Introduction: The recombinant herpes-zoster (HZ) subunit vaccine candidate (HZ/su) has shown ≥90% efficacy (VE) against HZ and a clinically acceptable safety profile in older adults in two phase 3 clinical trials (ZOE-50, ZOE-70 [NCT01165177, NCT01165229]). Here we report VE and immunogenicity results from these studies from European countries.
Methods: Subjects were randomized 1:1 to receive 2 intramuscular doses of HZ/su or placebo 2 months apart. We assessed VE in subjects ≥50 (ZOE-50) and ≥70 years of age (YOA) (pooled analysis from ZOE-50 and ZOE-70) who received 2 vaccine doses and had no confirmed HZ case within 1 month post-dose 2; humoral immune responses (anti-glycoprotein E [gE] ELISA) in a subset of subjects ≥50YOA from the pooled population; and cell-mediated immune responses (gE-specific CD42+ T-cell frequency) in a subset of subjects ≥50YOA from ZOE-50.
Results: 7,889 (ZOE-50) and 15,400 (pooled population) subjects ≥50YOA in Europe were vaccinated. VEs against HZ were 97.2% (95% confidence interval [CI]: 91.4–99.5) in adults ≥50YOA and 90.1% (95% CI: 82.0–95.1) in those ≥70YOA. One month post-dose 2, anti-gE geometric mean concentrations in adults ≥50YOA were 49,244 for HZ/su and 1,260 mIU/mL for placebo (38.0- and 1.0-fold above baseline, respectively). Vaccine response rates (VRRs) were 97.5% (HZ/su) and 2.7% (placebo). Median CD42+ T-cell frequencies were 1,599 (HZ/su) and 109 events/106 CD42+ T-cells (placebo) (21.2- and 1.5-fold above baseline, respectively). Respective VRRs were 94.2% and 0.0%.
Key conclusions: HZ/su vaccine is highly efficacious against HZ and immunogenic in older adults in Europe.
Funding: GlaxoSmithKline Biologicals SA.

P-544
Evaluation of influenza virus A in elderly hospitalized

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Introduction: The influenza virus A is an entity related mainly with febrile illness and respiratory symptoms. It is associated with high morbidity and mortality especially among high-risk groups as is the case of our patients. The objective of our study is to analyze the complications and mortality associated with this entity in elderly patients.
Methods: Retrospective study with a sample of 44 positive results for influenza patients admitted to the University Hospital of Getafe from 2009 to 2015 over 75 years.

Results: Of the 44 patients analyzed the average age was 78.8 years and the average hospital stay was 9 days. 16% of patients had non-specific symptoms such as agitation or disorientation as reason for consultation, the rest of them had dyspnea as main clinic. 38% of patients developed pneumonia associated with respiratory infection symptoms by influenza A. There was a 4% re-admission rate in the 30 days. 27% of patients were admitted to the intensive care unit requiring invasive ventilation due to mainly respiratory complications. 33% of the patients admitted to intensive care unit died during hospitalization. 15% of the reported mortality was by respiratory complications mainly.
Conclusions: The analysis shows: atypical symptoms for influenza infection in the elderly. High rate of respiratory infectious complications during hospitalization. High rate of survival after stay in intensive care unit.

P-545
Syphilis infection as a cause of neutropenia in the elderly? – a case report

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Introduction: Neutropenia is a relatively frequent finding in the elderly population that can be associated with multiple causes including drugs, autoimmune, bone marrow and infectious diseases.
Methods: Description of a case report.
Results: We report a case of a 73-year-old asymptomatic woman with persistent neutropenia in the past 3 years. Her medical history included localized breast cancer for which she received a 5 year course of tamoxifen and allergic rhinitis medicated with ebastine. Complete blood count revealed a low leukocyte count (2.6 × 10^9/L) and a low neutrophil count (1.2 × 10^9/L). Posterior investigations showed past cytomegalovirus and parvovirus infection and positive VDRL and TPHA tests. There was no history of syphilis treatment and onset of infection was not known. Investigation was otherwise unremarkable. Bone marrow biopsy showed no alterations. After receiving treatment with benzathine benzylpenicillin cell counts improved.
Conclusions: In the elderly patient with acquired neutropenia an infectious disease is a common cause. Recovery of cell counts after syphilis treatment raises the hypothesis of neutropenia caused by this infection. Although not commonly associated with neutropenia, in a patient with no known cause for it, syphilis diagnostic tests may be considered an option.

P-546
Outbreak of human metapneumovirus in a nursing home, a retrospective study

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Introduction: Despite Human metapneumovirus (HMPV) seroprevalence is near 100% in elderly, outbreaks of LRTI in nursing home (NH) mainly related to Influenza, Respiratory Syncytial Virus or unknown, few outbreak of HMPV have been reported; however the extent of this "benign" infection is not well known. We report a clinical and outcome analysis of an HMPV outbreak in a French NH.
Methods: retrospective, case-control study, including all residents (78) from 27th December 2014 to 20th January 2015, considering that the incubation period for hMPV is 5–9 days. Identification of HMPV was realized on nose swab by RT-PCR.
Results: Seventy-eight residents were present at time of outbreak; 3 out of 4 were positive by RT PCR and negative for 13 other viruses or bacteria. Clinical presentation: cough, was present in all cases and other symptoms were variable. Biological results were non-specific (inflammatory response -mean Protein C reactive 50 mg/mL). The median length of disease was 7 days. Attack rate of the outbreak among resident was high (51%) leading to 5 hospitalizations (12,5%) and 1 death (2,5%) and 10 Health care workers were affected,; Duration of the outbreak was 1 month. Basic hygiene precaution were reinforced but droplet precaution is difficult to apply. We will present further analysis of the impact on functional status.
Key conclusions: The attack rate was high. Clinical and biological presentations were non-specific; the disease may be severe possibly because of co-infection. It needs awareness to enhance rapidly basic hygiene precaution in case of outbreak.

P-547
Seniors vaccination in Europe: the state of play of recommendations and coverage rates compared with childhood vaccination

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Introduction: Vaccination is critical component of preventive strategies at all ages of life. In seniors, vaccination aims to prevent diseases and their severe complications to avoid adverse impact on age-related functional decline and loss of autonomy. Childhood routine vaccination demonstrated dramatic declines of morbidity and mortality due to vaccine-preventable diseases (VPD). With an ageing European population, it is interesting to know the state of play of vaccine recommendations in seniors and to compare vaccine coverage rates (VCR) in seniors and in children.
Method: Review of national age-based vaccination recommendations for seniors on ECDC and country official websites for 32 European countries. When available, comparison of VCR of influenza vaccination for seniors with those of diphteria-tetanus-pertussis and measles for.
Results: National age-based vaccination recommendations for seniors are against influenza (n = 32), pneumococcal diseases (n = 18) and herpes zoster (n = 5 Despite Influenza VCR target of 75% recommended by WHO and EU council, only 2 countries reach it or nearly (NL & UK). Influenza VCR in seniors ranges between around 1% and 76%, and is globally declining throughout Europe in recent years. Concerning childhood vaccination, more than 90% of 1-year-old children received the recommended DTP and measles vaccinations in accordance with national immunisation schedules: VCR in seniors are far lower than for children in the same European countries.
Conclusions: In spite of a sound medical rationale, and strong evidence of individual and public health benefits, not all European countries recommend or promote vaccination against VPD in seniors, and no country achieves comparable VCRs to childhood rates.

P-548
Review of burden of vaccine-preventable diseases in seniors in Europe

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Introduction: In addition to boosters, several vaccinations are recommended in Europe for seniors considering their higher vulnerability to vaccine-preventable diseases (VPD) due to immunosenescence. It is interesting to assess the remaining burden of these VPD in Europe.
Method: Literature and WHO and ECDC websites review of European epidemiological and morbidity-mortality data.

Results: Influenza: ≈38,500 deaths estimated to occur each year in the EU/EEA countries with 90% in seniors. In France, during 2014–15 season, ≈30,000 cases admitted to intensive care units for influenza resulting in 3133 hospitalisations (47% in 65+) and excess all-cause mortality of 18,300 individuals (90% in 65+) reported. Same trend in most EU countries. Pneumococcal diseases: 20,785 confirmed cases of invasive pneumococcal disease reported by 27 EU/EEA countries in 2012, predominantly in seniors. Zoster: more than 1.7 million new cases all ages each year in Europe, risk and severity increasing with age. Diphteria: in 2012, 27 cases of diphtheria reported by 8 EU/EEA countries, the majority being in seniors. Tetanus: In 2012, 123 cases reported, 80% in seniors. Pertussis: in 2012, 42,525 cases reported by 28 EU/EEA countries. Incidence is increasing in adolescents and adults and gives reasons for concern of transmission to infants. Polio: no case in any of the 29 reporting EU/EEA countries in 2012.
Conclusions: With an ageing European population, these data support a strong public health rationale for preventing influenza, pneumococcal diseases and zoster in seniors, all these diseases being of higher and substantial incidence and severity in this age group.

P-549
Gastrointestinal infections and the use of proton pump inhibitors in a geriatric population

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Gastroenteritis (GE) has a high case-fatality ratio in the elderly . It is associated with nursing homes and antibiotics , but chronic use of proton pump inhibitors (PPI) has also been related to it. One of the major adverse effects is dehydration, predisposed by atherosclerosis, but increased mortality should also be considered . A retrospective descriptive study was carried out, including patients admitted to a medical ward with the diagnosis of GE, during a 5-year-period. Patients were characterised according to gender, age and Charlson Comorbity Index (CCI). The endpoints were PPI use, previous use of antibiotics, antibiotic given for GE, dehydration, intensive care unit (ICU) admission, mortality and readmission at 1 month. During this period, 96 patients were admitted. 58% were female, with an average age of 81.03 years. Male patients had an average age of 78.35 years and a higher CCI (7.6 vs 5.8 for females; 6.6 global). More than half (55%) used PPI chronically and 15% had been previously treated with antibiotics. An agent was identified in only 6.25%, but 45% were treated with antibiotics: ciprofloxacin (39%), cephalosporins (25%), metronidazole (18%), amoxicillin (9%), vancomycin (7%), macrolides (6.7%) and piperacillin/tazobactam (4.5%). Dehydration was present in 60% of patients, 3% needed ICU admission, 5% died and 15% were readmitted in the following month. Our results are similar to previous studies, which demonstrates the importance of PPI and antibiotics use before acute GE. The extensive use of antibiotics in this setting might be counterproductive, as agents are seldom identified.

P-550
Healthcare resource utilization and costs associated with herpes zoster in the United States

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Background: Herpes zoster continues to have a significant financial impact on the U.S. healthcare system. The objective of this study was to evaluate the economic burden of herpes zoster (HZ) on the US healthcare system among an immunocompetent population.
Methods: Claims data from the MarketScan® Research databases for 2008–2011 were extracted to determine the incremental healthcare resource utilization (RU) and direct medical costs associated with HZ. Immunocompetent HZ-patients were identified and directly matched 1:1 with immunocompetent non-HZ controls using demographic and clinical variables. Analysis was limited to claims 21 days prior to through the first year following HZ diagnosis. Cases with post-herpetic neuralgia (PHN) were analyzed separately.
Results: In total, 98,916 HZ-patients were matched to controls. HZ-patients had a mean age of 50.4 (SD: 18.8) years and 56.6% were females. HZ-cases had significantly higher RU (0.016 inpatient visits, 0.153 ER visits, 2.116 outpatient office visits and 3.730 other outpatient services) compared to controls ($p < 0.001$). Differences increased substantially in the presence of PHN. Total mean incremental healthcare costs for HZ-cases were $1,308 and quadrupled to $5,463 in those with PHN (both $p < 0.001$). Overall, primary cost drivers were outpatient prescriptions and other outpatient services. For those with PHN, inpatient services also played a significant role.
Conclusions: HZ presents a significant economic and resource burden on the US healthcare system among immunocompetent patients of nearly all ages, particularly when complicated by PHN.

P-551
Infections in elderly patients

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Objectives: With the growth of elderly population we need to be familiar with infectious diseases because they can increase mortality. Thus is due to the changes in immune system, different epidemiology and bacteriology and different clinical presentation of the infection. The most common infections in adults are pneumonia, infections of the urinary system, pressure ulcer, infectious diarrhoea, fever of unknown origin etc. Viral infections are less common. During the treatment we should use drugs which give fewer side effects in elderly patients.
Methods: We designed cross match study which aim was to show types of infection and use of antibiotics in elderly patients during one week in PHI Gerontology Institute 13 November as institution that hospitalize patients aged over 65 with chronic progressive disease.
Results: During one week in February in our hospital 234 patients were hospitalized with an average age of 78 years, 34 patients (14.5%) were diagnosed with infection mostly on the respiratory system (55.9%), urinary system (20.6%), pressure ulcer (14.7%), digestive system (5.9%). For treatment of this infectious most widely used antibiotic were cephalosporines (43.3%), fluoroquinolones (22.8%), sulphonamides (9.1%). 85% of the patients were on one antibiotic.
Conclusions: In adult population we should take infections seriously because some clinical evidence for occurrence of a disease can be missing. Laboratory analyzes can show different variations in ESR, CRP and leukocyte count. We need to take a good history and other clinical investigations. We should use empirical antibiotic with broad spectrum and few side effects.

P-552
Diabetes mellitus as risk factor for herpes zoster in United States adults

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Introduction: Diabetes mellitus (DM) has been associated with an increased risk of HZ. This study improves on previous research by using a nationwide database to assess DM as a risk factor for HZ.
Methods: Data for this retrospective cohort study was extracted from commercial and Medicare Advantage plans in Optum claims databases for adults aged ≥18 who had at least 12 months of continuous enrollment. The DM cohort consisted of enrollees with ≥1 two claims with diagnosis code for diabetes (ICD-9-CM: 250.xx) in 2006–2011. Incident HZ cases were patients with ≥1 claim with a diagnosis code for HZ (ICD-9-CM: 053.0–053.11, 053.14–053.9) in any position. Crude and adjusted HZ incidence by DM status and adjusted

incidence rate ratios (IRR) were calculated using Poisson regression models.
Results: In the DM cohort, a total of 1,783 HZ cases accrued over 227,918 person-years of follow up. In DM cohort with HZ, a total of 222 PHN cases accrued over 2,048 person-years of follow up. After controlling for age, sex, comorbidity index, immunosuppression and US region, the HZ IRR for patients with DMT2 vs. NDM was 1.16 (95% CI = 1.10,1.21, p < 0.001). When stratified by age, patients with DMT2 had significantly higher HZ rate than NDM among both patients aged 18–59 (1.21, 95%CI = 1.13, 1.29, p < 0.001) and aged 60+ (1.09, 95% CI = 1.02, 1.17, p = 0.013).
Conclusions: Overall, HZ incidence rate is 16% higher in patients with DMT2 than in NDM. Among patients aged 18–59, however, HZ rate is 21% higher for patients with DMT2 than for NDM.

P-553
23-Valent pneumococcal polysaccharide vaccine produces comparable antibody response following primary and revaccination in adults 70 to 89 years old

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Background: Despite increasing risk for pneumococcal disease with advancing age, many countries recommend only a single dose of pneumococcal polysaccharide vaccine (PPSV23) for older adults. Concerns about the possibility of declining response to revaccination with age have hindered the adoption of a revaccination policy. We examined antibody responses by age after primary vaccination and revaccination in a cohort of adults aged 70–89 years.
Methods: We measured serotype-specific IgG geometric mean concentrations (IgG, 14 serotypes) and opsonophagocytic activity geometric mean titers (OPA, 6 serotypes) 4 weeks after vaccination in a community-based cohort vaccinated > = 5 years earlier (N = 161) or never vaccinated (N = 81) with PPSV23. Subjects were aggregated into 4 groups using 5-year age increments for analysis.
Results: Across age groups IgG and OPA in the primary vaccination and revaccination groups were not significantly different. Within each age group and for all serotypes there were no significant differences between the primary and revaccination groups, with the exception of the group aged 70–74 for which IgG for serotypes 23F and 19A and OPA for serotype 6B were higher in the primary vaccination group than the revaccination group.
Conclusions: IgG and OPA after PPSV23 did not decline with age between 70 and 89 years. For all age groups, patients responded similarly to primary and revaccination. The generally comparable levels of IgG and OPA for the serotypes tested after primary vaccination and revaccination regardless of age supports the value of revaccination with PPV23, even to older adults.

P-554
Multidisciplinary team meetings and management checklist improves management of patients with Clostridium difficile infection: a United Kingdom experience

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Objectives: Clostridium difficile infection (CDI) is associated with considerable morbidity and mortality especially in elderly patients who are prone to electrolyte imbalance, dehydration and malnutrition. In the United Kingdom, the Department of Health has called for a multidisciplinary approach to improve the care of patients with CDI. In a London district general hospital, we aimed to establish whether compliance to standards of management of CDI improves with the implementation of regular multidisciplinary team (MDT) meetings and management checklists in 2015.
Method: We conducted a retrospective review of medical records and pathology results of patients with CDI in 2013 and 2015. A total of 89 episodes from 76 patients were analysed.
Results: Patient's demographics were similar in both years – 50% patients were male. Median age of patients with CDI is 78. 40–49% of cases were hospital acquired. Over 60% of cases were mild to moderate in severity. Elderly patients were more prone to relapse of disease (12%). 30-day mortality among patients with CDI was 25–31.2%. The implementation of regular MDT meetings and management checklists have brought significant improvement in severity assessment and CDI treatment compliance (82% v 69%) and improved documentation of severity (36% v 8%). There is also improvement in review of antibiotics (93% v 83%), PPIs (78% v 53%) and the rate of nutritional review (85% v 54%).
Conclusion: We demonstrate that regular MDT meetings and management checklists can improve compliance to standards of management of CDI and transform clinical care for elderly patients with CDI.

P-555
Massive hematochezia in an elderly patient

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Introduction: Albeit common in the immunocompromised, Cytomegalovirus (CMV) disease of the gastrointestinal tract is rare in the immunocompetent. Symptoms and endoscopic features are not well recognized. Case description. 87 year-old woman. Katz A. Medical history of Hypertension. Admitted at the Orthogeriatrics Unit, after closed reduction of femur fracture. No intra-operatory complications. Good health status. Hemodynamic stability. Apyrexia. First post-operative day: hyperactive delirium, compromising functional rehabilitation start. Sixth post-operative day: fever. Considering progressive global status deterioration, cultures were performed. Antibiotic treatment was started. Surgical site, pulmonary and urinary infection were excluded. Malaise and diarrhea. Clostridium difficile and other enteric pathogens were excluded. Leucocytes were identified in feces. Abdominal echography OK. Negative cultural exams, including coprocultures. Eighteenth post-operative day: hematochezias, requiring transfusion. Angio-CT scan excluded ischemic colitis. Negative immunologic screen. Low sed rate. Colonoscopy: infectious colitis. HV negative. Ciprofloxacin and metronidazol were started. Intestinal biopsy with intranuclear inclusions – compatible with CMV infection. Ganciclovir treatment resolved symptoms. No relapse.
Conclusions: Klauber et al found association between hospitalization and CMV infection in 1/3 of the geriatric patients. Major surgery is a risk factor. The elderly may be more susceptible to this infection due to immunitary changes associated with age.

P-556
National funding for 23-valent pneumococcal polysaccharide vaccine for adults aged 65+ in G20 countries

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Background: In August 2014 the US Advisory Committee on Immunization Practices (US ACIP) changed the recommended pneumococcal vaccines for adults 65+ from 23-valent polysaccharide vaccine (PPV23) alone to a regimen of 13-valent pneumococcal conjugate vaccine (PCV13) followed by PPV23. The ACIP has stated that they plan to reevaluate this recommendation in 2018. We sought to identify whether similar policy changes were adopted by other high income countries, and the reasons for their doing or not doing so.
Methods: Using internet searches and communication with experts we assessed the Group of 20 (G20) countries for publicly funded adult pneumococcal vaccination programs, the cohorts funded, and published reasons for each country's decision.
Results: To date nine G20 countries do not publicly fund pneumococcal vaccination for adults, and other than the US only seven publicly fund pneumococcal vaccination for adults age 65+; all seven fund PPV23 alone. Only the US funds a sequential regimen for this group. Published reasons for not funding sequential vaccination for this

group include the declining incidence of PCV13-serotype disease in older adults secondary to infant immunization with PCV13, and lack of evidence for cost effectiveness or effectiveness of a sequential regimen.
Conclusions: To date none of the G20 countries with national funding programs for pneumococcal vaccination of adults aged 65 and older have adopted the change made by the US ACIP in 2014 for this group. Reasons cited for this include the declining incidence of PCV13-serotype disease in older adults, and lack of evidence for cost effectiveness.

P-557
Infectious aortitis: a difficult diagnosis which requires a high level of suspicion

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Introduction: Infectious aortitis is a rare condition defined as inflammation of the aorta caused by microorganisms. If left untreated it can be lethal or complicated with development of aneurysms, dissection, fistula or rupture of the aorta [1–3]. The aorta is normally very resistant to infection [1]. Risk factors for infectous aortitis include atherosclerosis, age above 50 years, trauma or aorta graft, impaired immunity, diabetes mellitus, or congenital aortic anomalies [1, 2]. It is a diagnosis that is difficult to make. Computed tomography (CT) is the imaging study of choice in diagnosing infectious aortitis, however small vegetations may be missed. Other diagnostic tools are Magnetic resonance imaging (MRI) and Positron emission tomography (PET) CT scan [1–3].
Methods and results: We present two cases, a 78 years old male treated for E. coli and Pneumococcus septicaemia and a 71 years old female treated for staphylococcus septicaemia. Their general condition worsened despite of initial treatment with antibiotics. PET- CT scanning revealed diffused aortitis. Both were treated with antibiotics for more for than one year and their condition improved.
Conclusions: Infectious aortitis should always be considered in elderly patients with atherosclerosis, a persistent and unexplained history of fever, thoracic, abdominal, or back pain with or without positive blood culture [1, 2].

References

1. Foote EA, Postier RG, Greenfield RA *et al.* Infectious aortitis. *Curr Treat Options Cardiovascular Med* 2005;7:89–97.
2. Lopes RJ, Almeida J, Dias PJ *et al.* Infectious thoracic aortitis: A literature review. *Clin Cardiol* 2009;32:488–490.
3. Mohan N, Kerr G. Aortitis. *Curr Treat Options Cardiovascular Med* 2002;4:247–254.

P-558
Herpes zoster and diabetes: more and more

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Introduction: The objective of this study was to asses the risk of Herpes Zoster (HZ) in diabetics compared with non-diabetics and the risk of negative impact of HZ on diabetes.
Methods: A retrospective cohort of all HZ patients aged over 49 years between 2009 and 2014 was selected using population and health linked databases. HZ and diabetes were defined using ICD-9 codes. We compared incidence of HZ, and health care resource consumption due to HZ in a 6 months period after HZ between diabetic and non-diabetic population. We performed different statistical generalized linear models to compare diabetic and non-diabetic populations.
Results: The cohort consisted of 2,289,485 subjects ≥50 years old, including 386,821 diabetics. HZ incidence rate was 935.52 cases/100,000 diabetic population – year. The risk of HZ increased in diabetics with respect to no-diabetics (RR 1.24, 95% credibility interval [CrI] 1.22–1.26). Diabetics had 4% higher risk of attending to an outpatient visit due to HZ than non-diabetic (RR 1.04, 95% confidence interval [CI]: 1.02–1.05), they were more likely to be hospitalized (OR 1.65, 95% CI: 1.40–1.93), had higher risk of receiving medication (RR 1.20, 95% CI: 1.16–1.24) and they had longer periods off work (Days off work means ratio: 1.44, 95% CI: 1.09–1.92). 24% of well controlled diabetics (A1C levels ≤6.5) worsen after HZ.
Conclusion: Diabetes increased by 24% the risk of HZ. HZ contributed to a diabetes decompensation and higher health care resource consumption than non-diabetics.

P-559
HIV in elder people – a forgotten disease

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Introduction: Human immunodeficiency virus (HIV) is commonly associated to younger individuals, being forgotten when the patient has reached 65–80 years old or after the eighties (>80). Nevertheless, as HIV associated death rate increases with age, is important to screen and test people older than 65 years old.
Clinical case: An 89 year-old woman, autonomous, with a clinical history of high blood pressure, medicated with 3 types of anti-hypertensives was diagnosed HIV-1 due to possible post-transfusion infection with a nadir CD4 of 647 cell/µL (stage 1). The patient was medicated with 300 mg Abacavir, 150 mg Lamivudine and 300 mg Zidovudine along with immunologic and virologic response. Admitted in the ER for dyspnea and confusion; on clinical examination with polypnea, decreased breath sounds and scattered hissing. After the thorax x-ray a community-acquired bilateral pneumonia was propose for diagnosis and antibacterial therapy with ceftriaxone was initiated. However, although an analytical improvement and an apparent response to the treatment, the patient developed a progressive respiratory and haematological failure, ending with the death in the 24th day after hospital admittance.
Conclusion: In this case, although the sustained virologic suppression and an apparent immune response, the inherent age immunologic alterations with the HIV infection, even in a less severe stage, elevates the tendency to infection with a high morbidity and mortality rate. It is crucial, in HIV carrying patients, the medical team always consider the associated and avoidable complications of the immunosuppressed patient.

P-560
Clinical and economic burden of pneumococcal disease in older adults with chronic conditions in the United States

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Background and aims: Older adults with chronic conditions are at high risk for pneumococcal infection. Limited studies have examined both the clinical and economic burden of pneumococcal disease in this population. We assessed pneumococcal disease rates, resource utilization and costs in US adults 65+ years with chronic conditions indicated for pneumococcal vaccination by ACIP.
Methods: A retrospective cohort study using medical and pharmacy claims from Humana health plans was conducted to compare rates and cost of all-cause pneumonia, pneumococcal pneumonia and invasive pneumococcal disease (IPD) in immunocompetent older adults 65 + y with and without chronic conditions. Conditions of interest were diabetes, chronic heart, liver and lung disease, and asthma.
Results: Among 4.3 million older adults included in the analysis, 34.0% had no condition; 31.3% had diabetes, 28.8% chronic heart disease, 17.5% chronic lung disease, 5.4% asthma and 2.9% chronic liver disease. Older adults with chronic conditions had 3 times the rate of all-cause, pneumococcal pneumonia, and IPD compared to healthy older adults.

All-cause and pneumococcal pneumonia rates were highest in asthma and chronic lung disease patients. IPD rates were highest in chronic liver and lung disease patients. Per IPD episode, adults with chronic conditions had slightly more hospital visits and longer length of stay compared to healthy adults – 0.9 vs. 0.8 visits and 7.6 vs 6.6 days respectively, but substantially higher costs ($12,577 vs. $10,510). IPD costs were highest in diabetics ($13,357) and heart disease patients ($12,865).
Conclusion: Older adults with chronic conditions are at high risk of pneumococcal disease, consume more healthcare resources and incur greater costs.

P-561
Low rates of severe injection-site and systemic adverse events within 7 days postvaccination with ZOSTAVAX™, a post hoc analysis of two pivotal Phase 3 trials

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Introduction: ZOSTAVAX™, is a single dose live attenuated vaccine licensed in >50 countries for the prevention of herpes zoster (HZ) and postherpetic neuralgia (PHN) in adults ≥50 years-of-age. The objective of this post-hoc analysis was to determine the rates of severe injection-site and systemic adverse events (AEs) within 7 days postvaccination in two pivotal trials, Shingles Prevention Study (SPS) and ZOSTAVAX™ Efficacy and Safety Trial (ZEST), utilizing current FDA Toxicity Grading Scale.
Methods: Injection-site (erythema, swelling, pain) and systemic AEs were reported by the subject via vaccination report card; SPS n = 6,608; ZEST n = 22,210. Injection-site erythema and swelling were reported by size and/or with an intensity category. Severe injection-site and systemic AEs were defined as incapacitating with inability to work or do usual activity. The FDA Toxicity Grading Scale was not used in SPS and ZEST which defined severe injection-site (erythema, swelling) and fever using different scale.
Results: Utilizing FDA Toxicity Grading Scale, severe injection site AEs (swelling, erythema, pain) occurred in <1.2% of recipients of ZOSTAVAX™ within 7 days postvaccination in SPS and ZEST. Higher rates were observed in recipients of ZOSTAVAX™ compared to placebo and in subjects 50–59 years-of-age. The most frequently reported severe systemic AE within 7 days postvaccination was headache in both ZOSTAVAX™ and placebo groups (SPS 0.18% vs 0.18%; ZEST 0.48% vs 0.38%, respectively). Other severe systemic AEs occurred in <0.2% of subjects after ZOSTAVAX™ administration.
Conclusions: Severe injection-site and systemic AEs were reported infrequently within 7 days postvaccination with ZOSTAVAX™ in SPS and ZEST.

P-562
Prolonged suppressive antibiotic therapy for prosthetic joint infection in patients over 75 years old

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Introduction: Prolonged suppressive antibiotic therapy (PSAT) is usually defined as an antibiotic therapy prescribed as a long-life treatment. Data about PSAT are scarce. Our objective was to describe its characteristics and outcomes in PJI in elderly patients.
Methods: Using a national retrospective multicentric study, we analyzed epidemiological characteristics, drug indications, tolerance, outcomes of a cohort of patients ≥75 years old and treated with PSAT for PJI. Event or failure was defined as withdrawal of PSAT, systemic progression of infection under PSAT and/or death, We used a composite binary outcome defined as the first occuring event among these 3 previous type of events.
Results: 136 patients had a median age of 84 years {IQR 79–89}. The predominant pathogens among 132 patients with identified pathogen were staphylococcus (62.1%) (Staphylococcus aureus in 41.7%), enterobacteriacea (15.9%) and streptococcus (15.2%). Initial intravenous (IV) antibiotic therapy was prescribed for 95 patients (69.9%). PSAT was prescribed as immediate palliative in 30.1% of cases: usually with betalactam, cotrimoxazole, fluoroquinolone. First-line PSAT was stopped in 45 patients (33.1%). 24 patients died (17.6%); 2 were infection-related (8.3%). The median follow-up of patients was 16 months (range 0–112). The 2-year survival rate without event was 70% (95% confidence interval [CI], 62.5–77.5%). Stepwise backward regression showed that variables associated with an increased risk of an event were: monomicrobial infection (HR = 9.15, P = 0.041), a Mac Cabe score equal to 3 (HR = 2.47, P = 0.054), PSAT given by another person (HR = 3.39, P = 0.006), bactaeremia (HR = 2.73, P = 0.032). Initial IV antibiotic therapy was associated with a decreased risk of treatment failure (HR = 0.43, P = 0.006).
Conclusion: Life-long antibiotic therapy might postpone treatment failure and may be beneficial in selected cases, in particular in older patients with limited life expectancy in whom surgery is limb or life-threatening. Moreover, IV therapy may partially reduce the inoculum size, facilitating the efficacy of oral PSAT. Large prospective multicentric studies, including comprehensive geriatric assessment, are needed to confirm the place, efficacy and safety of PSAT in PJI and to homogenize medical practice.

P-563
Nosocomial infections urinary tract

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Objectives: The main objectives of this study are to describe the pathogens isolated in urine cultures differentiating between the sexes in hospitalized patients over 65 years developing nosocomial urinary tract infection, and analyze the antibiotic resistance of these pathogens.
Methods: Retrospective descriptive study with a sample of 1843 urine cultures of patients admitted >65 years in the Hospital of Getafe from 2009 to 2015. Using database WASPSS Project.
Results: Between January 2009 and December 2015 1843 urine cultures were isolated with >100,000 CFU of patients with more than 72 hours of admission. The isolated pathogens were Escherichia coli 39.45%, Pseudomonas aeruginosa 15.74%, Enterococcus sp 11.39% and 10.31% Klebsiella pneumoniae. Differentiating between sexes Pseudomonas aeruginosa was the second most common pathogen in men and the fourth in women. E. coli has resistance rate of 0% to carbapenems, 5% to Fosfomycin and up to 30% to amoxicillin-clavulanate and levofloxacin. P. aeruginosa has a rate of resistance to carbapenems (meropenem and imipenem) of 10%, 32% to piperacillin-tazobactam and 14% to levofloxacin. Enterococcus sp, presents resistance rates of 0% to Nitrofurantoin, Ampicillin and Vancomycin, and 55% to Quinolone.
Conclusions: More frequent nosocomial infection pathogens were related to E. coli, Pseudomonas aeruginosa and Enterococcus sp. High rate of resistance to recommended clinical guidelines for first-line treatment antibiotics. Emergence of resistance to broad-spectrum antibiotics in the last seven years.

P-564
Evolution of antibiotic resistance of Escherichia coli in the last seven years

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Introduction: Escherichia coli remains being the pathogen most often implicated in urinary tract infections in elderly patients. The aim of our study is to describe the evolution and the emergence of antibiotic resistance from E. coli in the last seven years.

Methods: Retrospective descriptive study with a sample of 527 urine cultures of patients admitted to the Geriatric Hospital of Getafe from 2009 to 2015. Using database WASPSS Project.
Results: Between January 2009 and December 2012, 299 urine cultures were isolated with >100,000 CFU of E. coli. Antibiotics with less resistance rate intravenously administrated were Cabapenem with 0% and Piperacillin/tazobactam had 10%. Within orally administration available, Fosfomycin has a resistance rate of 8%, 30% Cefuroxime and Ciprofloxacin 67%. Between January 2013 and December 2015, 228 urine cultures were isolated with >100,000 CFU of E. coli. Antibiotic with less resistance rate intravenous administrated were Imipenem and Meropenem. There is a case of Ertapenem resistanece out of 217, and piperacillin-tazobactam presents 7%. Within orally administration available, Fosfomycin continues with a resistance rate of 8%, 23% Cefuroxime and Ciprofloxacin 53%.
Key conclusions: First clinical guidelines recommended antibiotic resistance is very high based on our study. – Carbapenems remain effective for the treatment of E. Coli although in the last three years resistance begin to appear.

P-565
Are statistical natural language processing models for pneumonia surveillance in elderly patients generalizable across acute care hospitals?

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Background: Natural language processing (NLP) models are increasingly used for adverse event (AE) surveillance in acute care hospitals but limited information is available on their generalizability across institutions, which is important for valid benchmarking. We examined the generalizability of a statistical NLP model predicting pneumonia from electronic health record (EHR) data; an AE associated with significant morbidity, mortality and costs in elderly patients.
Methods: We randomly sampled 4,000 narrative chest X-ray reports performed at a university health network (UHN) in Quebec (Canada) between 2010 and 2014. We manually identified pneumonia within each report, which served as our reference standard. We used a nested cross-validation approach to train and validate a support vector machine (SVM) model predicting pneumonia. This model was then applied to a random sample of 2,281 narrative radiology reports from another UHN in Ontario (Canada), and accuracy was measured and subsequently compared to that of an alternative model recalibrated on Ontario data.
Results: The SVM model predicting pneumonia on Quebec data achieved 83% sensitivity (95%CI: 78–88%), 98% specificity (95%CI: 97–99%) and 88% PPV (95%CI: 83–94%). When applied to Ontario data, this model achieved 57% sensitivity (95%CI: 51–63%), 99% specificity (95%CI: 98–99%) and 86% PPV (95%CI: 80–90%). In comparison, the recalibrated model achieved 76% sensitivity (95%CI: 70–82%), 98% specificity (95%CI: 97–99%) and 86% PPV (95%CI: 82–91%).
Conclusion: A statistical NLP model predicting pneumonia has limited generalizability when directly applied to EHR data from another institution. However, good prediction performances can be achieved after model recalibration on local data.

P-566
Prognosis of the elderly admitted in an Intermediate Medical Care Unit with community acquired respiratory infection

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Introduction: Respiratory infections are an important cause of morbidity and mortality in the general population and particularly, in the elderly. These patients have an incremented risk of infection, but if diagnosed and treated promptly are not, necessarily associated with higher complication or mortality rates. The admission of patients aged 65 and older in intensive and intermediate care units is a controversial subject, and therefore, as the life expectancy increases, this poses as a health care challenge.
Objectives: We set out to compare the expected mortality rate using the Pneumonia Severity Index (PSI score) with the real mortality rate in the elderly admitted in an intermediate care unit with the diagnosis of community acquired respiratory infection.
Methods: Retrospective observational study in an Intermediate Medical Unit of patients aged 65 and older admitted in an Intermediate Medical Care Unit with the diagnosis of community acquired respiratory infection during a period of 3 years. We evaluated socio demographic parameters, PSI score and clinical parameters (etiologic agent, antibiotherapy, duration of hospitalization and outcome).
Results: We identified 52 patients admitted with the diagnosis of respiratory infection of which 53,8% (n = 28) were aged 65 and older and 11 were very old (aged 85 and older). The median age was 83 years old (minimum 67; maximum 100) with 60,7% (n = 17) men. The mean PSI score was 147, conferring a expectable mortality of 27–31% (grade 5). The minimum PSI score was 91 and the maximum was 232. An etiologic agent was identified in 28,6% of the cases (6: streptococcus pneumoniae; 1: Klebsiella Pneumoniae; 1: Pseudomonas Aeruginosa) and two cases were complicated with bacteremia to pneumococcus. The most commonly used antibiotic was amoxicillin/clavulanate acid in association with clarithromycin. The mean days of hospitalization was of 13 days. The mortality rate was 14,3% (n = 4). Of these patients the mean PSI score was 150.
Conclusion: The difference observed between the expectable mortality using the PSI score and the real mortality is in accordance with the data stating that, the elderly do not have a worse prognosis than younger patients when treated accordingly. We conclude that the specialized care given to these patients in an Intermediate Care Unit conferred a better prognosis and should, therefore, motivate us to develop strategies to improve the quality of the criteria to admit elderly patients in specialized units.

P-567
Incidence of Herpes zoster and its complications in adults ≥50 years old: a prospective study in Germany (2010–2014)

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Objectives: Herpes zoster (HZ) is caused by a reactivation of the varicella zoster virus and mainly affects individuals aged ≥50 years and those who are immunocompromised. HZ is usually painful and may lead to persistent pain (PostHerpetic Neuralgia [PHN]), neurological sequelae or ophthalmic disease. The objective of this study was to characterize the HZ incidence and risk of complications in individuals aged ≥50 years, in Germany.
Methods: A prospective cohort study (e-track: 113206) was conducted from 2010 to 2014 using three different physicians' networks covering a defined geographical region and population. The patients clinically diagnosed with acute HZ were followed from the initial visit up to 270 days to assess the pain severity using the Zoster Brief Pain Inventory (ZBPI) questionnaire. We estimated overall, age- and gender-specific HZ incidence rates per 1000 person-years (PY). The prevalence of PHN was estimated using the definition of persistence of HZ-related pain with a ZBPI score ≥3.
Results: The overall HZ incidence was 6.7 per 1000 PY [95% confident interval (CI), 6.4–7.1], increasing from 4.4 in 50–59 years old to 9.4 per 1000 PY in ≥80 years. Among the 513 enrolled HZ patients, 11.9% [95% CI, 9.2–15.0] experienced PHN 90 days or more after rash onset, with the highest prevalence in ≥80 years old (14.3%). Respectively, 4.9% and 2.9% reported PHN 180 and 270 days or more after rash onset.

Conclusion: This prospective study confirms the burden of HZ and the increasing risk for developing PHN with age in German individuals aged ≥50 years.

P-568
Clinical and economic burden of pneumococcal disease in older adults with immunocompromising conditions in the United States

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Background and aims: Older adults with immunocompromising conditions are at high risk for pneumococcal infection. Limited studies have examined both the clinical and economic burden of pneumococcal disease in this population. We assessed pneumococcal disease rates, resource utilization and costs in US adults 65+ years with immunocompromising conditions indicated for pneumococcal vaccination by ACIP.
Methods: A retrospective cohort study using medical and pharmacy claims from Humana health plans was conducted to compare rates and cost of all-cause pneumonia, pneumococcal pneumonia and invasive pneumococcal disease (IPD) in older adults 65 + y with and without immunocompromising conditions. Conditions of interest included chronic renal disease, cancer, asplenia, transplant and HIV.
Results: Among 4.3 million older adults included in the analysis, 34% had no immunocompromising condition; 16.1% had chronic renal disease, 15.5% cancer, 0.2% asplenia, 0.1% transplant and 0.06% HIV. Older adults with immunocompromising conditions had 3 times the rate of all-cause and pneumococcal pneumonia, and 5 times the rate of IPD compared to healthy older adults respectively. All-cause and pneumococcal pneumonia rates were highest in transplant and asplenia patients. IPD rates were highest in transplant and HIV patients. Per IPD episode, adults with immunocompromising conditions had more hospital visits and longer length of stay compared to healthy adults – 1.0 vs. 0.8 visits and 8.3 vs 6.6 days respectively, but substantially higher costs ($13,694 vs. $10,510). IPD costs were highest in transplant ($18,442) and HIV patients ($15,715).
Conclusion: Older adults with immunosuppressive conditions are at high risk of pneumococcal disease, consume more healthcare resources and incur greater costs.

P-569
Anti-pneumococcal vaccination in the elderly of Autonomous Region of Madeira

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Introduction: invasive pneumococcal infections are an important cause of morbimortality in high-risk groups, especially those over 65 years. Of the latter, the ones with comorbidities exhibit the highest mortality rate. According to the latest American and Portuguese standards, vaccination is recommended with Polysaccharide Conjugate Vaccine 13-valent (PCV13) and Polysaccharide Vaccine 23-valent (PV23) against infections by Streptococcus pneumoniae in all immunocompetent elderly. Goal: analysis of antipneumococcal vaccination status of the elderly population enrolled in the Health Centres of the Autonomous Region of Madeira (ARM) and relation to having or not a Family Doctor (FD).
Methods: Observational, transversal and analytical data collection on vaccination with PCV13 and PV23 against Streptococcus pneumoniae infections in the elderly enrolled in the Health Centre of ARM with and without FD. Data was processed with Microsoft Excel and SPSS. It was recognized a statistical significance at $p < 0.05$.
Results: Data analysis revealed a pneumococcal vaccination coverage rate amongst the elderly of ARM of 4.6%, with a statistically significant difference between those with and without FD. It was also observed a difference in coverage rates among health centers, being the largest coverage 13.7% and the lowest 1.7%.
Key conclusions: Regarding that the pneumococcal vaccine is the most effective way to prevent invasive pneumococcal disease and due to low regional coverage rate, it is imperative to encourage its' implementation. Thus we intend to carry out sensitization activities to the medical community and re-evaluate the vaccination status of this population after 6 months.

P-570
The effect of age on seasonal influenza A prognosis

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Introduction: Seasonal flu is an acute viral infection caused by the influenza virus. There are currently two subtypes of seasonal influenza A circulating in humans: influenza A (H1N1) and influenza A (H3N2). In this study we aimed to determine the mortality rate in patients diagnosed with influenza A.
Materials and methods: This prospective study was conducted among patients presenting to our hospital with influenza-like illness (ILI) between December 1 and March 31, 2016. According to the clinical diagnostic criteria established by the Centers for Disease Control and Prevention coughing, sore throat and fever were considered ILI. Nasopharyngeal swab samples were obtained from 239 patients with ILI symptoms.
Results: A total of 239 patients were enrolled during the study period. H1N1 was detected in 67 patients and H3N2 was detected in 62 patients. The age distribution of the patients was 14.0% in the 0–4 years group, 63.6% in the 5–64 years group and 22.5% in the ≥65 group. Eleven of the patients with influenza A required treatment in the intensive care unit. There was a significant difference between age groups in the need for intensive care ($p < 0.05$), with the 5–64 age group requiring less intensive care compared to the 0–4 and ≥65 groups. Thirteen patients died; influenza A infection was detected in 4 of the deceased patients, all of whom were in the ≥65 age group.
Conclusion: Patients over 65 years of age should be vaccinated before contracting seasonal influenza and must be closely followed if they become infected with influenza.

P-571
Aspiration pneumonia: a 3 year-retrospective of an inward elderly population

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Introduction: Aspiration pneumonia (AP) is an important cause of mortality among the elderly. Although common, its definition is still unclear, which has major therapeutical implications. In our hospital, first-line therapeutic protocol consists in amoxicillin-clavulanate for community acquired AP (CAAP) and healthcare associated AP (HAAP); piperacillin-tazobactam for nosocomial AP (NAP), or previous recent (<15 days) antibiotic therapy.
Objectives: Clinical characterization, diagnostic and therapeutic approach in elderly patients with AP; protocol application rate and its impact on clinical outcome.
Methods: Retrospective study of patients with AP discharged between 2013 and 2015. Inclusion criteria: (1) age ≥65 years (2) clinical evidence of pneumonia (3) risk factors for AP or presented aspiration (4) chest x-ray.
Results: 65 patients with AP, 11 excluded[AVT1]. Mean age: 82.6 years; 98% had comorbidities. Main risk factor was previous stroke (53%). Cultures were obtained in 44% of patients, 98% without agent isolation. 15% of patients had normal chest x-ray. Adherence to protocol was significant (CAAP-83% HAAP-78% NAP-94%), with important clinical improvement (CAAP-40% HAAP-44% NAP-66%). Therapeutic switch was considerable (CA-AP 10% HA-AP 16% N-AP 8%) with favorable

outcome (CAAP-100% HAAP-67% NAP-100%). When protocol applied, 10 and 30 day-mortality rate were elevated (CAAP 30% and 40%, HAAP 22% and 28%, NAP 66% and 100%).
Conclusions: AP is relevant problem in geriatric population due to the high mortality rate. Clinical approach is limited due to absence of stratification for severity. Further studies need to be performed in this special population in order to optimize medical intervention.

P-572
Outcome of geriatric patients with Clostridium difficile associated diarrhea

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Background: Risk factors of multimorbid patients has to be taken into consideration in terms of infection diseases like Clostridium difficile, which is often triggered by careless antibiotic therapies and further medication with proton pump inhibitors for example. The geriatric departments take over patients from other clinic departments to continue started therapies, often antibiotic regiments with all their side effects and consequences.
Methods: In a retrospective case control analyses geriatric patients with Clostridium difficile infection were evaluated by the trigger of the infection and its risk factors. Furthermore various outcome parameters like kidney function, albumin, potassium and recurrences were analyzed. The upcomiong next step will be the comparison in matched pairs. This is and will be performed as a monocentric clinical trial.
Results: 167 patients were identified with Clostridium difficile infection, 100 evaluated yet. More than 80% were allocated from other clinical departments. Patients who suffered from Clostridium difficile associated diarrhea (CDAD) had to stay and to be treated for a longer period of time. Each individual antibiotic history was documented and found a high percentage of peniciline, cephalosporine and quinolone therapy as a risk factor for CDAD.
Conclusions: To avoid Clostridium difficile associated diarrhea with all medical, social and economic effects it is most important to rationalize antibiotic treatment especially by antibiotic stewardship but also to treat CDAD effectively. Geriatric patients with all their comorbidities are more vulnerable for CDAD and have a higher mortality. The amount of recurrences rises.

P-573
Zoster Vaccine Live: review of postmarketing safety by decade of life

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Introduction: Zoster Vaccine Live (ZVL) was approved in 2006 for the prevention of herpes zoster (HZ) and post herpetic neuralgia in individuals ≥50 years-of-age. This analysis describes the safety profile of ZVL by decade of life.
Methods: Spontaneous postmarketing adverse event (AE) reports received for ZVL from 02-May-2006 to 01-Nov-2015 from healthcare providers (HCP) worldwide for patients age ≥50 were reviewed.
Results: A total of 11342 reports, containing 28188 AEs, were identified. The majority of reports were from those 60–69 years (48%) followed by 70–79 (28%), 50–59 (14%); and ≥80 years (10%). Overall, injection site reaction (ISR) (n = 6788; 24%) and herpes zoster (HZ) (n = 2577; 9%) were the most frequently reported AEs. ISR was the leading AE in ages 50–79 and HZ in those ≥80 years. Median time to onset (TTO) from vaccination to AE for ISR was 2 days. In slightly over half of the reports of HZ, TTO was ≤14 days postvaccination. HZ was also the most frequently reported serious AE among all age groups. In the majority (75%), HZ was considered serious because the HCP reported the event to be either medically significant or disabling. Sixteen events (<1%) of disseminated HZ (DHZ) in ages 50–59 (n = 1), 60–69 (n = 5), 70–79 (n = 6) and ≥80 years (n = 4) were reported; 40% of the patients were reported to be immunosuppressed. The remaining AEs were reported similarly across the age groups.
Key conclusions: DHZ was reported very rarely. The most frequently reported AEs for ZVL are similar by decade of life.

P-574
Etiology of the bacterial urinary tract infections (UTIs) in elderly patients – does gender matter?

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Introduction: Bacterial urinary tract infections (UTIs) are the most frequently occurring infection in the geriatric population. Often they require the use of empiric antibiotic therapy, carrying the risk of increasing bacterial resistance. The aim of the study was the assessment of gender differences in etiological factors of UTIs in the geriatric in-patients.
Methods: Retrospective analysis of bacteriological urine test results performed in 2365 patients 60-year-old and older, hospitalized on non- surgical wards of the Hospital of the Ministry of Interior in Bialystok (years 2006–2013) was conducted. Patients with bacteriuria ≥CFU and clinically diagnosed UTIs were selected.
Results: The etiologic factors of 958 UTI cases were identified. Gram-negative bacteria were found in 87,2% cases of women and in 77,1% of men ($p < 0,001$). In women, the most frequently isolated pathogen-found in 72,2% of cases-was Escherichia coli (versus 40,0% in men). In men Proteus spp (20,6% versus 6,3% in women), "other Enterobacteriaceae" group (11,8% versus 7,7%), non-fermenting Gram-negative bacilli (4,7% versus 0,9%), and other Gram-positive cocci (18,2% versus 9,1%) were more common. Differences in the frequency of pathogen occurrence between the groups in most cases were statistically significant.
Key conclusions: There are significant differences in the profile of etiological factors of UTIs in geriatric in-patients between men and women. While the pathogen responsible for the majority of UTIs among older women is Escherichia coli, the greater share of other Gram-negative and Gram-positive bacteria in men is observed.

Area: Longevity and prevention

P-575
Risk of falls in the elderly: what is our reality?

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Introduction: The incidence of falls increases with age and frailty, and it is estimated to occur in 28–35% of the elderly population (≥65 years). About 10% of falls result in fractures or mortality. In the portuguese accidents monitoring system, falls in the elderly accounted for 87.1% of the cases. Our aim is to evaluate the risk of falls in elderly in our primary care facility.
Methods: Timed Up and Go (TUG) and Falls Efficacy Scale (FES) tests and questionnaires inquiring risk factors, history and consequences of falls were applied to users ≥65 years who resorted to consultations at USF do Parque during a period of thirty days. All data was statistically processed in Excel.
Results: 64 individuals participated in this study, 41 female, with an average of 79 years. About 45% reported difficulties in walking and 27% had at least one episode of fall, resulting in fractures in 2 cases. However, only 13% used support during the march. No patients expressed fear to fall through FES but 63% of subjects showed increased risk for falling through TUG test. These individuals had risk factors for falling, namely articular/neurological disorders, benzodiazepines/alcohol consumption.
Conclusion: The proportion of elderly at high risk of fall was high. Most of the patients did not admit to have difficulty in walking, few use

support and none of them expressed fear from falling. The outcomes in this population may improve by identification and correction of risk factors, as well as by advice for use the march support.

P-576
Physical exercise in osteoporotic fracture prevention in older adults

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Introduction: Osteoporotic fractures are a major health and economic problem in our rapidly aging society and physical exercise is often recommended to patients with osteoporosis. Therefore, the purpose of this systematic review is to investigate the role of physical exercise in the prevention of osteoporotic fractures in the elderly population.
Methods: Research in PubMed, Cochrane Library and Guideline databases, using the MESH terms "osteoporotic fracture", "elderly" and "physical exercise", while the search was limited to "systematic reviews", "randomized controlled trials", "meta-analysis" and "guidelines" of the last "10 years". The Strength of Recommendation Taxonomy (SORT) was used in this review.
Results: 12 entries were found, of which 5 guidelines and 3 systematic reviews, (one was also a meta-analysis) were selected. Entries that did not evaluate the relation between the variables in study were excluded. All articles provide evidence (A) that physical exercise reduces fall risk and improves Bone Mass Density (BMD). Regarding reduction of fracture risk we can only find low quality and expert opinion based evidence (C). Most studies are of low quality mainly due to the fact that osteoporotic fracture is either not an endpoint or is analysed as an adverse effect and the possible bias towards the publication of positive results weakens the body of evidence.
Conclusion: There is currently not enough evidence to recommends physical exercise in osteoporotic fracture prevention as more quality studies that analyse fracture as a primary endpoint are needed. However there is Strength of Recommendation A in fall risk reduction and BMD improvement.

P-577
The influence of a short cognitive and mobility training program on cognitive functioning among elderly people

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Cognitive and mobility training both maintain or improve cognitive functioning in elderly people. Thus, cognitive and mobility interventions play an important role in the primary and secondary prevention of dementia. The aim of this study is to further clarify the influence of diverse training programs on cognitive performances in older adults. We investigate the effects of cognitive and mobility training on people with no cognitive disorders and people suffering from mild cognitive impairments. Furthermore, we determine which cognitive functions (i.e., memory, cognitive flexibility, fluency and attention) are most influenced by the training.
The participants (N = 60, age range = 66–87 years) partook in a 12 week mobility and cognitive training program with two sessions per week. The participant's cognitive abilities were assessed before and after training, using learning and recall memory tests, a cognitive flexibility test, a verbal fluency test and a nonverbal attention test.
The discussion of the findings focuses on the necessity of introducing structured cognitive and mobility training programs in the primary and secondary prevention of dementia in older adults.

P-578
In-hospital mortality among Portuguese octogenarians, nonagenarians and centenarians

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Introduction: The exponential growth of the oldest old population is expected to contribute to a higher number of hospital admissions due to situations of prolonged disability and multimorbidity. Oldest patients often have complex medical diagnoses and frailty conditions, which are associated with higher rates of utilization of emergency services, and a higher risk of experiencing adverse outcomes, such us mortality. This study aims to analyze trends in-hospital mortality rates in inpatient hospitalizations by oldest old persons in Portuguese public hospitals.
Methods: All inpatient episodes of hospital admissions by patients aged 80 years and older between 2000 and 2014 were considered. Exploratory descriptive analyses of data regarding in-hospital mortality were performed.
Results: A total of 1.837,613 episodes of hospital admissions were analyzed. In 15.6% of the episodes, the patients died. An analysis by age group revealed that in octogenarians, the percentage of mortality was 14.3%, increasing in nonagenarians (22.2%) and centenarians (29.1%). The in-hospital mortality rate decreased from 15.6% in 2000 to 14.6% in 2014. Principal diagnoses at admission with a higher frequency of in-hospital mortality were pneumonia, acute cerebrovascular disease and non-hypertensive congestive heart failure.
Key conclusions: Findings from this study pointed to an increased vulnerability with age among the oldest old population and that there is a positive trend in in-hospital mortality. Further studies should focus on the sociodemographic characteristics of these inpatients, and on their medium length of stay and presence of medical comorbidities.

P-579
Fall prediction model in not disabled elderly

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Background and purpose: This study aims to define a predictive model of the risk of falling in not disabled elderly over a one-year period using the information obtained from the InCHIANTI Study. Participants: Participants were selected with the following variables: Age ≥65, Mini Mental State Examination (MMSE) ≥21, no loss in Activity of Daily Livings (ADL). Data comes from InCHIANTI Study FU4 and a one-year fall monitoring (Farseeing Project).
Methods: The following parameters were evaluated: Age, Handgrip, Fall in the previous year, CES-D, Haemoglobin concentration (gr/dL), Trail Making Test A (TMTA), Level of physical activity (PA), Short Physical Performance Battery (SPPB), 400 m speed, Fear of falling, number of drugs. Stepwise selection was performed on a logit regression model created with the aforementioned parameters using the AIC criterion.
Results: Forty-two subjects out of 250 (age = 82.1 ± 5.62) reported at least one fall in the one-year monitoring. Predictivity of the model was assessed on all subjects resulting with an AUC = 0.74. Internal cross-validation was performed with a training set equal to 80% of the subjects and validation set equal to the remaining 20%, resulting with an AUC = 0.70.
Conclusions: Results suggest that to predict risk of falling in elderly with good cognitive performance and no loss in ADL the following parameters are the most influential: Handgrip, Fall in the previous year, CES-D, PA, Haemoglobin concentration (gr/dL).

P-580
The "3 Plus 1 Integrated Program" improved cardiovascular health and physical fitness for community-dwelling healthy older adults in Taiwan

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Aim: To evaluate the effectiveness of an integrated health promotion program in the overall physical health of community-dwelling people aged 60 years and older in Taiwan.
Methods: Data of subjects participating in the integrated health promotion program ("3 Plus 1 Integrated Program") provided by the Yangsheng Foundation in 2014 were retried for analysis. All subjects aged 60 years and older and were free from active diseases. Subjects with significant impairment in activities of daily living or physical activities were excluded for study. The "3 + 1 Integrated Program" consisted of series activities of exercises, healthy diet, health behavior, and interpersonal relationship that continued for 12 weeks. Demographic characteristics, health behavior, living arrangement, marital status, underlying chronic conditions, and medications in use were collected. All subjects received assessment for anthropometric measurements, cognitive function, depressive symptoms, and evaluation of physical fitness, including timed up-and-go test (TUG), 2-minute step test (2m ST), 30-second chair stand test (30s CST), and dominant handgrip strength (HG).
Results: Overall, data of 80 subjects (mean age: 62.8 ± 6.6 years, 80% female) were retrieved for analysis after excluding data with incompleteness. Among all participants, the most common chronic condition was hypertension and almost none of the participants were current smokers or having habitual alcohol drinking. Meanwhile, the participants were physically fit, cognitive intact, having few depressive symptoms, but 17.5% of them had the history of falls in the past year and a half of all participants reported fear of falling. After the 12-week "3 Plus 1 Integrated Program", the systolic blood pressure, diastolic pressure, body mass index were significantly reduced (131.7 ± 21.8 vs 136.3 ± 22.4 mmHg, P = 0.047; 74.2 ± 11.5 vs 77.0 ± 11.0 mmHg, P = 0.047, and 23.8 ± 2.8 vs 24.2 ± 2.8 kg/m^2, P < 0.001, respectively by using paired t-test). Meanwhile, the 2mST and 30s CST were both significantly improved (115.3 ± 17.3 vs 104.6 ± 18.7 steps, P < 0.001; and 23.9 ± 8.9 vs 20.3 ± 6.9 times, P = 0.001, respective by paired t-test). The cognitive function, TUG and HG were not significantly different before and after the program. Spearman correlation showed that the reduction of diastolic blood pressure was significantly associated with reduction in systolic blood pressure, reduction in body mass index, and improvement of 2m ST (P all <0.05).
Conclusions: The "3 Plus 1 Integrated Program" significantly improved cardiovascular health and physical fitness, which may also prevent the cognitive decline and depressive symptoms among community-dwelling older people in Taiwan.

P-581
Polypharmacy in the elderly

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Introduction: In the elderly person the incidence of chronic conditions that require a greater number of pharmacological prescriptions is observed. Quaternary prevention is defined by the set of actions that aim to prevent damage associated with medical interventions, such as over-medication, and is governed by the Hippocratic principle "primum non nocere" (first do no harm).
Objective: Alert to the importance of reducing polypharmacy in primary health care setting through quaternary prevention.
Methodology: Research of scientific articles in the databases PubMed, Scielo, UpToDate and Science Direct, written in Portuguese, Spanish and English, published in the last five years, using the following keywords: polypharmacy and drug prescription.
Results: Polypharmacy, characterized as the use of multiple drugs or more than are medically necessary, has a high prevalence in patients over 65 years of age, making them a vulnerable age group since the aging process causes pharmacokinetic and pharmacodynamic changes predisposing to iatrogenic side effects. Adding to this are all therapeutic changes made without medical advice, including supplements and herbal drugs. The main consequences of polypharmacy are the increased incidence of adverse drug reactions, decreased adherence to therapy and increased costs, both direct (drugs) and indirect (hospitalizations and hospital emergencies resulting from drug interactions).
Conclusion: Polypharmacy is a direct consequence of multiple pathologies, so re-evaluation of therapy in each consultation is crucial, with the objective of improving the quality of life of the user, minimizing drug interactions and iatrogenic effects.

P-582
Sex-specific associations of gait speed with all-cause mortality in older adults –the ActiFE study

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Objectives: Walking requires energy and coordination, demanding the interaction of multiple organ systems. In this context gait speed is related to functional ability and many aspects of health. We analyzed the association between gait speed and six-year mortality in community-dwelling older people.
Methods: Gait speed over 4 meters was measured in subjects ≥65 years participating at the cohort study Activity and Function in the Elderly in Ulm (ActiFE Ulm). Cox-proportional hazards models evaluated the association between gait speed and six-year mortality adjusting initially for age followed by identified predictors of gait speed: body mass index, short performance physical battery and handgrip strength.
Results: We observed 166 deaths among 1166 participants (mean age 75.2, 60% men, mean gait speed 1.0 m/s with no differences across gender) representing an incidence rate (IR) of 25.2 deaths per 1000 person-years [95% CI 21.6–29.3]. We detected evidence of effect modification by sex (p = 0.15). In age-adjusted analyses a 0.1 increment in gait speed was associated with a hazard ratio (HR) of 0.73 [95% CI 0.64–0.84] in women (n = 466, 42 deaths, IR 15.5 [95% CI 11.3–20.8]) compared to a HR of 0.83 [95% CI 0.77–0.90] in men (n = 700, 124 deaths, IR 32.0 [95% CI 26.7–38.0]). Multivariable analyses attenuated these associations with a HR of 0.81 [95% CI 0.65–1.01] in women and a HR of 0.88 [95% CI 0.80–0.97] in men.
Conclusion: The strength of the association between gait speed and six-year mortality seems to vary between men and women, pointing out the need for more sex-specific research among older people.

P-583
Effectiveness of community based occupational therapy for physical frail older people: a systematic review

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Background: Living safely and independently is a priority goal. The provision of high quality home care services results in a decrease in the number of admissions in hospitals and residential care centers. Occupational therapists aim, in collaboration with other health professionals, to facilitate the independent living and participation of older persons in everyday activities at home. The purpose of this meta-analysis is to review the effectiveness of occupational therapy (OT) interventions for community dwelling physically frail older people.
Method: Electronic databases (Medline, Embase, Cochrane Library, Cinahl, Psychinfo and OTseeker) were searched for original studies. This meta-analysis was carried out in accordance with the EPOC-guidelines and using the Cochrane Handbook for Systematic Reviews

of Interventions version 5.1.0. Study selection and quality appraisal was done independently by two authors.
Results: The pooled result with outcome measure function in ADL combined using a standardized mean difference (SMD) with a random-effects model was −0.30 (95%CI −0.50 to −0.11; P = 0.002), for the outcome measure social participation −0.44 (95%CI −0.69, −0.19; P = 0.0007) and for the outcome measure mobility −0.45 (95%CI −0.78 to −0.12; P = 0.007). In the secondary outcome fear of falling, we also found a significant improvement in the intervention group versus the control group. There was no effect on the secondary outcomes cognition, disability and the number of falling persons.
Key conclusion: This systematic review proves that OT has an effect on maintaining functionality, mobility and social participation in community-dwelling physically frail older people. Further research is required to elucidate preconditions for implementing OT.

P-584
Genista tenera, a Portuguese plant with antidiabetic effect and anti-ageing potential

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Type 2 diabetes accounts for at least 90% of all cases of diabetes, affecting over 415 million people around the world [1]. On the other hand, the risk of dementia (particularly Alzheimer's disease) is up to 73% higher in people with type 2 diabetes [2] and, therefore, the increasing incidence of Alzheimer's disease is perhaps not only a consequence of population ageing alone, but also a result of the diabetes epidemic itself. Genista tenera is an endemic plant to the island of Madeira and is used in traditional medicine for the control of diabetes. Previous work performed by of our group showed that its flavonoid extracts display significant antihyperglycemic and antioxidant effects [3] associated with several flavonoid glycosides and aglycones that were identified [4–6]. 8-β-D-glucosylgenistein, the major component of the ethyl acetate extract, stood out for its extremely potent antidiabetic activity in vivo, being also able to interact both with human islet amyloid polypeptide (hIAPP) and amyloid β1–42 (Aβ1–42) peptides, which are major hallmarks of type 2 diabetes and Alzheimer's disease, respectively. Moreover, atomic force microscopy (AFM) and thioflavin-T (ThT) fluorescence assays revealed the remarkable ability of the glycosylgenistein to prevent the formation of hIAPP cytotoxic oligomers, often responsible for β-cell dysfunction in the late stage of type 2 diabetes [6]. Together, these results highlight the antidiabetic and anti-ageing effects of Genista tenera and encourage further investigation on functional ingredients based on plant components and on the potential of 8-β-D-glucosylgenistein as a promising multitarget antidiabetic lead for drug development.

References

[1] Piemonte L.. Sugar taxes and type 2 diabetes prevention: UK takes a step in the right direction. *International Diabetes Federation*. 2016. Web. 28 May 2016.
[2] Koekkoek P.S., Kappelle L.J., van den Berg E., Rutten G.E.H.M., Biessels G.J.. *Lancet Neurol*. 2015, 14(3), 329–340.
[3] Rauter A.P., Ferreira J., Martins A., Santos R.G., Serralheiro M. L., Borges C., Araújo M. E., Silva F., Goulart M., Justino J., Rodrigues J., Edwards E., Thomas-Oates J. P., Noronha J. P., Pinto R., Mota-Filipe H.. *J. Ethnopharmacol*. 2009, 122, 384–393.
[4] Rauter A.P., Martins A., Borges C., Ferreira J., Justino J., Bronze M.R., Coelho A.V., Choi Y.H., Verpoorte R.. *J. Chromatogr. A*. 2005, 1089, 59–64.
[5] Borges C., Martinho P., Martins A., Rauter A. P., Almoster-Ferreira M. A.. *Rapid Commun. Mass Spectrom*. 2001, 15, 1760–1767.
[6] Jesus A.R., Dias C., Matos A.M., Almeida R.F.M., Viana A.S., Marcelo F., Ribeiro R.T., Macedo M.P., Airoldi C., Nicotra F., Martins A., Cabrita E.J., Jimenez-Barbero J., Rauter A.P.. *J. Med. Chem*. 2014, 57(22), 9463–9472.

P-585
Travellers' thrombosis in elderly – to travel or not to travel?

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Background: Since the fifties of the last century, it is known that plane, train, bus or automobile passengers are at higher risk of venous thromboembolism (VTE) when they remain seated and immobile more than four hours. This was confirmed by project WRIGHT (WHO Research into Global Hazards of Travel). At the same time it is known that VTE is a age-related disease with a low rate of about 1 per 10,000 annually before the fourth decade of life, rising rapidly after age of 45, and approaching 5–6 per 1000 annually by age of 80.
Methods: We analysed VTE risk factors in 219 patients who have had VTE. All patients are followed at Outpatient Department of Angiology of III Bratislava district. The study group consists of 100 men (45,7%), 119 women (54,3%). Mean age was 59.43 (standard deviation 16,96) with age range 21–90 years.
Results: 4.4% of young adults (21–45 years) and 4.5% of elderly (66–90 years) developed VTE regarding to travelling, difference is not statistically significant (p = 0.426).
Conclusion: Almost the same incidence of travelling as a risk factor for VTE among young adults and seniors surprised us pleasantly. These results are interpreted by prudent decision making in senior travel activities as well as by correctly applied preventive methods. Elderly people are aware of the risks of travel; therefore before travelling they often consult a doctor. Each senior has to be evaluated strictly individually and get tailored recommendations regarding preventive measures.

P-586
Fracture risk assessment in elderly women with recurrent falls

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Introduction: Accidental falls represent a major health problem in the elderly. Fall-related consequences are associated with excess morbidity and mortality. Prevention of falls and fractures is an important target for health care workers in hospital and ambulatory facilities. We assessed the risk of future falls and fractures in elderly women hospitalized in an acute geriatric department of Western Galilee Hospital (Israel), using clinical factors and the FRAX tool.
Methods: 192 community dwelling independent women, aged 65–90. The patients answered a questionnaire regarding medical history, previous falls, chronic medications, parental hip fracture, smoking, bone densitometry (DEXA) before hospitalization. At discharge the patients received written recommendations to perform DEXA and to start treatment as needed. A second phone interview was performed 3 months later.
Results: 87% (168 patients) had more than one clinical risk factors for falls: polypharmacy 38%, gait disturbance 58%, poor balance 53%, low vision 39%. 46% (89 patients) had more than 4 risk factors. Risk of future major fracture according to FRAX tool was more than 20% in about 50% of the patients. 85% received written recommendations for follow up and performing DEXA examination in an ambulatory facility. Three months later 85% of them were contacted by phone. Only 24% had DEXA examination, 52% of them were diagnosed as osteoporotic and treated.
Conclusions: Assessment of risk factors for falls and fractures is insufficient, especially in the ambulatory facility. We recommend combining clinical risk factors with the FRAX tool for more effective prevention of falls and fractures.

P-587
Smoking cessation in elderly: is there a better way?

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Introduction: Smoking cessation's benefits among older people are well documented. Despite this, evidence suggests that older smokers

are rarely engaged in cessation efforts. It is unclear which pharmacotherapy strategies are most effective in elderly.
Methods: Search performed using Mesh terms: "aged"; "smoking cessation". Review of systematic and narrative reviews, meta-analysis and guidelines, published between 2011 and 2016, the age was limited to >65 years. Data base used was: Pubmed.
Results: 1163 articles were found, and 13 were selected according to our objective. Counselling and non-pharmacological approach demonstrated benefices therefore smoke cessation is an effective intervention to offer. Nicotine replacement therapy is the pharmacotherapy most studied in older adults. It is effective for smoking cessation among this population. Varenicline is generally safe and well tolerated; a study involving smokers aged 65 years and above found that no dose adjustment was required. Bupropion can be used in elderly smokers but at a reduced dose – 150 mg/day. Other strategies are available: spirometer as a motivational tool and physical activity as a coping resource, but further information is needed.
Conclusion: The studies available are insufficient to recommend a clear strategy for smoking cessation in older adult smokers. Special consideration needs to be given to the elderly because of such factors as their longer smoking history, comorbidities and drug history. Further study is needed to assess the efficacy of smoking cessation interventions. However, family physicians should continue to advise, encourage and support elderly smokers.

P-588
The physical capacity of community-dwelling elderly

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Objectives: Ageing is a dynamic process, with great diversity in how elderly age [1,2]. Frailty is a common clinical condition which can lead to high fall risks, disability, hospitalization and mortality [1,3,4]. A sufficient level of physical capacity, referring to the maximal ability to perform activities, has preventive value for frailty [1]. Physical capacity can be expressed in different dimensions and measured both objectively and subjectively. The aim of this study is to provide more insight into these different dimensions and their relationship in community-dwelling elderly.
Methods: As part of the PERSSILAA-project (FP7-ICT-610359), community-dwelling elderly between 65–75 years performed several physical assessments; the SF-36 physical functioning scale (SF-36pfs), the 4 m-walk-test, Chair-stand-test, Chair-sit-and–reach-test, Timed-up-and-Go (TUGT) and the Two-Minute-step-test.
Results: In total, 85 elderly participated (44.7% male, average age 70.1 (SD 3.0), 77.6% robust and 22.4% frail based on the Groningen Frailty Indicator). Concerning the different dimensions 30.6%, the participants score below the threshold for flexibility (Chair-sit-and-reach-test), 24.7% for endurance (Two-Minute-step-test), 20% for subjectively judged physical capacity (SF-36pfs), 17.3% for strength (Chair-stand-test) and balance (TUGT) and 14.1% for gait speed (4 m-walk-test). Only 41.2% scored above threshold on all the objective physical assessments.
Conclusion: Almost 60% of the elderly score below threshold on at least one of the objectively assessed dimensions of physical capacity compared to only 20% who judge their physical capacity below threshold by themselves. It is important to measure various dimensions of physical capacity in order to have a better insight and to define personal treatment plans.

References

[1] Buckinx F., Rolland Y., Reginster J.-Y., *et al.*, Burden of frailty in the elderly population: perspectives for a public health challenge. *Archives of Public Health* (2015); 73:19.
[2] Suzman R., Beard J.R., Boerma T., Chatterji S., Health in an ageing world – what do we know? *Lancet* (2015); 385;484–486.
[3] Rodriguez-Manas L., Fried L.P., Frailty in the clinical scenario. *Lancet* (2015); 385.
[4] Clegg A., Young J., Iliffe S., *et al.*, Frailty in older people. *Lancet* (2013); 381:752–762.

P-589
Empirical data of self-rated health in elderly reveal dynamical characteristics that rank humans from resilient to frail

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Introduction: Resilience is the capacity to bounce back to normal functioning upon disturbances and its gradual deterioration during ageing often remains unnoticed until confronted with a health crisis. We currently still lack valid methods to dynamically measure resilience for upcoming stressors. Research on complex dynamical systems such as ecosystems has put forward empirical quantitative indicators of resilience. We hypothesise that we could rank elderly from resilient to frail by looking at differences in variance, temporal autocorrelation and cross-correlation in three self-rated health outcomes.
Methods: We monitored self-rated physical, mental and social health with the use of daily visual analogue scale questions during 100 days in 22 institutionalised elderly people above 70 years. Their frailty was determined by the Survey of Health, Ageing and Retirement in Europe (SHARE) frailty index.
Results: With increasing frailty on a continuous scale, the three dynamical characteristics of subjects' time series significantly increased. When the group was dichotomised for frailty status, the time series of frail elderly exhibited elevated variance in the physical (0.02 vs. 0.006, $p < 0.001$) and mental domain (0.03 vs. 0.006, $p < 0.001$), as well as elevated temporal autocorrelation in the physical (0.57 vs. 0.44, $p = 0.06$) and mental domain (0.54 vs. 0.43, $p = 0.14$) as compared to non-frail elderly. In addition, time series in the physical and mental domains of the system were more cross-correlated in the frail group (0.67 vs. 0.37, $p < 0.001$).
Conclusion: These results suggest that dynamical characteristics in empirical data collected over time may be used to quantify resilience in elderly.

P-590
Spatial distribution of falls prevalence in Europe: an analysis based on SHARE database

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Objectives: Our aim is to evaluate the prevalence rates of falls in older adults in Europe.
Methods: We conducted a cross-sectional analysis using data from the fourth wave (2011/2012) of SHARE (Survey of Health, Aging and Retirement in Europe) database. The direct age-standardized (5-years age groups) prevalence rates of falls in individuals ≥50 years old were calculated for 16 European countries using the revised European Standard Population of 2013.
Results: From the SHARE database (n = 58,489) we selected 57,056 registers of individuals ≥50 years old, 55.9% (n = 25,162) were women. In this wave, 2953 individuals experienced falls in the 6 months before the interview, with mean age for males and females 71.6 (SD11.0) vs

71.9 (11.0) p-value 0.513. Overall prevalence rates (%) of falls (CI95%) in the 16 European countries was 5.18 (4.99–5.37). The prevalence was higher in women in all countries with a clear north-south pattern. The ratio women/men varied from 1.3 in Sweden and Denmark to 3.7 in Italy. Portugal presented the highest rate among women [12.53 (10.40–14.67)] and Hungary among men [6.46 (4.63–8.29)]. The lowest rates were in Slovenia for women [3.22 (2.28–4.16)] and in Switzerland [1.29 (0.68–1.90)] for men.
Conclusion: The prevalence of falls among elders showed accentuated disparities between countries and by sex. It is important to understand the reasons behind falls in elderly to implement effective preventive campaigns and actions to minimise falls risk.

P-591
Causes and risks of falls in patients treated in a geriatric clinic: proposal of an algorithm for the management

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Introduction: Falls as a geriatric syndrome are one of the major contributors of morbidity and mortality in people of older age. Proper management of causes and risks of falls is a major task in a geriatric clinic.
Methods: We are currently developing a new algorithm to systematically diagnose and treat causes and risk of falls in patients referred to our clinic of geriatric medicine. Our algorithm attempts to consider the challenges to evaluate syncope and pre-syncompe in cognitively impaired patients, specific symptoms like vertigo, standard judgement of multiprofessionally obtained results of geriatric assessment, as well as diagnostic possibilities and ressources. The primary goal is to reduce frequency of falls during the hospital stay, and addition after dismissal of the patient. We regularly capture events of falls in our patient database and will compare frequencies before and after introduction of our algorithm.
Results: Details of the composition of the algorithm as well first outcome data will be presented at the meeting.
Conclusions: Establishment of a standard algorithm to assess and manage causes and risks of falls in the setting of a geriatric clinic may help to better weigh musculoskeletal, neurological, cardiovascular, and other fall determinants in individual patients and as a consequence to better decide on further diagnostic procedures as well as targeted treatment approaches, including highly specific physical therapy and a accurate recommendations for the general practitioner managing patients after the hospital stay.

P-592
Detecting diabetes mellitus and prediabetes in patients with acute stroke

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Stroke is a leading cause of death and disability [1]. Control of modifiable risk factors is the most effective approach to decreasing the burden of stroke [2]. The purpose of this study was to determine the prevalence of diabetes mellitus (DM) and prediabetes (pre-DM) in acute stroke patients in an Irish population. We conducted a retrospective review of the records of stroke patients admitted to Cork University Hospital from 9th March 2014 to 9th March 2015. HbA1C and fasting glucose measurements during admission were recorded. DM and pre-DM prevalence levels were determined using both HbA1C and fasting glucose level. Among 445 strokes admitted to CUH, 383 (86%) had a test for diabetes performed. 241 (54%) had a HbA1c check, while 252 (57%) had a measurement of fasting glucose performed. 39 (9%) had a HbA1c level >47 mmol/L. 40 (9%) had a HbA1c between 42 and 47 mmol/L. 27 (6%) had a fasting glucose greater than 7 mmol/L. The rate of Impaired Fasting Glucose varied from 7% to 21% dependant on range used. In our study 6–9% of acute strokes had either a fasting glucose or HbA1c consistent with DM, while 7–21% had pre-DM. The rate of detection of DM and pre-DM varies with diagnostic test performed, suggesting that both HbA1c and fasting glucose should be performed in cases of acute stroke.

References

1. Feigin VL, Forouzanfar MH, Krishnamurthi R, Mensah GA, Connor M, Bennett DA, *et al.* Global and regional burden of stroke during 1990–2010: findings from the Global Burden of Disease Study 2010. *Lancet* 2014;383:245–254.
2. Meschia JF, Bushnell C, Boden-Albala B, Braun LT, Bravata DM, Chaturvedi S, *et al.* Guidelines for the primary prevention of stroke: a statement for healthcare professionals from the American Heart Association/American Stroke Association. *Stroke* 2014;45:3754–3832.

P-593
Colon-specific automated massage ameliorates idiopathic chronic constipation in aged women

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Objectives: The colon-specific abdominal massage has been shown effective in treating constipation. To study the efficacy of a medical device that automatically reproduces this manual massage we conducted a pilot study with chronically constipated aged people.
Methods: n = 8 women (50–86 yo), chronically constipated for >5 y due to idiopathic causes, w/o anal sphincter dysinergia and not using the manual abdominal massage, received 15min automatic massage, once a day for 15 days, administered with the medical device MOWoOT. Abdominal massage was an additional treatment; patients did not suspend any of their prescribed therapeutic regimens. Before and after the treatment patients answered questionnaires for fecal consistency (Bristol scale), chronic constipation (CCCS) and Quality-of-Life scores (CVE-20). During the treatment they filled in an evacuation diary. Each patient serves as her own control. Quantitative variables were analyzed with paired t-Test. Non-parametric variables with Mann-Whitney test. $P < 0.05$ was considered statistically significant.
Results: 2 people (50yo each) were excluded due to not compliance. There was not any reported adverse effect. Results showed a clear increase in the median number of depositions per week (from 4 to 6, $P = 0.006$); an amelioration in fecal consistency (from 3 to 5, Bristol $P = 0.056$), in min/deposition (from 7 to 3′8, $P = 0.020$) and in whole constipation score (CCCS from 12 to 8, $P = 0.001$). All patients reported comfortable sensation during the automated massage.
Conclusions: The colon-specific automatic massage improves the frequency of evacuations and fecal consistency ameliorating idiopathic chronic constipation in aged women.

P-594
Cool down! Minimizing health risks of elderly people during heat waves

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Introduction: Intensive heat has negative impacts on human health resulting in higher morbidity/mortality during and past heat waves. Particularly at risk are (very) elderly and socially isolated persons. Aim of our study "Cool towns for the elderly – protecting the health of elderly residents against urban heat" was, inter alia, to explore how elderly people perceive heat and how they adjust their behaviour in response to heat. Targeted adaptation strategies were to be developed.
Methods: Using standard questionnaires (SF-6, de Jong-Gierveld loneliness scale) 400 subjects (>65 years) living in four different urban districts (varying proportion of green spaces, differences in

socio-economic structure) were inquired via computer-assisted telephone interviews (first survey). In addition, face-to-face interviews with elderly residents in nursing homes (n = 200) were performed. The acceptance of adaptation strategies (based on first survey and stakeholder input) was verified by a second survey of elderly living in heat urban islands (n = 200).
Results and Discussion: Socially deprived people showed more heat related symptoms. Heat periods were reported to be associated with mental health problems. The higher the environmental stressors and the less the socio-economic and health resources the more indoor adaption strategies must be deployed. Some of the measures taken by the subjects are contrary to medical recommendations (e.g. opening windows during the day).
Key conclusions: There is an increasing demand for health protection from heat waves. Only few specific adaptation measures for elderly people are implemented in Vienna so far. Coping strategies and measures suitable for implementation are presented for decision makers.

P-595
Loneliness in nursing homes

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Introduction: About 39% of Finnish community dwelling older people suffer from loneliness at least sometimes and 5% often or always. Loneliness is known to predict lower quality-of-life, disability, cognitive decline and higher mortality. However, there are only few studies which have researched loneliness in institutional settings. This study examines the prevalence, associated factors and prognosis of loneliness among older people in nursing homes.
Methods: A cross-sectional study of all residents (N = 4966) in nursing homes (N = 61) in Helsinki, 2011. Residents with severe dementia were excluded. Loneliness was assessed with the question "Do you suffer from loneliness?"
Results: Of the participants (N = 2072), 9% suffered from loneliness often or always, and 35% at least sometimes. Loneliness was associated in a step-wise manner with lower education, poor self-rated health, disability, higher cognitive function, malnutrition, and depression. Loneliness predicted poor psychological well-being (PWB) both among women and men. Whereas among "not lonely" men had better PWB than the respective women, among the "sometimes lonely" and the "always lonely" group there were no differences between the genders concerning PWB. Loneliness also predicted higher mortality (among the "sometimes lonely" group HR 1.19, 95%CI 1.05–1.35 and among the "always lonely" group HR 1.28, 95%CI 1.06–1.55 when "not lonely" was the reference group).
Key conclusions: Loneliness has severe consequences even among residents in nursing homes and therefore deserves more attention. Key issue is to assess residents' loneliness and take it into account in the care and interventions.

P-596
Circle of friends – successful model for the alleviation of loneliness

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Introduction: About 35–39% of Finnish older people suffer from loneliness, which is associated with decreased quality of life and impaired health. VTKL's Circle of friends (CoF) group model aims to alleviate feelings of loneliness. In a randomized controlled trial 2002–6 it improved lonely older people's well-being, health and cognition. The main elements of CoF include closed-group dynamics, target-oriented work and enhancing communication among group participants. This study aims to describe the feasibility and dissemination of CoF and its effects in practice in a 10-year follow-up.
Methods: CoF has been actively promoted in Finnish communities and assisted living facilities with three main activity areas: coordinating regional organisation, training CoF-facilitators, and supporting CoF-group activities among older people. By 2016 altogether 723 facilitators have been trained. The data were collected by an electronic survey for facilitators.
Results: 267 responded. Facilitators' mean age is 57 y, 96% are women. The responders have facilitated a mean three groups (range 1–30). The groups included, e.g. home-dwelling participants, older people in assisted living facilities, people with dementia and widows. The main elements in groups were in line with CoF model (deals with loneliness 90%, goal-oriented group work 90%, closed groups 89%, number of participants 6–8 73%, meeting 8–12 times 90%). The facilitators reported typical challenging situations in groups.
Key conclusions: We have successfully implemented and disseminated CoF-model in Finland. The success is due to paying attention to the main elements of CoF and careful training of professionals.

P-597
Keep body and mind moving in Luebeck Model Worlds of Movement (Lübecker Modell Bewegungswelten)

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Objectives: Life quality in old age depends on social relationships and the ability to perform activities of daily living, these again on muscle power, endurance, joint mobility, coordination and cognition. Several kinds of training aim at keeping silver agers fit, but there is a lack of standardized programs for those that already need regular assistance.
Methods: Initiated by the Federal Centre for Health Education, the Research Group Geriatrics Luebeck created a program for seniors dependent on help, but still able to walk six meters without personal aid. Involving experts from geriatrics, physiotherapy and sports, training units addressing all regions of the body and all target criteria mentioned above were composed. Each unit carries a motto ("apple crop", "housebuilding" etc.). Photo illustrated instructions on daily self-exercises complete the program.
Results: For every motto a manual was created, assigning target criteria and body regions to each exercise. Training supervisors were educated to select and modify exercises according to the individual current status of each participant. This training is offered in ten nursing homes in Luebeck to up to fifteen residents and non-residents per group.
Conclusion: Embedding exercises into a motto seems to be a successful approach to win seniors' long-term participation. Training supervisors report that personal experiences linked to the motto are shared within the group and social contacts intensify. Participants find it easier to carry out exercises correctly, when these correspond to automated activities from the chosen "World of Movement". Functional improvements can be seen. The program undergoes scientific evaluation.

P-598
Caregiver's nutritional status prior the tailored nutritional counseling

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Introduction: Caregivers often experience high levels of stress, lowered sense of well-being, depression, burden and compromised physical health which increase the risk of inadequate nutrition, especially in elderly caregivers. Nutrition counseling can be an effective way to improve caregivers' nutrition.
Methods: In this ongoing randomized controlled trial, we investigate the effectiveness of tailored nutrition counseling on nutrient intake

and nutritional status among the elderly caregivers aged 65 years or older with normal cognition. The nutritional status is assessed with the Mini Nutritional Assessment (MNA) and nutrient intake with three-day food diary. The six month intervention includes tailored nutritional guidance with home visits, group meetings and written material. The baseline results are presented as means and standard deviations.

Results: Total of 79 caregivers, with the mean age of 73,7 years (62% women) were recruited to the trial. At baseline 15 participants (19%) were at risk for malnutrition and one participant (1,3%) was malnourished according to the MNA. The mean energy intake was 1609,8 (423,9) kcal/d. The mean protein intake was only 0,95 (0,26) g/kg bodyweight/d. 79,7% of the participants did not reach the recommended 1,2 g/kg bodyweight/d protein intake. There was also a lack of dietary fiber (19,8 (6,0) g/d), folate (208,1 (69,8) µg/d), and vitamin D (9,3 (5,3) µg/d).

Conclusions: Every fifth of the caregivers were at risk of malnutrition. Lack of protein, fiber and vitamins reduce the quality of the diet. Nutrition counseling is needed to improve elderly caregiver's nutrition.

P-599
Readmission of frail elderly patients – a Danish randomized clinical trial

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Introduction: We performed a study to determine whether discharge planning including a single follow-home visit reduces readmission rate.

Methods: Centrally randomized single-centre controlled trial. Patients aged >65 years discharged during 2013–2014 from a Danish hospital serving a rural and low socioeconomic area. Patients discharged from medical, geriatric, emergency, surgical or orthopedic departments met inclusion criteria describing frailty, e.g. low functional status, need of more personal help and multiple medications. Study and department nurses reviewed discharge planning the day before discharge. On day of discharge, study nurses accompanied the patient to their home, where they met with the municipal nurse. Together with the patient, they reviewed cognitive skills, medicine, nutrition, mobility, functional status, and future appointments in the health care sector and intervened if appropriate. Primary outcome was readmission at any hospital in Denmark within 180 days after discharge. Secondary outcomes were time to first readmission, number of readmissions, length of stay, and readmission with Ambulatory Care Sensitive Conditions, visits to general practitioners, municipal services, and mortality.

Results: Among 951 eligible patients, 544 were randomized. In the intervention group 56% and in the control group 54% were readmitted ($p = 0.71$) and 23% from the intervention group and 22% from the control group died within 180 days. There were no significant differences between intervention and control groups concerning other secondary outcomes.

Key conclusions: There is no effect of a single follow-home visit on readmission in a group of frail elderly patients discharged from hospital.

P-600
Pharmacological treatment, non-pharmacological and combined cardiovascular disease in menopausal and dyslipidemic elderly population

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According to estimates, the increasing pace of aging affects the population in general. In women as well as changes due to aging, endocrine and metabolic changes present in this phase, associated with physical inactivity and poor diet, make this susceptible population the development of cardiovascular diseases. Currently, various forms of treatment of cardiovascular disease in menopause have been studied, among them, hormone replacement therapy, diet and physical exercise. With the aim of deepening the knowledge of the various forms of treatment of cardiovascular disease in menopausal and dyslipidemia elderly population, we conducted a search in the databases: Pubmed and Science Direct, using the key words: Dyslipidemia and Menopause and Cardiovascular disease and Exercise. The articles were filtered as inclusion and exclusion criteria, the following items were analyzed: Year of publication, individual models (human or animal), forms of treatment and technical parameters analyzed. Our results showed prevalence in studies using exercise as non-pharmacological treatment and prevalence in the biochemical, biometric and physiological analyzes.

P-601
Efficacy of an exercise program to improve performance in community elders

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Functional capacity (CP) is currently the largest marker of health of the elderly, so the muscular status and mobility are key to CP maintenance of the elderly. The objective of this study is to prove the effectiveness of a new exercise program directed to the elderly. METHODOLOGY observational, case-control with elderly convenience sample of an operator's health RJ/Brazil, intervention group (IG) attended 32 sessions strength, balance, endurance exercises based on functional training, assisted by physiotherapists, periodicity twice a week. The control group (CG) waited for the program without performing any exercise for 16 weeks. Subjects were submitted to the following instruments before and after 32 sessions or 16 weeks: Short physical performance battery (SPPB) Performance oriented mobility Assessment-version Brazil (POMA-BR), time (seconds) of sitting and standing without hand support 5x handgrip (FPM), gait speed and. Mini MentalState Exam (MMSE). The subjects with $MMSE \leq 20$, with severe sensory deficits and behavioral changes were excluded. Statistical analysis was used SPSS18 package and conducted sociodemographic analysis and analysis of variance between the results of the two groups before and after the intervention. Will be considered a level of significance ($P \leq 0.001$) We hope to prove with this study the effectiveness of a new structured model of physical training specifically targeted to seniors

P-602
Effectiveness of an exercise program aimed at optimizing physical performance of older adults

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Objectives: Functional capacity (CP) is currently the largest marker of health of the elderly, so the muscular status and mobility are key to CP maintenance of the elderly. The objective of this study is to determine the effect of a new exercise program on functional performance in elderly patients.

Methods: Pre-post experimental design with elderly convenience sample of an operator's health RJ/Brazil, intervention group (IG) attended 32 sessions strength, balance, endurance exercises based on functional training, assisted by physiotherapists, periodicity twice a week. The control group (CG) waited for the program without performing any exercise for 16 weeks. Subjects were submitted to the following instruments before and after 32 sessions or 16 weeks: Short physical performance battery (SPPB) Performance oriented mobility Assessment-version Brazil (POMA-BR), time (seconds) of sitting and standing without hand support 5x handgrip (FPM), gait speed and Mini Mental State Exam (MMSE). The subjects with

MMSE ≤ 20, with severe sensory deficits and behavioral changes were excluded. Statistical analysis was used SPSS18 package and conducted socio-demographic analysis and analysis of variance between the results of the two groups before and after the intervention. To identify the effect of the intervention from baseline to post intervention a paired t-test was used. The level of significance adopted was 5%.

Results: 99 subjects, age 71,8 ± 6,3 (CG) and 71,4 ± 6,6 (IG), male 2 (18,2%) CG and 24 (27,3%) IG, female 9(81,8%) CG and 64 (72,7%) IG, MMSE 28,45 ± 1,75 CG and 28.72 ± 1.56 (IG). There was significance for all variables, (SPPB) (POMA-BR), time (seconds) of sitting and standing without hand support 5x, (FPM) an gait speed the experimental group and none in the control.

Conclusion: The exercise protocol was effective to improve the performance of seniors who submeted to our program.

P-603

Attendance avoidance through app based medication review

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Objectives: Adverse drug reactions represent a major burden on healthcare, causing between 3% and 5% of all hospital admissions [1]. This impact is magnified in older patients; studies have shown that up to 51.3% of older patients were prescribed potentially inappropriate medications [1]. These findings are highly relevant to Emergency Medicine with ever increasing emphasis being placed on attendance avoidance, and increasing numbers of older patients.

Method: We utilised the STOPP/START criteria [2] and Anticholinergic burden scoring [3] to assess the drug histories of all patients over the age of 65 who presented over the course of a year to a major London A + E department with three common presentations: bleeding, confusion and falls.

Results: We found consistently high levels of potentially inappropriate prescribing with 64% of patients presenting post a fall, 92% with new confusion and 23% with bleeding, having drug histories that warranted a medications review. 22% of patients presenting after a fall also had clinically relevant anticholinergic scores and higher re-attendance rates than those with low anticholinergic scores.

Conclusion: We designed a pilot study using a digital app designed by a Geriatrician to analyse and prompt potential medication changes for patients admitted to our Clinical Decision Unit with the aim of future attendance avoidance.

References

[1] Prevalence of potentially inappropriate prescribing in an acutely ill population of older patients admitted to six European hospitals. Gallagher *et al.* 2011.
[2] Prevention of potentially inappropriate prescribing for elderly patients: a randomized controlled trial using STOPP/START criteria. O'Mahoney *et al.* 2011.
[3] From NHS Scotland Polypharmacy Guidance Oct 2012.

P-604

Data model for the Portuguese national study on the nutritional status among elderly living in the community and nursing homes (PEN-3S project): What can be done with it?

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Introduction: A national community-based assessment of the psychosocial, functional and nutritional status of elderly people in the community and at nursing homes is a precious data and analysis resource for research. We present the PEN-3S design and data model and discuss potential for research and analysis.

Methods: Nationally representative cross-sectional survey collected data through face-to-face structured interviews and anthropometric measurements. Nursing homes residents and community-dwelling elderly were randomly selected, from a sample of 1800 participants. Data regarding sociodemographics, clinical data, nutritional status (Mini Nutritional Assessment), food insecurity, loneliness (UCLA loneliness scale), functionality (Lawton and Brody scale), depression (Geriatric Depression Scale), physical activity (International Physical Activity Questionnaire), anthropometric measurements, food propensity and 24 h dietary recall were collected, as well as their own nursing homes characteristics.

Results: In this study, about 230 variables were collected concerning the 12 dimensions indicated above, in both settings. We mapped the information gathered, report data quality, subgroup characteristics and explore the research potential for analyzing this data and for comparing the Portuguese reality with data coming from of other communities and countries studies. For specific areas (social, clinical, nutritional, psychological and nutritional) we listed key research questions to be addressed in this study.

Key conclusions: Large, representative and comprehensive epidemiological studies are of great importance and a resource for analyzing and exploring a multitude of research questions. Being acquainted and discussing its potential will allow for the interested multidisciplinary research community to better explore and use this resource.

P-605

Cognitive, physical and nutritional status in Older Adults. Six month follow up in elderly subjects addressing European PERsonalised ICT Supported Service for Independent Living and Active Ageing (PERSSILAA project)

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Background: Senile dementia, bone reduction and malnutrition are among the major mortality and morbidity in the elderly. Perssilaa is an European project developing health services to detect and prevent frailty in older adults by addressing cognitive, physical and nutritional domains. METHODS: 180 subjects (85% female) 72.5 ± 4.9 aged were consecutively enrolled. Validated questionnaires: QMCI, MNA, SF12 and EQ5D were used for the assessment of cognitive status, risk of malnutrition and quality of life. Bone mineral density was assessed by Quantitative ultrasound (QUS). These parameters were evaluated at basal and after six month follow up.

Results: At the baseline, the QMCI, MNA, SF12 and EQ5D was administered in 110, 117, 120, 115 patients and in 88, 81, 46, 49 patients after six month follow up, respectively. The QMCI score improved in 53,4% were stable in 37.9% and impaired only in 8.6% of subjects. The MNA score improved in 49.2% were stable in 29.5% and impaired in 21.1%. The SF12 score improved in 45.6%, were stable in 6.5% and impaired in 47.8%. The EQ5Dscore improved in 53%, were stable in 20.4% and impaired in 26.5%. Mean T score was measured only at baseline and according with T score 17.1% subjects were osteoporotic, 54.5% osteopenic and 42.8% had a with normal bone density.

Conclusions: These preliminary data suggest that tailored health services that integrate face-to-face and ICT supported tools targeting community dwelling older adults are effective to detect and prevent frailty.

P-606

Identification of risk factors for falling in the elderly and development of a multifactorial fall risk assessment tool

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Introduction: Risk of falling among elderly and its connection to morbidity/mortality is a fact that already represents the second cause of death by injury worldwide. Its prevalence and increasing incidence, demonstrates that the recognition of falls in elderly as a Public Health problem and the development of programs and tools that allow its prevention are essential and urgent.
Objective: To identify risk factors related to the characteristics of elderly population, the prevalent chronic diseases and associated pharmacotherapy, with the ultimate goal of creating a multifactorial fall risk assessment tool.
Methods: We performed a literature review on falls prevention in elderly, identifying the most relevant risk factors and potential pharmacotherapeutic groups that propitiate the occurrence of falls. The information obtained, served to create a questionnaire that assesses the risk of falling, to be applied in a pilot study between May 23rd and June 23rd, in polymedicated individuals with 65 years and over.
Results: The literature analysis enabled to create a questionnaire to be used by pharmacists, which evaluates the individual characteristics as comorbidities balance and mobility problems, as well as home hazards. The questionnaire also allows assessing pharmacotherapeutic profile to identify use of high risk medication such as antidepressants, antipsychotics, benzodiazepines and others.
Conclusion: We conclude that a proper assessment can help to identify elderly with high fall risk and the underlying causes, allowing to reduce their negative impact. The questionnaire it's being implemented, with ongoing data collection by the end of June. In October the final results will be presented.

P-607

Effects of samba dance on the postural balance and muscle strength in Brazilian elderly women

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Despite its popularity, previous studies on samba have dealt more with the cultural and social aspects of the dance, without assessing the impact of this activity on the dancers' health and functional outcomes. However, considering the growth of the aging population, and the increasing risk for falls and related morbidity, it is vital to seek efficient, comprehensive, and culturally-relevant prevention programs for elderly people to reduce risks. The aim of the study was to evaluate the effect of samba on postural balance and muscle strength among women participating in the "Wing of Baianas" in the carnival parades.
Methods: One hundred and ten women, with an average age of 67.4 ± 5.9 years, were divided into two groups: Baianas Group – elderly participants of the carnival parades in the "Wing of Baianas", and a control group of women who not dance samba. Assessments included a physical activity questionnaire, isokinetic muscle strength testing for the knee extensors and flexors, and a postural balance assessment completed on a force platform.
Results: There were no differences between groups, for postural balance outcomes, during the eyes open condition; however, with eyes closed, there was a significant effect between groups (Bahia vs control) in all variables. The Baianas Group showed less mediolateral displacement [$p = 0.04$]; and anteroposterior displacement [$p < 0.007$]; larger amplitudes of mediolateral displacement [$p < 0.001$]; and anteroposterior displacement [$p < 0.001$]; increased mean velocity [$p < 0.01$]; and elliptical area [$p < 0.01$] There were no differences in the isokinetic peak torque corrected by body weight, total work and flexor/extensor ratio.
Conclusion: Participation in the Wing of Baianas is associated with better balance with closed eyes, but there were no differences between dancers and non-dancers for muscle strength.

P-608

Longevity challenge: case series of elderly patients over 90 years hospitalized in internal medicine services

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Introduction: According to Eurostat® data (2015), Portugal has a high aging index (133.5‰), this is reflected in the admissions of Internal Medicine Services (IMS). It is imperative that health professionals are capable of dealing with the idiosyncrasies and needs of the elderly patient. Our main goal is to characterize the elderly over 90 years admitted to the IMS.
Methods: A retrospective and descriptive analysis of the elderly over 90 years old admitted to the IMS in the fourth quarter of 2014. We evaluated demographic characteristics, degree of functional dependence, personal history, in-hospital mortality, average hospitalization time and destination of clinical discharge.
Results: The sample (n = 118) accounted for 12% of total admissions in the IMS in that period. Most (67.8%) of the elderly are women with a mean age of 92.9 years old. On average, the elderly were treated in an outpatient setting with 7 drugs. It is shown based on the Barthel Index that most of them had a degree of total dependence. The most prevalent co-morbidities were hypertension (71.2%), heart failure (45.8%), dementia (35.6%) and coronary heart disease (30.5%). The observed mortality rate was 28.8%.
Conclusions: According to the statistical characteristics found in this descriptive study, it has become necessary to reflect on the adequacy of clinical practice on the elderly needs. It is crucial to continue the exercise of awareness of health professionals for the challenges posed by increasing longevity.

P-609

The effect of a fall prevention exercise programme on fear of falling in the elderly

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Objectives: Increased fear of falling has been associated with increased fall risk, reduced physical activity, and impaired physical function in the elderly. The aim of this study was to analyse the immediate effect of a fall prevention exercise programme on fear of falling in a community sample of elderly Portuguese.
Methods: A randomized controlled trial was performed. Twenty-eight volunteers (64.3% female, mean 69.8 years of age ±5.5) were randomly allocated to control (n = 14) and exercise group (n = 14). Fear of falling was evaluated before and after the intervention using Fall Efficacy Scale (FES), a validated and standardized tool. The study intervention consisted of an 8-week fall prevention exercise programme (2 sessions each week, each lasting 60 min). Data were analysed with a two groups x two-evaluation moments repeated-measure ANOVA (IC 95%).
Results: FES score in the exercise group had an increase of 11.8 points ±4.0, suggesting greater confidence during activities of daily living and less fear of falling. We found a significant interaction between interventions and evaluation moments ($p < 0.001$). Statistically significant differences were found between evaluation moments ($p < 0.001$) and between groups ($p = 0.035$).
Conclusion: The results suggest that fall prevention exercise programmes can be an effective intervention to improve confidence during activities of daily living and reduce fear of falling in the elderly.

P-610
Falls in a community sample of Portuguese elderly

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Objectives: The purpose of this study was to investigate the risk factors of falling in a community sample of Portuguese elderly.
Methods: Sixty-three elderly subjects (68.3% male; mean age 77.4 years ±8.48), agreed to participate in this cross-sectional study. Self-reported data regarding falls in the previous year and possible risk factors were collected by questionnaire. The mobility and the fear of falling were evaluated using two validated and standardized tools: Timed-up and Go test (TUG) and Fall Efficacy Scale (FES). We assessed the risk of falls through odds ratios (OR), with 95% confidence intervals (95% CIs), obtained using Logistic regression.
Results: The studied sample had a high incidence of reported falls in the previous year (60.3%; median of 1.0 fall, AIQ: 2.0). The median score of TUG was 14.5 seconds (AIQ: 9.2) and the median score of FES was 50.0 points (AIQ: 41.0). Compared to non-fallers, fallers were more likely to be women (OR = 0.289; 95% CI: 0.096–0.873). No association with age (OR = 1.026; 95% CI: 0.965–1.090), hours per day in sedentary lifestyles (OR = 1.181; 95% CI: 0.674–2.069), and mobility (OR = 1.049; 95% CI: 0.980–1.124), was found. Fallers had less confidence during activities of daily living and greater fear of falling, even after adjustment for sex (adjOR = 0.977; 95% CI: 0.956–0.99).
Conclusion: It is important to recognise the risk factors that identify a faller. Fear of falling seems to have a significant contribution to risk of falls, which may be useful in trying to reduce falls in the elderly.

P-611
PERSSILAA platform: algorithms and tools for decision support

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Introduction: This research work is part of the PERSSILAA project [1], a unique project that aims to develop and validate a new service model for older people, to screen for and prevent frailty in older adults. This multimodal service model, focusing on nutrition, physical and cognitive functioning, is supported by an interoperable ICT service infrastructure, utilizing intelligent decision support systems and gamification for enhancing both efficacy and adherence to the program.
Methods: The intelligent core of the PERSSILAA platform consists of computational methods aimed at performing knowledge discovery, pattern recognition, classification, automatic detection of changes in behaviour across the three domains (cognitive, physical and nutrition) and inference of personal context.
Results: This layer is based on classification methods that allow us to cluster users, based on both demographic and screening variables. Then, we are able to compare historic performance results stored in the database. This way, we try to anticipate the evolution of the user and react to detected changes in expected behaviours, by implementing automatic recommendations aiming at preventing functional decline based on the services provided in PERSSILAA.
Conclusions: For the moment, 222 users have been used for a first validation study, resulting in 6 different clusters, to demonstrate the technical feasibility of the algorithms and tools implemented. In the coming months a clinical validation will be performed, with the main challenge of achieving automatic deviations detection that can be considered a risk factor, in order to automatically react accordingly and prevent functional decline in users.

References

[1] PERSSILAA project, available online: http://www.perssilaa.eu/

P-612
Trends in the selective exclusion of older participants from clinic research

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Introduction: The upward trend in life expectancy means the ageing population accounts for an increasing proportion of medical investigations and treatments compared to their younger counterparts. This is due to the age-related accumulation of chronic conditions, increased susceptibility to acute diseases and prophylactic prescribing based on higher absolute risk of disease. This ageing population is entitled to evidence based treatments, tailored to their needs and physiology. Research developments have repeatedly demonstrated the disparate responses of this older cohort to standard medical treatments [1], implying that clinical trial data from younger participants cannot not be merely extrapolated to incorporate this unique population. Concern has been raised that this older population is selectively excluded from clinical trials [2–10], creating research populations that are non-representative of the target geriatric population.
Methods: All randomised control trials (RCTs) in Lancet, BMJ, JAMA and NEJM from 1998 to 2015 were analysed to see if they had upper age limits and assess whether these limits were justified in the publication.
Results: 26.4% of RCTs (1168/4341) had unexplained upper age limits. Over the 18-year period analysed there was a moderate but statistically significant improvement in the proportion of RCTs excluding older participants (Pearson Correlation –0.609, P valve 0.007).
Conclusion: Despite being the highest consumers of healthcare, older patients remain under-represented in clinical trials. Research must adapt to provide insight into the differential effects of medical treatments on those at the upper end of the age spectrum by ensuring that trial participants are representative of those receiving the intended therapy.

References

1. McLean AJ, Le Couteur DG. Aging biology and geriatric clinical pharmacology. *Pharmacol Rev*. 2004;56(2):163–184.
2. Bugeja G, Kumar A, Banerjee AK. Exclusion of elderly people from clinical research: a descriptive study of published reports. *BMJ*. 1997;315(7115):1059.
3. Heiat A, Gross CP, Krumholz HM. Representation of the elderly, women, and minorities in heart failure clinical trials. *Arch Intern Med*. 162(15):1682–1688.
4. Talarico L, Chen G, Pazdur R. Enrollment of elderly patients in clinical trials for cancer drug registration: a 7-year experience by the US Food and Drug Administration. *J Clin Oncol*. 2004;22 (22):4626–4631.
5. Hutchins LF, Unger JM, Crowley JJ, Coltman CA, Albain KS. Underrepresentation of patients 65 years of age or older in cancer-treatment trials. *N Engl J Med*. 1999;341(27):2061–2067.
6. Trimble EL, Carter CL, Cain D, Freidlin B, Ungerleider RS, Friedman MA. Representation of older patients in cancer treatment trials. *Cancer*. 1994;74(7 Suppl):2208–2214.
7. Gurwitz JH, Col NF, Avorn J. The exclusion of the elderly and women from clinical trials in acute myocardial infarction. *JAMA*. 1992;268 (11):1417–1422.
8. Lee PY, Alexander KP, Hammill BG, Pasquali SK, Peterson ED. Representation of elderly persons and women in published randomized trials of acute coronary syndromes. *JAMA*. 2001;286 (6):708–713.
9. Blosser CD, Huverserian A, Bloom RD, *et al.* Age, exclusion criteria, and generalizability of randomized trials enrolling kidney transplant recipients. *Transplantation*. 2011;91(8):858–863.
10. Bayer A, Tadd W. Unjustified exclusion of elderly people from studies submitted to research ethics committee for approval: descriptive study. *BMJ*. 2000;321(7267):992–993.

P-613

Functional exercise capacity in a sample of elderly women; A three years follow-up

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Aged population is increasing and physical activity seems to be an effective action to deal with ageing effects and decrements in physical activity (PA). However the correct intensity of prescribed PA is important.

Objectives: To verify the decrements in functional exercise capacity in a sample of elderly woman, in order to adjust possible changes in intensity demands of physical activity and walking activity.

Methods: Six minutes' walk test (6MWT) in a 20 m distance and levels of physical activity (LPA) were assessed.

Results: A sample of 30 females aged 77 ± 9 yrs. (63–94 yrs.) and BMI of 27.7 ± 3.5 kg/m^2 were assessed 3 years after a first assessment. At first moment distance walked was 391.4 ± 107.2 m (137.5–561.2 m) which corresponded to a percentage of 78.9% ± 16.6% of expected distance for age, height and weight. LPA showed that 50% of this sample was sedentary and only 16.7% (5 females) were active (more than 3 times a week of moderate intensity physical activity). At second assessment, results showed an increment in distance walked of 6.6 ± 65.0 m which was not expected (percentage of estimated distance was 82.4% ± 19.3%). Only 5 females decreased distance walked. However this sample was more active. Only 46.7% were sedentary and active woman were increase for 26.7% (8 females). This increments of LPA were probably due to counselling in first moment of assessment.

Conclusions: Our results seems to show the capital importance of physical activity and namely the walking activity for counter the effects of ageing, namely on functional exercise capacity.

P-614

Characteristics of inpatient centenarians

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Introduction: The prevalence of the very elderly adults is increasing and so is their use of the healthcare system. Among them, centenarians represent a small group that is also growing. It is important to know its particular characteristics in order to adapt our care to their needs. We aimed to characterize the centenarian patients hospitalized in our hospital.

Methods: A retrospective observational study of patients (pts) with ≥100 years old hospitalized in our hospital from January 2013 to March 2016. Demographic information, comorbidities, reason of admission, length of hospital stay and destination after discharge were recorded from each patient.

Results: 18 pts with a mean age of 100.9 years, of which 16 were females, were admitted for hospitalization, for a total of 24 hospitalizations. In 25% and 16.7% of hospitalizations, the pts were totally dependent and bedridden, respectively. Also, in 54.6% of hospitalizations, the pts came from a nursing home. 17 pts had 2 or more comorbidities. The most commonly identified comorbidities were hypertension (50%), atrial fibrillation (33.3%) and heart failure (31.5%). 82.6% were admitted to the Internal Medicine ward and 13% to the Orthopaedics ward. The main reasons for admission were infection (47.8%), mainly respiratory infection (39.1%), and heart failure (17.3%). 65% of hospitalizations occurred during the Autumn/Winter period. There was an average stay of 7 days and the mortality rate of 39%.

Conclusion: Despite probably having certain characteristics that improve their life expectancy, centenarians tend to be dependant of others and have various comorbidities. So, when in face of acute illness, their frailty can be revealed and there is an increased likelihood of a poor outcome.

P-615

The associations of personal values in midlife with frailty and health-related quality of life in old age

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Introduction: Personal values are associated with individual behaviour and decision making, but their effect on health-related quality of life (HRQoL) and in long-term is less clear. We studied these effects in a 26-year follow-up.

Methods: This is a follow-up of the Helsinki Businessmen Study (HBS) cohort (born in 1919–34). In 1974, personal values were assessed using a 11–item questionnaire in 1320 men. In 2000, HRQoL was assessed with the 8 domains of the RAND -36 (SF-36) instrument. Mortality between 1974 and 2000 was verified from national registries, and 1025 survivors responded to queries both in midlife and old age and form the analytical sample for the present study. In addition, diseases were asked in the questionnaire in 2000, and the presence of frailty was assessed using modified Fried criteria (Sirola et al JNHA 2011). For the analyses, personal values were loaded on three factors: valuing health ("Health"), valuing enjoyable and varying life ("Enjoyment") and valuing comfort and work-oriented life ("Work").

Results: We found a significant positive association between the "Health" factor and RAND-36 domains of Physical functioning ($p = 0.032$) and Vitality ($p = 0.005$) after adjusted age. Moreover, this factor also predicted less frailty ($P = 0.008$). The "Enjoyment" factor predicted mortality ($p = 0.017$).

Conclusions: The personal values of men assessed in midlife had long-term associations with HRQoL and frailty in old age, and may also predict mortality.

P-616

Health at late in life: active ageing and the role of ambient assisted living devices

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With a rising life expectancy and an ageing population there is a need to improve quality of living at the later stages of life and avoid marginalization of the elderly population. Fostering healthy and active ageing is thus indispensible to ensure the prosperity of future generations. But if countries actually manage to promote active ageing, what would be the impact on health? In this project we propose a construction of an individual Active Ageing Index (AAI), using the micro-level data collected from the Ambient Assisted Living for All project (AAL4ALL). Our sample is constituted by 1174 Portuguese over the age of 49, distributed across 18 regions in the country. To construct the individual indicator we adapt the framework of the AAI developed by the European Commission (EC) and the United Nation Economic Commission for Europe (UNECE). After analysing the determinants of the individual AAI and health using OLS estimations, we develop a 3 equations system to study the relationship between Self-Assessed Health, the AAI and the use of AAL devices. The results show a positive and significant effect of using AAL devices on the AAI, which in turn has a positive effect on the self-assessed health indicator. Policy design should focus on preventing of physical activity complications, potentially by providing financial support for the use of new Ambient Assisted Living devices. The investment must focus the quality of the opportunities provided so that there is a true incentive for people to continue engaged in society after entering retirement.

P-617

Nursing diagnoses associated of functional capacity in elderly people in a geriatric ambulatory clinic of Brazil

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This study aimed to identify the most prevalent nursing diagnoses in elderly patients in a geriatric outpatient clinic of the Federal District, Brazil, according to NANDA Taxonomy II, relating them to the functional capacity scales. This is a descriptive, observational study of 40 elderly people over 65 years attended at the geriatric clinic. Data collection took place in March 2010 for 60 days. the scales of Lawton and Barthel were used. The Pearson's chi-square were used for associations and the significance level of $p < 0.05$. This study was approved by the Ethics Committee of the Department of Health of the Federal District. The most prevalent nursing diagnoses identified were: Sensory Perception disturbed vision and hearing; decreased cardiac output; dentition, ambulation and impaired memory and risk of falls. Diagnoses related to the scales of Lawton and Barthel were impaired physical mobility; risk of falls; impaired ambulation; decreased cardiac output; intolerance activity; insomnia; fatigue and ineffective peripheral tissue perfusion. Older people tend to have decreased functional capacity, especially older ones, and dependence on the performance of activities of daily living. The risk of falls was related to factors such as the use of assistive devices, mobility difficulties, impaired balance and physical mobility, decreased strength in the extremities and history of falls.

P-618

The influence of blockade of the renin angiotensin system on the occurrence of orthostatic hypotension

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Introduction: Antihypertensive medication and orthostatic hypotension (OH) are frequent in elderly patients. The latter may result in fall incidents and therefore important to prevent. The relationship between antihypertensive medication and orthostatic hypotension is complex and is presumably dependent on drug class.
Methods: A retrospective observational study including patients referred to a specialized fall clinic in 2015 in Copenhagen, Denmark was conducted. Patients who underwent tests for OH with active stand and head-up tilt were included. Blood pressure was monitored continuously during 5 minutes of supine rest and 3 minutes of active standing. After a short supine rest, the patients underwent head-up tilt to 60°, for up to 30 minutes. Drug use was collected from the medical record.
Results: The study population included 48 patients with a mean age of 77.4 years (SD 7.3) with a light overweight of female patients (64.6%). OH was present in 19 (39.6%), 15 (31.3%) and 31 (64.4%) patients when tested by either active stand, head-up tilt or both, respectively. Twenty participants (41.7%) were treated with Angiotensin Converting Enzyme Inhibitors/Angiotensin II Receptor Blockers (ACEI/ARB). Applying logistic regression analyses a borderline significant trend was present indicating that treatment with ACEI/ARB lowered the prevalence of OH (OR: 0.33; CI 0.10–1.13; P = 0.08). Adjustment for age and gender did not alter the result.
Conclusion: ACEI/ARB seemed to be associated with a lower prevalence of OH in elderly fallers. In this small-sized study the influence was not significant, although the size of the estimate was clinical relevant.

P-619

Association of biomarkers with sedentary behaviour in older adults: a systematic review

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Introduction: Sedentary Behaviour (SB) is an independent risk factor for several chronic diseases and mortality [1]. The underlying pathomechanisms are, however, unclear yet. Data are especially rare in older adults. We conducted a systematic review to investigate the association between SB and various biomarkers (BM) in older adults.
Methods: Two independent authors searched major electronic databases with specific search terms and with the following exclusion criteria: sample size n < 50, mean age < 60 years, and accelerometer wear time ≤ 2 days.
Results: A total of 12,701 abstracts were retrieved and 275 full text articles were further explored. 249 articles were excluded. In the final sample (26 articles) most BM were of cardiovascular or metabolic origin. Main markers were: body mass index (BMI, n = 15), waist circumference (n = 15), blood pressure (n = 11), triglycerides (n = 12) and high density lipoprotein (n = 15). Some inflammatory markers were also identified (i.e. IL-6, CRP, TNF-a). There was a lack of renal, muscle or bone BM. A significant positive association of SB with BM was found throughout all studies. Furthermore, randomized controlled trials found a positive correlation for SB with BMI, neck circumference, fat mass, HbA1c, cholesterol and insulin levels; cohort studies additionally for leptin, C-peptide, ApoA1 and LDL and a negative correlation with HDL.
Key conclusion: There is a paucity of high quality studies investigating SB and BM in older adults. Most focused on the cardio-metabolic system. A few markers of systemic inflammation also showed positive association. High quality longitudinal studies are necessary to elucidate the pathophysiological consequences of SB in older adults.

References

[1] Biswas A, Oh PI, Faulkner GE, Bajaj RR, Silver MA, Mitchell MS, *et al.* Sedentary Time and Its Association With Risk for Disease Incidence, Mortality, and Hospitalization in Adults: A Systematic Review and Meta-analysis. *Ann Intern Med*. 2015;162:123–132. doi: Prospero registration: CRD42015023731

Area: Metabolism and nutrition

P-620

Trunk fat and visceral fat ratio for predicting metabolic syndrome in elderly: COMeS Study

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Introduction: Obesity has become one of the most important threats to human health worldwide. Abundant scientific evidence supports the associations between obesity and various diseases including diabetes mellitus, hypertension, coronary artery disease, cancer or sleep apnea. The most commonly used anthropometric method to diagnose obesity is body mass index (BMI). Other techniques as bioelectrical impedance analysis emerged as measures of central obesity.
Objective: The aim of this study was to evaluate the relation of bioelectrical impedance analysis for predicting metabolic syndrome in elderly population of both sexes.
Methods: Two hundred and ten subjects participate in the study (131 female and 79 male). MS was defined as International Diabetes Federation criteria. Trunk fat (TF) and visceral fat ratio (VFR) was measured by bioelectrical abdominal impedance analysis with Viscan (Tanita, Japan). Receiver operating characteristic curves (ROC)analyses

were performed of TF and VFR to determine sensitivity and specificity to predict MS. Cutoff points were determined by Youden index.
Results: Areas under curve (AUC) of TF were 0.64 ± 0.05 (95%CI 0.55–0.73)(P = 0.005) and 0.80 ± 0.08 (95%CI 0.69–0.88) (P = 0.0001) for female and male respectively. AUCs of VFR were 0.62 ± 0.05 (95%CI 0.53–0.71) (P = 0.001) and 0.78 ± 0.86 (95%CI 0.67–0.87) (P = 0.0006) for female and male respectively. Cutoff points of TF and VFR were 43.7% and 11.5 for female and 34% and 17 for male.
Conclusions: The main finding of this study showed a better sensitivity and specificity of TF and VFR for male than female population to predict MS.

P-621
Adiposity indices performance for recognizing metabolic syndrome in elderly: COMeS Study

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Introduction: Metabolic syndrome (MS) is a condition that includes thepresence of a cluster of risk factors specific for cardiovascular disease. Several definitions of MS have been proposed, with criteria based on various combinations of abdominal or visceral obesity, insulin resistance, raised blood pressure and dyslipidemia.
Objective: The aim of this study was to evaluate the relation of adiposity indices to predict metabolic syndrome in elderly population of both sexes.
Methods: Two hundred and ten subjects participate in the study (131 female and 79 male). MS was defined as International Diabetes Federation criteria. Receiver operating characteristic curves (ROC) analyses were performed of TG/HDL ratio and Lipid Accumulation Product (LAP) to determine sensitivity and specificity to predict MS.
Results: Areas under curve (AUC) of TG/HDL ratio were 0.80 ± 0.04 (95%CI 0.72–0.87) (P < 0.0001) and 0.66 ± 0.08 (95%CI 0.54–0.77) (P = 0.06) for female and male respectively. AUC of LAP were 0.72 ± 0.05 (95%CI 0.73–0.80) (P < 0.0001) and 0.80 ± 0.06(95%CI 0.68–0.88) (P < 0.0001) for female and male respectively.
Conclusions: The main finding of this analysis showed a better sensitivity and specificity of TG/HDL ratio for female and Lipid accumulation product for male to predict MS

P-622
A comparison of the measurements with biochemical markers of bone turnover and bone mineral density in the assessment of the efficiency of osteoporosis treatment

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Introduction: This study aims to compare the measurements using biochemical markers of bone turnover and bone mineral density (BMD) in the assessment of the efficiency of osteoporosis treatment.
Patients and methods: Between March 2006 and December 2008, 166 patients with osteoporosis in our clinic were included. Patients who were out of contact due to death or other reasons during follow-up were excluded. We compared the measurements of urinary biochemical markers of bone turnover using cross-linked N-telopeptide (Ntx) values and BMD in 60 patients (49 females, 11 males; mean age: 65.7 years; range: 42–87 years) with osteoporosis who were treatment-naive and completed study.
Results: Twenty-nine (48.3%) of the patients received surgical treatment, while 31 (51.7%) received conservative therapy. Urine NTx values of the patients decreased 38.82% at three months; 51.99% at six months and 66.41% at 12 months. Lumbar vertebra BMD increased by 20.7% and femur neck BMD increased by 11.9% at the end of the first year.
Key conclusion: Urine NTx values respond to osteoporosis treatment faster than BMD measurements; thereby it may be suitable to use this parameter for the monitorization of the treatment efficiency.

P-623
Association among Adherence to the Mediterranean diet, Muscle Strength and Phase Angle in Frail Elderly Subjects Addressing European PERsonalised ICT Supported Services Project for Independent Living and Active Ageing (PERSSILAA)

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Frailty is a major geriatric syndrome including low muscle mass and strength. Bioimpedance phase angle (PhA) is a reliable measure to predict muscle function. Few studies have investigated the effect of a Mediterranean diet (MD) on frailty in elderly subjects. Toexamine the associations between frailty status, PhA, and adherence to the MDin a group of elderlysubjects who participated in the PERSSILAAproject Eighty-five subjects (9 males and 76 females, mean age: 71.7 ± 5.6 yrs) were consecutively enrolled. Muscle strength was evaluated by hand grip (HG) strength using a grip strength dynamometer. PhA was assessed by bioelectrical impedance analysis. A 14-item questionnaire PREDIMED was used for the assessment of adherence to the MD. The mean of HG and PhA were 19.2 ± 6.0 kg and 5.6 ± 1.3°, respectively. Elderly participants had in the 65.9% an average adherence to the MD, while the 16.5% had a lowand a remaining had a high adherence to the MD; the mean of PREDIMED score was 7.6 ± 2.1. PREDIMED score was negatively associated with the age (r = –0.236, p = 0.031) and positively with HG and PhA (r = 0.760 and r = 0.807, p < 0.001; respectively), independently of BMI. At multiple regression analysis among HG and PhA, the latter was the major predictors of PREDIMED score (r2 = 0.643, β = 0.802, t = 7.492, p < 0.001).
Conclusions: The adherence to the MD in elderlysubjects is associatedwithlow muscle strength, and small PhAs. Our study highlights the usefulness of developing integrated and community-based ICT-supported health services to detect and prevent frailty in elderly using adequate nutritional and physical activity programs that are tailored to local sociocultural contexts.

P-624
Influences on diet quality in older age: the importance of social factors

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Introduction: Poor diet quality is common among older people, but little is known about influences on food choice, including the role of psychosocial factors at this age. This study aimed to identify psychosocial correlates of diet quality in a community-dwelling population of men and women aged 59–73 years, and to describe relationships with change in diet quality over 10 years.
Methods: Participants of the Hertfordshire Cohort Study (HCS) were assessed at baseline (1998–2001: 1048 men, 862 women); 183 men and 189 women were re-assessed in 2011. Diet was assessed by administered food frequency questionnaire; diet scores were calculated to describe diet quality at baseline and follow-up. A range of psychosocial factors (social support, social network, participation in

leisure activities, depression and anxiety, sense of control) were assessed by questionnaire.
Results: At baseline, better diet quality was related to a range of social factors, including increased confiding/emotional social support (men and women), practical support (men), and a larger social network (women) (all $p < 0.05$). For both men and women, greater participation in social and cognitive leisure activities was related to better diet quality ($p < 0.001$). There were few associations between measured psychosocial factors at baseline and change in diet score over 10 years. However, greater participation in leisure activities, especially cognitive activities, at baseline was associated with smaller declines in diet quality over the 10-year follow-up period for both men ($p = 0.021$) and women ($p = 0.006$).
Conclusion: In community-dwelling older adults, participation in leisure activities may be protective with respect to quality of diet.

P-625
Multi language and multi-cultural education for older patients with diabetes. A call to participate

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Diabetes mellitus is an ageing-related disease and about 15% of older people are affected with a peak of prevalence in the 70–74 year old subjects. Heterogeneity in health status (from robustness to dependency) and metabolism impairments (diverse combinations of insulin resistance and insulin secretion failure) is very high. The complexity is even higher when considering comorbidity and social factors. The challenge we are facing is adaptation; we have to find the adequate care for a given subject with shared objectives considering diabetes in the frame of general health. The aim is to care the patient with diabetes and not only the diabetes of the patient. Two directions for work are ahead of us: the implementation of current guidelines and the production of evidences to improve to care the older people with diabetes. Education is thus a challenging task. Education has to be built to address the needs of professionals, patients and their support. Europe is a Multilanguage and multicultural continent. Educational material has to be adapted with respect to language, culture and health care systems. Multilanguage Massive Online Open Courses (MOOC) is one tool to address this need. The construction of an international Master of health care in older people with diabetes is a complementary option. Providing new clinical evidences relies on the intensification of observational epidemiological cohorts and the implementation of clinical trials, both with multidisciplinary research. The first aim of the Task & Finish Group devoted to diabetes in older people is to construct Multilanguage educational material directed toward professionals. We will take advantage of this network to build future research studies to support the evolution of guidelines.

P-626
Quality of life outcomes in older people treated with chemotherapy for cancer at risk for malnutrition and included in a randomized control trial of nutritional advices

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Introduction: Frailty and malnutrition are known to be prognosis factors in older patients with cancer. The objectives here were to investigate a randomized intervention (RCT) based on dietary advices and the protein intake and on the quality of life (HrQoL) in older patients undergoing chemotherapy.
Methods: Patients with cancer at risk for malnutrition (MNA 17–23.5) and older than 70 y were proposed a RCT during their treatment to evaluate a diet counselling intervention consisting in face to face talk during 6 sessions of chemotherapy compared to usual care. It was previously shown that this intervention had no effect on mortality. They were assessed at baseline and at the end of intervention. The effect of intervention, protein intake and the MNA item score assessing the appetite for protein-rich food (question K) on HrQoL outcomes were analyzed with baseline and end of intervention univariate associations and mixed linear models. The outcomes were functional status (ADL; IADL), depression symptoms (GDS-15) and according to QLQ-C30 HrQoL scale fatigue symptom and physical functioning.
Results: Among the 332 included patients, HrQoL was assessed in 279. At baseline association between physical functioning and question K and protein intake not including supplement was found with lower HrQoL scores for lower intake or appetite. At the end of intervention in the 178 survivors, ADL, IADL fatigue and physical functioning were worse in those with poorer appetite for protein-rich food. The intervention had no effect on any of the outcomes but depressive symptoms, IADL, fatigue and physical functioning worsened according time. A poor appetite for protein-rich food and a low protein intake at baseline were associated with a worsening of IADL and fatigue at the end of intervention.
Conclusion: The dietary intervention had no effect on quality of life whatever time. Baseline poor protein intake items were associated with worse quality of life at the end of intervention.

P-627
Influence of environmental factors on food intakes of nursing home residents: a survey combined to a video approach

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Introduction: The aim of this study was to assess the influence of the environment on food intakes in nursing home.
Methods: Meals, in 9 distinct nursing homes, were filmed and the food intakes of a sample of randomly selected residents were measured by the precise weighing food method. Then, residents responded to a questionnaire related to their perception of the environment during meals. Finally, a panel of volunteer experts were asked to answer a questionnaire related to their own perception of the meal environment after having watched a video of the lunch in each nursing home. The relationship between food intakes and perception of the environment, by the residents and by the experts, was assessed.
Results: A total of 88 residents, aged 79.9 ± 15.7 years (65.9% of women) from 9 different nursing homes were included in this study. The perception of the environment during meals in the institution by the residents was assessed by different indicators (i.e. noise, space, comfort, light, smelling, perceived satisfaction of meals, taste of meal, presentation of meals, service, setting). It was not associated with food intakes of the elderly. However, a pleasant setting, as judged by the experts through the video analysis, was associated with greater food consumption by the resident.
Conclusion: To the best of our knowledge, our results are the first highlighting the fact that a pleasant dining room setting is positively associated with food intake of nursing home residents.

P-628
Assessment of energy expenditure of nursing home residents with indirect calorimetry

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Introduction: The aim of this study was to assess the energy expenditure of nursing home residents with indirect calorimetry and then to compare it with the calculated energy intake of the residents.
Methods: An indirect calorimetry was performed for each nursing home resident included in this study to estimate their basal metabolism. Then, the basal metabolism was multiplied by a physical activity level (PAL) coefficient. Finally, energy expenditure related to thermogenesis (i.e. 10% of the basal metabolism) was added. In this way, we obtained the total energy expenditure of each nursing home resident. Nutritional intake of each resident was calculated by the precise weighing food method, over a 3-day period.
Results: A total of 29 subjects, all residing in one nursing home in Liège, Belgium, and meeting the selection criteria (i.e. to be oriented, stable condition and able to walk, with or without technical assistance) were included in this study. The mean age of this population was 88.1 ± 5.8 years and 84% of them were women. The mean basal metabolism estimated was 1087.2 ± 163.2 kcal. When multiplied by the PAL (1.29 ± 0.1) and added to the energy expenditure due to thermogenesis (155.7 ± 24.7 kcal), we obtained the mean energy expenditure of 1557.3 ± 247.1 kcal, which was similar to the calculated energy intake of the residents (1631.5 ± 289.3 kcal). Indeed, the difference was not statistically significant (p = 0.33)
Conclusion: The estimated energy intake of nursing home residents seems appropriate for their energy expenditure.

P-629
Graves' Disease – an atypical presentation

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Introduction: Graves' Disease (GD) its responsible for 80% of hyperthyroidism cases. Usually has distinctive signs and symptoms (goiter, oftalmopathy, palpitations) [1]. Thyroid disorders are very common in the elderly, and correlate with high morbidity if untreated. The typical symptoms may be absent, or mistakenly associated to the age or comorbidities [2,3].
Methods: We report on an elderly woman with an atypical presentation of GD. The relevant literature was reviewed.
Case report: 81 year-old, female, with a 2-month history of proximal muscle weakness, depressed humor, lethargy and constipation. Admitted for fever of unknown origin. On physical: lethargic, dehydrated, pale and feverish. Laboratory findings: Hemoglobin 9.8 g/dL; white blood count 16.69X10^3, 85% neutrophils; C-reactive protein 45.53 mg/dL; Sodium 127 mmol/L; Sedimentation velocity rate 120 mms. Excluded respiratory, urinary, abdominal, orthopedic, neurological, spondylodiscitis or endocarditis, as cause. Endoscopic studies: esophagi candidiasis. Virology, serology and tuberculosis were negative. Thyroid study: TSH 0.11 microiU/mL, free T4 2.46 pmol/mL; Echography: enlarged, heterogeneous, multiple nodules; Positive Anti-TSH antibodies. Therefore, diagnosed with GD, but without criteria for thyrotoxicotic storm, initiating tiamazole. On the 11th day, deteriorated and was admitted in the Intermediary Care Unit for Severe Sepsis with multiple organ dysfunction, caused by intestinal occlusion with megacolon and RCD aggravated by tubular necrosis. There wasn't surgical treatment to be offered. The patient ultimately died, regardless of all the efforts.
Conclusion: In 1931, Lahey, described a form of hyperthyroidism in which the patients were "apathetic", showing few, or none of the typical symptoms [4,5]. The pathogeny is unknown, but seems to be related with brain defiance of catecholamines [6]. This alerts us for the fact that in cases of clinical stress, they can rapidly deteriorate.

P-630
Comparison of nutritional status among elderly in hospital and in community environments

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Introduction: The elderly is considered vulnerable population by the senescence process, which puts them at high risk of morbidity and mortality. Several studies indicate a high prevalence of malnutrition in the elderly in community and in hospital admissions, so the main purpose of this study is to compare the nutritional status of the elderly persons in both settings, located in Lisbon.
Methods: The screening tool Mini Nutritional Assessment (MNA®), body mass index (BMI), arm circumference (AC), arm muscle area (AMA) and C-reactive protein (CRP) were used to assess nutritional status. Based on MNA® questions, food and water intake were evaluated.
Results: A total of 99 elderly were evaluated (57.6% in hospital and 42.4% in the community). A higher level of inflammation was observed in hospital, according to CRP levels. It was reported a lower intake in the hospital for: number of meals (15% less), portions of fruit and vegetables (10.5% less), protein intake (33.4% less) and water intake (44.3% less). In hospital, BMI indicated that 26.7% of the elderly were malnourished whilst in community it was observed to be 20%. 43.9% had a form of malnutrition in hospital and 45% in community, when AMA was evaluated. MNA® detected 63.1% of patients were malnourished or at risk of malnutrition in hospital and 62% in community. Overall the elderly revealed worse nutritional status is in hospital. The results suggest the need to regularly assess nutritional status allowing to identify and decrease complications associated with malnutrition, regardless of where the elderly are to remain.

P-631
Nutritional assessment of an elderly population by application of 24-hour recall and the Mini Nutritional Assessment

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Introduction: Aging is characterized by physiological, social and psychological changes that compromise food intake and nutritional status. To ensure good nutritional status it's crucial to assess the nutritional status through a validated tool and evaluate the food intake, which is the purpose of this study.
Methods: An analytical, observational, transversal, correlational and quantitative study was conducted. The elderly's assessment and characterization was done by the application of Mini Nutritional Assessment (MNA), arm circumference (AC), laboratory parameters and 24 hours recall.
Results: In the study, 42 elderly people were assessed, from which 26 women. By applying the MNA_Long Form® (MNA_LF®) 0 were undernourished, 26 (62%) at risk of desnutrition and 16 (38%) eutrophic. By applying the body mass index (BMI) 2 (5%) undernourished, 6 (15%) at risk of desnutrition, 7 (17%) eutrophic e 26 (63%) overweight. By the AC 19 (45%) exhibit depletion of lean body mass, 20 (48%) good nutritional state and 3 (7%) excess of body fat. The 24 hours recall indicated low intake of macronutrients and of some micronutrients (vitamins A, D and E, folate, potassium, calcium and magnesium) and high intake of sodium and phosphorus. The AC correlated with IMC (r = 0,61; p = 0) and MNA_LF (r = 0,45; p = 0,003). The IMC correlated with the presence of dyslipidemia (r = 0,41; p = 0,01), diabetes mellitus (r = 0,45; p = 0,003) and arterial hypertension (r = 0,375; p = 0,02).
Key conclusions: The population being studied showed high prevalence of malnutrition, similar percentage of risk of desnutrition and overnutrition, and deficit of food intake, as seen in other Portuguese studies about the elderly in community.

P-632

Social and community networks in obese elderly

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Introduction: social and community networks are forms from social ties made by relatives, neighbors, friends and when established in the life of the elderly working in health promotion, disease protection and even increased survival. This study aimed to evaluate the social and community networks of obese elderly in Brasilia, Brazil.
Methods: Cross-sectional study with 206 obese elderly classified by anthropometry and bioimpedance. Household Survey was applied to investigate the social and community networks of the elderly using the Family APGAR. Data were analyzed by SPSS 20.0. Research approved by the Ethics Committee of SES Research 451/10.
Results: The mean BMI was 31.36 and body fat percentage of 40.79%. Most were female, with 1–4 years of study, married, low income, were not diet, not smoking, not using alcohol, sedentary and had no leisure. 82.0% Family APGAR pointed out the family as highly functional, 42.7% did not offer help, 84.0% lived with children, 82.5% were not community support, 76.7% provided no voluntary service in the community, 76.7% live with people of the same age and 92.2% live with young people. Factorial Analysis of Family APGAR: Bartlett: $x^2 = 1024.0$ and $p < 0.000$; KMO 0.896. After extraction of the factors, the values remained less than one, with explained variance of accumulation of 82.4%, demonstrating unifactorial instrument.
Conclusion: It is very important the role of Social and Community Networks in elderly life as regards their health and quality of life.

P-633

Integrated continuous glucose monitoring/insulin Pump System in elderly: the impact on self-perception of health status and glycemic control

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Introduction: The main purpose of the study was to evaluate the effects of insulin pump therapy integrated with continuous glucose monitoring (SAP) in metabolic control and self-rated perception of health among older adults.
Methods: Patients with type 1 and 2 Diabetes Mellitus with preserved basic functionality, an adequate social support network and who had been using SAP for at least a year were included for analysis. HbA1c was measured prior to initiation of therapy with further monthly follow-up. Recruitment took place from 2008 to 2014 with continuous monitoring until October 2015 when measurements were taken again and the self-rated health perception (SPH) was evaluated.
Results: 50 patients were included, 26 of which were younger than 60 years-of-age and 24 were older. The average age was 38 and 69.7 years-of-age for younger and older adults respectively. Type 1 DM was more prevalent in younger patients (84% vs.41.7%). In older adults after SAP, the number of hospitalizations(12.85% vs.33%*), severe hypoglycemia (66.67% vs. 0%*) and HbA1c (9.06 ± 1.69 vs. 7.27 0.87*) decreased and a significant improvement of SPH was found (46.08 ± 24.30 vs. 82.69 ± 18.86) ($p < 0.05$%*). No statistically significant differences were found in terms of SRH (87.92 ± 12.98 vs. 82.69 ± 18.86*) or HbA1c ($p > 0.05$*) comparing older and younger adults.
Conclusions: Age should not be considered an exclusion criterion for initiation of therapy with continuous glucose monitoring. This study does not display significant differences between younger and older adults, nevertheless, further investigation is required in order to aid decision making in this field for geriatricians and endocrinologists.

P-634

Does Mini Nutritional Assessment predict disability among elderly people?

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Introduction: Nutritional status has been hypotesized to be a major predictor of functional ability in elderly people. Assessment of nutritional status in clinical practice is obtained by the Mini-Nutritional Assessment (MNA) questionnaire. However, the reliability of MNA for predicting functional decline and disability in older persons needs further evidence. The aim of this study was to assess whether MNA (30-items) in subjects aged 80 and over correlates with functional status measured by the Activities of Daily Living (ADL) score.
Methods: We recruited 562 Sardinian subjects (227 men, 335 women, aged 80 and older). Age, ADL, Body Mass Index (BMI), MNA, Mini-Mental State Examination (MMSE), Geriatric Depression Scale (GDS) were collected in each participant. The association of predictors with disability was performed by multiple linear regression analysis with ADL as dependent variable.
Results: Mean value of ADL score was 4.12 ± 2.0. Mean value of MNA score was 18.9 ± 5.6. Multiple regression analysis gave the following coefficients: Age ($r = -0.127$, $p = 0.043$) BMI ($r = -0.250$. $p < 0.0001$); MNA ($r = 0.352$, $p < 0.0001$); MMSE ($r = 0.299$, $p < 0.0001$) and GDS ($r = -0.274$, $p < 0.0001$).
Conclusions: Nutrition is a key determinant of geriatric health, and MNA is useful for nutritional assessment. Our analysis in subjects over 80 confirmed that MNA score is among the strongest predictors of disability when compared to similar indicators. However, our data do not allow to determine whether there is a real cause-effect releationship between nutritional status and ADL, and which one is the primary determinant.

P-635

Osteoporosis in Parkinson's disease: a review

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Introduction: Parkinson's disease (PD) and osteoporosis are chronic diseases associated with aging. Several studies have reported associations between these two entities, particularly regarding to increased risk of fractures. The objectives of this work were to review the existing evidence about the relationship between PD and osteoporosis and to review the pathophysiological mechanisms involved.
Methods: Research guidelines, meta-analysis (MA), systematic reviews (SR) and randomized controlled trials (RCT) in English and Portuguese, in PubMed and medical databases based on evidence. MeSH terms used: "Parkinson's disease" and "osteoporosis". Articles published between January 2006 and January 2016 were selected.
Results: Four articles were obtained, but only three met the inclusion criteria. One MA, one SR and one RCT showed a relation between PD and osteoporosis, bone mineral density (BMD) and fracture risk. Patients with PD have an increased risk for osteoporosis when compared to the general population. It was also evident in PD: lower BMD, lower vitamin D levels and an increased risk of fractures. The reduction of bone mass in PD seems to be mainly caused by limited mobility. Endocrine (such as vitamin D deficiency), nutritional and iatrogenic factors also play an important role in the depletion of bone mass.
Conclusions: The available evidence supports an increased risk of osteoporosis among PD patients. This fact should alert the clinician about the importance of osteoporosis screening in PD patients. However, more studies are needed in order to demonstrate the health benefit of osteoporosis screening/early treatment in PD patients.

P-636

Correlations between depression and nutritional status among hospitalized older adults

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Objectives: Depression and malnutrition are frequent and serious conditions within the geriatric population. Both have multifactorial origins and are linked to adverse outcomes.
Methods: We present a retrospective study performed on a group of 663 Romanian elderly patients aged over 65 years, who were admitted in an acute Geriatric Clinic from Iasi, Romania over a two year period. In this group we analyzed the impact of depression (evaluated with GDS scale) and malnutrition (evaluated with MNA scale) over the demographic parameters and other geriatric syndromes.
Results: Depression and malnutrition were found in all age groups (65–75 years old – 60.7%, respectively 70%, 75–85 years old – 72,2%, respectively 77%, over 85 years old – 77,8% respectively 84,7%). The data obtained showed that depression is an independent factor for malnutrition ($p < 0.05$), 86,5% of those with severe depression were malnourish or at risk of malnutrition. Conversely, malnutrition was not a risk factor for depression; it was found in 53,7% with normal scores of GDS.
Conclusions: Senior population has a high prevalence of depression and malnutrition, with a significant impact on the evolution of concomitant diseases and quality of life. Depression is an independent risk factor for malnutrition, while poor nutritional status was found in a large majority of normal disposition state. The correct treatment of both these conditions is a major requirement in establishing therapeutical approach.

P-637

Effectiveness of nutritional screening for hospitalised older people

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Background and aims: Hospital-based nutritional screening may not always lead to intervention. This study aimed to determine: (i) the rate of nutritional screening in older patients hospitalised in sub-acute care; (ii) whether nutritional screening led to appropriate dietitian referral; and (iii) the risk of adverse outcome for malnourished patients.
Methods: In this clinical, prospective study of patients aged >70 years, malnutrition was identified using the full Mini Nutritional Assessment (MNA), with nutritional screening performed using the MNA-short form (MNA-SF). Anthropometric measures included Body Mass Index (BMI) and Calf Circumference (CC).
Results: Of the 172 patients participating in the study, 53 (30.8%) patients were malnourished and a further 84 (48.8%) patients were at risk of malnutrition. Mean (SD) age was 85.2 (6.4 years) and 131 patients (76.2%) were female. Nutritional screening was completed for 113 (65.7%) patients. Overall, 62 (36.0%) of the total number of study patients were seen by the dietitian, which included 26 (49%) of malnourished patients, 27 (32%) of at-risk patients and 9 (26%) of the well-nourished patients. No patients lost >1% of body weight during their sub-acute care stay. Malnutrition was a risk factor for 12-month mortality after controlling for age, gender and cognition (OR, 95% CI = 3.01, 1.34–6.77).
Conclusions: Despite the encouraging maintenance or increase in weight of older patients, nurse-led nutritional screening using MNA-SF did not always lead to appropriate dietitian referral. Future research should focus on identifying barriers and facilitators associated with the Nutritional Care Process.

P-638

Dysphagia, creating a better team with continuity

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Introduction: Improve the care of patients with dysphagia admitted to a geriatric service.
Methodology: Creating a multidisciplinary team nurse, assistant, occupational therapist, nutritionist, physician geriatrician and medical residents. Monthly meetings since 2014, with sharing of clinical experience. Surveys dysphagia diets.
Results: In 2014–2015: We have developed an "Information leaflet" for caregivers and a "poster warning" about risks placed on the headboard of the bed. It has been assigned nurse performing dysphagia MECV-V test when required. At discharge, the caregiver delivery of "road food recommendations". They have identified the products most pleasing to patients and have developed strategies to improve the taste and presentation of the preparations. Delivery has begun small teaspoons allowing better dosing volumes. 2016: There have been training sessions for health workers and caregivers, pending continue to be made monthly.
Conclusion: We have initiated improvement strategies for patients with dysphagia directed to your usual caregiver and staff. Improving the taste and presentation of diets in our hospital for the patient means a stimulus, to be a more attractive and less monotonous diet. For Caregivers and staff improved knowledge will mean greater safety in patient management. We believe that the approach must be multidisciplinary dysphagia and that will mean a higher quality care.

P-639

Prevalence of malnutrition in a cohort of 509 patients with acute hip fracture. Importance of a comprehensive assessment

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Objectives: Malnutrition is very frequent in acute hip fracture (HF) patients. Studies often include small cohorts and use different criteria so their data are widely different, there is no consensus. The aim of this study was to determine, in a large cohort of patients with hip fracture, the prevalence of malnutrition in a comprehensive sense, including the frequency of protein-energy malnutrition, vitamin D deficiency and sarcopenia.
Methods: A one-year consecutive sample of patients admitted with a fragility HF in a 1,300 bed public university hospital were assessed in the first 72 h since admission. Clinical, functional, cognitive, and analytic variables were included. Calorie malnutrition (Body mass Index –BMI– <22 Kg/m^2), protein malnutrition (serum total protein level <6.5 g/dL or albumin <3.5 g/dL), Vitamin D deficiency (serum 25-OH-Vitamin D <30 ng/dL) and sarcopenia (low muscle mass plus low grip strength) were considered.
Results: Five hundred and nine HF patients were included. Mean age was 85.6 ± 6.9 years and 79.2% were women. One hundred and three (20.9%) patients had a BMI <22 Kg/m^2. Four hundred and nine patients (80.4%) had protein malnutrition. Eighty seven (17.1%) patients had both calorie and protein malnutrition. Serum Vitamin D was <30 ng/mL in 466 (93%). Prevalence of sarcopenia was 17.1%.
Conclusion: Protein malnutrition and Vitamin D deficiency are the rule in acute HF patients. Calorie malnutrition and sarcopenia are also frequent. The nutritional assessment in these patients should include these aspects together.

P-640

Impact of nutritional status in outcome of older patients admitted in an Internal Medicine ward at 6 and 12 months follow-up

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Introduction: Malnutrition is a frequent condition in the elderly that can result in poor health outcomes. Our aim was to analyze outcomes at 6 and 12 months (6M and 12M) of a cohort of patients ≥75 years admitted in an Internal Medicine Ward according baseline nutritional status.
Methods: Prospective longitudinal cohort study of 100 patients. Comprehensive geriatric assessment at baseline, including nutritional assessment (Mini Nutritional Assessment (MNA), bioimpedance, anthropometry, serum total protein (TP) and albumin). Barthel score at 12M, survival and hospital readmission at 6 and 12M assessed by phone contact and hospital record analysis.
Results: One patient lost during follow-up. Average age 83.7 years, 63% males, average Cumulative Illness Rating Scale Geriatrics 11.2, average baseline Barthel score 63.6, 32% cognitively impaired. 70% malnourished according MNA. Cumulative mortality: 6M 48.4%, 12M 53.5%. There was statistically significant association between: mortality at 6M and MNA categories (p 0.015), albumin (p 0.032) and TP (p 0.007); mortality at 12M and MNA categories (p 0.026), body mass index (BMI) (p 0.026), albumin (p 0.041) and TP (p 0.003). Kaplan-Meier survival curves supported these results. Predictors of rehospitalisation were not identified. Higher TP was associated with emergency department admission (p 0.017). Higher BMI was associated with maintenance of functional status at 12M. Bioimpedance parameters were not predictors of outcome.
Conclusion: Malnutrition according MNA, lower BMI, lower albumin and TP are predictors of poor outcome of hospitalized older patients. Higher BMI is a protective factor as it is associated with maintenance of functional independence.

P-641
Hyperthyroidism in elderly hospitalized patients: what can we do better?

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Introduction: In August 2015, The European Thyroid Association Guidelines on Diagnosis and Treatment of Endogenous Subclinical Hyperthyroidism were published, collecting current evidence, trying to resolve discrepancies identified in the management of this condition. We set at objectives to know clinical practice performed in patients with hyperthyroidism and subclinical hyperthyroidism (type 1 and type 2) in a geriatric service.
Methods: Descriptive analysis, reviewing patients admitted from June to December 2014 (318 patients). Collected sociodemographic parameters, personal history, functional status (Barthel index), forecast mortality (Charlson index), biochemical parameters, and one-year mortality. SPSS v19.
Results: Thyroid background 10.7%, 4 (1.3%) hyperthyroidism. Admission: 12 (3.8%) TSH below the normal range: 4 hyperthyroidism (36.4%), 2 subclinical hyperthyroidism type 2 (18.2%) and 5 subclinical hyperthyroidism type 1 (45.5%), one unclassifiable (not FT4 available). Subclinical hyperthyroidism prevalence: 2.2%. Any patient received treatment at discharge and only three follow-up recommendation was made. Postdischarge 4 (40%) patients are monitored (3 primary care, 1 endocrine) and require treatment 2 (20%). Hospital mortality: 25% hyperthyroidism; Subclinical hyperthyroidism type 1 20%; Subclinical hyperthyroidism type 2 0%. Year mortality: 0% hyperthyroid patients; Subclinical hyperthyroidism type 2 50%; Subclinical hyperthyroidism type 1 25%.
Conclusion: The prevalence of subclinical hyperthyroidism in our sample is in the lower limits of the results of the NHANES III study. Despite the low prevalence, mortality associated data, 20% and 50% per year, should make us reflect and deepen the knowledge and approach of subclinical hyperthyroidism in patients older than 75 years.

P-642
Nutritional risk in heart failure – a retrospective study

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Heart failure (HF) has high morbidity and mortality rates, especially if associated with comorbidities, aging and poor nutrition. Our aim is to evaluate the nutritional risk in HF and its impact on length of hospital admission, infectious complications, readmissions within 1 and 6 months and mortality. We performed a retrospective study of all patients admitted to the Medical ward in 2015 with HF (ICD-9) who had a nutritional evaluation, by analyzing the files. Age, sex, dependency status and comorbidities were characterized through the Charlson Score (CS) and stratified by the Malnutrition Universal Screening Tool (MUST) in low (LR), medium (MR) and high risk (HR), with evaluation of the referred endpoints. Of a total of 3014 patients, 331 were admitted with HF, of which only 119 had nutritional evaluation. Of these 119, 63.9% were women with a median age of 82.9 years and 76.5 years for men. MUST stratified the patients in: 59.7% LR, 7.6% MR and 29.4% HR. CS (4–13) was 7.9 in LR, 7.1 in MR and 8.2 in HR. Regarding the endpoints, CS was 7.9 when infectious complications were present, 8.2 in readmissions within 1 month and 8.8 within 6 months and 7.8 in mortality. The incidence of nutritional risk was the same as other studies, in spite of a different evaluation tool. After crossing data with CS, it seems to be related with readmissions and infectious complications. There is a possible bias as a nutritional plan can be initiated by the nutritional team on patients at risk.

P-643
Feeding of dementia inpatients within the Buckinghamshire Healthcare NHS Trust: a survey exploring the views and experience of foundation doctors and nurses

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Introduction: The progression of dementia presents the healthcare teams with complex feeding challenges, especially towards the end stages of the disease. The Royal College of Physicians developed a guidance document for the management of patients with swallowing difficulties [1]. At present, we do not have trust guidelines to assist with the feeding of dementia inpatients. Within our organization, foundation doctors and nurses are the first responders when feeding problems arise. We set out to investigate their views and experience regarding the feeding of dementia inpatients, with the aim to find out if they were facing any issues, and what these were.
Methodology: We undertook two qualitative surveys for foundation doctors and nurses caring for inpatients with dementia within our organization's hospitals. The questions were in multiple choice and open formats.
Results: 33 doctors and 39 nurses answered. 30% of doctors and 79% of nurses mentioned they had experienced issues regarding the feeding of dementia inpatients. The main challenges described by both surveyed cohorts were related to: low oral intake resulting in poor nutrition; communication issues and discordances with the family; alternative feeding routes; and poor swallow with potential risk of aspiration pneumonia.
Conclusion: The issues described by both populations were wide-ranged, and most of them well understood in relation to dementia. Both surveyed cohorts would welcome further training on this subject. Our project supported the development of trust guidelines for the assessment and management of patients with swallowing difficulties, which are currently awaiting approval by the trust.

References

[1] Royal College of Physicians and British Society of Gastroenterology. *Oral Feeding Difficulties and Dilemmas: A Guide to Practical Care, Particularly Towards the End of Life*. London. Royal College of Physicians, 2010.

P-644

GNRI as a complement to MNA in nutrition study

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Introduction: Geriatric Nutritional Risk Index (GNRI) identify the risk of nutrition-related complications in elderly. Malnutrition is common in this population, higher in those hospitalized, and is frequently evaluated by Mini Nutritional Assessement (MNA).
Objective: Investigate the correlation between MNA and GNRI.
Methods: Cross-sectional study with 66 hospitalized elderly patients (≥65 years) divided into two groups according to MNA-Short Form – G1 malnourished (≤7; n = 11); G2 without malnutrition (>7). There was also used anthropometric measures (body mass index (BMI); mid-arm muscle circumference (MUAMC) – 71% severe, 70–80% moderate and 80–90% mild nutrition) and albumin (normal ≥3 g/dL). GNRI: >98 no risk, 92–98 low, 92–82 moderate, <82 severe.
Results: (1) Mean age was similar (82,2 ± 4.5 vs 83.1 ± 6.2 years; p = 0.6). (2) G1 had lower mean MNA (5.3 ± 1.8 vs 11.9 ± 2.2; p < 0.01). (3) G1 had lower BMI (20.05 ± 2.05 vs 25.1 ± 4.34; p < 0.01) and positive relation with MUAMC in both groups (69,5 ± 9,3 vs 83,9 ± 14,02; p < 0,01). (4) Higher prevalence of hypoalbuminaemia in G1 (45,5 vs 19,6%; p = 0,069). (5) Both groups had mean GNRI <98, but G1 had lowest value (80,7 ± 16,4 vs 96.72 ± 13.4; p < 0.01). (6) In G2, 15,4% had GNRI <82 (vs 45,5%) and 9,6% between 82 and 92 (vs 27,3%; p = 0,010).
Conclusion: Some patients classified with no malnutrition may be at risk to develop nutrition-related complications. It is essential to determine the GNRI in hospitalized patients, predicting complications and planning an effective nutritional intervention.

P-645

The metabolic syndrome in very elderly

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Introduction: The metabolic syndrome (MS) is defined as a cluster of cardiometabolic risk factors, and elderly have highest prevalence. However, few studies have directed attention to the MS in this population.
Objective: To evaluate metabolic syndrome in the elderly.
Methods: A retrospective observational study with analysis of 144 clinical process of patients with MS, from admission in consultation to the last clinical evaluation. Mean follow-up time was 5,7 ± 3,6 years. SM was defined according to the AHA/NHLB2005 criteria. We defined two groups: G1 <80 years (n = 123, 74,1%) and G2 > 80 years.
Results: (1) In G1, males were superior (66,7 vs 42,9%;p = 0,050) while in G2 was the female gender (57,1 vs 33,3%;p = 0,050). (2) The mean age in G1 was 60,9 ± 10,4 years (vs 85 ± 3,8). (3) On admission, in G2 there was a higher prevalence of dyslipidemia (100 vs 75,2%; p = 0,007), hypertension (85,1 vs 71,4%; p = 0,127), chronic kidney disease (23,8 vs 8,3%;p = 0,05), heart failure (42,9 vs 20,7%; p = 0,049), ischemic cardiopathy (33,3 vs 7,4%; p = 0,003), atrial fibrillation (42,9 vs 5,8%; p < 0,001) and stroke (30 vs 8,9%; p = 0,016). (5) G2 had worse LDL levels (127,2 ± 85,6 vs 114,5 ± 43,1 mg/dL) and glycaemia (126,8 ± 56,1 vs 116,8 ± 42,9 mg/dL) but better triglycerides level (127,7 ± 121,5 vs 168,8 ± 127,9 mg/dL) and total colestherol (192,43 ± 48,4 vs 193,7 ± 52,2 mg/dL). In both groups, patients were overweight (BMI 30,4 ± 6,3 vs 29,6 ± 6,4). (6) During follow-up, G1 had developed more hepatic steatosis (37,4 vs 4,8%;p = 0,002) and diabetes (20 vs 9,5%; p = 0,365). (7) Mortality was higher in G2 (28,6vs9,8%; p = 0,027).
Conclusions: In our study, the older people have more cardiovascular risk factors, but the younger group developed more hepatic steatosis and diabetes. MS is a risk factor for cardiovascular morbidity, whereby it is important to diagnose and prevent its development.

P-646

Cross-sectional analysis of fasting blood glucose and cognition in geriatric inpatients

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Background: Diabetes mellitus affecting increasingly aging persons, alters mirco- and macrocirculation and foster ateriosclerosis, which play a role in accelerating aging and cognitive decline. Diabetes nowadays is recognized as a metabolic and vascular risk factor for cognitive decline including Alzheimer's and vascular dementia.
Purpose: To prove the hypothesis that diabetes mellitus is an independent risk factor for cognitive decline.
Methods: Geriatric inpatients were tested in a prospective, cross-sectional design for cognition using the Mini Mental Status Examination (MMSE, range 0–30 points, higher results inidcating better cognitive function) and blood sugar day profiles. In accordance to guidelines we used following cut-offs: normal fasting blood glucose (NFG) < 100 mg%, impaired fasting blood glucose 100–125 mg%, and elevated fasting blood glucose (EFG) ≥126 mg%. Pearson's correlation and Student's t-test were used for statistical calculations, p values were set to 0.05 or lower for significance.
Results: We examined 478 consecutive geriatric inpatients with a mean age of 78.89 ± 8.06 years (197 men (m), 77.23 ± 8.19, 287 women (w) 81.71 ± 8.19, p = 0.000). NFG were detected in 171 (67 m, 104 w, mean 91 ± 6.8 mg%), IFG in 208 (80 m, 128 w, mean 110.7 ± 7.3 mg%), and EFG in 99 (49 m, 50 w, mean 153.1 ± 38.9 mg%) patients. Cognitive testing with MMSE revealed mean scores of 22.93 ± 5.45 (m 23.25 ± 5.54, w 22.71 ± 5.39, p = 0.28). Total MMSE scores and subscores for immediate and delayed recall as well as attention/calculation task revealed no correlation with fasting blood glucose levels. Pearson's r for MMSE total was 0.0578 (m 0.0601, w 0.0558). In stratified groups for NFG, IFG, EFG including stratification for sex we found no significant correlation too.
Conclusion: In a cross-sectional analysis of geriatic inpatients we revealed no correlation between fasting blood glucose levels including stratification for NFG, IFG, and EFG and cognitive testing using the MMSE.

P-647

Comparison of mini nutritional assessment short and long form and serum albumin as predictors of short- and long-term hip fracture outcomes

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Introduction: Malnutrition is common among older hip fracture patients and associated with adverse outcomes. The aim here was to examine Mini Nutritional Assessment short (MNA-SF) and long form (MNA-LF) and serum albumin as predictors of mobility, living arrangements and mortality after hip fracture.
Methods: Population-based prospective data were collected on 536 hip fracture patients aged 65 year and over. MNA-SF, MNA-LF and serum albumin were assessed on admission. The outcomes were declined mobility level, moving into a more assisted living accommodation and mortality one month, four months and one year after the fracture. Logistic regression analyses for mobility and living arrangements with odds ratios (OR) and Cox proportional hazards model for mortality with hazard ratios (HR) and 95%conficence intervals (CI) were used, adjusted for age, gender, ASA grade and fracture type.
Results: All measures predicted mortality at all time-points. Both risk of malnutrition and malnutrition as measured by the MNA-LF predicted mobility and living arrangements within four months of the hip fracture. At one year, risk of malnutrition predicted mobility and malnutrition predicted living arrangements, when measured by the MNA-LF. Malnutrition, but not risk of malnutrition, as measured by the MNA-SF predicted significantly living arrangements at all time-points. One-month mobility was not predicted by any of the measures.

Conclusions: All measures were strong predictors of short- and long-term mortality after hip fracture. MNA-LF was superior in predicting mobility and living arrangements, particularly at four months. All measures were relatively poor in predicting short-term outcomes of mobility and living arrangements.

P-648
Drinking of water saturated with hydrogen prevented lipopolysaccharide-induced acute injury of the liver in mice

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Introduction: Oxidative stress and inflammation reflect the development and progression of disease in elderly adults. Recently, it was reported that molecular hydrogen functions as a unique antioxidant and anti-inflammatory agent. The routes by which hydrogen can be taken into the body are numerous. Drinking of water nearly saturated with hydrogen (HW) is safer and more convenient than inhaling hydrogen gas. After drinking HW, hydrogen concentration immediately increases in the liver. Here we show that pretreatment with HW suppresses lipopolysaccharide (LPS)-induced acute injury of the liver in mice.
Methods: Three-day before the peritoneal injection of LPS onward, mice were allowed access to HW (>0.6 mM of hydrogen) ad libitum. The survival rate was monitored for up to 3 days after the injection. Cell survival, oxidative stress and inflammation were evaluated in the liver.
Results: Treatment with HW prolonged survival (75 vs 25%, $p < 0.01$). We further found that pretreatment with HW, drinking HW only before the LPS injection, prolonged survival (55 vs. 25%, $p < 0.05$). Immunohistochemical analysis of HW-pretreated mouse showed that, 1-day after the LPS injection, HW attenuated increases in cell death and oxidative stress in the liver. Three-hour after the LPS injection, HW attenuated an increase in HO-1 transcription.
Conclusion: Pretreatment with HW has therapeutic potential for preventing acute injury of the liver with attenuation of an increase in oxidative stress. It is likely that HW triggers adaptive responses against oxidative stress.

P-649
Macro and micronutrient composition of enteral homemade diets for elderly in home care

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Objective: The home enteral therapy is part of the care of the Brazilian public health system, however, the health system rarely pays for the enteral industrialized formula in home care and they are expensive for some families. Many homemade enteral diets are nutritionally inadequate, contributing to malnutrition, a situation in which the elderly patients are the most vulnerable. Thus, the objective of this study was to develop and analyze the composition of macro and micronutrient of homemade enteral diets.
Methods: A standard homemade enteral diet was developed with three caloric concentrations, 1500, 1800 and 2100 Kcal. After preparation and test of viscosity, stability, odor, color and evaluation of cost, the diets had the chemical composition of nutrients determined analytically. The results were compared with the standards of nutritional needs for the elderly. This research was sponsored by FAPEMIG/Minas Gerais/Brazil and by OPAS.
Results: The diets showed normal distribution of macronutrients. The 1500 caloric level presented several deficiencies of minerals and vitamins. In the other caloric levels, suitable values were obtained for all minerals except magnesium. Vitamins were all appropriate in the 2100 Kcal diet and in the 1800 Kcal, vitamin E, D and B6 didn't achieve the dietary recommended allowances.
Conclusion: The standard homemade enteral diets studied can contribute to food security and nutrition of the elderly in home care, if they are all supplemented with magnesium and vitamin E, D and B6 in the 1800 Kcal levels. The 1500 Kcal diet was not nutritionally safe, related to micronutrients.

P-650
High intake of non-milk extrinsic sugars is associated with poor protein and micronutrient intakes in older people

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Introduction: High dietary sugar intake may compromise protein and micronutrient intakes in people with low energy intakes. Results on micronutrient dilution studies in older people have been few and conflicting. We examined nutritional status and nutrient intakes in connection to non-milk extrinsic sugars (NMES) intakes in older people representing broad spectrum of both healthy and vulnerable older populations.
Methods: Cross-sectional study combined five Finnish datasets with home-dwelling (n = 526) and institutionalized (n = 374) older people. Nutritional status was assessed using Mini Nutritional Assessment (MNA) and nutrient intakes retrieved from 1 to 3 day food records. The participants were divided into quartiles corresponding to proportions of energy received from NMES. Energy, nutrient and fiber intakes were classified according to the NMES quartiles and the participants were divided according to place of residence (home, institution).
Results: High NMES intake was associated with age, female sex, poor cognition, low MNA scores, immobility and institutionalization. 90% of the participants in the highest NMES quartile (Q4) were institutionalized. In institutionalized participants low protein and micronutrient intakes were observed in both those with low energy intakes (Q1) and in those with high NMES intakes (Q4). In home-dwelling older people there was a linear trend of declining nutrient intakes with increasing NMES intakes in protein and most micronutrients.
Conclusions: Institutionalized older people had diets high in NMES compared to home-dwelling older people. In institutionalized older people both low energy and high NMES intakes were associated with low protein and micronutrient intakes.

P-651
Nutritional status, functional capacity and used treatment among elderly patients

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Objective: The main aim of the study was to evaluate the association between nutritional status, functional capacity and used treatment among elderly patients planned admitted to geriatric hospital ward.
Design and methods: The study was performed among 91 hospitalized patients aged 65 years and over. The questionnaire including: socio-demographic and clinical data, questions about drugs used at home and selected tests (Mini Nutritional Assessment [MNA], Activities of Daily Living and Instrumental Activities of Daily Living Scales) were performed among all study participants on the first day of hospitalization. Results obtained during the study were compared using Spearman rank correlation and backward regression analysis.
Results: The analyzed sample consisted of 91 hospitalized older adults, whose average age was 78,14 ± 6,4 years old and which most of them were women (65%). Polypharmacy (>5 drugs) was observed in majority of cases (70%). Most of the participants were overweight (40%) or obese (23%), but at risk of malnutrition (46%) or malnourished (17%) in the MNA score. Functional status positively correlated with number of used drugs (r = 0,55) and MNA score of nutritional status (r = 0,37). Positive correlation was found between MNA score of nutritional status and the amount of used drugs (r = 0,28). Regression analysis confirmed the importance of these parameters for functional and nutritional status of the participants.

Conclusions: Tendency to use more number of drugs was observed among elderly patients with better nutritional status and functional capacity.
Keywords: malnutrition; elderly; nutritional status; polypharmacy; functional status.

P-652
Comparison of nutritional intake among older Japanese people, with recommendations for preventing sarcopenia

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Introduction: Several expert groups have suggested that older people should consume amounts appropriate to their body weight, and sufficient amounts of protein at each meal, in particular, high-quality protein or a leucine-enriched diet, to prevent sarcopenia. We evaluated protein intake among older Japanese people with regard to how it compares with several recommendations.
Methods: We used data on nutritional intake from the Japan National Health and Nutrition Survey, 2012. This was a survey of 24,555 families from 475 areas of Japan, with available nutritional data for 32,284 subjects aged between 1 and 104 years. Nutritional surveys were conducted using 1-day semi-weighed household dietary records. We calculated protein intake, amino acid intake, and protein intake per meal for subjects older than 65 years (n = 9,591).
Results and key conclusions: The median protein intakes per day were 72.9 and 61.6 g for males and females, respectively. Protein intake based on body weight was calculated for only those subjects for whom there were available body weight data (n = 7,671; 1.2 g for both males and females). Daily leucine intake and protein intake at breakfast and lunch did not meet the recommendations. Most older Japanese subjects in our study consumed sufficient amounts of protein, but there is a need to enhance the quality of protein and suitable distribution over breakfast, lunch, and dinner.

P-653
Effect of vitamin D supplementation on serum 25-hydroxyvitamin D level in the elderly

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Introduction: Vitamin D deficiency is common among elderly people. The aim of the present study was to evaluate 25-hydroxycholecalciferol (25(OH)D) serum level, before and after vitamin D supplementation.
Methods: The study group consisted of 28 women and 11 men aged 75–98 years (mean age 84,5 years) – nursing home residents. Study has been performed from July 2015: 25(OH)D and calcium serum concentration has been measured at the beginning of the study, than after three months supplementation (vitamin D from 2000 IU to 4000 IU and calcium from 800 to 1200 mg – depending on primary 25(OH)D serum concentration). Third time 25(OH)D serum level concentration has been measured after three consecutive months without vitamin D supplementation. CLIA method and Liaison analyser has been performed to measure 25(OH)D serum concentration.
Results: Initial mean 25(OH)D serum concentration was 10,1 ng/mL ±6,07; calcium serum level – 2,3 mmol/L ±0,10, after three months vitamin D supplementation mean 25(OH)D serum level was significantly higher – 32,05 ng/mL (SD ±6,61), p < 0,001; calcium serum level 2,28 mmol/L SD ±0,11, p = 0,28. 25(OH)D serum level after three consecutive months (without vitamin D supplementation) was significantly lower 21,65 ng/mL ±6,28, p < 0,001.
Key conclusions: Among all the subjects three months vitamin D supplementation has been sufficient to achieve normal range of 25 (OH)D serum level. Taking into account lower 25(OH)D concentration, after consecutive three months without supplementation, the sufficient vitamin D supplementation should be systematically applied.

P-654
Anemia in elderly hospitalized in an internal medicine unit after an acute illness

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Introduction: Prevalence of anemia in the elderly varies greatly from a report to another, according to the degree of heterogeneity of the cohort studied and age limits fixed.
Materiel and methods: Our paper is about the frequency of anemia in old people, aged 65 and above, hospitalized in an internal medicine unit of the Rabta Hospital of Tunis, after an acute illness or a worsening of a chronic condition.
Results: Results are compared with those of a group of elderly, aged 65 or more, seen in an ambulatory setting, during the same time. The mean age of the patients is 76.3. 57% are women. Mean rate of hemoglobin is 11.1 g/dL, vs 12.5 in ambulatory patients. Among the hospitalized, 48 (57.1%) have anemia (hemoglobin was below 10 g/L in 35.7%) vs 17 in the group of non hospitalized patients (9% with hemoglobin rate less than 10 g/L). 27 patients hospitalized (55.1%), aged more than 75 years have anemia, vs 7 in the ambulatory setting (20.6%). Patients repartition according to hemoglobin concentration, sex and group, shows that the number of patients with hemoglobin rate lower than 10 g/L is much higher in women (19) than in men (10). The same observation is true in the ambulatory group. Hospitalized patients have two fold more people with anemia and polypathology than the no hospitalized (36 patients (60%), vs 12 (30.7%).

P-655
Prevalence of hospital malnutrition in patients with heart disease: sub-analysis of the PREDyCES® study

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Objectives: Malnutrition is a prevalent condition among hospitalized patients, especially among older subjects with chronic diseases. The aim of this study was to determine the prevalence of hospital malnutrition (HM) and its economic consequences in patients with heart disease hospitalized in Spanish centres.
Methods: This study was carried out as a subanalysis of the PREDyCES® study, a nationwide, cross-sectional, observational, multicentre study that assessed the prevalence and economic consequences of HM using the NRS®-2002 screening tool.
Results: Eight hundred nine patients with heart disease were included. Of them, 496 (61.30%) were aged >70 years old. The prevalence of nutritional risk at admission (NRS®-2002 ≥ 3) was 28.3% among all patients and 38.8% among those >70 years old. HM was significantly more prevalent among older patients (>70 vs ≤70 years; p < 0.001), among urgent admittances (vs programmed; p = 0.01) and in small centers (vs medium or large; p < 0.001). 277 patients (40.7%) had significant or severe weight loss during hospitalization. Mean length of stay (LOS) and related costs were significantly higher among patients who were at nutritional risk at discharge than among those who were not (LOS: 11.7 ± 7.3 vs 8.3 ± 5.4 days; p < 0.001; Costs: €8316.2 ± €5944.9 vs €6130.1 ± €4549.4; p < 0.001).
Conclusion: HM is a highly prevalent condition among patients with heart disease aged >70 years. In patients with heart disease, nutritional risk is associated with longer LOS and higher related costs.

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Paradoxical outcomes in cardiovascular profiles among elderly people in Tanzania: a clinical based study

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Objective: To analyse the association between blood pressure profile and cardiometabolic parameters among elderly people attending outpatient clinics in a typical sub-Saharan Africa environment.
Methods: A cross-sectional hospital based study was conducted in a metropolitan city of Dar es Salaam in Tanzania. Study population comprised of people ≥65 years old attending OPD settings. Data on systolic and diastolic BP, Hb level, FBG/RBG, waist-to-hip ratio, corrected serum Ca2+ and serum creatinine levels were analysed. Log-linear models were fitted to analyse the association between studied variables. SAS version 9.4 was used for data analysis.
Results: Findings from 502 elderly people were analysed. There was a slight female preponderance in the study sample (M:F = 1:1.4) Median age was 73.2 years (range = 65–94 years) There was a paradoxical trend between systolic/diastolic BP and history of CVA with age (P-value for trend = 0.02). Serum Ca2+ levels and elevated BP levels were strongly correlated (? = 0.813, p < 0.01). Women outnumbered men in reported history of CVA (P < 0.01). Low Hb levels and low serum creatinine were associated with multiple CVA history (? = 0.507, p = 0.04).
Conclusion: Serum Ca2+ levels were inversely related to CVA events in the elderly population in this study. Elderly women were more likely to have elevated serum Ca2+ than elderly men. Elderly with a history of multiple CVA events were likely to have low Hb levels and low serum creatinine. CVA risk was found to be less likely among elderly people with elevat BP.
Recommendations: Further experimental studies are needed to account for a probable causal relationship between serum Ca2+ levels and CVA protection in the elderly population.
Keywords: elderly; CVA; Dar es Salaam; Tanzania.

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Cardiometabolic risk modeling using a typical high risk adult population of sub-Saharan settings

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Objectives: To develop a simple, non-invasive cardiometabolic risk tool for identification of adult at risk of diabetes mellitus in sub-Saharan Africa.
Method: A cross-sectional analytical based opportunistic screening was conducted among pre-defined high risk group residents of Dar es Salaam, Tanzania. Data were collected using a locally prevalidated questionnaire provided by Tanzania Diabetes Association after fasting blood glucose measurements. Analysis was done using SAS version 9.2 by fitting linear models. A verbal informed consent was sought to each participant before screening.
Results: We screened a total of 461 residents. Males predominated the screened cohort (male: female = 2.3:1). Multiple logistic model revealed age of the participant, family history of diabetes, systolic BP as well as BMI to have a better explanatory power (p < .001) Spearman correlation coefficient between being screened positive for diabetes and family history of diabetes was strong and significant ($\gamma = 0.673$, p = 0.002) No statistical significant effect was found between gender and positive diabetes screening ($\chi 2 = 4.66$, df = 1)
Conclusion: Age of participants, family history of both diabetes and hypertension, BMI as well as systolic measures of BP were predictive of diabetes in this study population. Adoption of non-invasive screening for diabetes may be an alternative to the current invasive glycaemic measurements in resource limited settings.
Key Words: Cardio-metabolic risk, diabetes, Dar es Salaam, Tanzania.

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Glycaemic control according to health status in geriatric patients with diabetes mellitus

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Objectives: About 25% of people older than 70 years suffer from type-2-diabetes. Due to the heterogeneity of the geriatric population guidelines emphasize the need to individualize glycaemic goals and to simplify treatment strategies with the main focus of avoiding hypoglycaemia. The aim of this study was to assess glycaemic control in patients with type-2-diabetes in geriatric care facilities based on the individual health status.
Methods: 170 medical records of geriatric patients with type-2-diabetes in 4 geriatric care facilities (64.7% female, age 80 ± 9 years, HbA1c 51 ± 16 mmol/mol, BMI 27.9 ± 5.8 kg/m^2) were retrospectively assessed. Based on the individual health status, patients were allocated to three groups (healthy n = 27, complex n = 86, poor n = 57).
Results: The overall blood glucose (BG) value was highest in the poor health group with 188 ± 47 mg/dL (poor) vs. 167 ± 42 mg/dL (complex) vs. 150 ± 34 mg/dL (healthy). 1.6% (poor) vs. 2.8% (complex) vs. 1.4% (healthy) of all BG values were below 90 mg/dL. 37.2% (poor) vs. 23.4% (complex) vs. 18.5% (healthy) received insulin as the main diabetes therapy, but only 14.3% (poor) vs. 30% (complex) vs. 40% (healthy) were treated with basal insulin.
Conclusion: Overall BG values were higher in the poor and complex group. There were few low BG values in all groups. Although recommended by international guidelines basal insulin therapy with its low complexity and low hypoglycaemic risk is still underused, especially in the poor-health group. Therefore the simplification of diabetes therapy should further be considered.
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Feed at risk

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Background: Patients admitted to hospital often have swallowing difficulty. Often alternative methods of feeding for example enteral tube are considered. These patients unfortunately are deemed unsuitable for PEG feeding or long term NG feeding due to severe comorbidities. These patients are high risk of aspiration. Keeping them nil by mouth puts them at risk of starvation and malnutrition. Our search of National Guidelines does not give any guidance for risk feeding for these patients. Healthcare professionals often find this to be very challenging and a difficult issue to address. The feeding at risk needs to be considered in light of the patients overall comorbidities, wishes and prognosis. Decision should be ethically relevant. Innovation To address these issues, we developed a "Feed at Risk" policy in our trust to aid oral feeding in these patients who are at risk of aspiration. The policy helps patients, healthcare professionals and family in arriving at the correct decision. Evaluation We decided to do a retrospective audit of outcomes of patients who were managed with the Feed at Risk policy. We audited 22 case notes from January 2014 to March 2016. Out of these 22 patients, 16 patients did not have aspiration pneumonia. Of the other 6 patients who did have aspiration pneumonia, 4 survived and 2 died.
Conclusion: Our results validates that feed at risk is a safe and effective patient centred pathway for these high risk patients. Further studies with larger cohort of patients are needed for further validation of this practice.

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When the internist discovers the cause of the fracture

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Introduction: Vitamin D deficiency is common in the elderly and can lead to secondary hyperparathyroidism, high bone turnover, bone loss and mineralization defects. Therefore is a risk factor for fractures in this population.
Case report: Patient 74 years, female, inpatient in an orthopaedic unit for a supracondylar fracture of the right humerus after a fall, waiting for surgery. The collaboration of Internal Medicine was made because a respiratory infection. The patient was obese and had a mastectomy because of breast cancer. She also complains about generalized myalgia and bone pain. In laboratory study we found a calcium of 12.9 mg/dL, creatinine of 0.88 mg/dL and FA 133 U/L. So ask for the levels of parathormone, vitamin D and phosphates: 481 pg/mL, 4.1 ng/mL and 1.2 mg/dL respectively. We treated the hypercalcemia with pamidronate 60 mg and we began vitamin D supplementation. The diagnosis of secondary hyperparathyroidism due to severe vitamin D-deficient state was made. In the cranial radiography there is hyperosteoidosis and eroded areas compatible with high bone turnover. The patient was laboratory studies showing that hypercalcemia and values slightly elevated of FA was present since at least 2013.
Conclusion: There is overwhelming evidence that vitamin D deficiency and secondary hyperparathyroidism are common in the elderly. Every physician must have this in mind because the supplementation is an effective way of preventing vitamin D deficiency and cost-effective in prevention of fractures in the elderly.

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Nutritional status and prognostic validity of malnutrition criteria: the FRADEA Study

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Objectives: To analyze the nutritional status in the FRADEA cohort, using the following criteria: Body Mass Index (BMI) WHO criteria, 2015 ESPEN criteria, weight loss, anorexia, and Mini Nutritional Assessment®-Short Form (MNA®-SF) criteria. Also to analyze the prognostic validity of those criteria with geriatric adverse events.
Methods: Population-based prospective cohort study. 827 participants aged 70 years or older from Albacete city (Spain), stratified by age and sex. BMI and MNA®-SF were collected at baseline (2007–2009). Bioimpedanciometry was realized in 537 participants to determine fat free mass index (FFMI). Follow-up visits were conducted in 2012–2013. The prognostic validity was analyzed with chi2 and logistic regression adjusted for age and sex.
Results: Mean age 78.6 years (Range 70–102), 492 women (59.5%). Mean follow-up time 1044 days (Range 115–2007). Nutritional status was: BMI < 18.5 9 (1.1%), 18.5–24.9 129 (15.6%), 25–29.9 341 (41.2%), 30–34.9 231 (27.9%), >35 92 (11.1%). 12 participants (1.5%) had FFMI < 15 in women and <17 in men. 41 (5%) ahd a BMI < 22. Only 12 (1.5%) met 2015 ESPEN criteria. 21 (2.5%) had a MNA®-SF between 0 and 7, 204 (24.7%) between 8 and 11, and 567 (68.6%) between 12 and 14. 136 (16.5%) presented moderate to severe anorexia and 106 (12.8%) had lost weight in the last year. Only MNA®-SF, anorexia and weight loss associated with hospitalization, emergency visits, mortality and disability.
Conclusion: In the FRADEA cohort, malnutrition prevalence was low, and only MNA®-SF, anorexia and weight loss were associated with hospitalization, emergency visits, mortality and incident disability in BADL.

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Fighting malnutrition in older adults: the contribution of PERSSILAA project

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Nutrition plays an important role all over our life span, especially in older adults, influencing the rate of physiologic and functional decline with age. PERSSILAA project (PERsonalised ICT supported Service for Independent Living and Active Ageing) developed a new service model, to screen for and prevent frailty in older adults, covering nutrition, physical and cognitive domains. It has been successfully accomplished with the participation of a multidisciplinary team from five countries, namely Portugal, Spain, Italy, Ireland, and The Netherlands. This communication describes the work developed within the workpackage under the leadership of the Portuguese team, in particular regarding the creation of the innovative NUTRIAGEING website (nutriageing.fc.ul.pt). It is an interactive and user-friendly website providing information, advice and simple services focused on the nutritional status of elderly people, and offers several modules to promote rational food habits. It is structured around healthy eating, cooking recipes with videos, and how to grow a vegetable garden, as a source of cheap and functional food ingredients. Helping people choosing more nutritious food will contribute to maintain good health, will improve their cognitive function, increase their energy levels and prevent their frailty.
Acknowledgements: This work was supported by the European project "PERsonalised ICT supported Service for Independent Living and Active Ageing", FP7-ICT-2013-10, GA 610359, 2013–2016. The authors also acknowledge the European Commission for approval of the INOVAFUNAGEING commitment, and the sponsorship of IUPAC and Lisbon Municipality.

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Does linagliptin reduce visceral fat burden in patients with type 2 diabetes mellitus?

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Objectives: Abdominal visceral fat is associated with increased risk of diabetes and cardiovascular disease. Linagliptin belongs to dipeptidyl pepidase-4 (DPP4) inhibitors widely accepted as the treatment of type 2 diabetes mellitus (DM). Linagliptin has a novel xanthine based structure, resulting in a positive effect on metabolic dysfunction, renal and cardiovascular damage. The aim of this study was to analyze the effect of linagliptin on visceral fat burden.
Methods: This prospective study was enrolled 8 patients (6 men, mean 63 years, mean HbA1c 8.0%) with uncontrolled type 2 DM without treatment of DPP4 inhibitors. We precisely analyzed abdominal circumference, visceral and subcutaneous fat area (VFA and SFA) by computed tomography at baseline and 3 months after administration of linaglipin. We also measured plasma levels of adiponectin and leptin at the same period.
Results: There was significantly reduced in HbA1c (mean −1.04%, $p = 0.0052$). However, subcutaneous and visceral fat burden and plasma levels of adiponectin and leptin did not show significant changes. We divided patients into two groups, VSA-rich group (VFA > SFA at baseline) and SFA-rich group. The difference in HbA1c between baseline and 3months showed higher trend in VFA-rich group, but was not statistically significant (ΔHbA1c 0.88 vs 1.20, $p = 0.5729$).
Conclusions: Linagliptin demonstrates superior glucose-lowering efficacy, while effect on visceral fat burden during follow-up period was limited in our small population.

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The role of the gastrostomy tube to ensure adequate nutrition in advanced dementia with dysphagia – about the clinical report

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Dementia is a progressive and irreversible disease, with an incidence rate of around 50% in the population above 80 years. The nutritional status of this is controversial. The questions relate to the refusal to eat, dysphagia and risk of aspiration, dehydration and malnutrition. The Percutaneous Endoscopic Gastrostomy (PEG) is a preventive measure of respiratory infections by aspiration and a mean of maintaining the nutritional status and adequate hydration. We report the case of 84-years-old man, totally dependent for daily life activities in Alzheimer's dementia context in advanced stage (stage 7 of The Global Deterioration Scale for Assessment of Primary Degenerative Dementia). The patient was admitted several times due to respiratory infection in last years. The medical team considered the clinical suspicion of bronchial aspiration as the cause of recurrent infections. In the last hospitalization the patient was progressively parlous, malnourished with hypoproteinaemia and hypoalbuminemia. During the hospitalization it was documented dysphagia and high risk of aspiration. It was decided to suspend oral feeding and start feeding by PEG. Currently, the patient has better nutritional status (with total protein and albumin levels are normal) and has not been admitted because of respiratory infection. The above clinical case illustrates one of the most common realities in medical wards and the power dilemma of oral feeding versus feeding by device. In the literature there is no consensus or guidelines on this subject, only recommendations of some societies in favour of feeding by mouth, by changing the food consistency, use of preferred foods and calorie supplements.

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Vitamin D levels and hip fracture outcome

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Obectives: To evaluate the relation between 25-hydroxyvitamin D (25-OHD) levels and functional recovery as well as survival after fragility hip fracture in elderly.

Methods: This is a prospective observational study in patients aged 65 years and older admitted with fragility hip fracture to a University hospital from April 2013 to April 2014.

At time of admission were recorded: age, sex, type of fracture, functional status (Barthel Index), mental status (Cruz Roja Index) and hand grip strength. Serum levels of 25-hydroxyvitamin D (25-OHD) were measured in 121 patients by competitive enzyme immunoassay technique (ADVIA Centaur, Siemens Healthcare Diagnostics). Blood samples were taken for 25-OHD analysis within the first 72 hours of admission. Follow-up was performed 3 months after discharge to assess functional status and survival.

Results: In total, 127 consecutive patients with hip fracture over the age of 65 were evaluated; 103 were women (81,1%). Mean age was 85,1 ± 0,6 years, being women older than men ($p = 0.017$). Barthel Index at admission was 67,13 ± 2,6 and three months after discharge was 49,5 ± 3,2. 19 patients died during the three months follow up (15%).

The mean 25-OHD level was 26,6 ± 1,8 ng/mL (4,2-105,1). 52 patients had serum concentration of 25-OHD below 20 ng/mL (42,9%). No relation was found between functional recovery and Vitamin D levels ($p = 0.77$), neither was between mortality and Vitamin D levels ($p = 0.99$).

Conclusion: Despite a relatively high prevalence of vitamin D deficiency in fragility hip fracture patients, no relation was found with hip fracture outcome or mortality.

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Frailty fracture secondary prevention coordination: first step of implementing a Fracture Liasion Service model

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Objectives: (1) To study the impact of a Fracture Liasion Service (FLS) on clinical practice in secondary prevention of frailty fractures (FF) in an Ortogeriatric Unit. (2) To describe the rates and causes of non-adherence to pharmacologic treatment.

Methods: Sequential, comparative and follow-up study of hip fracture patients. Two periods of study: January-June 2015: conventional care (CC) and July 2015-April 2016: FLS care (educational information about prevention and risk of new FF). We studied comparative rates of antirresortive prescription and its adherence in 1-month and 6-month visits at Orthopaedic Clinic.

Results: n: 490 (CC: 209; FLS: 281). Mean age: 85.1 (SD 7.1); 79.9% W. Baseline comparison: CC patients had better functional status (Barthel Index 90 vs 78.5; $p < 0.001$) and more comorbidity (Charlson Index 6.6 vs 5.8; $p < 0.001$) than FLS. At discharge, FLS patients received more antirresortive treatment (63.3% vs 42.6%; $p < 0.001$). Follow-up data: 136 FLS patients were followed for 6-months. At discharge, 90 of them (66.2%) were prescribed an antirresortive. At one-month visit, 60 patients (66.6% of that), and at 6-month visit, 39 patients (65.0% of that) were respectively under treatment. The cumulative rate of adherence of treatment at discharge was 43.3%. The main causes for abandon were: stopping treatment by General Physician (GP) and side effects.

Conclusions: (1) FLS implementation showed a significant increase in antirresortive prescription. (2) Short efforts are not enough to warrant an optimal rate of treatment adherence, mainly for GP decisions. A wider plan is necessary to decrease the abandon rate in this in-risk population.

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Chronic kidney disease in the elderly: nutritional assessment

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Introduction: Malnutrition in elderly patients with Advanced Chronic Kidney Disease (ACKD) is related to the development of frailty and the occurrence of adverse clinical outcomes.

Objectives: To describe the nutritional status in patients with ACKD and evaluate the association between nutritional and clinical parameters.

Methods: Patients ≥ 65 years old, assessed in ACKD clinics (not on dialysis) with estimated glomerular filtration rate (eGFR) < 20 mL/min measured by CKD-EPI formula. Baseline variables: socio-demographic data, functional status (Barthel, Lawton, Functional Ambulation Classification), comorbidity (CIRS-G), etiology of kidney disease, anthropometric measurements, body mass index (BMI) using WHO and SENPE version (adapted to elderly), Mini Nutritional Assessment (MNA), Ulibarri scale and lab tests.

Results: 80 patients, mean age 78.3 years (±7.4). MNA test showed normal nutritional status 62.5%. BMI (SENPE version) showed normal weight 76.3%. BMI (WHO version) showed normal weight 30%, overweight 50%. Ulibarri scale showed normal nutritional status 44.4%. Comparison of different nutritional assessments with clinical parameters, showed a significant association between normal nutritional situation, assessed using BMI (SENPE version) and MNA, with Barthel >80 (BMI SENPE: $p = 0.02$ and for MNA $p = 0.03$).

Conclusions: There is a wide variability between tests for the assessment of nutritional status in the elderly. BMI (WHO version) may overestimate the rates of overweight in the elderly. An optimal nutritional status assessed by BMI and MNA, are associated with better functional situation.

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Complications and risk factors associated with vertebral and femoral fractures in postmenopausal women

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Objectives: The purpose of this study is to analyze risk factors affecting fractures of the femoral neck and vertebra in postmenopausal women.
Methods: The subjects were consisted of three groups (A: with fracture in femoral neck, B: with fracture in vertebra, and C: age-matched control without fracture) Bone mineral densities (BMDs) of lumbar spines and femoral necks were measured by the DXA. Several factors such as ages, anthropometric factors, menses-related factors, alcohol drinking, tobacco smoking, past history of bone fracture, biochemical test values, carotid artery intima-media thickness (IMT), and the presence or absence of complications and anamnesis were investigated.
Results: The numbers of each groups were 160, 122, and 111, and average ages were 74.8, 73.1, and 74.0 respectively. Past history of bone fractures was significantly prevalent in A and B groups. Tobacco smoking rate was higher in group B, and alcohol drinking rate was higher in group A. Serum albumin levels were lower and blood glucose levels were higher in group A and B. IMT was thicker in group B. Prevalence rate of diabetes mellitus was higher in group A, and prevalence rates of brain diseases were higher in group A and B. Blood pressure levels were higher in group A and B.
Conclusions: Past history of bone fractures, habit of tobacco smoking, alcohol drinking, low BMDs, malnutrition, complication of diabetes mellitus and brain diseases, and hypertension are risk factors of bone fractures in these postmenopausal women. Lumbar spines may be susceptible to metabolic effects of these diseases.

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Inadequate hydration and associated factors among Portuguese older adults – preliminary data from Nutrition UP 65

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Introduction: Data concerning the hydration status of Portuguese elderly are scarce. Therefore, we aimed to evaluate the hydration status and to identify factors associated with inadequate hydration among a sample of Portuguese older adults within the Nutrition UP 65 study.
Methods: A cluster sampling approach was used, representing Portuguese older adults according to age, sex, education level and regional area (NUTS II). A cross sectional study was conducted. From a sample size of 1500 participants, data from 949 elderly people are now available, 64.9% women, aged ≥65 years (30.1% aged ≥80 years). Inadequate hydration was defined as a 24 h urine osmolality >500 mOsm/kg H_2O. A logistic regression model was conducted to identify factors associated with inadequate hydration and Odds Ratios (OR) and 95% Confidence Intervals (95%CI) were calculated.
Results: Frequency of inadequate hydration was 32%. After adjusting for potential confounders, being male (OR = 2.06, 95%CI:1.54–2.77), living at home (OR = 3.37, 95%CI:1.39–8.18) and presenting 1–4 school years (OR = 1.60, 95%CI:1.02–2.50) or 5–11 school years (OR = 2.00, 95% CI:1.14–3.51) vs 0 years were factors associated with an inadequate hydration. Adhering to the Mediterranean diet (OR = 0.72, 95%CI:0.54 0.96), age ≥80 years (OR = 0.70, 95%CI:0.50–0.98) and presenting low physical activity level (OR = 0.61, 95%CI:0.41–0.93) decreased the odds of inadequate hydration.
Conclusions: Inadequate hydration is frequent among Portuguese older adults. Being male, living at home and having education are factors associated with an inadequate hydration whereas adhering to the Mediterranean diet pattern, age ≥80 years and low physical activity level protect from this condition.

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The effect of an oral nutritional supplement quality improvement program on 30-day readmissions and hospital length of stay among older malnourished patients

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Introduction: Malnutrition prevalence in older patients (≥65 years old) is high, and benefits of oral nutritional supplements (ONS) have been consistently shown. Limited research assessing the role of ONS on reducing readmissions and length of stay (LOS) among older patients exists. We assessed the impact of a comprehensive, ONS quality improvement program (QIP) in older patients on 30-day unplanned readmissions and LOS compared to historical controls.
Methods: Data from 1434 (55.4%) older patients (752/52.4% prospective QIP patients enrolled between October 2014 and April 2015, and 682/47.6% retrospective historical control patients admitted in the QIP hospitals between October 2013 and April 2014) were included in the analysis. In all four QIP hospitals, electronic medical record (EMR) was upgraded to include Malnutrition Screening Tool (MST) and condition-specific ONS was administered to patients with MST score ≥2.
Results: Pre-QIP historical control 30-day readmission rate and LOS were 20% and 6.5 days, respectively. Post-QIP readmission rate was 15.8%, showing an absolute rate reduction of 4.2%, as compared to pre-QIP (21% relative risk reduction, $P < 0.01$). Post-QIP hospital LOS was 5.4 days, showing an absolute reduction of 1.1 days, as compared to pre-QIP (17% relative risk reduction, $P < 0.01$).
Conclusion: Implementation of a comprehensive ONS QIP that emphasizes the need for malnutrition screening, nutrition education, and ONS leads to a significant reduction in 30-day unplanned readmissions and LOS for older hospitalized patients.

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District of Fatih-Geriatrics Study: the nutritional problems of the elderly people living in the community

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Objectives: The objective of this abstract is to investigate the nutritional problems of the elderly population in the community.
Methods: The elderly at the addresses that are determined by cluster sample among the elderly living in Istanbul province, Fatih district has been enrolled to the study. The interviewers of the study were 3rd & 4th-grade-students of Istanbul Medical Faculty. They were subjected to a standardized education regarding the execution of the study. The study involves participants who were between 65 and 101 years old. Their height, BMIs, the abdominal girth, the circumference of calves and upper mid-arms were measured. The malnutrition screening was done with MNA-SF. The abdominal girth of men being >= 102 cm, women being >= 88 cm was defined as metabolically risky.
Findings: 204 elder cases (94 men,110 women) participated in the study. The mean age was 75.4 ± 7.3. The prevalence of malnutrition was 41.7% and higher among women at a statistically significant level (50.9% versus 30.9%; $p = 0.004$). The prevalence of obesity and high abdominal girth circumference were respectively 42.9% and 74.9% and both conditions were more common in women. There was no significant difference between the weights and abdominal girth circumferences of different genders whereas the BMI, the circumference of the hip and calves were significantly higher among women and

the circumference of the upper mid-arm and MNA-SF-score were lower among women.
Results: Malnutrition and obesity are prevalent problems of the geriatric population in our society and occupy a major place in community health. Both nutritional problems are more common in elderly women. In addition malnutrition is more prevelant compared to other societies.

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Oropharyngeal dysphagia is a prevalent problem associated with mortality in hospitalized older adults

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Objectives: Oropharyngeal dysphagia (OD) is a common but underdiagnosed syndrome among older adults. Aim: The aim of this study was to assess the prevalence of oropharyngeal dysphagia in hospitalized older adults by using ten-item Eating Assessment Tool (EAT-10) and the relationship between mortality and OD.
Methods: Patients aged over 65 years who applied to an internal medicine inpatient clinic within Marmara University hospital in Turkey enrolled in the study. The number of drugs, the number of chronic diseases, routes of feeding (oral, parenteral, or both), length of hospital stay, albumin level on admission day,and mortality status of the patients were recorded by a physician. The EAT-10 questionnaire was administered to all patients for OD.
Results: One hundred thirty-six patients (54.4% female) were enrolled in the study. Their mean age was 74.6 ± 6.6 years. The prevalence of oropharyngeal dysphagia in hospitalized older adults was 23%. The mortality rates were significantly higher in the dysphagic subjects as compared to the non-dysphagic ones (25.8% vs. 10.5%; $p = 0.041$). The number of patients with malignancy was significantly higher in the dysphagic group as compared to the non-OD subjects (41.9% vs. 20%; $p = 0.018$).
Conclusion: OD is a geriatric syndrome and should be screened and treated in all geriatric patients in hospitals. It will improve patient outcomes and quality of life.
Keywords: Keywords: hospitalization; older patients; oropharyngeal dysphagia; screening; mortality.

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Targeting the underlying causes of undernutrition. Cost-effectiveness of a multifactorial personalized intervention in community-dwelling older adults: a randomized controlled trial

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Introduction: Undernutrition in old age is associated with increased morbidity, mortality and healthcare costs. This study aimed to evaluate the cost-effectiveness of a multifactorial personalized intervention focused on eliminating or managing the underlying causes of undernutrition to prevent and reduce undernutrition in comparison with usual care.
Methods: A randomized controlled trial was performed among 155 community-dwelling older adults receiving home care with or at risk of undernutrition. The intervention included a personalized action plan and six months support. The control group received usual care. Body weight, and secondary outcomes were measured in both groups at baseline and 6 months follow-up. Multiple imputation, linear regression and Generalized Estimated Equations (GEE) analyses were used to analyze intervention effects.
Results: This intervention showed no statistically significant effects on body weight, mid-upper arm circumference, grip strength, gait speed and Short Form Survey 12 (SF12) physical component as compared to usual care, but there was an effect on the SF12 mental component (0–100) ($\beta = 8.940$, $p = 0.001$). Borderline significant intervention effects were found for physical function measures, Short Physical Performance Battery (SPPB) (4–12) ($\beta 0.56$, $p = 0.08$) and Activities of Daily Living (ADL) Barthel-index (0–20) ($\beta = 0.69$, $p = 0.09$). Societal costs in the intervention group were statistically non-significantly lower than in the control group (mean difference −274; 95% CI −1111;782).
Key conclusions: This multifactorial personalized intervention showed a statistically non-significant effect and was not cost-effective on body-weight compared to usual care. We observed consistently beneficial treatment effects in the intervention group on all outcomes measures.

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Factors associated with diet and physical inactivity in obese elderly

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Introduction: Some factors are related to obesity in the elderly such as physical inactivity and poor diet. This study aimed to identify factors associated with eating habits and sedentary residents obese elderly Brasilia, Brazil.
Method: Cross-sectional study of 206 elderly evaluated initially with the household survey and later at the Health Center by anthropometric measures and electrical impedance to obesity classification. Descriptive analysis was performed using SPSS 20.0.
Results: sex, education and marital status were significantly ($p < 0.001$) associated with diet and consumption of fruits and vegetables, and mostly performed by female elderly, with more than 8 years of schooling, divorced and single. Regarding physical activity was observed that 93.2% of the elderly were sedentary, and prevalence ratios were significantly higher for elderly men, with an average income of 1–2 minimum wages and smoking habits.
Conclusion: The results can directly influence the direction and implementation of public policies in order to improve the quality of life, eating habits and physical activity of the elderly population.

P-675
Construct validity of the diagnostic criteria for malnutrition from the ESPEN Consensus Statement in older adults

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Introduction: Recently, the ESPEN Consensus Statement launched consensus criteria for diagnosis of malnutrition. These are for older adults: (1) Body mass index (BMI) < 18.5 kg/m^2; OR (2) Unintentional weight loss AND (BMI < 22 kg/m^2 OR Fat free mass index (FFMI) <15 kg/m^2 (women) and <17 kg/m^2 (men)). This study examined: (1) the construct validity of these criteria; (2) the need for including BMI and FFMI in the second criterion.
Methods: Data were used on 2392 participants aged 76.6 Years (SD 2.9) of the fourth wave of the Health, Aging, and Body Composition Study. Construct validity was examined through associations of malnutrition (yes/no) with 3-year incidence of disability (needing equipment, having severe mobility difficulty or having any ADL difficulty) and 3-year mortality in those with a BMI <= 28 kg/m^2 (N = 1415). This was done because above a BMI of 28 kg/m^2 associations may be related to overweight.
Results: Prevalence of malnutrition based on ESPEN criteria was 5.8% (N = 2392) (9.8% in N = 1415). Malnutrition based on ESPEN criteria was associated with incidence of disability (HR = 1.90 (95% CI 1.28–2.81), AUC = 0.53 (0.49–0.58)) and 3-year mortality (HR = 2.76 (2.07–5.40), AUC = 0.57 (0.51–0.62)). Leaving out FFMI and BMI from the

second criterion resulted in respective AUCS of 0.53 (0.49–0.58) and 0.59 (0.53–0.64).

Key conclusions: The ESPEN criteria for diagnosis of malnutrition show good construct validity in older adults based on significant associations with relevant adverse health outcomes. The criteria may be simplified by leaving out FFMI and BMI (in those with a BMI < 28 kg/m^2) from the second criterion as similar validity was observed.

P-676
What is the most reliable obesity index in Korean elderly population?

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Background: Obesity is a major risk factor for cardiovascular diseases. However, there is no confirmed index for diagnosing obesity in elderly population. Thus, we examined the accuracy of the currently used obesity indices and tried to find the most reliable index reflecting obesity among elderly Korean population.

Methods: We analyzed the data from the Fourth Korean National Health and Nutrition Examination Survey. The subjects of this study included elderly population of 1,193 people over 60 years of age. We analyzed the correlations among the appendicular skeletal muscle mass, truncal fat mass, total muscle mass, waist circumference, BMI, and total body fat percentage, The relevance between each obesity index was evaluated with each metabolic markers, such as fasting plasma glucose, total cholesterol, HDL-C, triglycerides, LDL-C, and HOMA-IR,

Results: No significant correlation was found between BMI and total body fat percentage although significant correlation was noted between BMI and waist circumference. Total body fat percentage correlated with appendicular skeletal muscle mass, truncal fat mass, and total muscle mass, Waist circumference showed significant correlations with fasting plasma glucose, HDL-C, triglycerides, and HOMA-IR. BMI correlated with HDL-C, triglycerides, and HOMA-IR. In females, BMI had significant correlations with fasting plasma glucose and total cholesterol. Total body fat percentage, appendicular skeletal muscle mass, truncal fat mass, and total muscle mass failed to show any significant correlations with metabolic indices.

Conclusion: Waist circumference and BMI were the most reliable obesity indices regarding metabolic markers among the elderly Korean population.

P-677
The relationship between obesity and thyroid nodules in healthy Korean adults

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Background: Thyroid nodules are common disease in Korean population and their presentations are important in the public health aspects. Previous studies have provided an evidence for the association between thyroid cancer and obesity, but little is known about the relationship between thyroid nodules and obesity. We investigated the relation of thyroid nodules and obesity in healthy Korean adults.

Method: We obtained data from 2922 subjects (Male: 1883, Female: 1039) who underwent a routine health checkup at the Health Screening and Promotion Center of Sanggye Paik Hospital. We reviewed their height, weight, obesity indices (Body mass index: BMI, Total body fat: TBF), and thyroid ultrasonography results. Obesity indices are divided into four groups.

Results: Both men and women who have a higher BMI had a increased prevalence of thyroid nodules ($p = 0.004$ in men, $p < 0.001$ in women). In addition, thyroid nodules increased significantly with higher TBF in men and women ($p = 0.001$ in men, $p < 0.001$ in women).

Conclusion: We observed positive relationship between obesity indices (BMI, TBF) and thyroid nodules in both men and women. Our results suggest that obesity might be important in the prevalence of thyroid nodules as well as thyroid cancer.

Area: Miscellaneous

P-678
Prevalence of anemia in elderly population in Qatar: a cross sectional study

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Background: Anemia is a common concern in geriatric health, but its exact incidence and prevalence are unclear. In United States, 10.2% of women aged 65 and older are anemic. Several other cross-sectional studies in the elderly persons have reported the association of anemia with functional disability and poorer physical performance, decreased muscular strength, fall injury events at home, and increased frailty risk. Interestingly, cognitive impairment has also been shown to be linked with anemia. Anemia may result from chronic infectious disease, chronic inflammatory disease, chronic renal failure, and endocrine disease. The present study investigates the prevalence of Anemia among the elderly in Qatar. Research design and methods A cross sectional review of electronic Cerner and medical record from January 2013-december 2013 of individuals were used to identify studies that reported on prevalence of anemia in cohorts of at least 450 individuals predominantly aged 60 years and over living in Qatar, together with criteria used to define anemia, the level below 12 g/dL in women and below 13 g/dL in men. The study has been approved by the medical research institutional ethics committee. Measurements: Patient characteristics and outcomes were analyzed and compared according to the severity of Anemia. Patient population included both males and females. Patients who underwent baseline hemogram profile on study period were included for the study. Laboratory parameters collected include hemoglobin, hematocrit value, mean corpuscular volume (MCV), mean corpuscular hemoglobin (MCH), mean corpuscular hemoglobin concentration (MCHC), reticulocyte count, iron profile, serum folate, and serum creatinine. Charlsons comorbidity index, Activity of Daily Living and Bergs Balance Scoring level were compared with severity of Anemia.

Results: A total of 447 elderly patients with mean age 77.9 ± 8.6 years were studied. The females (68.5%) are participated more than males (31.5%) in this study. The 78% of populations are Qatar nationalities compared to expatriates (22%). The index hemoglobin concentration in elderly was 10.9 ± 1.6 g/dL and lowest hemoglobin concentrations were 9.7 ± 1.6 g/dL. The severity of anemia was classified as mild deficiency was 17.0%, moderate 61.1% and severe anemia 21.9% among total cases. The severity in the hemogram values among patients showed statistical significance only for hematocrit ($p = 0.001$), Serum Iron ($p = 0.001$) and Serum Ferritin ($p = 0.02$). There was significant negative correlation between hemoglobin level and creatinine level ($p = 0.001$) among elderly patients.

Conclusions: Among the elderly patients 98 (21.7%) had severe anemia (hemoglobin below 8 g/dL), but majority of elderly suffering from moderate anemia 273(61%). The common type of anemia was diagnosed as normocytic normochromic anemia (72.7%) than microcytic anemia (26.8%), it indicates that anemia of chronic disease is highly prevalent than iron deficiency anemia in elderly. Further population based studies are warranted to evaluate the point prevalence of anemia and its prevention among the elderly.

P-679
Influence of the deficit of vitamin D in the functional gain of patients admitted to a unit of functional recovery

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Objective: To determine the influence of vitamin D deficit on functional recovery in post acute patients admitted in a functional recovery unit.
Methods: Prospective observational study January 2014 to December 2015. We analyze socio-demographic data, functional status at admission and at discharge in the unity and levels of 25(OH)D on admission.
Results: 135 patients (65% women) were admitted to our unit for rehabilitation (20% of neurological patients, 23% deconditioning patients, 57% orthopedic patients). Eighty-one por cent of patients had 25(OH)D levels <20 ng/dL and 35.5% <10 ng/dL. The deficit of vitamin D was present in 89.3% of neurological patients, in 80% of the orthopedic patients and 75% of the deconditioning patients. We divide the sample into three groups whose results are explained in the table.

25(OH)D ng/dl	n	Age	LoS days	Admission BI	Discharge BI	HI	Admission FAC	Discharge FAC
<10	48	83.4	27.5	41.8	57.1	42.1	1.1	2.4
<20	61	80.1	27.8	45.2	62.3	46.4	1.0	2.6
>20	23	78.4	23.4	52.9	70.2	51.3	1.95	2.95

BI: Barthel index, FAC: Funtional Ambulation Categories, HI: Heinemann Index, LoS: Length of stay.

Conclusions: Vitamin D deficiency is extremely prevalent among the studied population. In this study patients with lower vitamin D concentration are older and have more dependence levels at admission in the unit. Low vitamin D is associated with lower functional recovery at discharge and with longer legth of stay.

P-680
Importance of antithrombotic therapy with new anticoagulants in octagenarian and nonagenarian patients with nonvalvular atrial fibrillation

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Introduction: The risk of cardioembolic stroke increases with age. Antithrombotic prophylaxis is underused in the elderly population. The definition of the ideal drug in this group of patients is a challenge.
Methods: 108 patients were included with non-valvular atrial fibrillation (NVAF), glomerular filtration rate (GFR) >30 mL/m^2 and a time in therapeutic range (TTR) <60% with acenocumarol. Epidemiological, anthropometric, cardiovascular risk factors (CRF), CHADS2 score and CHA2DS2Vasc data were collected. The risk of bleeding was determined with HASBLED and HEMORRA2GES scales. The new anticoagulant was appointed as a function of age, GFR, BMI, cardiovascular disease history, peptic ulcer, gastrointestinal bleeding (GIB), intracranial hemorrhage (ICH) and risk of falling. Follow-up was one year.
Results: 57.1% were women. Median age of 82 ys (IQR 75–82). The most common CRF were hypertension (HTA) (79%) and type 2 DM (21%). The most frequent comorbidities were anemia (24.2%) and chronic kidney disease (30.7%). The average CHADS2 scale was 3.5 and CHA2DS2Vasc 5 points, which was associated with increased incidence of ischemic events ($p < 0.01$ and 0.03) . History of bleeding events was present for gastric ulcer in 6.7%; GIB 2.9% and ICH1 9%. Moderate bleeding risk was 57.1% according to HASBLED and 40.3% using HEMORRAGES. Severe risk was 29.5% and 20.2% respectively. With acenocumarol 12.55% had thrombotic events and 10.8% bleeding events, while NACOS presented 2.7% thrombotic events and 2.7% bleeding events.
Conclusion: In the elderly with non-valvular atrial fibrillation, antithrombotic therapy with new anticoagulants is safe and effective.

P-681
Atrial fibrillation and death risk in an elderly inpatient population

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Introduction: Atrial fibrillation (AF) is the most common arryhtmia affecting 10% of patients older than 89 years. It is considered to be an independent risk factor for mortality. The goal of this research is to acess the prevalence of AF and to evaluate its association with mortality rate in hospitalized patients with 75 or more years old.
Methods: Consultation of medical records of hospitalized patients with 75 or more years old in an Internal Medicine department from January to March 2015.
Results: 296 admissions, corresponding to 261 patients. Mean age of 84.66. The group of patients with AF and the non AF group were similar in terms of age, gender, hospitalization reason and comorbidities, except for heart failure which was more prevalent in the AF group. Mortality rate was 23.4% with significant difference between groups – 30% in the AF group and 17.7% in the non AF group.
Discussion: The prevalence of AF in this sample is significantly higher than what is described. Almost one fourth of the diagnosis was made during hospitalization which leads to believe that maybe the prevalence of undiagnosed AF is considerably higher. Although the similarity between groups, the death rate was greater in the AF group.
Conclusion: Since the prevalence of AF is so high in the elderly and it affects mortality risk, it is imperative to identify these patients. More studies are needed to access the real prevalence and to access cost-benefit of Holter monitor's use as screening test in addition to pulse palpation.

P-682
Improved functional performance in geriatric patients during hospital stay

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Objectives: Older medical patients often experience hospitalization associated decline in function and muscle strength. The time pattern of this decline and the potential recovery over the period of hospital stay is unknown.
Methods: 151 hospitalized geriatric patients, age 85.2 ± 7.2 years (mean ± SD), were observed, and of these 3 sequential observations were performed in 81 patients (day 2–4 (T1), day 5–8 (T2), and day 9–13 (T3)). Functional performance was assessed by De Morton Mobility Index (DEMMI) and 30-s Chair Stand Test (30s-CST); muscle strength was assessed by handgrip strength.
Results: At T1 average DEMMI-score and 30s-CST were 49.7 ± 14.7 and 3.5 ± 4.2, respectively. Compared to T1, DEMMI-score was increased at T2 (+3.7, $p < 0,001$, $n = 81$), and tended to increase further at T3 (+2.0, $p = 0.096$; 30s-CST tended to increase at T2 (+0.5, $p = 0.085$) and was improved at T3 (+1.5, $p < 0.01$). Handgrip strength was unchanged at T1, T2, and T3 (18.8 ± 7.0 kg; 19.0 ± 6.8 kg; 18.7 ± 6.7 kg, respectively, $p = 0.82$, $n = 81$). Improvements in DEMMI correlated with improvement in 30s-CST ($r = 0.53$, $p < 0.001$, $n = 151$), with 48% of patients demonstrating increase in only one of the parameters.
Conclusion: In geriatric patients functional performance improved during a hospital stay below 14 days, while no change was observed in handgrip strength. It was notable that improvements in DEMMI-score was more likely to occur in patients with low initial functional level, whereas changes in 30s-CST occurred more often in patients with high functional level. This indicates that the two tests are complimentary to

each other when evaluating changes in function in hospitalized geriatric patients.

P-683
Screening for sarcopenia with the BelRAI Acute Care Instrument

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Introduction: Despite established consensus criteria, sarcopenia remains underdiagnosed. Gait speed, the first screening test, is difficult to obtain in acute care settings. Predictive items from systematic comprehensive geriatric assessment in geriatric wards might allow to detect individuals with sarcopenia.
Methods: Retrospective study of 155 patients admitted to the geriatric ward of the Universitair Ziekenhuis Brussel (VUB) between December 2015 and February 2016. Sarcopenia was diagnosed using the European Working Group on Sarcopenia in Older People (EWGSOP) consensus criteria. Items from the BelRAI Acute Care instrument, expected to be associated with muscle status, were compared between patients with or without sarcopenia. Parameters with significant results were combined in a predictive score.
Results: 120 patients had muscle mass assessment. Low muscle mass showed a significant relationship with BelRAI items: dyspnea, scale and CAP for communication, capability of understanding others, of emotional expression, and incoherent speech. Gait speed could not be assessed in 22 of the 120 patients (18.3%). Among the remaining 98 patients 14.3% were diagnosed with sarcopenia and 56.1% with severe sarcopenia. Only 5 patients with sarcopenia were detected on a combination of slow gait in the presence of normal strength. The prediction of (pre-)sarcopenia based on BelRAI items, would be correct in 78.6% of the cases, with a high sensitivity (96.5%), but very low specificity (29.0%).
Conclusion: The BelRAI Acute Care instrument items analyzed in this study cohort, did not allow construction of an efficient screening tool for sarcopenia. Gait speed has a low input in the acute setting.

P-684
Hospitalisation of older people with diabetes after admission to emergency department: the patient journey

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Objective: To describe in real life the older patient with diabetes journey after unplanned hospitalisation.
Methods: Multicenter prospective observational study (3 emergency departments) during 6 months including patients with diabetes older than 75 years. Inclusion criterion was hospitalisation after the emergency department. Subjects were describing according to: reasons for admission, home living, functional dependency, comorbidities, treatments, care journey, and living place one month after discharge.
Results: 90 patients (85.1 y, interquartile interval Q1 ; Q3 [80 ; 90], 46 M). Among them 85.1% were home-living with care giver, familial or professional in 48.3%. Main reasons for admission were stroke (3), delirium (5), alteration of general condition (16), falls (11). Their health status was poor: 18.7% were undernourished and 59.4% at risk for malnutrition, 82.4ù were ADL dependent and 100% IADL dependent, 97.4% had macrovascular complications. The questionnaire recorded dementia or cognitive troubles in 14.0%, renal insufficiency in 26.7%, COPD in 3.0%, and a cancer in 17.8%. The distribution of usual antidiabetic treatment was: none in 18.2%, oral treatment in 55.6% and insulin in 37.8%. During hospitalisation the treatment was stopped or decreased in 7 subjects due to over-treating and increased in other 7 patients. During follow-up 31 patients were deceased. The mean length of stay was 14.3 days including 43% hospital transfers. Discharge to rehabilitation unit concerned 5 patients. One month after discharge 2 patients were newly admitted in nursing homes.
Conclusion: patients with diabetes with unplanned hospital admission had a very poor health status with severe comorbidity and frequent over-treatment. They suffer of high mortality rate. This study has benefited from financial support from SANOFI-AVENTIS France

P-685
Osteoporosis in adults with Down's syndrome

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Background: Increased life expectancy in persons with Down Syndrome (DS) is associated with premature age-related changes. A high prevalence of osteoporosis is reported in these subjects. It has been hypothesized that in this special population reduced height could lead to overdiagnosis of osteoporosis. Some authors thus suggest to adjust the bone mineral density (BMD) for height in patients with DS (BMD/h). Aim of the present study was to define age related modifications in BMD of persons with DS and the prevalence of osteoporosis in this population.
Methods: Participants were 198 adults with DS, aged 18 or older, assessed at the geriatric day hospital of our institution. Individuals received a comprehensive clinical assessment, including BMD assessment by DEXA. Data were compared to BMD measurements in NHANES wave 2009–2010. Both BMD and BMD/h were used in the study of the age related modifications in bone density and of the prevalence of osteoporosis.
Results: Mean age was 36.8 ± 11.8 years with 55.1% females. In all age groups, when compared to NHANES subjects, DS individuals showed a significantly lower BMD in the neck of femur; conversely, in the lumbar spine, BMD didn't differ significantly. Osteoporosis was highly prevalent in the sample, being present in 67 (33.8%) individuals when calculated using BMD. Importantly, when calculations were conducted using the BMD/h adjustment, prevalence dropped to 10.6% (21 subjects).
Conclusions: Adults with DS show high prevalence of early onset osteoporosis. Diagnostic criteria should be critically reviewed in this special population.

P-686
T-cell lymphoma disguised as depression – a case report of constitutional syndrome

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Introduction: Geriatric Medicine deals with the complex medical and psychosocial problems of older adults. It has special knowledge of the aging process and significant skills in the diagnostic, therapeutic and preventive aspects of illness in the elderly. Case Report: We present the case of an independent 83-year-old female with prior history of arterial hypertension, congestive heart failure, coronary arterial disease, hypothyroidism and dyslipidemia. She had been assessed by different physicians for a 6 month history of unspecific symptoms: fatigue, anorexia, involuntary weight loss, nausea, vomiting, anxiety, frequent falling and generalized pain. The diagnosis of Depressive Syndrome was assumed after an inconclusive laboratory and radiologic assessment. She was medicated with 12 different drugs, with no symptomatic improvement. She was finally referred to our Geriatric Department for investigation of this constitutional syndrome. We performed a multidisciplinary evaluation and a Comprehensive Geriatric Assessment that detected several Geriatrics syndromes, and submitted the patient to a full complementary diagnostic work-up, including an osteomedullary biopsy that revealed T-cell lymphoma. She was referred urgently to a hematologist.
Conclusion: In response to the rapidly aging population, Geriatric Medicine has emerged as an area of Medicine focusing on the treatment of disease and disability in later life. The constitutional syndrome in elderly patients often is correlated to psychiatric diseases,

including dementia and depression. This clinical case highlights the importance of high suspicion of organic disease behind unspecific symptoms and signs in this population that frequently is on the eminency of autonomy loss, but still has great potential to recover.

P-688

SPPB score is associated with daily walking time in elderly: results from the InCHIANTI-FARSEEING Study

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Purpose: To determine the relationship between daily walking time (WT) and physical function.
Methods: Data from 171 participants at fourth follow-up of the InCHIANTI study, 84 men and 87 women, 79.7 ± 6.5 ys old (range 65–98 ys) and Mini Mental State Examination ≥21. Participants wear a 3-axial accelerometer built on Samsung Galaxy SII/III (S) to record activity for a week. WT was recognized on accelerometer raw signals data. Lower extremity performance was categorized into three levels by the Short Physical Performance Battery (SPPB) score as: 12-11, 10-8 and <8. Linear Mixed Effect Models (LMEM) were used to study the relationship of WT with SPPB after adjusting for confounders (Stata/SE 12.0).
Results: Across SPPB groups, subjects with highest lower extremity performance walked significantly more (169.8 ± 77.1 min/day) than those in intermediate (147.9 ± 66.3 min/day) and lowest (106.2 ± 62.5 min/day) performance. LMEM adjusted for multiple confounders shows a consistent relationship between WT and SPPB: the estimate differences in intermediate and high score groups compared to the lowest group are 22.4 ± 11.5 min/day ($p = 0.05$) and 32.3 ± 13.5 min/day ($p = 0.02$) respectively.
Conclusion: Lower extremity function is strongly and independently correlated with WT in older persons. These data suggests that interventions aimed at improving lower extremity function translate into increased physical activity in older persons.

P-689

The multidisciplinary team narrative approach of the elderly patient identified using EASI – Elder Abuse Suspicion Index © in a Geriatric Clinic from Iasi, Romania

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Introduction: Psychological abuse and neglect of elderly people is a major problem in their management. There are many "hiding" forms of abuse, manifesting in various forms, from mild to severe cognitive impairment to refusing medication and nutrition.
Method: We studied the incidence of abuse on a group of 420 patients hospitalized in a geriatric clinic in a period of 13 months. We used EASI – Elder Abuse Suspicion Index as tool for detecting abuse. The adaption of these principles in the organizing of the multidisciplinary complementary service maintained the patient in the centre of the interactions.
Results: This is an outline of the adapted narrative and dialogic approaches in setting up a multidisciplinary team services in support of the geriatric patient after a screening process using EASI on 420 senior patients. This study is the first in Romania to use EASI as tool for detecting abuse in elderly. The narrative model of care is described and the successive adaptations of the process of care are presented.
Conclusion: This is an unique case for Romania of setting up a mixed multi-professional team – the geriatric medical team in the hospital and the psycho-social-juridical services (as a complementary team) – continuing with a system of referrals to state and private, secular and religious institutions in the community with amazing results for the senior population.

P-690

The examination of the relationship between flexibility and stability of trunk in older adults

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Objectives: Flexibility of trunk and mobility decrease with aging, therefore impairment in balance can be observed. This study was designed to examine the relationship between stability and flexibility of the trunk in older adults.
Methods: 91 elderly subjects aged over 65 without any neurological problems and musculoskeletal pain in spine, independent in daily activities, living in their own homes and 65 adults aged over 40–65 without musculoskeletal pain in spine were included in this study. Flexibility of trunk was evaluated by Sit and Reach Test (SRT), Back Extension Test (BET), Side Bending Test (SBT) and anterior-posterior stability of trunk was measured by Functional Reach Test (FRT).
Results: Significant differences were found between groups in respect to results of SRT ($p = 0.009$), BET ($p = 0.0001$), SBT ($p = 0.0001$) and FRT ($p = 0.006$). In elderly group, the results of FRT had positive and medium significant correlation with BET ($r = 0.463$; $p = 0.0001$) and SBT ($r = 0.465$; $p = 0.0001$). Similarly in adults, the result of FRT had positive and medium significant correlation with BET ($r = 0.431$; $p = 0.0001$) and SBT ($r = 0.437$; $p = 0.0001$). On the other hand in elderly, negative and low significant correlation was detected between age and flexibility tests ($r = -0.273$; $p = 0.009$), while no significant correlation was found between age and stability of trunk ($p > 0.05$). In elderly, it was concluded that age was not correlated with flexibility and stability of trunk ($p > 0.05$).
Conclusion: Reduction in flexibility and stability of trunk was detected with aging in elderly. However it was identified that impairment of balance became more apparent together with reducing flexibility.
Keywords: Keywords: flexibility; balance; elderly.

P-691

Assessment of time in therapeutic range (TTR) in geriatrics with non-valvular atrial fibrillation receiving treatment with warfarin in Tehran, Iran: a cross sectional study

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Introduction: Anticoagulant control is assessed bytime in therapeutic range (TTR) [1]. For a given patient, TTR is defined as the duration of time in which the patient's international normalized ratio (INR) values were within a desired range [1,2]. The aim of the study was to assess TTR in geriatrics receiving treatment with warfarin for non-valvular atrial fibrillation at a referral center for cardiovascular diseases in Tehran, Iran.
Methods: Over six months, we enrolled eligible geriatric patients presenting to Shaheed Rajaie Hospital in Tehran for regular INR testing. Demographic data, medical history, and current medications were determined for all participants. TTR was assessed by the Rosendaal method [3].
Results: A total of 243 patients (mean age 65.0 ± 5.0 years, 46.7% women) underwent 1254 INR measurements. The mean TTR was calculated as 44.9 ± 13.9%. Of the sample patients, 24.7% were in the good control category (TTR > 70%), 37.3% were in the intermediate category (50% < TTR < 70%), and 38% were in the poor control category (TTR < 50%). The number of current medications above three was a significant predictor of poor control (OR = 2.06; 95% CI, 1.87, 2.23). The mean TTR of the studied patients (44.9%) was below the good control range too.

Conclusion: The quality of anticoagulant therapy with warfarin in Iranian geriatrics is poorer than that reported in European countries.

References

1. Schmitt L, Speckman J, Ansell J. Quality assessment of anticoagulation dose management: comparative evaluation of measures of time-in-therapeutic range. *Journal of Thrombosis and Thrombolysis*, 2003;15, 213–216.
2. Schmitt L, Speckman J, Ansell J. Quality Assessment of Anticoagulation Dose Management: Comparative Evaluation of Measures of Time-in-Therapeutic Range. *Journal of Thrombosis and Thrombolysis* 2003;15: 213–216.
3. Rosendaal F, Cannegieter S, Van Der Meer F, Briet E. A method to determine the optimal intensity of oral anticoagulant therapy. *Thromb Haemostas* 1993;69:236–239.

P-692
Influence of medical comorbidities on length of stay – perspectives from a rural geriatric rehabilitation unit in Australia

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Background: Correlation between medical co-morbidities and the length of stay (LoS) of patients undergoing physical rehabilitation have been evaluated in the past. Most of these studies are from tertiary rehabilitation Centres. The aim of this study was to validate these findings in a Rural Geriatrics Rehabilitation Unit in New South Wales, Australia.
Methods: The Maitland Hospital has 12 bedded rehabilitation unit. In this retrospective database review, patient demographics, LoS and the Charlson Comorbidity Index (CCI) of patients admitted to the Rural Rehabilitation Unit of The Maitland Hospital from November 2015 to March 2016 were analysed.
Results: n : 82 Males : Females : 44:38 Mean Age : 79.2 years Average LoS : 30.06 days Average CCI (adjusted to age) : 5.90 The longest LoS was 76 days and the highest calculated CCI was 9. 16 patients had a CCI of more than 8 and their average length of stay was 28 days. The average CCI of patients who stayed more than 45 days was 5.83.
Conclusion: The Charlson Comorbidity Index did not influence the LoS of patients at the Rural Rehabilitation Unit of The Maitland Hospital (TMH). Identifying other factors like Functional Independence Measure (FIM) could help estimate LoS at admission. Moreover, discharge planning at The Maitland Hospital is influenced by service delivery challenges unique to rural Australia. Further analysis of the available data could help identify these factors that influence the LoS in the Rural Geriatrics Rehabilitation Unit.

P-693
Detecting elderly abuse – a meaningful evaluation aspect for establishing a senior patient's holistic approach

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Objectives: For many abused geriatric patients their first contact outside their environment is during hospitalization. Thus, the role of the geriatrician in identifying these patients is a major one. The geriatric tool is the comprehensive geriatric assessment to identify both the abuse and the impact on the physical and psychological health of the elderly. Frequently, due to the abuse, their physical state deteriorates, the comorbidities decompensate and other geriatric syndromes may be revealed. Many studies emphasis the bidirectional relationship between elderly abuse and depression or dementia but there are few data regarding its relationship with other geriatric syndromes.
Methods: To determine the correlations between the presence of senior abuse using EASI (Elder Abuse Suspicion Index) and the geriatric syndromes. We performed a prospective study for a one year period on hospitalized elderly patients. They underwent a comprehensive geriatric assessment (including ADL, IADL, MNA, MMSE and GDS), the EASI questionnaire, and a psychological consult.
Results: The results confirm a relationship between abuse and studied geriatric syndromes. Depression was positively associated with abuse ($p = 0.003$); dependence (ADL, IADL) was not statistically associated with abuse ($p = 0.121$, respectively $p = 0.251$). Malnutrition was associated with abuse, with statistical significance ($p = 0.002$). Cognition was negatively associated with EASI ($p = 0.007$).
Conclusion: EASI is a new, useful toll in evaluating the degree and type of abuse in geriatric patients. Positive values will trigger complex psychological and social interventions which will positively influence geriatric syndromes.

P-694
Gait pattern of healthy old people for dual task walking conditions

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Background: Gait patterns of healthy ageing are needed to allow a comparison with pathological situations. However few data are available. Objective: To present gait pattern of healthy older specially checked to be "healthy walkers".
Method: 140 volunteers benefited of a geriatric assessment including clinical and functional evaluations in order to exclude those having neurologic disorders, a history of fall, a previous stroke, neuroleptic drugs or alcohol consumption, mood or cognitive disorders and musculoskeletal complains. Gait data were simultaneously recorded using a tri-axial accelerometer carried on the waist and four 3D markers placed on each foot at the level of the heel and the toe. Volunteers walked in dual task condition where cognitive task was 7-serial subtraction. The extracted gait parameters were: gait speed, stride length, stride frequency, regularity and symmetry, swing and stance time, double support time and minimum toe clearance. Gait speed and stride length were normalized to the right leg length. A statistical analysis was carried out using SAS 9.4 version. Results were considered statistically significant at the 5% critical level a (p-value <0.05).
Results: Data of twelve gait parameters from sixty six "healthy walkers" mean aged of 70 years old (min 65 and max 88 years) were presented according to gender and age. Significant differences were shown according to gender.
Conclusions: This work provides reference gait values from healthy elderly people which can be used by clinicians and researchers.

P-695
Cognition, outcome and advanced glycation endproducts in geriatric inpatients

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Background: The accumulation of Advanced Glycation Endproducts (AGEs) in skin and blood is described for diabetes, cardiovascular disease as well as with age itself, so AGEs are described as a potential biomarker of aging.
Purpose: Measuring AGEs in skin and serum and test for correlation of cognition and functional outcome in geriatric inpatients.
Methods: We measured skin AGEs with AGE Reader by DiagnOptics through autofluoescence (AF) and in serum (carboxymethyllysin (CML), arginine/pyridine(A/P)) and total AGEs by 330/405, 440/520, 280/350, and 360/440 nm. For functional measurement we used the Barthel Index (BI, range 0–100 points, higher values indicating better function and independence in activities of daily living) at admission and discharge. For cognitive assessment we used the Mini Mental Status Examination (MMSE, range 0–30 points, higher values indicating better cognition). We used Pearson's r test for correlation and Student's t-test for significance, set to a level of 0.05 or lower.

Results: We analyzed 166 patients out of 196 included (mean age 80.5 ± 7.8 y, women (W) 81.8 ± 7.1, men (M) 77.8 ± 8.6 y, p = 0.0018). 30 patients were excluded for medical reasons, e.g. delirium. AF in W/M were 2.8 ± 0.72/3.16 ± 0.65, p = 0.0019), while serum levels show no sex difference (CML W 365 ± 134, M 372 ± 133, A/P W 464 ± 123, M 489 ± 126 ug/mL; 330/405 nm W 2.21 ± 0.98, M 2.35 ± 1.13, 440/520 nm W 9.44 ± 5.75, M 9.68 ± 5.9, 280/350 nm W 34.5 ± 5.6, M 34.6 ± 5.8, 360/440 nm W 3.14 ± 0.95, M 3.26 ± 0.98 mg/mL, all n.s.). Mean BI at admission was 50.4 ± 18.9 in W and 47.3 ± 20.9 in M (n.s.), at discharge W 73.8 ± 21, M 77.8 ± 20.8 (n.s.). No significant correlation was found except for A/P in M for BI at discharge (r = –0.2909, p = 0.05). Mean MMSE was 23.1 ± 4.8 (W 22.9 ± 4.8, M 23.3 ± 4.9, n.s.) and show no correlation to AGEs, but MMSE subscore immediate recall do to CML (r –0.1666) and 280/350 nm (r 0.2035, p = 0.05 each). MMSE subscores in M were n.s., while in W CML (r –0.209) and 280/350 nm (r 0.2464) for immediate and A/P (r 0.1977) for delayed recall showed significant correlations (p = 0.05 each).
Conclusion: Sex differences in AGE skin measurements were not confirmed by serum analysis. We found no correlation between AGEs and functional outcome and no sustained correlation between AGEs and cognition in our cohort. In women different MMSE subscores show some significant correlation wor different subclasses of AGEs.

P-696
Macrocytic anemia in elderly

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Introduction: The prevalence of anemia rises with advancing age. In effect, macrocyticanemia is a common condition in the older population and may receive adequate attention in clinical practice because of its impact on quality of life.
Methods: It is a retrospectivestudy of medical records of patients hospitalized between 2003 and 2016 who were 65 years of age or over and who had a macrocytosis.
Results: Twenty-three patients were recorded (14 men and 9 women) with the aver age of 75 years. Functional signs were poor general state in 9 cases, asthenia in 17 cases and digestive complaints in 5 cases. The clinical examination showed lymphadenopathy in 1 case and vitiligo in 1 case. One patient had isolated macrocytosis without anemia. The hemoglobin level was between 4 and 10 Leucopenia was reported in 10 cases and thrombocytopeniain 7 cases. Hyperhomocysteinemia was seen in 4 cases. Eight patients had Biermer's disease (megaloblastosis, atrophic gastritis and low serum cobalamin level). Nine patients had a cobalamindeficiency (not associated to Biermer's disease). 3 patients had myelodysplasic syndrom, 1 patient had mantlecelllymphomain, 1patient had a multiple myeloma. Complementary investigations which helped the most in etiologic diagnosis were bone narrow examination and fibreopticendoscop.
Discussion: Macrocytic anemia may be often un recognized because of its subtle clinical manifestations. Although vitamin deficiency is the mostf requent etiology, it is important in patients presenting only with macrocytic anemia to search for early signs of malignant neoplasms.

P-697
Sjogren's syndrome in elderly patients

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Introduction: Sjogren's syndrome (SS) is a systemic disease affects femaleswaround 50 years. The aim of thisstudywere to compare the clinical, biologicalfeatures ofelderly SS compared to younger. Material Retrospectivestudycompiled SS patients.Thediagnosiswasbased on the American–European Consensus Group classificationcriteria for SS.Patients weredividedintotwo groups(G1: age >65years; G 2: age <65 years). Clinical, biologicalcharacteristics of the 2 groups werecomparedusing the X2 and Fisher test.
Results: 118 patients wereincluded: 14 in G1and 104 in G2. The meanage at diagnosiswas 69 G1 and 46 years G2. 93% hadxerostomia, 100% hadxerophthalmia, 36% hadsuperficialkeratitis, parotidhypertrophywasnotedin 14%. Arthralgiawerereported by 71.4% andarthritisin 7%. One patient hadlungdisease one hadvascular purpura and one hada central nervousdisease. Peripheralneuropathywasobjectifiedin 3 cases. 46% of patients hadlymphopenia, 23% hadanemia, 61.5% hadhypergammaglobulinemia and 38.5% had an inflammatory syndrome. Antinuclearantibodies (ANA), autoantibodiesagainst SSA and SSBwere positive in 63.6%, 40% and 20%. The comparisonwithyounger patients showed no significantdifference in differentclinical and biological manifestations. antimalarialdrugs and corticosteroidswereused more frequently inG1.
Conclusions: Diagnosis of SS in elderlycanbedifficultgiven, becausemedicationsmayberesponsible for a dry syndrome and the frequency of ANAwithoutpathologicalsignificance. visceral manifestations and positivity of autoantibodiesfacilate the diagnosis.

P-698
Liver abscess of odontogenic origin, in a patient with dental implantation procedure history

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Introduction: Pyogenic liver abscess, a potentially life-threatening disease. It may be caused by biliary tract pathology, colonic disease, hematogenous seeding, recent gastric or enteric surgery, direct trauma or pancreatitis, or may be of cryptogenic origin. Dental disease as a source of hepatic abscess is extremely rare, especially in immunocompetent patients. We report a case of liver abscess of odontogenic Case Report. We report an immunocompetent 75-year-old male with undergoing dental implantation procedure 2 months before hospital admission; Independent daily living activities, non-cognitive impairment, live with his sister. Clinical history: hepatic disease (primary biliary cirrhosis), diabetic. Medication was taken: glargine insulin 10 units at day. He starts with a 1-week history of fever, chills and headache. He had previously been healthy, Three weeks before hospital admission; He was admitted at intensive care unit, was performed drainage of liver abscess one blood culture grew Prevotella oris , bacteria that are commonly found inside the oral cavity. Bacterial culture of the liver abscess drainage sample grew both Prevotella and streptococcus constellatus. This led to our diagnosis of pyogenic liver abscess of dental origin, after antibiotic therapy with drainage, abdominal sonography showed resolution of the abscess. Patient was performed geriatric assessment and start recovery in the geriatric ward after 45 days, the patient was complete recover.
Conclusion: Pyogenic liver abscess is a relatively uncommon but important disease, which can be fatal Therapy for pyogenic liver abscess usually requires percutaneous drainage combined with intravenous administration of antibiotics. Antibiotic prophylaxis may prevent hepatic abscess in patient with liver disease

P-699
Has patient's with hip fracture profile changed?

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Introduction: We aim to evaluate the evolutionary changing characteristics of patients admitted to our Orthogeriatric Unit over the last five years.
Methods: Retrospective descriptive study of patients over 65 years old admitted for hip fracture to Hospital Infanta Elena Valdemoro (Madrid). We collected twenty five sociodemographic, functional and cognitive status concerning variables and analyzed them with SPSS program.
Results: The sample consists of a total of 138 patients corresponding to 73 incomes taken place from June to December 2015 and 65 income from June to December 2010. In the first group the mean age

was 85.23 years old (with 30.13% of nonagenarian), of whom 60.27% were women compared with an average age of 81.4 years, and 56% women in the second group. In 2015 many of our patients came from nursing homes (39.8% versus 26% in 2010) and a considerable percentaje (20%) of falls occurred during the night (this fact is presumably due to the restriction of staff developed in recent times). Mean Barthel score was 66/100 for the first group and 77/100 for the second, with a similar average GDS scale score in both groups 2–3/7.
Conclusions: It is suspected to be an emergent tendency to longevity with a higher average age at the expense of increased morbidity and mortality and also more institutionalization at discharge because of poorer functional and cognitive outcomes, which represents a continuous challenge for the specialty in improving elderly quality care.

P-700
Retrospective study about non-Hodgkin's lymphoma aggressive lymphoma of the elderly

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Objectives: Because of aging society, the number of non-Hodgkin's lymphoma (NHL) patients were increasing. So we investigated NHL of the elderly. Especially we investigated aggressive lymphoma of the elderly.
Methods: The subjects in this study were 197 patients who were histopathologically diagnosed as NHL from January 2003 to December 2012. The criteria of elderly was more than 65 years old. Survival curves and the median survival times were estimated by the Kaplan-Meier method and any significant differences between the two groups were evaluated by the Log rank test. The authors and coauthors have no conflict of interest to disclose.
Results: All cases were 197 cases including male 105 cases, female 92 cases, median age was 73 year. Pathological findings, diffuse large B cell type 161 cases, intravascular large B cell lymphoma(DLBCL) 8 cases, peripheral T cell type 8 cases and others 20 cases. Therapy policy for NHL, curative chemotherapy(CTx) 169 cases, palliative CTx 6 cases, curative radiation therapy(RTx) 2 cases, palliative RTx 3 cases, best supporting care(BSC) 17 cases. Kind of therapy, CHOP or CHOP like therapy were 32 cases, RCHOPor RCHOP like therapy were 133 cases, RTx alone 4 cases, operation + CTx 1 case, CTx + RTx 1 case, other CTx 9 cases, BSC 17 cases. In DLBCL, median survival time was not reached, 5 years overall survival time was 59.2%.
Conclusions: Even if elderly patients, early stage cases can be cured intensive therapy.

P-701
Treating radiation-induced cystitis with hyperbaric oxygen: safety and effectiveness in elderly patients

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Introduction: The use of Hyperbaric Oxygen (HBO) for the treatment of Radiation-Induced Cystitis (RIC) is well established nowadays. However, no studies analyze the effectiveness and safety of this treatment in the elderly.
Methods: Clinical data from patients treated at our centre during a 15-year period were retrospectively analyzed. Main outcomes considered were hematuria evolution and relapse. Age ≤65years was classified as young and >65 as elderly.
Results: A total of 176 patients, 65 men and 111 women, with a mean age of 61.9years (15–85 years, 105 young and 71 elderly) complied with the inclusion criteria. Most frequent indications for radiotherapy were uterine cervix cancer (50.6%), prostate cancer (31.8%) and endometrial cancer (9.7%). The average period from radiotherapy to hematuria onset was 55.7 months (0–313 months), whereas the average period from hematuria onset to HBO therapy was 13.7 months (0–168 months). 19.3% of patients needed transfusion therapy prior to HBO and 23.9% showed concomitant radiation-induced soft tissue lesions. At the end of treatment (an average of 37 daily sessions of HBO), there was a 89.8% hematuria resolution rate. Hematuria relapse was identified in 13.6% of patients. Adverse events occurred in 1.7% of patients. There was no statistical difference between young and elderly patients regarding hematuria resolution (90.5% vs 88.7%), hematuria relapse (15.2% vs 11.3%) or incidence of adverse events (1.9% vs 1.4%).
Conclusions: In our sample, HBO therapy was safe and effective, and age was not associated to lower effectiveness or higher rate of adverse events.

P-702
Our Orthogeriatric Unit: a descriptive study

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Introduction: The Orthogeriatric Units (OU) are a multidisciplinary team composed of Geriatricians and Orthopaedic Surgeons. A classical collaborative organizational model has evolved to an active one.
Objective: Description and analysis of the components concerning an OU.
Material and methods: Epidemiological, retrospective, observational and descriptive study. Secondary database. Population: elderly patients admitted with the primary diagnosis of hip fracture during 1st June 2013 – 31st December 2014: N = 813 patients. The primary and secondary diagnosis were codified according to ICD-9. Considering CMDB, patients were categorized by AP-GRDR. ALCORR was used to collect assistance clinical information. Statistical analysis was performed in two steps: descriptive and comparative study.
Results: N = 813 patients. Mean age 85.73 (+/–6.9). 78.0% women. 50.1% pertrochanteric and 30.1% subcapital fractures. 100% Geriatric Comprehensive Assessment [Barthel: 81,3%: 61–100//Lawton: 62,2%: 0–4//Cruz Roja Fisica(CRF): 75% 1–2/5; 18,8% 3/5// 6,2% 4–5/5// 2,9% 5/5)]. Length of stay: 9.55 (DP 4.37) days; preoperative: 3.23 days (DP 2.43); postoperative: 6.53 (DP 3.31). Conservative treatment: 4,4%; early surgery (<24 h): 26%; 51% osteosynthesis 39,2% (PPC). Intrahospitalarmortality: 3.4%; GRDR: (34,3% 818; 31,4% 211; 14,8% 210) PESO-GRDR: 3,18 (DE 1,42).
Conclusion: The OU model will provide more insight on how to improve care processes and outcomes for patients with hip fracture. Considering patients' age and comorbidities, our patients present low in-hospital mortality compared to other national series. We believe early surgery is a key factor for such results.

P-703
Frequency and socio-economic predictors of diabetes in the Caucasian elderly and in oldest-old: the PolSenior study

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Introduction: Diabetes morbidity in the elderly depends on biological, environmental and social factors.
Methods: The study was conducted on 2128 males and 1961 females aged 65+ years, based on the fasting plasma glucose levels and a detailed medical questionnaire.

Results: Almost 22% of study participants had diabetes; among them, 4.0% have not been previously diagnosed. The frequency of previously diagnosed diabetes was higher, while of undiagnosed diabetes was lower in females ($p < 0.002$) than in males ($p = 0.029$). Diabetes was more common in younger elderly than in oldest-old aged 85+ years ($p < 0.001$); however, in multivariate logistic regression analysis (MLRA) only BMI remained an independent risk factor for diabetes (OR = 1.12, 95%CI: [1.10–1.13], $p < 0.001$). The frequency of diabetes was higher among urban than rural dwellers ($p = 0.048$), it was also related to marital status in females ($p = 0.036$) and to the type of work in males ($p = 0.015$). MLRA showed that in females BMI (OR = 1.10, 95%CI: [1.08–1.12], $p < 0.001$) and marital status (OR = 0.41, 95%CI: [0.18–0.94], $p = 0.035$), while in males only BMI (OR = 1.15, 95%CI: [1.12–1.18], $p < 0.001$) remained an independent risk factors for diabetes. Undiagnosed diabetes was more frequent among rural than city dwellers ($p = 0.03$). In females its frequency increased as the level of education decreased (p-for-trend 0.016) but in MLRA only BMI (OR = 1.06, 95% CI: [1.01–1.11], $p = 0.013$) and place of residence (OR = 2.75, 95% CI: [1.52–4.97], $p < 0.001$) remained an independent risk factors.
Conclusions: The prevalence of diabetes in 65+ years old population exceeds 20% but is lower in oldest-old than in younger elderly, and is modified by socio-economic factors.

P-704
Importance of geriatric assessment in patients with aortic stenosis candidates to valve replacement surgery

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Introduction: Aortic stenosis (AS) is a chronic and progressive disease with a long period of clinical latency. Geriatric objective evaluation using scales is essential to decide which treatment is the most appropriate.
Methods: Prospective longitudinal study from June 2014 to April 2016 that included 97 over 75 years old patients with moderate or severe AS. They underwent biomedical, functional and cognitive assessment by different geriatric scales and transthoracic echocardiography. Surgical risk logistics Euroscore scale mortality prediction was quantified. The relationship between different geriatric scales, severity of aortic stenosis and Euroscore was performed by linear simple logistic regression and multivariable analysis.
Results: 52.6% had severe and 47.4% moderate AS. The average age was 86 y (IQR 79–90). 69.1% were women. 71% were symptomatic. Dyspnea was the most frequent symptom followed by chest pain 3.1%. 44.4% had been admitted for heart failure. The Euroscore mortality risk was 18.5 (SD ± 14.96). 98% of patients had a Charlson comorbidity index (ICH) >3 and 35.1% a modified ICH > 3. 56.4% presented fragility. The mean Barthel index was 74.1. In the multivariable logistic regression analysis only functional class and ICH were related to predicting mortality risk (Euroscore) β 4.69 ($p < 0.01$ 2,45–6.94 IC) and β 4.7 ($p < 0.01$ CI 2.5–6.9).

P-705
Assessment for risk factor for adverse drug reaction in elderly inpatients

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Introduction: Many reports show that in elderly adverse drug reaction (ADR) is more frequency and more happens to be serious cases. So we need to take care to prescribe medicine to elderly patients. Then we explored the risk factor for ADR in elderly inpatients.
Methods and materials: This study included 373 consecutive elderly inpatients(mean age 77.0 ± 7.4, male/female 165/208) from September 2013 to August 2015. We examined comprehensively frequency or the details of ADR, prescribed medicine, comprehensive geriatric assessment (CGA) and so on.
Results and conclusion: The incidence of ADR was 21% (10.4cases per 1000 inpatients-days, 22cases per 100 inpatients). As the details of ADR, hypoglycemia, liver dysfunction and bleeding were more frequent. As the risk medicine of ADR, oral hypoglycemic agent, antiplatelet agent and anticoagulant went up. By single variable analysis, we picked up the urgent hospitalization (48cases), polypathia, polypharmacy (mean prescribed medicine: 7.5 kinds of medicine), degradation of Instrumental Activity of Daily Living (IADL), hypoalbuminemia and long-duration of hospitalization as the risk factor for ADR. By multiple-variable analysis, long-duration of hospitalization affected the occurrence of ADR. Our study showed that the risk factor for the occurrence of ADR in elderly inpatients by single variable analysis that we stated above was also the phenotype of frailty which is one of the important problems in the elderly these days. So we suggest that we need intervention for frailty to avoid of the incidence of ADR.

P-706
Is plasma klotho associated to hemoglobin blood concentration in elderly? Results from the InCHIANTI Study

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Introduction: Klotho is a recently discovered hormone that plays a role in human aging and aging-related conditions. In animal models klotho deficiency negatively affect hematopoietic stem cell development. In humans, disruption of normal hematopoiesis, an aging-associated process, results in an increased prevalence of anemia, which in turn has been associated with with sarcopenia and low muscle strength in older persons. The objective of this study is to explore the association between plasma klotho and Hemoglobin (Hb) concentration in person 65 years old and older in cross sectional analysis.
Methods: Data from 922 participants at InCHIANTI FU-1 aged ≥65 years old (76.9 ± 7.1 ys old, 56.1%F, 43.9%M). Klotho and Hb variables were evaluated as continuous measures. Relationships of Klotho and Hb were tested in linear regression models adjusted for age and gender (Model I), chronic diseases (Model II) and multiple potential biological confounders (Model III).
Results: Even after adjusting for multiple confounders, plasma klotho was strongly associated with Hb concentration (0.0007, $P < 0.001$). Among the other biological confounders, parameters significantly associated with Hb were folic acid (−0.029, $P = 0.025$), C-reactive protein (−0.012, $P = 0.008$), erythropoietin (−0.041, $P < 0.001$), RDW (−0.206, $P < 0.001$) and vitamin E (0.012, $P = 0.029$).
Conclusion: Plasma klotho is significantly associated with Hb blood concentration in older persons. Further studies are needed to elucidate the potential biological mechanisms by which circulating klotho could affect Hb blood levels in humans.
Keywords: InCHIANTI; Klotho; Hemoglobin; Aging.

P-707
Can mild to moderate chronic kidney disease lead to anemia?

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Background: Anemia of kidney disease represents 8–45% of the anemia in the elderly. However there are few studies about the relationship between renal function and anemia in elderly patients. The main objective of this study was to find the cut-off of creatinine clearance that leads to anemia. We also analyzed the association of erythropoietin (EPO) with renal function and hemoglobin (Hb).
Method: Patients were selected from acute and reeducation wards of the Paul Brousse Hospital, in Villejuif. All participants were eligible for measurement of blood cell count, reticulocytes, folates, vitamin B12, ferritin, transferrin saturation, TSH and EPO. We included patients that

didn't have: iron, folate or vitamin B12 deficiency, acute renal failure, hypo-ou hyperthyroidism, known or suspected myelodysplatic syndrome (platelets < 150 G/L or leucocytes < 4 G/L or MCV > 100 µ3). We also excluded patients who suffered from cancer or who had received a transfusion within 3 months or erythropoietin treatment. Clearance creatinine was estimated using Cockcroft, simplified MDRD and CKD-Epi equations. Anemia was defined by WHO's criteria.
Result: Eighty-two patients were included: 49 women and 33 men with a mean age of 85 ± 6 years. A mild anemia was found in 43% patients (n = 35). The overall mean Hb level was 12,4 ± 0,8 g/dL. The prevalence of chronic kidney disease was 93% with the CKD-Epi formula: 61% mild, 29,5% moderate and 2,5% severe decrease of glomerular renal function. No relationship was found between renal function and anemia, neither between renal function and EPO. Therefore we couldn't find the cut-off of creatinine clearance that leads to anemia (AUC CKD Epi = 0,55 and p = 0,46; AUC MDRD = 0,51 and p = 0,76; AUC Cockcroft = 0,61 and p = 0,08). There was no correlation between hemoglobin and EPO (p = 0,47).
Conclusion: This study didn't find an association of mild to moderate CKD with anemia without iron or vitamin deficiency, inflammatory syndrome or thyroid dysfunction in hospitalized elderly patients. Further large and prospective studies are needed to confirm this result.

P-708
GEMCON16: the first geriatric emergency medicine conference in Europe

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Introduction: Older people represent a growing proportion of attendees in Emergency Departments across Europe. Traditionally Emergency Departments have not focused on care for older people especially those with frailty. Similarly, geriatric services have not traditionally focused upon the care of older people in Emergency Departments. This work seeks to bring together the two disciplines of Geriatric and Emergency Medicine through a defined and validated curriculum on Geriatric Emergency Medicine.
Methods: Domains and items for inclusion in the curriculum were derived through a combination of literature reviewing and a nominal group workshop. The domains and items underwent validation using a Delphi technique involving the European Societies of Geriatric and Emergency Medicine.
Results: In the development stage, 100 individual learning outcomes were identified, reflecting 16 domains. Following the stage 2 validation process, 98 items remained. All items were approved by the relevant EU societies. In the final validation step, the curriculum was formally approved by the UEMS sections for Geriatric Medicine and Emergency Medicine (responsible for curriculae in the respective disciplines).
Key conclusions: This curriculum was developed as a formal collaboration between EUSEM and EUGMS (European Task Force in GEM) and reflects the need to match the educational development of a workforce with the changing demographic of the patient population. The next challenge is ensuring it is embedded into practice. Future work to address these challenges is underway through the development of a GEM conference, GEM textbook and dissemination of information through journal publication and conference presentations.

P-709
The internet of things (IoT) applied to SPRINTT ICT infrastructure

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The dedicated ICT infrastructure for Sarcopenia & Physical frailty in Older People: Multi Component Treatment Strategies (SPRINTT) was developed and implemented to support the clinical trial data gathering and management, building on the initial call requirements by the Innovative Medicines Initiatives (IMI). SPRINTT project started on July 2014 and is expected to enrol 1500 participants over 70 years old in 14 centres across 9 European Member States. Participants' physical activity (PA) pattern will be tracked over the whole study duration with the Adamo watch, a sensor device processing and recording accelerations, whose encrypted data are periodically transferred to remote servers. Physical activity patterns plus clinical data and imaging (DXA) will constitute and progressively accrue a large database. In facts continuous, long-term clinical data gathering via non-invasive technologies represents per se an innovative feature of SPRINTT Clinical Trial. In our ICT infrastructure the Clinical Knowledge Hub allows to aggregate heterogeneous data from different sources (generated by DXA, Nutrition, e-CRF and Adamo) in a common database, where all data generated during the clinical trial can be retrieved. In order to meet data security, traceability and flexibility requirements an infrastructural component has been used: The Enterprise Service Bus (ESB) that governs all communication between modules and enabling the following functions: • tracking who is sending data and which data are transferred • filtering data flow based on the user authorization profile • managing data encryption • governing data flow in a centralized way • decoupling modules in order to reduce each other's dependency.

Area: Organisation of care and gerotechnology

P-710
Improving traceability of weight and renal clearance of elderly residents in nursing homes

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Objectives: Elderly patients are more likely to have decreased renal function, which can require adjustment of therapeutic treatment. The aim of the present study was to assess medication management quality by monitoring weight and renal clearance of elderly population living in one of the 584 nursing homes of the region, especially people with chronic renal failure.
Methods: A retrospective professional practice assessment was conducted in early 2014 with voluntary nursing homes of the region. People of 75 years old or more and living in a nursing home for more than a year were included. Traceability of weight and renal clearance were collected in the resident's file.
Results: 84 (14%) nursing homes participated in the study. In total, 3063 resident's files were included. The mean age of residents was 88 years and 75% had at least one measure of weight and serum creatinine in the past year. 80% of nursing homes had automatic calculation of renal clearance and it was recorded in the resident's file in 68% of cases. 22% of residents had chronic renal failure and their biological follow-up was respected according to French guidelines for half of them.
Conclusion: Nursing homes encounter difficulties to collect and record their residents' data and to standardize their practices. To improve traceability of weight and renal clearance, a free e-learning training and an information leaflet are proposed to healthcare professionals. A second measure of data will be conducted in early 2017.

P-711
Tailored interventions to promote active ageing using mobile technology: a feasibility study

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Introduction: Mobile technologies facilitate innovative and ubiquitous interventions to promote Active Ageing in daily life. To ensure adoption, such interventions must be designed in co-operation with older adults. This work presents the results of a feasibility study of a system that monitors physical activity, well-being and weight of community-dwelling older adults. Previous versions of

this system were used to coach physical activity among clinical populations [1–3].
Methods: Twelve adults aged above 65 used a smartphone, a pedometer and a smartscale for a period of four weeks. Afterwards, an interview was performed to assess the participants' subjective experience regarding the use of the system. Well-being was assessed with a set of questions on the daily experience of positive emotions. The actual behavior was compared to the self-perception of physical activity.
Results: Seven participants reported they became more active, although objective data does not support this statement. Four participants reported becoming more aware about their well-being through the daily questions about experience of positive emotions. In general, the participants were satisfied and would like to use such system in their daily lives; participants recommended incorporation of tips and warnings tailored to personal needs and capabilities.
Conclusions: Older adults are willing to use technology to monitor their health and to coach them into healthier lifestyles. Daily life interventions must be tailored to the individual needs and wishes, instead of taking a one-size-fits-all approach. The results of this study are transversal and assist in the design of interventions using mobile technology in daily life.

References

[1] Dekker-van Weering M. G. H., Vollenbroek-Hutten M. M. R., & Hermens H. J. (2012). Do personalized feedback messages about activity patterns stimulate patients with chronic low back pain to change their activity behavior on a short term notice? *Applied Psychophysiology and Biofeedback*, 37(2), 81–9. doi: 10.1007/s10484-012-9181-6
[2] Tabak M., Brusse-Keizer M., van der Valk P., Hermens H., & Vollenbroek-Hutten M. (2014). A telehealth program for self-management of COPD exacerbations and promotion of an active lifestyle: A pilot randomized controlled trial. *International Journal of COPD*, 9, 935–944. doi: 10.2147/COPD.S60179
[3] Wolvers Md., Bruggeman-Everts F. Z., Van der Lee M. L., Van de Schoot R., & Vollenbroek-Hutten M. M. (2015). Effectiveness, Mediators, and Effect Predictors of Internet Interventions for Chronic Cancer-Related Fatigue: The Design and an Analysis Plan of a 3-Armed Randomized Controlled Trial. *JMIR Research Protocols*, 4(2), e77. doi: 10.2196/resprot.4363

P-712
Caring for the caregiver

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Introduction: The informal caregiver helps the person who is partially or totally dependent on their activities of daily living (ADL). The caregiver finds himself in the social network of informal support and assumes this responsibility voluntarily or in an imposed way.
Objectives: Understanding the real impact on the lives of informal caregivers and strategies that could minimize them.
Material and methods: Meta-analysis, systematic reviews and randomized controlled trials research in the following scientific databases: Scielo and ClinicalKey. These included articles written in Portuguese, Spanish and English, published in the last five years, using the following MESH terms: "Cuidador informal" and "informal caregiver".
Results: Of the 2124 initial results 474 articles were analyzed, 5 of which met inclusion criteria. The articles showed that the main impacts on the life of informal caregiver are: 1. Back pain overload; 2. Chronic stress related to high blood pressure; 3. Depression related to the number of hours spent in the care of the geriatric person; 4. Interaction difficulties, which cause great emotional and psychological wear; 5. Scarcity of financial resources. These changes in the caregiver's life end up having an important impact on the care provided and the relationship established with the dependent elderly person.
Discussion/conclusions: The activity of the informal caregiver implies a significant physical, mental, social and economic overload, for which we believe the creation of support programs could help lighten this load. It is necessary to implement programs that integrate multidisciplinary teams in order to provide specialized support to caregivers.

P-713
Aged Residential Care Healthcare Implementation Project (ARCHIP). A multidisciplinary team (MDT) intervention package reduces emergency hospital presentations from Long Term Care (LTC)

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Introduction: The complexity of older people living in LTC facilities poses challenges often leading to potentially avoidable Emergency Department (ED) referrals. ARCHIP's aim was to evaluate an MDT intervention supporting LTC facility staff to decrease potentially avoidable resident ED admissions.
Methods: ARCHIP (conducted in 21 facilities [1,296 beds] with previously-noted high ED referral rates) comprised clinical coaching for LTC facility staff by gerontology nurse specialist (GNS) and MDT (facility senior nurse, resident's general practitioner, GNS, geriatrician, pharmacist) review of selected high-risk residents' care-plans. A before-after repeated measures analysis of ED visits was conducted for facilities pre- and post-intervention. The sample included ED admissions 9 months before and 9 months after intervention commencement (29-month period in total because of staggered facility enrolment). Modelling adjusted for time trend, seasonality, facility size, and cluster effect.
Results: ED admission rate ratio was 0.75 (95%C.I. 0.63,0.88, p-value = 0.0008), a 25% reduction in ED presentations post-intervention. A sensitivity model used a shorter, staggered time period centred on intervention start (9 months pre-intervention and 9 months post-intervention) for each facility, and a four-level categorical intervention variable testing intervention effect over time. This showed a 24% reduction in ED presentations in months 1–3 post-intervention (p-value = 0.07), 34% reduction in months 4–6 (p-value = 0.01), and 32% reduction in ED presentations in months 7–9 (p-value = 0.03). When the higher rates for 3 months immediately pre-intervention were modelled, ED presentation rates reverted to previous levels.
Key conclusions: GNS-led MDT outreach intervention decreases avoidable ED admissions of high-risk residents from selected facilities.

P-714
Health Care of Older People hospital readmissions: a prospective take

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Introduction: The United Kingdom's National Tariff Payment System describes the 30 day readmission rule in which commissioners set a threshold above which payment for emergency readmissions is not reimbursed. Reasons for hospital readmission are complex and multifactorial, with little evidence to support cost-effective ways of preventing readmissions.
Methods: A prospective audit of emergency readmissions within 28 days from an inpatient stay under the Health Care of Older People (HCOP) department was carried out. Demographic data for the initial admission and readmission were collected for 122 readmission episodes. The prospective approach enabled gathering of qualitative data through case notes review and discussion with the multidisciplinary team and General Practitioner regarding events of the initial admission and prior to readmission.

Results: 45% of 28 day readmissions were within seven days of discharge; over half of seven day readmissions were with the same or a recurring problem. 27% of all readmissions were with a recurrent problem, the majority being recurrent falls. Under half of all patients were readmitted under the care of the HCOP department, and only 3.3% under the discharging Consultant from the previous admission.
Key conclusions: The HCOP department's readmission rate is consistently higher than other medical specialties at our trust. Our patients are frail with complex needs, requiring significant social support in the community. Our action plan includes facilitating patients readmitted within 7 days of an HCOP inpatient stay to be transferred back to their discharging ward, enabling teams to reflect on reasons for readmission, whilst ensuring continuity of care.

P-715
Information technologies in care homes

D. Curto, B. Marco, J. Francisco Tomas. *Sanitas-SLA, BUPA*

Clinical information, to achieve the best Quality of care and to assure Clinical safety is fundamental. The way it is recorded, stored, and benchmarked is important for a company that want to improve QoL of elderly. Taking in account that residents had a lot of comorbidity, polypharmacy antipsychotics…developing a powerful IT system is the way to improve this quality Sanitas Mayores has 39 care homes around Spain, taking care of 4800 residents. The company has developed through these last 10 years a consistent IT system that allows clinicians, deliver high quality of care. Paper is not used. All clinical information is recorded into Resiplus (IT System) where each clinician record as much information is possible of each resident. All procedures, are organized and regulated in the management system. Clinicians must be as much exhaustive as its possible (pressure ulcers, falls and its consequences,…). With all this data, from the IT department has been possible to built a clinical indicators platform. These clinical indicators measure different aspects of clinical care. Clinicians can take clinical decisions in order to deliver best care. Also it's possible to benchmark different care homes. Recently, a new development has been introduced. A clinical dashboarh has been built. This Dashboard contains critical indicators considered KPIs. Clinical information journey from the resident to a clinical dashboard is the way, a care home company can obtain the best quality information in order to deliver best care and assure the best quality of life of residents

P-716
How best to view individual geriatrician mortality data

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Introduction: Hospital mortality metrics are increasingly important and political. UK Geriatricians are asked to audit their individual data but there is no prescription on how to do this.
Methods: A rolling, monthly, self-populating, Excel data and graphics sheet was formulated from routine hospital data. Variation between those working part time and those with a heavier work load was to be expected. To better compare consultants, we viewed mortality as a percentage of discharges and death activity. We then had to remove all "routine admission" data to exclude fitter patients attending Day hospital or community beds to focus on our main area of interest, acute geriatrics admissions. We also had to consider who might be readmitted or die shortly after discharge for a fuller picture.
Results: Mortality trends in the department were surprisingly stable over the last 5 years. When graphically represented, the granularity of individual monthly trends, reassuringly evened out. We had an average 30 day post discharge mortality rate of 4% (as a function of activity) with an average per consultant of only 2 per month. This compared with an in-hospital mortality rate of 10% (an average per consultant of 5 per month). The 30 day readmission rate was 15% (an average per consultant of 8 patients per month). We wish to benchmark ourselves, while recognising the marked variation across European health care organisations.
Conclusion: To remove "routine admissions" from data sets. To view mortality as an index of activity. To triangulate with readmissions and post discharge mortality.

P-717
Reducing physical restraints in nursing homes

D. Curto, J. Francisco Tomas, B. Marco. *SANITAS BUPA*

Regular use of physical restraints in care homes has been regarded implicit-explicitly as an indicator of poor quality of care. Thousands of people worldwide, especially those who suffer dementia, are still affected by these practices. In many countries physical restraints are too often used for organizational convenience, ignorance of its consequences and possible alternatives, or due to understaffed homes. Prevalence of use varies considerably between countries. In 1997 Spain was reported to have a staggering 39.6% of residents physically restrained at least once daily. Other countries, (China, Italy, etc) face similar challenges. 2016-Sanitas Mayores (BUPA) together with Maria Wolff Foundation published the results of a longitudinal, multicomponent, multilevel psychosocial and training program aimed at delivering person-centered care for people with dementia with the objective (among others) of reducing physical restraints. Analyzing a sample of 7,657 subjects from 41 nursing homes showed that the frequency of residents having at least one restraint was reduced from 18.1% to 1.0%. Use of benzodiacepines was reduced, with no significant changes in mortality. The rate of total falls increased from 13.1% to 16.1% with no significant increase in injurious falls. The group of residents most restrained before the program were people with dementia (29%). There was no significant difference in use of bed rails at both study waves when the total samples were compared (43.5% vs. 41.7%). A global decrease in psychotropic medication prescription was recorded in people who had dementia.

P-718
Development of a care model for transmural and multifactorial patient-centered falls prevention to improve compliance by community-dwelling older persons with high risk of falls

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Background: Although multifactorial intervention studies demonstrate falls reduction, this is not always guaranteed due to low therapy compliance by older persons at risk of falls. We aimed to develop a transmural and multifactorial patient-centered care model for older persons visiting a falls clinic.
Methods: Development of the care model First, a literature review has been conducted focusing on clinical and organizational aspects of falls clinics and compliance. Second, a qualitative study on clinical and organizational aspects was organized with clinicians of the falls clinic and referring primary care professionals. Third, a prospective observational study was conducted to measure patient characteristics and flows in the falls clinic. Based on the former steps, a care model was developed and adapted after discussion with all health care professionals involved, which was pilot-tested during 4 weeks.
Results: The key components of the final care model are: (1) an information brochure about the falls clinic and a self-administered questionnaire about the patients falls' history that is sent to each patient before consultation, (2) a multidisciplinary and multifactorial falls assessment, (3) discussion of the assessment results within the multidisciplinary team, (4) patient involvement in prioritizing the multifactorial recommendations, (5) an electronic communication platform that supports transmural data transfer, (6) a case manager enhancing patient compliance by follow-up visits and phone calls and

coordination of care, (7) a fall-related educational program for primary care professionals.
Conclusion: This process yielded a care model that has been implemented and is being tested in a controlled before/after sequential trial.

P-719
Factors of success of community based occupational therapy to improve functionality in physically frail older people

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Background: Living safely and independently is a priority goal. The provision of a high quality home care service results in a decrease in the number of admissions in hospitals and residential care centers. In collaboration with other health professionals, occupational therapists aim to facilitate the independent living and participation of community dwelling older persons. The purpose of this study is to explore the factors of success of a community based Occupational Therapy (OT) intervention for physically frail older people.
Method: The analysis of proven effective OT interventions discovered by a systematic review, lead to the detection of components of high quality OT interventions. Qualitative research lead to the identification of determinants of functionality perceived by the older people and to determinants of collaboration between health professionals. The outcome of this mixed method study lead to a concept community based OT protocol that has been tested on feasibility.
Results: The detected factors of success of community based OT interventions are "an evidence based, tailored made, client centered and holistic approach imbedded in meaningful activities, empowerment, an active and informed patient, reciprocally collaboration between health professionals and with caregivers, and available health-IT tools". The result of this study fits into the components of the chronic care model (CCM) of Wagner.
Key conclusion: A high quality community based OT intervention focuses on the areas of the CCM: self-management support, delivery system design, decision support and clinical information systems. A supporting health system and developing partnerships with community organizations are also preconditions for success.

P-720
Does a multifactorial patient-centered fall prevention program increase the compliance of community dwelling older persons at high risk of falls?

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Background: Although multifactorial interventions have proven to reduce the risk of falls, falls reduction is not always guaranteed in community dwelling older persons at high risk of falls. Low compliance of the older person to the multifactorial advices can be a contributing factor, as well as lack of knowledge by professionals to handle falls. Our objective was to examine if a client centered and tailor made counseling in a falls clinic and education of primary care professionals combined with care coordination performed by a fall coach and e-data sharing, can enhance patient compliance to therapy.
Method: A controlled before/after sequential trial with 2 cohorts. The control cohort received usual care at the falls clinic. The intervention cohort received a client centered tailored made approach including prioritized recommendations combined with transmural care coordination. Primary care professionals of the intervention cohort received specific fall-related education.
Results: Preliminary results at 2 months follow-up show that the compliance with the recommendation to perform home modifications improved with 17.7% in the intervention cohort compared to the control cohort (64.3% versus 80%, respectively). Initiating physiotherapy improved with 16.1% (51.7% versus 77.8%, respectively) and using walking aids with 13.3% (26.7% versus 40%, respectively). A larger sample size and follow-up data at 6 months will be available at the conference.
Key conclusion: Preliminary results of this client centered, tailored made approach seem to positively affect compliance of community dwelling older persons with high risk of falling.

P-721
The effect of a multifactorial patient-centered fall prevention program on falls and fall related injuries

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Introduction: Multifactorial interventions can reduce the number of falls and fall related injuries in older persons. However, patient compliance to these interventions is weak resulting in a poor effect on these outcomes. This study presents the effects on falls and fall related injuries of a multifactorial patient-centered fall prevention program by focusing on increasing patients' compliance.
Methods: This ongoing study is a pre-post-test design with two patient cohorts (standard of care, i.e. control cohort (n = 42) and implementation of a fall-prevention program, (i.e. intervention cohort (n = 15)) to document the effect on falls and fall related injuries 2 months after the initial evaluation in the falls clinic. During the conference, a larger sample size and follow-up data at 6 months will be available.
Results: Fall incidents and fear of falling prior to the evaluation in the falls clinic was comparable for both groups. Preliminary results at 2 months follow-up show, that the amount of fallers and multiple fallers was 26.7% and 6.7% in the intervention group compared to 40.5% and 12.5% in the control group, respectively. In the intervention group, fall related injuries were limited to minor injuries only (50%) in comparison to the control group were 52,9% and 23,5% of fall incidents resulted in minor and moderate injuries, respectively.
Key conclusions: Preliminary results of this intervention focusing on patient compliance show a decrease of falls and fall related injuries 2 months after the consultation at the falls clinic. During the conference an update of the ongoing study results will be presented.

P-722
Managing active and healthy aging with use of caring service robots (MARIO)

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Objectives: In the frame of the European Community funded MARIO, caregivers of 139 dementia patients were recruited in National University of Ireland (NUIG), in Geriatrics Unit of IRCCS "Casa Sollievo della Sofferenza"-Italy (IRCCS) and in Alzheimer Association

Bari-Italy (AAB) for a multicenter survey on to determine the needs and preferences of caregivers for improving the assistance of dementia patients, and guiding technological development of MARIO.
Methods: A six minute video on technological devices and functions of MARIO was showed, and all caregivers fulfilled a 43-item questionnaire that explored four areas: A) Acceptability, B) Functionality, C) Support devices, and D)Impact.
Results: Caregivers declared that to facilitate acceptance (within 60.4%) and to improve functionality of MARIO (within 52.8%) should be important/likely/useful.
Within 65.9% of caregivers reported that following support devices in MARIO could be useful for their patients: (1) for monitoring bed-rest and movements, (2) for monitoring the medication use, (3) for monitoring the ambient environmental conditions, (4) for regulating heating, humidity, lighting and TV channel, (5) for undertaking comprehensive geriatric assessment, (6) for link to care planning, (7) for monitoring physiological deterioration, and (8) for monitoring cognitive deterioration.
Within 64.5% of caregivers declared that MARIO should be useful to improve quality of life, quality of care, safety, emergency communications, home-based physical and/or cognitive rehabilitation programs, and to detect isolation and health status changes of their patients.
Conclusions: MARIO is a novel approach employing robot companions, and its effect will be: (1) to facilitate and support persons with dementia and their caregivers, and (2) reduce social exclusion and isolation.

P-723
Improving the quality of discharge summaries for older patients

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Introduction: Discharge summaries are often the only communication between secondary and primary care following hospital admission. It is crucial they are completed, with adequate information, especially for patients with multiple comorbidities and functional impairment. The Academy of Medical Royal Colleges issued "A Clinicians Guide to Record Standards" indicating what discharge summaries should include.
Methods: Details of all patients over 80 on a given day across 5 medical wards were collected. When available, discharge summaries were reviewed using A Clinicians Guide to Record Standards as our standard. Re-audit using the same methods occurred 4 months later, following the introduction of a new discharge summary format and departmental teaching highlighting the importance of discharge summaries.
Results: 120 patients were sampled in cycle 1. 113 discharge summaries were available. 129 patients were sampled in cycle 2, with 73 discharge summaries available at the time of sampling. 34% discharge summaries used the new format. Improvements were seen in completion of diagnosis on discharge (92–98%); past medical history (50–75%); explanation of medication changes (68–81%); functional status (35–39%); resuscitation status (3–36%) and follow up plans (85–89%). Where the new format is used, all standards were met except for explanation of medicine changes (94%) and functional status (56%).
Key conclusions: The old discharge summary is still being used. When used, almost all standards are met with the new format. Focus is now on increasing use of this and including functional status when it is updated.

P-724
Appropriateness of emergency department visits of older population living nursing homes (75 Year old and over) in Chambery's hospital

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Introduction: The attendance of emergency department (ED) by the older population who are dependent is constantly increasing. This study analyzed the consultation of ED by elderly who are 75 years or older, coming from nursing homes, and described the inappropriate ones.
Method: Descriptive retrospective epidemiological study conducted from January to June 2014 at the ED of Chambéry Hospital. The assessment of relevance was performed on a grid of explicit criteria with the French version of the Appropriateness Evaluation Protocol (AEPf). The distinction between irrelevant admissions (AEPf-) and the relevant ones (AEPf +) was done and then two experts independently overrode the AEPf–.
Results: 465 admissions were included.136 (29,2%) were AEPf–. The AEPf– were less polymedicated (83% versus 68%; $p = 0{,}0003$). Their hospitalization rate was lower (43% versus 77%, $p < 0{,}001$). Out of the 136 AEPf–, 17 were finally considered as justified (12,5%), 60 (44%) unjustified by experts and 59 (43,5%) were subject of disagreement ($k = 0{,}16$, $p < 0{,}0001$). For the unjustified group, diagnostic or therapeutic advice was the main needed expertise at ED. After the override, preventability rate was 13,7% according to geriatrician, versus 24,7% for the ED expert.
Conclusion: The admissions of patients from nursing homes were deemed irrelevant for 29,3% of cases. Experts confirm that half of them were not relevant for ED admission. The preventability rate was assessed differently depending on whether the expert is a geriatrician (13,7%) or an Emergency Physician (24,7%).

P-725
How to create a geriatric outpatient care

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Objective: With the increase of the life expectancy, the prevention and treatment of aging-associated diseases became a challenge for healthcare professionals. According to literature, specialized health services for elderly patients are still an area in development in Portugal, although the awareness of this need have increased greatly in the last years. To address this problematic, a multidisciplinary geriatrics outpatient care was created in a private hospital, which until then only existed in a public hospital. The applied model, based on the Comprehensive Geriatric Assessment, has been used in Faculty of Medicine of University of Lisbon for five years. To make this model useful to those who would want to follow it, this study describes the methodology and the indicators used during clinical evaluation. This work could serve as an example of a workflow to be replicated in other health care units, contributing also to improve the practices and teaching of geriatric care in Portugal.
Methods: Being a Type II or III patient is the main inclusion criteria. Due to the multidisciplinary character of the outpatient care, patients' evaluation is done in a multiple-step procedure. A set of assessment scales is applied, being the collected data evaluated statistically. The last step comprehends the combined analysis of all the outputs, aiming to adapt the treatment to the patient's needs. The satisfaction level and health improvement is evaluated posteriorly through standardized questionnaires.
Conclusion: Despite being a new service, preliminary results indicate improvements in the patients' quality of life and in the customization of their clinical care.

P-726
Exploring staff training in the use of monitoring technologies in care homes

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Introduction: This study explores facilitators and barriers to implementation of monitoring technologies in nursing and residential care homes for people with dementia.
Methods: A Yinian case study approach [1], with participants recruited from three dementia-specialist care homes in North-West-England.

Each home used nurse call systems and body-worn and environmental technologies to monitor resident and staff activity. Data collection included 36 semi-structured interviews with staff, relatives and residents, and 175 hours of non-participant observation; review of care records and technology manufacturer literature; Media and Technology Usage and Attitudes Scale and the System Usability Scale. Analysis, informed by Normalization Process Theory, focused on individual and organisational factors influential within successful implementation.

Results: In each home, staff training in use of monitoring technologies appeared to be informal, ad hoc, and based upon assumptions that staff would find the technologies familiar and simple to use. Staff lacked full operational knowledge of the technologies, and at times triggered false alarms. However, it was not clear that increasing the quantity of formal operational training would have enhanced staff knowledge and skill. Staff drew upon contextual knowledge of the homes to work around their lack of operational knowledge of the technologies. Staff placed a relatively low value upon the use of some technologies compared to personal delivery of care.

Key conclusions: Staff training in the use of monitoring technologies needs to go beyond simple operational instruction to include a focus on how the use of the technology aligns with the values of care within the home.

Reference

[1] Yin RK. *Case study research: design and methods*. London: Sage, 2009.

P-727
Sound levels on a geriatric medicine ward

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Introduction: Sound levels within hospital wards may impact negatively upon patients' recovery. High sound levels lead to poor speech intelligibility, compromising communication with people with hearing impairment [1]. High background noise levels are linked to medication errors [2]. Increased sound levels also disturb sleep and increase stress levels [2]. Actively reducing ward sound levels can reduce the incidence and duration of delirium in ITU patients [3]. The World Health Organisation (WHO) have issued guidelines for noise levels within hospitals, recommending internal ambient noise levels, do not exceed LAeq 30 dB (average) and LAFmax 40 dB (maximum) for wards [1]. We measured sound levels over 24 hours on a geriatric medicine ward and assessed differences between single occupancy and multiple occupancy rooms.

Method: Acoustic measurements were undertaken on a geriatric medicine ward in a university teaching hospital in the UK. Measurements were undertaken in 2 single occupancy rooms, 2 four-bedded occupancy rooms and 1 six-bedded occupancy room.

Results: Sounds levels consistently exceeded the WHO recommendations, particularly at night. There was no significant difference in sound levels between single occupancy and multiple occupancy rooms. Sound levels never fell below 40dB. Noise levels often exceeded 70 dB with 711 episodes in the single rooms and 726 episodes in the multiple occupancy rooms.

Key conclusions: High sound levels are present within our wards. The lack of difference between single and multiple occupancy rooms is pertinent in view of the recent trend towards new hospital buildings with increased numbers of single occupancy rooms.

References

[1] Berglund B, Lindvall T, Schwela DH. *Guidelines for community noise*. World Health Organization, Geneva, 1999. Available online at www.who.int

[2] MacKenzie DJ, Galbrun L. Noise levels and noise sources in acute care hospital wards. *Building Services Engineering Research and Technology*, 2007, 28: 117–1.

[3] Patel J *et al.* The effect of a multipcomponent multidisciplinary bundle of interventions on sleep and delirium in medical and surgical intensive care patients. *Anaethesia* 2014, 69(5): 540–9.

P-728
Smart technology as an alternative for physical restraint

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Context: Within healthcare, physical restraint is often used and remains a controversial topic. Exact numbers of use in residential care homes in Flanders aren't available, but thanks to research in 2002 (Talloen, Milisen, & Evers, 2002) an estimation can be made. In the past years many efforts have been made to reduce the use of physical restraint, such as using less profound alternatives. However, it can be seen that physical restraint remains to be the preferred method by some care professionals. The use of physical restraint can have a negative impact on the wellbeing of patients, so it is advisable to find a more proper solution and change the current way of working.

Methodology: The STAFF-project investigates whether smart technology, more specific bed-exit alarm systems, can be an alternative for physical restraint. A bed-exit alarm system sends out an alarm when someone leaves his bed, attempts to leave his bed or hasn't returned to his bed on time. This project consists of 2 parts, (1) a survey that examines the vision of care professionals on physical restraints and smart technology as an alternative, and (2) an intervention study were 8 different bed-exit alarm systems are implemented in 9 Flemish residential care homes. Every facility gets to test 2 different technologies for a period of 6 months. After 3 month they had to move the technology to another resident in the care facility.

The main goal of the intervention study is to examine if bed-exit alarm systems have an impact on the resident, the care professional and care flow. Quantitative and qualitative data is gathered through (1) focus group interviews with care professionals (mainly nightshift) and in-depth interviews with the resident (whenever possible), and (2) normalized questionnaires. Through pretest-posttest design these questionnaires monitor whether bed-exit alarm systems influence:

– the quality of life (QUALIDEM), everyday activity (Katz-scale) and unrest (CMAI) of the elderly.

– the acceptancy of technology (TRI), the vision against physical restraint (MAQ) and the use of smart technology as an alternative by care professionals.

Results: There are many preconditions that influence the successful implementation and use of technology in residential care homes. That's why tips & trics are collected based on the experiences of 9 residential care homes with 8 different bed-exit alarm systems as an alternative for physical restraint. First of all, it is very important to involve the care professional in the choice of an alternative form, because eventually they are the one who will be working with it and will have to rely on its proper functioning. The success of technology implementation depends also on the ease of connecting the technology with the existing infrastructure of the care facility. Most of the care facilities have an outmoded nurse call system which cannot connect with an extra standalone system, such as a bed-exit alarm system. Furthermore, training is necessary to convince care givers to work with the technology. Not only to get to know the technology but also to build up enough self-confidence to work and relay on it. If they do not support the choice for a bed-exit alarm system, the technology will not be used in a proper way.

Conclusion: Bed-exit alarm systems can be an alternative for physical restraint. This is not so much due to the technology itself, but due to the autonomy that is given back to the resident. Each form of restraint is choosing between a certain degree of autonomy and safety of the person. A personal approach is important to find the best solution that meets those individual needs. Finally, involve the care professional in the choice of an alternative form, because eventually they are the one

who will be working with it and will have to rely on its proper functioning.

P-729

Delayed discharges and social isolation in countries with ageing populations: England versus Portugal

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Introduction: Social isolation leads to detrimental health effects in older people and to increased use of healthcare resources. At the same time, many acute hospital beds are occupied by older patients that are medically fit for discharge but cannot be transferred back to the community. We compared the impact of social isolation on delayed hospital discharges and corresponding costs in Portugal and England.
Methods: Two prospective cohort studies were conducted on proximal femoral fracture patients aged 75 and older admitted over a one-year period to Trauma Units in two teaching hospitals in Lisbon and in Oxford. A generalised linear model with a log-link and gamma-variance was used to assess the number of days of delayed discharges in relation to level of social isolation.
Results: In Portugal, 30.6% of the patients had a high risk for social isolation or were socially isolated at admission whereas in England 75.3% had this same risk for isolation. Delayed discharged accounted for 11.5% of the total length of stay in Portugal and 43.7% in England (6.8 and 8.4 for excess bed days per patient with a delayed discharges, respectively). Having a higher risk for social isolation increased the number of days of delayed discharges in both countries (2.6 in Portugal and 3.1 in England) and corresponding costs.
Key conclusions: The reduction in social support networks increases unnecessary consumption of acute hospital beds. A restructuring in the provision of post-acute care services is necessary in order to meet the demands of an ageing and isolated population.

P-730

Diurnal variation of hip fracture admission in the West Midlands, United Kingdom

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Introduction: Hip fracture is an orthopaedic and medical emergency. Patients, usually elderly, have many comorbidities and polypharmacy. They need to be optimised and have surgery on the day of or the day after admission. The more the delay in surgery the worse the prognosis.
Aim: To study the diurnal variation of admissions of hip fracture patients in a UK teaching hospital .
Methods: Retrospective analysis of the electronic records of all consecutive admissions of patients with hip fracture in a 6-year period between August 2009 and July 2015 in a UK teaching hospital. Data were downloaded to an excel sheet. Descriptive statistics were used to analyse the data.
Results: In the study period 2932 patients were admitted; patients with incomplete data were excluded. There were 807 (28%) male and 2121 (72%) female with a mean age of 79.9 and 82.6 respectively.
77% of patients were admitted between 09:00–22:00 hours and 16% patients between 00:00 and 08:00hours.
Discussion: There are more hip fracture admissions during the daytime as older people are likely to have more risk of falling in the daytime hours when they are awake and mobile.
There is a lower number of admissions during the night possibly because there is less number of falls as most patients would be asleep. Some of those who fall may prefer not to telephone the ambulance during the night and wait till the morning. Also some patients are unable to get off the floor and stay on the floor until they are found next day by a family member, visitor or a carer and then brought to the hospital.
Conclusion: In this UK study, more than three quarters of hip fracture admissions occur between 9 am and 9 pm; one in six patients were admitted between 00:00 and 08:00hours.
Knowledge of the diurnal variations in hip fracture admission to hospital may help orthopaedic surgeons and hospital managers to plan the work force, theatre time and facilities during different times of the day to ensure timely operation and make best use of resources.

P-731

Quality of discharge letters for older patients discharged from secondary care to Specialist Care Centres (SCCs)

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Objectives: Elderly patients admitted to SCCs from the acute hospitals usually have multiple morbidities and polypharmacy. Medicines reconciliation identifies errors and omissions which can cause risk to patients, possibly resulting in hospital readmission. This audit aimed to quantify issues identified and measure the risks.
Method: 65 patients (range 67–99 years) were admitted to the SCCs from two acute hospitals over 6 weeks in spring 2015; medicines reconciliation performed by the pharmacist or pharmacy technician. We collected data on numbers of discrepancies between previous GP record and the hospital discharge letter. We assessed the risk associated with each discrepancy using the National Patient Safety Agency Risk Matrix.
Results: 91 discrepancies were identified, affecting 88% of patients. This included previous medicines omitted from the discharge letter or no reason given for stopping (57%), new medicines with no indication stated (70%), incomplete allergy information (17%), insufficient supplies sent with patient (45%). 11% of discrepancies were low risk, 88% moderate/high risk, and 1% extreme risk. Time spent resolving discrepancies was 16 minutes per discrepancy or 22 minutes per patient.
Conclusion: Hospital discharge letters for elderly patients have incomplete information about changes made to patients' medication during admission. This could lead to inappropriate future prescribing and takes time to resolve which could be used in other clinical tasks.

P-732

Discharge to home care – optimizing caregiver's transition process

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Introduction: Discharge preparation requires healthcare professionals to produce an effective and coordinated response in multiple levels of care, ensuring cost-effective use of resources. Due to high levels of dependency after a neurological event, we developed a program to ensure discharge to home care in safety by optimizing transition to a caregiver role, ensuring better outcomes in long term.
Methods: Sample selection was obtained from families of patients with high level of dependency, that showed potential to assume a caregiver role. Intervention consisted in promoting awareness of the patient's needs through demonstration of care by the nurses. Afterwards, information was provided to the family, and skill training of the caregiver was evaluated through checklist, requiring fulfillment of the checklist before being discharged. Articulation with community resources would be activated to ensure the family was closely accompanied. A one-month follow-up would be done after discharge.
Results: Our target patients integrated Diagnosis Related Groups 42/45. During evaluation period, 83 dependent patients were discharge to home care with an informal caregiver, from whom 44 answers were obtained. From the data obtained, 80% felt prepared and confident in their new role. Follow-up results showed 83% of the patients discharged to home care with a caregiver did not have a subsequent hospitalization, which leads to decrease in overall costs when compared to discharges to continuous care units.
Key conclusions: This project lead to a systematized programming of the discharge, capacitating the families to a level where they felt secure and confident to assume their new role.

P-733

Vitamin D deficiency management in a medicine for elderly day hospital

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Introduction: There has been no clear consensus on the assessment and treatment of vitamin D deficiency prior to the publication of the National Osteoporosis Society (NOS) Vitamin D Guideline. The aim of our study was to assess our practice in a geriatric day hospital setting relative to this guideline.
Methods: A 6-month retrospective analysis of all new patients aged ≥65 years who attended our day hospital for comprehensive geriatric assessment was carried out. Assay method used for vitamin D assessment was liquid chromatography-tandem mass spectrometry.
Results: 76 patients were included in the final analysis. Mean age was 83 years. Mean vitamin D level for females was 61.4 nmol/L while mean vitamin D level for males was 51.7 nmol/L. 39 (51%) patients had sufficient levels while 37 (49%) patients had insufficient levels; 14 (19%) being inadequate and 23 (30%) deficient. 18 patients who had insufficient levels were subsequently prescribed supplements without loading doses; 13 (72%) received vitamin D3 in combination with calcium while 5 (28%) received vitamin D3 alone. None had adjusted serum calcium checked at one month after starting therapy.
Key conclusions: Based on the findings of this study, we recommend that all new patients in a geriatric assessment unit should have vitamin D levels checked and action taken based on the result. Only patients with previously low vitamin D level and started on replacement should get repeat assessment as well as serum corrected calcium in order to reduce unnecessary tests. We have also adopted the NOS guideline.

P-734

An audit on warfarin dosage in a Maltese geriatric hospital

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The dosing and monitoring requirements of warfarin are unique, due to the nature of its mechanism of action. Initially the patient is usually loaded with warfarin, and importantly the effect of any dose change will only be evident a minimum of two days later. Due to the delay in the full clinical effect of the drug and the sensitive balance of variables that can affect its action, the dosing of warfarin is difficult. The consequences of inappropriate loading or dosing can lead to the occurrence of preventable adverse events for the patient, and prolonged length of hospital stay. Thus, guidelines for warfarin dosage are of importance to follow.
An audit was done to see if guidelines for warfarin dosage are followed at the main Maltese geriatric hospital. 36 patients in the hospital were on warfarin when the data for the audit was collected. 25 were female and 11 were male. Mean age was 79 years with a range of 31. The main indication for warfarin was atrial fibrillation. 54.3% of patients had INRs out of range. 72% had errors in the dosage whilst 69.4% had errors in the interval for dosing. It was shown in this audit that the guidelines are not being adhered to by the medical staff at the hospital. Several recommendations were given to improve this in the future.

P-735

Defining and rating key dimensions of interprofessional teamwork in acute geriatric units

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Introduction: Interprofessional teamwork (ITW) is a cornerstone of specialist geriatric care. However, research is lacking.
Methods: Perceptions of ITW among healthcare providers (HCP) of 55 acute geriatric units in Belgium were measured, using a self-assessment questionnaire consisting of 20 items based on Interprofessional Practice and Education Quality Scales (IPEQS), a 6-item ethical climate questionnaire and 3 validated items of the Patient Safety questionnaire.
Results: 890 out of 1538 professionals returned the questionnaire. More than 80% of HCP scored high on IPEQS items concerning ITW competences, consultation, experiences and meetings, 70% on items concerning management and results, less than 50% on items concerning reflection and medical records supporting ITW. Only 50% of HCP indicated that difficult patient cases are discussed and decided upon in team. More than 70% often reports incidents of their own, 40% when colleagues make mistakes. Factor analysis yielded a reduced model of 18 items, explaining 70% of the total variance. Six meaningful factors were extracted, covering (1) actual ITW and consultation by staff, (2) team reflection and feedback stimulated by management, (3) medical records supporting ITW, (4) ethical reflection, (5) conviction, and (6) incident reporting. The internal consistency of all factors was high ($\alpha \geq 0.80$), except for the last factor. The first 3 were rated equally by all professional roles, reflection was rated higher by physicians, conviction scores lowest by nurses and incident reporting lowest by paramedics.
Conclusions: Interprofessional teamwork in AGUs is satisfactory, however reflective practice and medical records supporting ITW merit more attention.

P-736

Types of interprofessional teamwork in acute geriatric units and its relation to patient and carers' outcomes

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Introduction: Interprofessional teamwork (ITW) is a cornerstone of specialist geriatric care. However, research is lacking.
Methods: Perceptions of ITW, quality of patient care and intentional jobleave among healthcare providers (HCP) of 55 acute geriatric units in Belgium were measured, using a self-assessment questionnaire. K-means clusteranalysis was used to determine types of ITW.
Results: 890 out of 1538 HCPs returned the questionnaire. Four meaningful clusters were identified. Fourteen teams were categorized as type 1 with HCPs perceiving that team members effectively cooperate together, but perceive a lack of support of patient records and management supporting ITW. Within type 2 (13 teams), HCP have a strong belief that ITW is worthwhile, however they experience a lack of support from their management. HCPs working in type 3 (21 teams) indicate as strong elements management, patient records and incident reporting, however the perception of effectively working together is average. Within type 4 (7 teams) HCP gave the highest scores on management stimulating ITW, however HCP least believe in the strength of ITW and they gave the lowest scores on reporting incidents. HCP from type 3 and 4 scored higher on perceived quality of care compared to type 1 and 2 (mean score respectively 6.14, 5.99, 5.64, 5.57, $p < 0.001$). Intentional jobleave ranged from 20% in type 2, over 15% in type 1 and 3, to 6% in type 4 ($p = 0.023$).
Conclusion: We identified 4 meaningful types of ITW which are related to patient and HCP outcomes; offering opportunities to develop tailored interventions.

P-737

Efficacy of an integrated model of a protected discharge facility by using domotic, robotic and telecare systems in hospitalized frail older people: the MODIPRO project

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Background: About 8% of hospitalized older patients prolong their hospital stay despite being fit for discharge from the hospital with an increased risk of disabilities and iatrogenic diseases due to the prolonged hospital stay. Aim of this project was to create an innovative model of protected discharge area equipped with automated monitoring technologies and architectural features in order to prevent deterioration, improve autonomy, mobility and quality of life (QOL).
Methods: Hospitalized frail older patients who are fit for discharge but cannot return home for non-clinical reasons were included. The high-tech integrated systems included health monitors (heart rate, blood pressure, pulse-oximetry, glucometer, body weight), environmental sensors (cameras, RGB-D sensors), wearable devices (accelerometers, localization tags) and an assistive robot (PadBot) for older people. The data acquired were processed and modeled by a software platform which includes a variety of data analysis tools to ensure the safety of the older persons, by monitoring their activities and degree of independence. In all subjects functional (ADL, IADL) and cognitive (SPMSQ) status, Multidimensional Prognostic Index (MPI), the Quality of Life (SF12) and satisfaction were also recorded.
Results: Ten older subject (Male = 4 – Female = 6, mean age = 77.4 +/−7.8 years) were included. The mean length-of-stay was 4.4+/−1.4 days. No significant changes occurred in functional, cognitive and multidimensional parameters; QoL increased and satisfaction was excellent.
Conclusions: These preliminary data suggest that the MODIPO model may be effective in promoting early discharge from the hospital, by maintaining functional and cognitive abilities and improving QoL in frail older subjects.

P-738
Spread the word: first geriatric unit in Portugal

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Introduction: The hospitalization of the elderly patient is often associated with a functional decline and increased dependency. A comprehensive geriatric assessment (CGA) in this setting has proven its benefits by preventing or attenuating this decline. In order to improve the quality of care provided to the elderly patient, Hospital Vila Franca de Xira has founded a Geriatrics Unit.
Methods: The Geriatrics Unit of Hospital Vila Franca de Xira is a pilot project designed according to international models. Admission criteria of inclusion and exclusion were defined and disclosed to other hospital health care professionals.
Results: The Geriatrics Unit is composed by 12 beds on the Internal Medicine ward. Patients can be admitted through the emergency department, external consult or be transferred from other wards. The rooms are being equipped with distinctive objects such as big clocks on the wall and mini steppers to enhance mobility and prevent functional decline. As for human resources the multidisciplinary team is being trained and includes attending physicians, nurses, a physiotherapist, a nutritionist, a psychologist and a social worker.
Key conclusions: Adapting health care to the elderly people specific needs is essential due to the aging of our population. Unfortunately in Portugal this approach is still underused. This pilot project intends to approach the patient based on the CGA in order to improve the quality of life of the Portuguese elderly patients. It is time to spread the word and implement this kind of units in a country where 19% of the population is elderly.

P-739
Nurse staffing and elderly patient mortality in acute care hospitals: a longitudinal study

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Background: Recent cross-sectional studies have suggested that certain nurse staffing policies (e.g., using overtime hours or hiring less qualified staff) may be associated with an increased risk of patient mortality in acute care hospitals. This longitudinal study aimed to: (a) further examine these associations in elderly patients and, (b) determine if optimal staffing thresholds can be established.
Methods: A dynamic cohort of elderly patients (≥65 years) admitted to a Canadian university health network between January 2010 and December 2014 was followed during the inpatient stay. Patient exposure to two commonly used staffing policies was measured: (1) overtime hour use and, (2) skill mix (the proportion of Registered Nurses among the nursing staff). Cox regression models were used to examine the association between these staffing policies and the risk of patient death while adjusting for severity of illness and other risk factors. To detect any staffing thresholds, flexible non-linear spline functions were fitted.
Results: Over the study period, 5,729 (4.5%) deaths were observed. In multivariate analysis, every 5% reduction in skill mix per patient was associated with a 5% increase in the risk of patient death (HR, 1.05; 95% CI: 1.04–1.06). Similarly, every 5% increase in the proportion of overtime hours per patient was associated with a 3% increase in the risk of patient death (HR, 1.03; 95%CI: 1.01–1.05). No specific staffing threshold could be identified.
Conclusion: The findings of this study strongly suggest that improvements in patient safety require a sufficient supply of adequately trained Registered Nurses at bedside.

P-740
Smart medication dispenser – a new device to improve medication adherence in older people

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Introduction: Multimorbidity and polypharmacy have become highly prevalent amongst older people. Polypharmacy increases the risk of noncompliance to pharmacotherapy and unintended medication errors due to high complexity medication regimens, especially in cognitively impaired patients. Failure of treatment and adverse drug reactions can occur as a result of poor medication adherence. New technologic devices that improve medication adherence can be useful.
Objectives: Development of a prototype of a medication dispenser, which aims to improve medication adherence, especially in older and/or cognitively impaired patients.
Methods and results: The features of several products already available on the market were analysed and several restrictions and limitations were identified. Based on this analysis, a list of required features and the overall architecture of the solution to be developed were defined. One of the main requirements was to create an open solution that enables communication with other devices (smartphones and tablets) and the connection to the Internet, allowing it to be tailored to different contexts. Given the emphasis in the openness and remote interaction capacity, an Application Programming Interface has also been created, allowing third parties to develop and optimize applications to interact with the dispenser in specific contexts, and allowing the automation of configuration procedures (e.g. defining the drug regimen) and the collection of events (e.g. failed doses and access attempts in hours not allowed).
Conclusion: The developed prototype fulfilled the proposed requirements, culminating in a modular, versatile and affordable solution, which might improve medication adherence and consequently health and quality of life of users.

P-741

Continuity of primary care and emergency department utilization among elderly people

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Introduction: Numerous studies have suggested that better continuity of care (COC) can lead to fewer emergency department (ED) visits. The loss of information is a constant demand for unnecessary services. This study aimed to determine whether the association between lower COC for older in ED and increased health care utilization may be apparent in a health care system that lacks a referral system.
Material and methods: In a study conducted in November 2015 were evaluated episodes of ER, setting as lack of continuity of care episodes with discharged to home. The variables analyzed were: gender, age, the color of Manchester Triage, cause administrative, diagnosis by ICD9, destination, and readmission. We used descriptive statistics and chi-square were used for a p-value < 0.05.
Results: The number of older episodes was 33.9% (8037/2729). The most common profile was women with 81 years old, which diagnosis was heart failure, screened with yellow color and discharge to home. COC represented 56.9% of the episodes. The readmission to the ED was 12.8%. Determinants associated with episodes without COC were traumatic causes (RR = 1.56 CI = 1.31–1.86), low severity (RR = 1.58 CI = 1.37–1.83) and readmission to ED (RR = 2,12; CI = 1.74–2.62).
Conclusions: This study indicates that lower COC is associated with increased hospital admissions and ED visits, even in a health care system that lacks a referral arrangement framework. This suggests that improving the COC is beneficial both or patients and good communication and coordination between primary care.

P-742

Transferring care: improving the safety and quality for patients moving between hospital and care homes

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Approximately 325,000 older people in the UK live in care homes, experiencing 40–50% more emergency hospital admissions than the general over 75 years old population. Research demonstrates increased vulnerability to adverse outcomes at touch points between care settings, with inadequate communication and poor co-ordination common. A small quality improvement project was undertaken, within a district general hospital introducing a new Transfer of Care document. Plan, Do, Study, Act [PDSA] methodology was used. Several behavioural change interventions were employed, considering the local context and included audit and feedback, case-based discussion and championing by local opinion leaders. The overall aim was that 100% of patients would have transfer information rated as good or excellent. Demonstrable improvements were measured in the standard of written information provided at transition of care: Quality 57%, Accuracy 41%, Completeness 66%. However in 16% of cases the audited documents were rated as poor with reported information gaps. Conclusions drawn are that utilising a structured framework for implementation was essential and PDSA cycle was an effective tool. Cross boundary aspects emphasized the difficulties of differing perspectives, priorities and role conflicts and the significant effect that context has on behavioural change. Equally, variances in results show that the introduction of a structured document alone is not guaranteed to positively influence behavioural changes or improve care quality therefore further refinement of this process is required with focus on education to raise awareness of the benefits to frail older patients will be crucial in achieving a consistent and sustainable improvement.

P-743

Barriers and facilitators for using a new screening tool for older medical patients in an emergency department in Denmark: a qualitative study applying the Theoretical Domains Framework

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Introduction: In Denmark more than 35% of older medical patients acutely admitted to the Emergency Department (ED) are readmitted within 90 days after discharge. A new screening tool for use in the ED aiming to identify patients at high risk of functional decline and readmission was developed. To qualify implementation process, the aim of this study was to identify factors that were perceived as most important to facilitate or hinder introduction and intended use of the new tool in the ED among nurses and a geriatric team.
Methods: A qualitative study based on semi-structured interviews and focus groups with nurses, a geriatric team and their leaders. The Theoretical Domains Framework (TDF) guided data collection and analysis. Further, a content analysis was performed.
Results: Six predominant theoretical domains were identified. Within these six domains three themes emerged, each containing two subthemes. These were: (1) professional role and identity (expert culture and professional boundaries), (2) beliefs about consequences (time and threat to professional identity) and (3) pre-conditions for a successful implementation (meaning & making sense and leadership & resources).
Conclusions: Two different cultures in the ED were identified. These cultures formed different professional roles and identity, different actions and sense making, and formed how barriers and facilitators linked to the new screening tool were perceived. This study shows that different cultures exist in the same local context and influence the perception of barriers and facilitators differently. These results emphasize the importance of understanding the local culture before any implementation strategy is planned.

P-744

Stress reduction through listening to music during gastroscopy and colonoscopy

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Music has been used for centuries to treat certain medical conditions, especially mental illness and emotional disorders. In the literature there is the term Anglo-Saxon Music Medicine, where the therapeutic agent is music. Many authors recommend patients listen to music before and during the execution of unpleasant for them to research and treatments for example by endoscopy, where the patient often feels fear of pain.
Aim: Analysis of the impact of music on arterial pressure and heart rate in patients undergoing endoscopy.
Materials and methods: Study was conducted at the Department of Gastroenterology and Nutrition Disorders Collegium Medicum in Bydgoszcz, Nicolaus Copernicus University. The study included 90 people aged 19–80 years old (55.6% women). The participants have been subjected to endoscopy: colonoscopy n = 51(57%); gastroscopy n = 39(43%). The research group (n = 45) was subjected to the intervention of the music but control group (n = 45) was without the intervention of the music. Was conducted the measurement systolic pressures, diastolic pressure and heart rate before and after the intervention. Statistical analysis was performed U Mann Whitney using Statistica 12.5.

Results: The mean difference systolic pressure before and after intervention-colonoscopy in the control and research groups was 17,7 mmHg (95%CI 14,6–20,8) and 7,9 mmHg (95%CI 5,5–10,4) (p < 0,001). The mean difference diastolic pressure before and after intervention in the research and control groups was was 5,5 mmHg (95%CI 1,9–9,0) and 3,1 mmHg (95%CI 1,2–5,0) (p = 0,22). The mean difference heart rate before and after intervention in the research and control groups was 8,0 bpm (95%CI 5,3–10,7) and 3,2 bpm (95%CI 2,2–4,6) (p = 0,001). The mean difference systolic pressure before and after intervention-gastroscopy in the control and research groups was 15,7 mmHg (95%CI 12,5–18,8) and 4,1 mmHg (95%CI (–)0,6–8,6) (p < 0,001). The mean difference diastolic pressure before and after intervention in the research and control groups was was 5,7 mmHg (95%CI 2,4–8,9) and 4,1 mmHg (95%CI 2,1–6,1) (p = 0,5). The mean difference heart rate before and after intervention in the research and control groups was 7,0 bpm (95%CI 5,2–8,1) and 3,8 bpm (95%CI 1,5–6,1) (p = 0,03).

Conclusion: Participants listening to music while endoscopy (gastroscopy and colonoscopy)had a significantly lower difference systolic pressure and heart rate before and after the intervention than participants who were subjected to the standard procedure. The difference in in diastolic pressure was similar in both groups. Listening to music during endoscopic procedures can reduce stress in patients during the study. Gastroskopy, colonoscopy, music therapy.

P-745

Resource based community development as an asset for integrated long term care for chronicity at community level

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Introduction: Chronicity is the first cause of healthcare cost burden and will continue to increase due to the growing longevity worldwide. National and local care budgets are already experiencing severe cuts not only in EU countries under crisis (Greece, Karanikolos et al) but also in advanced economies such as the UK (NHS recent social care cuts, The Guardian Social Care 2016).

A solution must be found very quickly that it is not dependent neither on state funding that is in constant decline in social care, the primary driver of chronic care nor on Private Equity managing LTC, a high risk option that has failed dramatically over the last years to assure community based care ("Four Seasons" closing residential care in UK, The Guardian Social Care, 2016).

The burden in finding a solution is transferred to the local communities that are either offered slim resources such as the increase in local tax for social care of 2% in the UK or close to not at all as in Greece. The national and local authorities are defensive in moving forward with care reforms as those demand serious investment from state resources. None of the care reform proposals actually proposes how to generate income to build a sustainable community based system for long term care especially.

In this research we are proposing a RoI reinvested in a community based integrated care, generating revenue and income model, that is established on local resources, lateral to the care services provided to the local population such as senior tourism, health tourism and thermal rehabilitation in natural springs, or secondary housing of people relocated after retirement, or prevention services for the whole population. Although frailty is the Chronicity's final stage of disease development, people with mild frailty whose rate to the Comprehensive Geriatric Assessment for Instrumental Living is quite high, are pursuing an active and healthy living and they are also traveling quite a lot, the above 60 y.o. segment being the first globally. The choice of those senior travelers is conditioned by product offers that are matching their individual diseases or conditions and their care plans. The region that disposes with the capacity to provide, manage and cover the elderly visitor's needs, who have similar conditions and needs for chronic care that is provided to the local population as well, will raise its brand equity and attract more of those visitors over 60 for any reason (housing, tourism, wellness, care etc.).

The more they are going to be integrated not as patients but as Wellbeing visitors, in the existing care system same as for the local population but with extended activities for integrated and citizen centered enablement services, the larger the revenue margin will be for the care structure. We think that this new business model should be managed and provided by private public partnerships and provided by public, or not-for-profit private companies which adhere to the principles of the New Care Model in a form of social entrepreneurship. Companies for Community Interest might be a solution for local authorities that have potential for Local Resource Based Community Care Development to sustain self – financed structures providing long term care to the local population in a sustainable manner. And this model can function as a strong motivation for the authorities to move on and reform care to integrate health services and professionals in their localities with double purpose: assuring population health management and generating income to reinvest in their Territorial Care Hubs. The 1st pilot was in Greece at the region of Aegean islands. The pilot now will be transferred to a new location.

Methods:

1. Extraction of epidemiological data and Risk Factors Assessment for population over 60,
2. VES -13 self-administered CGA questionnaire to measure i-ADL of the >60y.o. cohort. GIS mapping of population acc. to primary and secondary prevention and care needs embedded in a E-Health monitoring platform (existing and tested product),
3. Desk research analysis on the local health and other lateral to care resources of the region e.g. thermal springs, rehab centers, day care centers etc.
4. Regression analysis of care means to the needs per CGA risk factor,
5. Alignment of the local Health and Care services and professionals of the area,
6. Focus Groups and structured interviews to establish a Memorandum of Understanding between mayors of the area to create the Care Hub managed by Private Public Partnership with the local health ecosystem and with the Twinning and support of EU Regions with advanced experience
7. Setting the Investment Facility between the Municipal Authorities, a Bank in Greece and the public and private providers; elaborating the Business Plan of the entire Care Hub operations incl. Silver Economy service management and provision organization e.g. Senior tourism, retirement real estate, home care for senior dwellers, professionalized Living Labs, prevention services etc.
8. Proposing the Investment blending and assuring private equity, crowd funding, VC and impact investment at different stages of the Care Hub deployment until stabilization of the RoI and the cashable savings

Results: The results were compromised due to bank capital controls in July "15 and to the refugee crisis in the pilot area (the Aegean islands as entry gate) between June 2015 and October 2015 and due to expropriation of all public assets of Greece from the Lenders for the Greek public debt in June 2016, resulting for the Greek LGA not to own anymore their local resources and therefore without decision making power over the RoI of their assets. Hence the relocation plans and transfer of the pilot to other areas of Europe for health tourism, where the health and care costs are covered by the EU Social Security Regulation and the C.B.H.Dir 24/2011/EC.

Partial results were:

9. Needs analysis for care service and HR for the local population prepared with primary and social care services aligned.
10. Telemedicine for acute care and 2nd opinion deemed possible.
11. Care Hub structure and business plan prepared
12. Senior Tourism and Health Tourism model designed and delivered
13. Investment blending, investment familiarization tour to health resorts organized

Key conclusions: (1) In order to kick off integrated care reform in a locality it is necessary to provide awareness raising to all parties involved and the population as well as the means that will cover the reform cost and assure sustainability of operations in the long run. (2) For that it is necessary to run a social enterprise in a PPP form, to manage the Territorial Care Hub that will centralize organization, coordination, management and delivery of all Long Term Care services. (3) This structure should not depend on neither health nor social policy central authorities for better response and efficiency and should be run locally by a new institution built to cover health, prevention and care for at least the primary and long term care services of the population. If secondary healthcare can also be aligned with hospitals and clinics this would be better, but it concerns usually advanced integrated care systems, aligned care costs reimbursement and abundance of state resources and investments, 4) Investment, innovative financing and business innovation is necessary for any community care structure that wants to run sustainable care operations in the long run without crises, (5) the first priorities to implement integrated long term care by order of priority are: a. leadership awareness and on-the-job training b. Deliberation of the integrated LT care plan with all the local health ecosystem stakeholders, not only those concerned by health sector. The vision, strategy and action plan have to be endorsed by the entire ecosystem c. build the right investment blend until the Care Hub is sustainably run with constant RoI d. the Care Hub management has to be not for profit, independent from central authorities and abide to local control for commissioning services e. Workforce training in additional to care skills and patient empowerment are key for the success of this model.

P-746
Efficacy of a nursing home GP service in London

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For the past 2 years a team of GPs in South East London have been providing a dedicated primary care service to local nursing homes. The services involves regular geriatrician and multidisciplinary team input and much work on advance care planning. To measure our impact one of the factors we looked at was the rates of avoidable emergency admissions to hospitals and "Accident & Emergency" attendances. We compared the rates from 2013/2014 (before the service was commissioned) with the rates in 2014/2015 and found a reduction of 23% and 24% respectively. We conclude from these figures that this is a cost effective model of providing good quality care for the elderly in the community. (Poster presentation would include graphs and elaborate on the details of the service)

P-747
Adult ventilator weaning program in tertiary care center Qatar

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Introduction: It was realized that many ICUs and acute beds in Hamad Medical Corporation hospitals in Qatar were occupied by Long term mechanically – ventilated patients who were otherwise medically stable. These patients were previously scattered in different units that made the task of providing optimal care very difficult. Once these patients are transferred to Rumailah hospital adult ventilator unit, it became apparent that there was an ideal opportunity to wean some of these patients off the ventilators thus improving their prognosis.
Methods: Aim is to cohort the chronic ventilated patients to single specialized unit for early weaning process. An Adult ventilator weaning team was formed comprising of physician, nurse and respiratory therapist. After initial assessment in acute care hospital, patients were admitted to adult ventilator unit. Patient is assessed by the weaning team, starts weaning trial if patient is fit for weaning. This is followed by family conference and multi-disciplinary team conference leading to successful discharge or transfer to the wards.
Results: Total 104 cases were disposed till March 2016, among these 40 cases identified as weanable from ventilator, and 24 cases were successfully weaned and discharged or transferred.
Conclusions: The program has implemented the best of evidence based medicine and created customized care plans for each patient that has led to the significant improvements. The program has achieved success in weaning, one patient/month with active rehabilitation with an annual Cost savings: $ 2500 per year /patient.

P-748
The IBenC Project – benchmarking costs and quality of European community care

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Introduction: High quality community care may prove to be a cost effective solution for the future in comparison with institutionalization. Insight into which type of community care delivery provides the best outcomes against reasonable costs is lacking. The IBenC (Identifying best practices for care-dependent elderly by Benchmarking Costs and outcomes of community care) project is a cross-European study with the aim to identify best practices in community care for care-dependent elderly people, by benchmarking the cost-effectiveness of community care delivery systems in Europe. A new benchmarking method will be developed, based on a standardized comprehensive geriatric assessment instrument, the Resident Assessment Instrument for Home Care (interRAI-HC).
Methods: The study has a prospective longitudinal design. Data collection took place amongst community care recipients of 65 years and older in Belgium, Finland, Germany, Iceland, Italy, and the Netherlands. To enable an in-depth interpretation of best performing practices, the contexts and characteristics of community care organizations and community care staff are studied cross-sectional.
Results: At baseline 38 community care organizations, 2884 community care clients, and 1086 community care professionals were included in the study. First results on the study population and the benchmarking method will be presented.
Key conclusions: The project will provide health care policy makers comprehensive insight into the functioning of the European community care system by taking into account patient outcomes, costs of care, organizational performances, and into the role that structure and care processes of care organizations plays in care performance.

P-749
Healthy active ageing supported by technological environment: the DOREMI experience

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Introduction: European population aging requires the design of innovative solutions able to support, in term of quality and time, its health status. DOREMI project has developed an innovative platform able to stimulate and monitor elder people as also to be customized on user requirements.
Methods: 34 older people (age 65–80 years) were involved in UK and Italy DOREMI trials (3 months). Subjects were characterized at baseline in terms of physical activity (SPPB, PASE test, daily steps/meters, 6MWT), hemodynamic and biochemical parameters (blood pressure, HR, lipid profile, glycaemia, etc.), dietary habits (caloric intake) and balance assessment (BERG scale). Through the DOREMI

technological platform, users were: stimulated to perform indoor physical activity protocol (exergame on tablet); monitored by DOREMI bracelet (heart rate monitoring); invited to fill diet e-diary, receiving nutritional advice provided by the expert through the same application; tested for balance by item-10 BERG test (DOREMI balance board). At the end of trial, users underwent the same test battery of baseline.
Results: In DOREMI population an overall increase in physical activity was observed, with a significant improvement in hemodynamic (decrease in blood pressure and HR at 6MWT) and biochemical parameters (decrease in LDL, triglycerides, total cholesterol). The overall effect of dietary advice and physical activity protocol on subject's balance is under investigation.
Key conclusions: An integrated approach of physical activity and diet, supported by DOREMI technological platform, represents an innovative approach to stimulate healthy and active ageing of population, with a potential cost-reduction for European health care systems in middle-long period.

P-750
ICT solution for balance assessment in elderly: the DOREMI system validation and applicability

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Introduction: Aging process is characterized by decline of body functions: one of the major risks is represented by falls. Several screening tools/tests have been used to assess stability. We describe the integration between single-item Berg scale, Wii Balance Board and neural networks to create a new platform for balance assessment.
Methods: Two cohorts of older people (age 65–80) were enrolled for DOREMI balance assessment. The BERG balance score and anthropometric parameters (weight, height, BMI) were assessed for each subject. Group 1 (25 participants) showed a BERG score between 41 and 56; Group 2 (50 participants), enrolled in collaboration with PERSSILAA project, had a wider score (20–56) allowing to test accuracy of DOREMI tool in people having severe instability. Item-10 of BERG scale has been performed on the Wii balance board, inviting participant to turn the head to look behind over toward the right shoulder and then over the left. Data signals have been collected by custom developed software and analysed by neural network system for human activity recognition.
Results: In Group 1, total BERG score estimated using item-10 data presented a strong correlation with individual total BERG score test; in Group 2 data analysis is under investigation.
Key conclusions: DOREMI balance assessment is simple, automated, cost-effective and time-saving ICT solution for prevention of frailty. Once validated in a broad range of BERG scale, this system could objectively predict subjects at higher risks of falls, as well as improvement in stability and/or positive evolution in physical health status after specific treatments.

P-751
Robot in the care for the elderly persons

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Rapid development of new technologies in recent time spawned interest in their use in care for the elderly. The study was performed within the project ENRICHME (Horizon 2020) to answer the question how older people themselves see the possibility of implementing a robot in their environment. The project's main task is to test the support of the robot for patients with Mild Cognitive Impairment in community. For this purpose, the own Users Needs, Requirements and Abilities Questionnaire (UNRAQ) was used, prepared based on available literature data and project experts' opinions. It was used to collect opinions on the robot from 327 respondents (including 114 elderly people aged 65+ years) in France, Greece, Italy, Poland and UK. According to the participants, the elderly are not prepared for dealing with a robot (only 24.5% held positive opinions regarding whether the elderly are prepared to interact with a robot and only 26.3% – regarding the statement that the elderly are able to manage with the robot). However, 52.0% of participants thought that the elderly want to increase their knowledge about robots to be able to operate them. Older persons showed a more positive attitude compared to the younger ($p < 0.01$). Interestingly, 87.5% of the participants thought that the robot should instruct the elderly person what to do in case of a problem with its operation. Our results show that the elderly realistically evaluated their present abilities to operate the robot, and express willingness to increase their knowledge using the instructions provided by the robot.

P-752
Development of a transfer document for the community pharmacist at hospital discharge

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Introduction: In 2013, only 54.6% of Belgian elderly patients had contact with their general practitioner (GP) in the first week after hospital discharge [1]. Therefore, the community pharmacist (CP) can play an important role in continuity of medication management. As there is currently no structured communication to CPs at hospital discharge, this research investigated which information CPs would like to receive to perform adequate medication reconciliation and patient counseling.
Methods: First, initiatives for information transfer to the CP were identified by an international and grey literature review. Next, a discharge document was developed and presented to 18 healthcare professionals (9CPs and 9GPs) during semi-structured interviews, and further optimized.
Results: Belgian community pharmacists would like to receive a full medication list containing drug indications, medication registered at hospital admission and reasons for drug adjustments. GPs acknowledged the benefit of sharing this information with pharmacists. In contrast to international initiatives, Belgian healthcare professionals were hesitant to include data on renal function and other lab values in the transfer document. The final transfer document contains the following elements: patient characteristics, clinical data (e.g. reason for hospitalization, comorbidities and allergies) and two comprehensive medication lists, one with drugs at admission and with drugs at hospital discharge.
Key conclusions: Consensus was reached on the content of a transfer document for the CP at hospital discharge. A proof of concept study will be conducted to investigate the impact of this transfer document on patient-related outcome measures. Automatic software generation of this discharge document and electronic transfer will be crucial elements for success.

Reference

1. Vrijens F, Renard F, Camberlin C, Desomer A, Dubois C, Jonckheer P, Van den Heede K, Van de Voorde C, Walckiers D, Léonard C, Meeus P. *De performantie van het Belgische gezondheidssysteem – Rapport 2015. Health Services Research (HSR)*. Brussel: Federaal Kenniscentrum voor de Gezondheidszorg (KCE). 2015. KCE Reports 259A. D/2015/10.273/01.

Area: Pharmacology

P-753
Potentially inappropiate prescribing according to stopp and start criteria in an acute geriatric unit in Tenerife

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Objectives: Polypharmacy is a key problem for older adults. The aim of this study was to describe the prevalence of Potentially Inappropriate Medications (PIMs) and Potential Prescribing Omissions (PPOs) in an Acute Geriatric Unit.
Methods: This retrospective cross-sectional analysis included 1117 patients hospitalized in our unit from April 2014 to December 2015. PIMs was defined by the Screening Tool for Older Persons Prescriptions (STOPP) and Screening Tool to Alert doctors to Right Treatment (START) in its last version. Descriptive statistics were used to analyze and present the collected data which included demographic, hospital stay, the reason for admission, functional status, comorbidity and polypharmacy.
Results: In this aged population (median age 84 years, 65% female) 47% showed high morbidity rates and polypharmacy (five or more long-term drugs) was detected in 89% of the patients. The average of hospital stay was 9 days. The screening detected START-PIMs in 54.3% of patients and STOPP-PIMs in 65.9%. Benzodiazepines, neuroleptics were the most prevalence PIMS with 40% and 16% of the patients. The most common PPOs were AChEI, ACE inhibitor, and antiplatelet which were detected in 20%, 20% and 15% respectively.
Conclusions: Potentially inappropriate prescribing is highly prevalent in older adults. Our framework consist on very old dependent patients with high comorbidity, polypharmacy and time limitations in the acute settings, therefore pharmacotherapy reduction is challenging. Next step is to create additional geriatric health care service in order to provide continuity of care which may reduce inadequate prescription still further.

P-754
The use of psychoactive drugs in the institutionalized and non-institutionalized elderly

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Objectives: Several documented studies have shown that the consumption of psychoactive drugs is high among the institutionalized aged population. This study was carried out to determine the use of benzodiazepines, antidepressants and antipsychotics in the institutionalized and non-institutionalized elderly.
Methods: A cross sectional study using computerized hospital discharge data in 336 institutionalized (n = 193) and non-institutionalized (n = 143) patients (>65 years) during the first three weeks of January 2015, from an Internal Medicine ward in a district hospital in the Medio Tejo area in Portugal.
Results: The average age was higher in the institutionalized compared to the non-institutionalized patients (83.79; 95% CI 82.59–84.99 versus 81.26; 95% CI 80.20–82.27). There were no significant differences between the average utilization of polymedication in both groups (7,53; 95% CI 7.02–8.04 versus 6,78; 95% CI 6.30–7.26). In general, benzodiazepine use was the highest in elderly females (non-institutionalized with 38.29%, n = 43/112 versus institutionalized with 35,23%; n = 31/88). No major differences were noted in relation to the consumption of antidepressants and antipsychotics. There was a significant difference of each drug prescribed to institutionalized elderly males with the majority being benzodiazepines (23.63%; n = 13/55) followed by antidepressants (18.18%; n = 10/55) and antipsychotics (16.63%; n = 9/55). Mortality rate of those using psychoactive drugs were 78.08%; n = 57/73.
Conclusion: High consumption of psychoactive drugs was widely used in both institutionalized and non-institutionalized elderly, especially in females. More than three quarters of the overall number of mortalities had psychoactive drugs as part of their medications.

P-755
Laxative use in the geriatric population in long-term care and association to patients' medication

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Introduction: Laxatives are commonly used especially in elderly in long-term care. Correlation between laxative use and constipating drugs was evaluated.
Method: This cross-sectional survey, carried out between November and December 2015, included 246 patients residing at Saint Vincent de Paule Residence (SVPR) and Zejtun Home in Malta. The patients' treatment charts were analysed and the following variables were recorded: patient's ID, age, regular laxative use, type of laxative and use of concomitant constipating drugs. Drugs causing constipation as a major side-effect were listed. Data was analysed and trends were tabulated. Calculations demonstrating frequency of regular laxative use, gender difference, age stratification and effect of constipating drugs on regular laxative use were carried out.
Results: 41.87% of patients were on regular laxatives with little difference between males and females. 11.65% of patients needed more than one laxative. Use of laxatives was higher in the 75+ age group. Lactulose was the commonest used laxative. 40% of patients on laxatives were also on constipating drugs however 58% of patients on laxatives were not on any constipating drugs. 25% of patients who were not on regular laxative use were on constipating drugs.
Key conclusions: There is a modest association between constipating drugs and regular laxative use. Constipation in elderly is multifactorial. Use of laxatives must be tailored to the patient's medical history, drug interactions, costs and side-effects. Laxatives are not completely safe but contra-indications, including intestinal obstruction, exist. Laxative abuse must be controlled to avoid electrolyte disturbances [1] [2].

References

1. Bouras EP, Tangalos EG. Constipation in the Elderly. *Gastroenterol Clin North Am*. 2009 Sep; 38(3):463–80.
2. Gunvor F, Stian L, Per F. Drugs and constipation in elderly in nursing homes: What is the Relation? *Gastroenterol Res Pract*. 2012; 2012:290231.

P-756
Prevalence of potentially inappropriate prescribing among older adults: a comparison of the Beers 2012 and Screening Tool of Older Person's Prescriptions (STOPP) Criteria Version 2

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Objectives: There is not any study comparing the Beers 2012 and STOPP version 2 criteria nor reporting Prevalence of Potentially Inappropriate Prescribing (PIM) with STOPP version 2. We aimed to evaluate the prescriptions of patients admitted to geriatric outpatient clinic with these tools and document factors related to PIM use.
Methods: Older patients (>65-years) admitted to outpatient clinic of a university hospital were retrospectively evaluated for PIM with Beers 2012 and STOPP version 2 criteria. Age, sex, chronic disease and drug numbers, functional, depression and nutritional statuses were studied with regression analysis as possible factors related to PIM.

Results: The study included 667 subjects (63.1% female, mean age: 77.6 ± 6.3 years). Mean drug number was 6.1 ± 3.4. PIM prevalence detected by STOPP version 2 was higher than that of the Beers 2012 criteria (39.1% vs 33.3%, respectively; $p < 0.001$; $Z = -3.5$) with moderate aggreement in between (kappa = 0.44). Antipsychotics, over the counter vitamin/supplements, aspirin, selective-serotonin-reuptake-inhibitors and anticholinergics were the leading drug classes for PIM. Extend of polypharmacy [$p < 0.001$, odds ratio (OR) = 1.29, 95% confidence interval (CI) = 1.20–1.38] was the most important variable related to PIM, along with multiple comorbidities ($p = 0.005$, OR = 1.16, 95% CI = 1.05–1.30), and functional dependency ($p = 0.009$, OR = 0.90, 95% CI = 0.83–0.97).
Conclusions: Inappropriate prescription prevalence of ~40% by STOPP version 2 was similar to the global worldwide prevalence -yet at the upper end. STOPP version 2 was more succesfull than Beers 2012 to detect PIM. Patients with multiple drug use, multiple comorbidities, and more dependency were more likely to have PIM requiring special attention during prescription.

P-757
Psychotropic drug exposure and hip fractures

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Introduction: Hip fractures are highly prevalent in older persons, with great implications for morbidity and mortality. We aimed at examining associations between psychotropic drug exposure and the risk of hip fracture, and to estimate the attributable risk.
Methods: A nationwide prospective cohort study based on merged data from three registries (the Norwegian Prescription Database, the Norwegian Hip Fracture Registry and the Central Population Registry) was conducted. The study population included all 906,422 individuals born prior to 1945 and living in Norway on study start, January 1, 2005. The study period ended on December 31, 2010.
Results: Exposure to any psychotropic drug was associated with an excess risk of hip fracture as compared to non-exposure. The excess risk was two-fold for any antipsychotic drug. Selective serotonin reuptake inhibitors (SSRIs) and other drugs with high/intermediate serotonergic properties were the antidepressants associated with the greatest excess risk, almost two-fold. We found no evidence that short-acting benzodiazepines (SABs) were safer than long-acting benzodiazepines. People exposed to z-hypnotics were at greatest excess risk at night. The attributable risks were estimated at about 1% (antipsychotics), 5% (antidepressants) and 3% (anxiolytics and hypnotics), respectively.
Key conclusions: In people aged 60 and older in Norway, an excess risk of hip fracture was found with all psychotropic drugs. Our findings suggest that the recommended second generation antipsychotics (SGAs), SSRIs, SABs and z-hypnotics offer no advantages with regard to hip fracture as compared to the traditional alternatives. Clinical studies examining mechanisms or causality of the observed associations are needed.

P-758
Co-prescriptions of psychotropic drugs to elderly patients in a general hospital

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Introduction: The prescription of psychotropic drugs to elderly patients in a hospital setting has not been extensively characterized. The objective was to describe the inappropriate co-prescriptions of psychotropic drugs in hospitalized patients aged 75 and over.
Methods: By analysing the medical database from 222-bed general hospital in France, we reviewed a total of 11,929 stays of at least 3 days by patients aged 75 and over. Prescriptions and co-prescriptions of psychotropic drugs were identified automatically. Anticholinergic drugs with sedative effects were considered as psychotropic drugs. An expert review was performed for stays with the co-prescription of three or more psychotropic drugs to identify inappropriate co-prescriptions.
Results: Administration of a psychotropic drug was identified in 5503 stays (46.1% of the total number of stays), of which 1688 (14.2% of the total) featured at least one co-prescription. Co-prescriptions of three or more psychotropic drugs for at least 3 days were identified in 389 stays (3.3% of the total). Most of these co-prescriptions (n = 346; 88.9%) were considered inappropriate because of the combination of at least two drugs from the same psychotropic class (n = 278), the absence of a clear indication for a psychotropic drug (n = 177) and a history of falls (n = 87). However, these 389 co-prescriptions were maintained after hospital discharge in 78% of cases.
Conclusion: The co-prescriptions of psychotropic drugs should be re-evaluated in elderly hospitalized patients.

P-759
Inappropriate anticholinergic drugs prescriptions in hospitalised elderly patients

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Introduction: The prescription of inappropriate anticholinergic drugs in hospitalized, elderly patients has not been well characterized. The main objectives of the present study were to describe the frequency of anticholinergic drug prescription in several at-risk situations and to quantify gastrointestinal adverse drug reactions (ADR) in hospitalized, elderly patients.
Methods: Using a database from a French general hospital, we extracted information on 14,090 hospital stays between 2009 and 2013 by patients aged 75 and over. We detected and analyzed anticholinergic drug prescriptions in three situations at high risk of an adverse drug reaction: frequent falls, dementia and benign prostate hypertrophy. We also screened for cases of constipation that may have been causally related to the administration of anticholinergic drugs.
Results: Administration of an anticholinergic drug was detected in 1412 (10.0%) of the hospital stays by elderly patients. 36.5% of these stays corresponded to one or more at-risk situations: 142 (10.1%) for falls, 253 (17.9%) for dementia and 120 (8.5%) for benign prostatic hypertrophy. About a quarter of the latter stays combined two or three at-risk situations. Gastrointestinal ADR induced by anticholinergic drug administration were identified in 197 (14%) patients by using the Kramer algorithm (90 evaluated as “possible” ADR and 107 evaluated as “probable” ADR).

Conclusion: Hospitalized patients aged 75 and over are often prescribed anticholinergic drugs. This exposure can occur in situations at high risk of ADR.

P-760

Potentially inappropriate medication prescribing is associated with socioeconomic factors: a spatial analysis in the French Nord-Pas-de-Calais Region

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Background: Potentially inappropriate medication (PIM) prescribing is common in the elderly and lead to adverse events and hospital admissions. This study aimed to determine whether prevalence of PIM prescribing varies according to healthcare facilities and socioeconomic status in a French region.
Methods: All prescriptions dispensed at community pharmacies for patients aged 75 and older between January 1 and March 31, 2012 were retrieved from French Health Insurance Information System of the Nord-Pas-de-Calais Region for patients affiliated to the Social Security scheme. PIM was defined according to the French list of Laroche. The geographic distribution of PIM prescribing in this area was analyzed using spatial scan statistics.
Results: 65.6% (n = 207,979) of people aged 75 years and over living in the Nord-Pas-de-Calais Region were included. Among them, 32.6% (n = 67,863) received at least one PIM prescribing. The spatial analysis identified 16 and 10 clusters of municipalities with a high and a low prevalence of PIM prescribing, respectively. Municipalities with a low PIM prevalence were characterized by markers of a high socioeconomic status whereas those with a high PIM prevalence were mainly characterized by markers of a low socioeconomic status, such as a high unemployment rate and low household incomes. Markers of healthcare facilities were weakly associated with high or low prevalence clusters.
Conclusion: Spatial distribution of PIM prescribing was heterogeneous in the study territory and was mainly associated with socioeconomic factors.

P-761

Tramadol prescriptions in older, hospitalized patients

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Introduction: Tramadol is often used in the pharmacological management of pain in older patients, but there are few data on the safety of tramadol in routine practice for these patients. The objective of the present study was to describe prescriptions of tramadol in older hospitalized patients, with focus on clinically significant drug-drug interactions (DDI) and gastrointestinal adverse drug reactions (ADR).
Methods: Using a database from a French general hospital, we extracted information between 2011 and 2013 by patients aged 75 and over. Analgesic prescriptions were automatically detected in patients aged 75 and over. Clinically significant DDI involving tramadol were detected according the Theriaque® compendium. Gastrointestinal ADRs were indirectly detected by the administration of a laxative or antiemetic following the administration of tramadol.
Results: 7,362 hospital stays were included with a mean age of 83.8 ± 5.3 years. An administration of tramadol was identified in 16.2% (n = 1,092) of the total stays by patients aged 75 and over and represented 83.4% of step 2 analgesics administrations (n = 1,309). DDI involving tramadol were frequent (n = 415; 38.0% of tramadol administration) but seldom concerned DDI contraindicated or to avoid (n = 11). Most DDI were related to association to benzodiazepines or drugs that lower the epileptogenic threshold. According to the Kramer's algorithm, 322 gastrointestinal ADR occurred in 27.0% (295) of the 1,092 stays with administration of tramadol.
Conclusion: Tramadol is frequently administrated in older, hospitalized patients and is associated with gastrointestinal ADR in more than one of four patients.

P-762

Prescribing habits in severe renal impairment at a local geriatric hospital in Malta: a quality improvement project

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Introduction: Renal disease alters the effects of many drugs, potentially causing toxicity, with certain drugs needing omission and others dose adjustment. This study aimed to audit drug prescribing in patients with severe renal impairment at Rehabilitation Hospital Karin Grech (RHKG).
Method: Treatment charts of patients with severe renal impairment (eGFR <30 mL/min/1.73 m^2) at RHKG between December 2015 and January 2016 were assessed for compliance to advice on the British National Formulary 70.
Following this, a sticker indicating the eGFR was affixed to treatment charts of patients with severe renal impairment. A lecture on prescribing in renal impairment was delivered to prescribers at RHKG. In a second cycle carried out at the end of April 2016, treatment charts of patients with an eGFR <30 mL/min/1.72 m^2 from wards of RHKG were analysed.
Results: The number of patients with an eGFR <30 mL/min/1.73 m^2 was 36 (12.9% of inpatients) and 22 (7.9%), in the first and second cycles respectively.
The percentage of patients with inappropriate prescriptions decreased from 75% in the first cycle to 59% in the second (p = 0.2).
The number of incorrect entries on treatment charts fell from 12.5% in the first cycle to 7.52% in the second cycle (p = 0.05).
Conclusion: A lecture, coupled with the introduction of the eGFR sticker, improved doctors prescribing in severe renal impairment.

P-763

Older patients on amiodarone: an audit on the monitoring of thyroid and liver function tests

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Introduction: The use of amiodarone in the management of tachyarrhythmias needs monitoring of thyroid function tests (TFTs) and liver function tests (LFTs) on a regular basis.
Method: Patients on amiodarone at Rehabilitation Hospital Karin Grech and at St Vincent de Paul Long Term Care Facility were identified by examining the admissions' treatment charts. The indication for treatment, together with TFTs and LFTs on admission and at six months were recorded.
Results: Out of 1355 treatment charts examined, 42 (3.1%) patients were on amiodarone. The most common indication for treatment was atrial fibrillation (88%, n = 37). 54.8% (n = 23) had baseline TFTs checked whilst 57.1% (n = 24) had baseline LFTs checked. A total of 38 patients had been on amiodarone for more than 6 months and of these 7.9% (n = 3) had TFTs and LFTs measured at 6 monthly intervals. 26.2% (n = 11) had subclinical hypothyroidism. 40.5% (n = 17) had an abnormal alanine aminotransferase level at some point during treatment. An ECG was taken for 67% (n = 28) of individuals in the previous 12 months. 52.4% (n = 22) were found to be in normal sinus rhythm and 50% (n = 21) had an abnormal corrected QT interval. This study was compared to another carried out 10 years prior involving the same institutions and a comparable study population. Baseline TFTs recorded increased by 15.7 percentage points whereas that of 6 monthly TFTs increased by 9 percentage points.
Key conclusion: While some improvement has occurred in the monitoring of patients on amiodarone, the study highlights areas were improvement is still desirable.

P-764

Physicians' approach of prescribing drugs for older patients – a qualitative study

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Objectives: Multimorbidity and polypharmacy are common in older patients. Hence, they are more prone to experiencing adverse drug events and hospitalizations. However, little work has been done to investigate physicians' perspectives on prescribing drugs for older patients using a qualitative approach; therefore the aim of this study was to explore the physicians' approach of prescribing drugs for older patients.
Methods: Semi-structured interviews were carried out with medical specialists with 23 different specialties relevant for older patients nationwide in Denmark. Content analysis was conducted to identify relevant themes. Fifty physicians were interviewed.
Results: The most frequent risk drugs which physicians considered to cause hospitalization were: vitamin K antagonists, opioids, diuretics, nonsteroidal anti-inflammatory drugs, anxiolytics, and immune-suppressants. Independent of their medical or surgical background, or how often they managed prescriptive drugs in their daily work, all physicians expressed a cautious attitude when prescribing risk drugs for older patients. The most frequently used terms were "cautious", "contemplate", "attentive". Despite their common cautiousness, the physicians had different strategies when prescribing drugs for the older patients. The following strategies were identified: (1) "Start low, go slow" (2) "Trial and error" (3) "Dose reduction" (4) "Never prescribe". Moreover, the physicians used different prescribing strategies for the same drugs.
Conclusions: The physicians expressed a cautious approach when prescribing drugs to older patients. The physicians had different prescription strategies when prescribing drugs for this particular group. However, there was no practice consensus about how to be cautious with drugs for older patients.

P-765

Benzodiazepine use in the elderly in the secondary hospital

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Introduction: Portugal has the highest levels of benzodiazepine use at European level and it's very relevant to analyze this aspect in the elderly, since their pathophysiological changes and multiple pathologies, make them more susceptible to adverse events.
Objectives: to determine the prevalence and incidence of use of benzodiazepines and to investigate the association between the use of benzodiazepines and mortality in the patients admitted in our department.
Methods: 1-month cross-sectional epidemiological study was conducted. The study comprises all patients older than 65 years admitted in the first month of 2015 in secondary hospital. The data was collected from the discharge data.
Results: Patients' (n = 363) mean age was 82.3 years (range 65–100), 58.7% (n = 213) were female and 27.82% (n = 101) were benzodiazepine users. Benzodiazepine users were more likely to be female (35.68%, n = 76) and have polypharmacy (6 or more medications;81.18%, n = 82) compared to non-users (58.78%). Benzodiazepine users took on average 8.57 (CI 95% 7.89–9.25) medicines, compared to non-users (n = 6.42; CI 95% 6.06–6.78). The mortality rate was 25.74% (n = 26) in benzodiazepine users group (vs 20.61% in non-users). No significant differences in mean age and average stay were observed. Higher prevalence in antidepressants and antipsychotics use was observed in benzodiazepines users. The most prevalent benzodiazepines were intermediate-acting (n = 60, 59.4%).
Conclusion: A high prevalence of benzodiazepine consumption was demonstrated in our study, especially among women. In this group of patients, the data suggests a negative effect in the death rate, since the mortality is higher among these patients.

P-766

Pill Box – are they all necessary? (PB-ATAN)

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Introduction: Advances in medicine and consequent improvement of health care have increased life expectancy and prescription of drugs as well. Polypharmacy occurs when taking ≥5 drugs simultaneously. Although there isn't a specific age, it is largely associated with the elderly condition, especially among the very elderly (people aged ≥75). The goals of this study are: to quantify the prescription of chronic medication (≥3 months) in the very elderly of our Primary Care Unit, classifying the consumption (total number, class and amount of drugs without chronic indication in polymedicated patients).
Methods: Cross-sectional descriptive study. Population: patients aged ≥75 of a Primary Care Unit, excluding medical contact absences in 2015 and the deaths occurred during the study. Data collection and analysis: MedicineOne® and Excel®. Variables: gender, age, number and class of drugs and number of chronically incorrect drugs.
Results: From 1461 patients, 242 were excluded, leaving a sample of 1219 patients, with 60.21% polymedicated. Most of them take 6 drugs, 23.84% of these are properly indicated and the majority of patients incorrectly consumes 1 drug. From the 16 chronically prescribed drug classes without indication, proton pump inhibitors lead, followed by vitamin/supplement and anxiolytic/sedative/hypnotics.
Key conclusions: As bias of this study, we refer: different observers in collecting data, absence of an agreed list of scientific chronically incorrect pharmacological classes and the not confrontation of chronic medications with individual pathologies. Annual therapeutic reviews are crucial, as is to stimulate medical education with the ultimate goal of a safe and effective prescription.

P-767

The association of antidepressive medication with physical activity in older adults: the ActiFE study

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Objectives: The prescription of antidepressants has increased in recent years. Physical activity (PA) is an important prerequisite for autonomy, quality of life, and is related with healthy ageing. However, it is unclear whether antidepressants modulate PA. We aimed to analyze this association among older adults.
Methods: In a cohort study (Activity and Function in the Elderly in Ulm (ActiFE Ulm)) including 1506 community-dwelling adults ≥65 years PA was objectively measured over seven days by an uniaxial accelerometer (ActivPal®). We used linear regression to evaluate the association of antidepressants with PA adjusted for identified confounders including pain and anxiety. Due to the presence of effect modification by symptoms of depression (Hospital Anxiety and Depression Scale (HADS-D) ≥ 8) we present stratified analyses.
Results: In our study sample (n = 1082, mean age 75.6, 56.3% male) only 120 participants (11.1%) had a HADS-D ≥ 8, showing a mean PA of 91.6 min/day compared to 106.4 min/day among those without symptoms of depression (HADS-D < 8). Age- and sex-adjusted analyses showed that among subjects with symptoms of depression antidepressant use was associated with an increment of PA by 4.1 min/day [95% CI −17.7, 26.0], in contrast to a reduction of PA by 22.6 min/day

[95% CI −33.9, −11.4] among those without such symptoms. This reduction was ameliorated but still significant in the multivariable analysis (ß-estimate −18.2 min/day [95% CI −28.9, −7.6]).
Conclusion: Our results suggest a differential association of antidepressants with PA in subjects with/without depressive symptoms. Antidepressants use was clearly associated with a reduction of PA among participants without symptoms.

P-768
No impact of pharmaceutical intervention evaluated using the STOPP/START criteria; a case-control study

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Introduction: Studies show that one in three admissions of patients over 75 years old are related to adverse drug events(ADEs) connected with inappropriate medications. Pharmaceutical intervention(PI) is introduced in many hospitals to face this problem. STOPP/START (StpStr) criteria is a screening tool for medical prescriptions for older people(STOPP) and alerting to the right treatment(START). Studies show that the tool is effective in identifying potentially inappropriate medication (PIMs) and avoiding ADEs. PI has been shown to improve appropriateness of prescriptions to elderly. Few previous studies have evaluated PI using StpStr criteria.
Objectives: To use StpStr to compare the appropriateness of medication of elderly patients receiving PI to those that did not, on discharge from a medical ward. METHODS: A two month retrospective case-control study including all patients 65 years or older admitted and discharged from our internal medical ward in a regional hospital in Denmark. At discharge, a geriatrician resident evaluated the patients` prescription using the criteria.
Results: Of the 213 patient included, 74 received PI and 139 did not. No inappropriate medications were seen in 7(9.5%) patients from the case-group and 15(10,8%) from the control-group. One or more inappropriate medication were seen in 67(90.4%) patients from the case-group and 124(89,2%) from the control group. No difference in medication quality were found between the groups, RR 0,82(95%CI 0,35;1,94).
Conclusion: This study showed that PI has no impact on medication quality evaluated by the StpStr criteria. Due to the complexity of the issue and the small size of the study we suggest further larger scale studies.

P-769
Description of a reality. Proton-pump inhibitor in elderly hospitalized

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Objectives: 1. Describe the characteristics of elderly patients taking proton-pump inhibitor (PPI) admitted in a Geriatric Unit. 2. Evaluate the type of IBP most used and the most frequent causes of this treatment indication. 3. Analyze the adequacy PPI treatment.
Methodology: Patients admitted from June to November 2014. Descriptive, prospective study. Variables: sociodemographic, personal history (AP), functional assessment (I. Barthel- IB), cognitive assessment (SPMSQ), comorbidity (Charlson index), biochemical parameters. SPSS. Treatment criteria according to data sheet indication IBP and according to the recommendations of the Clinical Practice Guideline job IBP (Health 2011).
Results: 318 revenue. IBP treatment: 58.80% (187 patients). Of these, 74.3% women. Average age: 86.4. SPMSQ: 6.02. IB median income and high 20. 40 AP: 84% cardiovascular, neurological 65.2%, 40.1% nefrourológico, respiratory and sensory 31.6%, anemia 70.1%, 52.4% hypoalbuminemia. I. Charlson income 3 and the high 7 (median). Exitus 13.4%. IBP: 75.4% Omeprazole, pantoprazole and lansoprazole 7.5%, 5.9% esomeprazole, rabeprazole 1.6%. Meets 70% adequate indication. Note: Antiplatelet 71%, 21.4% oral anticoagulant classic, UGD: 10.7% NSAIDs gastropathy: 9.2% Corticosteroid: 6.9%. The rest of the sample that does not take PPI treatment, meets indication: 49.6%.
Conclusion: These preliminary results show that more than half of our patients consume omeprazole, with a high percentage of suitable indication according to the criteria considered in the study. Antiplatelet making the most frequent prescription of PPIs reason. Indeed, we believe corresponds to the reality of our patients, with significant cardiovascular morbidity and risk of gastro-events.

P-770
Is depression a predictive factor for polypharmacy in elderly?

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Objectives: This study was sought to investigate polypharmacy rates and drug use characteristics in elderly patients in our country.
Methods: In a retrospective design, we reviewed hospital records of 1,205 patients (≥65 years) who applied to our geriatric outpatient clinic. Demographic characteristics, polypharmacy, drugs used at presentation and final evaluation, and comorbid conditions were recorded. The use of five or more drugs was considered to be polypharmacy. Binary logistic regression analysis was performed.
Results: The average age was 75.2 ± 6.9. The number of comorbidities was 2.46 ± 1.3. The number of drugs used at first application and final evaluation was 3.8 ± 2.7 and 4.3 ± 2.8 ($p < 0.001$), polypharmacy rates of 40% and 45% ($p < 0.001$). The number of drugs used in the final evaluation of patients ranged from 0 to 17. The rates of patients using one drug, two drugs, three drugs and four drugs were 6.3%, 10.5%, 12.8% and 15.4%, respectively. The most common five comorbidities were hypertension (67%), diabetes mellitus (27%), osteoporosis (27%), hyperlipidemia (25%) and depression (20%). Depression was an independent predictive factor for polypharmacy than other comorbid diseases in the regression analysis (OR: 4.5; 95% CI: 3.2–6.5; $p < 0.001$). The rates of drugs acting on the central nervous system (sedative-hypnotics, antidepressants and antipsychotics), anticholinergics, and diuretic drugs were significantly higher ($p < 0.001$) in polypharmacy group than non-polypharmacy group.
Conclusions: Although patients were examined in detail in terms of polypharmacy, it was found to be as high as 45%. Before starting an additional medication in elderly patients, particularly with depression, the indication should be clearly specified, and several aspects should be taken into consideration, including functional capacity of the patient, the drugs already used and possible interactions of the new drug.

P-771
Hypoalbuminemia in older patients drug therapy – should we be worried?

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Introduction: Hypoalbuminemia is frequently seen in the elderly due to malabsorption and malnutrition and its consequences in pharmacodynamics and pharmacokinetics are known. However, it is rarely approached by the clinician regarding the implications it might have in drug prescription and side effects.
Aim: analysis of prescription of acidic drugs that readily bind to albumin.
Methods: Retrospective study of a cohort of 100 patients ≥75 years admitted in an Internal Medicine ward. Comprehensive geriatric assessment at admission. Assessment of chronic medication and

recognition of acidic drugs (pka < 6) with albumin binding over 90%. Determination of serum albumin (reference value of 3.2–4.6 mg/dL).
Results: Average age 83.7 years, 63% males, average Cumulative Illness Rating Scale Geriatrics 11.2, average Barthel score 62.6. Prevalence of hypoalbuminemia 47.4% (min 1.8 mg/dL); average number of drugs per patient 7.07 ± 3.12. 70% of patients were prescribed at least one acidic drug. Prevalence of prescription of acidic drugs 16.8% (117/696). Acidic drugs more prescribed were furosemide (n = 42), acetylsalicylic acid (n = 24), warfarin (n = 5), rivaroxaban (n = 3), diazepam (n = 1), lorazepam (n = 14), levothyroxine (n = 7), nifedipine (n = 5), pantoprazol (n = 17). Patients who were prescribed acidic drugs showed a slightly higher serum albumin but still under reference value (average albumin 3.16 ± 0.66).
Conclusion: Acidic drugs were commonly prescribed despite hypoalbuminemia, which can precipitate dangerous side effects such as hemorrhagic complications related to acetylsalicylic acid and warfarin prescription and hydroelectrolytic imbalances related to furosemide. Hypoalbuminemia results in increase in free drug concentration in serum which can enhance potential drug interactions. Therefore, patients with hypoalbuminemia should be offered alternative non acidic drugs.

P-772
Anticholinergic burden of drug therapy of older patients admitted in an Internal Medicine ward

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Introduction: Drugs with anticholinergic properties are commonly used in the geriatric population, including not only "pure" anticholinergics, but also other pharmacological groups with intrinsic anticholinergic properties. Anticholinergic properties may precipitate or exacerbate cognitive decline and increase risk of Delirium. Our objective was to evaluate the anticholinergic burden of drug therapy (AntiCB) and to assess the association to cognitive and functional status.
Methods: Retrospective study of 100 hospitalized patients ≥75 years. Sociodemographic and clinical characterization, including functional (Barthel score (BS)) and cognitive status. AntiCB was assessed by the Anticholinergic Cognitive Burden Scale (ACBSc).
Results: Average age 83.7 years, 63% males, average Cumulative Illness Rating Scale Geriatrics 11.2, average Barthel score 62.6, 70% malnourished, 31% cognitively impaired. Patients were categorized into three risk categories according ACBSc: LR- low risk (0 points) 26%, MR- medium risk (1–2 points) 43%, HR- high risk (3 or more points) 31%. Average ACBSc 1.86 ± 1.85 revealing average medium risk. There was no association between ACBSc and cognition. Low risk patients showed better functional status (LR: BS 72.7 ± 31.4, MR + HR: BS 60.6 + 36.2).
Conclusions: The ACBSc revealed that elderly admitted in an Internal Medicine ward presented only medium risk of anticholinergic side effects (ACSE). However, the real risk of ACSE might be underestimated, as the risk of ACSE in geriatric population should depend not only on the drug profile but also on previous cognitive, nutritional and functional status. Possibly, new tools to assess the risk of ACSE in the elderly might include other parameters related to physiologic and functional reserve.

P-773
Number of discharge medications as a risk factor for early readmission of elderly patients: a retrospective study

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Introduction: Early unplanned readmission of elderly patients to the hospital is a common occurrence, but difficult to predict. The main purpose of the study was to analyze if the number of discharge medications leads to early readmission within 30 days of discharge from the hospital.
Methods: A retrospective study was carried out by reviewing the hospital records of 1619 patients, 65 years of age and older, who were admitted to Internal Medicine ward of a tertiary care hospital in Portugal, from January 1 to June 30, 2014. 212 were excluded. Day 0 was defined as the day of discharge and day 1 was defined as the day-after admission to the hospital.
Results: The final cohort had 1407 patients, with a mean age of 81.73 ± 7,60 years, 828 (58.85%%) were women. Were readmitted within 30 days 236 patients (16.77%). Polypharmacy (≥5 drugs) occurred in 1137 patients (80.81%), and "severe" polypharmacy (≥10 drugs) in 270 (19.19%). The number of discharge medications was significantly greater for patients having a thirty-day readmission compared to those without a thirty-day readmission: 7.37 ± 3.42 versus 8.32 ± 3.43 medications (p < 0.001). Those with ≥8 drugs had a significant higher rate of readmission: 20.48% versus 13.46% (<8 drugs), respectively (OR 1.66; 95% CI 1.25–2.20; p = 0.0005). There was no association between the number of medications and thirty-day mortality.
Conclusions: In our study the number of discharge medications was associated with thirty-day hospital readmission.

P-774
The PharE STUDY: an Italian pharmacovigilance study in elderly home care patients affected with dementia

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Introduction: The PharE Study (Pharmacovigilance in the Elderly) is an ongoing study in the ASP Catanzaro, Italy, on elderly home care patients affected with dementia. The aim of the present study is:to assess the use of inappropriate drugs;to study the possible drug-drug interactions;to perform the possible strategies for avoiding the potential harmful prescriptions, by using the STOPP and START criteria.
Methods: Data were obtained from 461 home patients, 185 men, 276 women, mean age 81.1 ± 6.8 years old. Overall patients with Alzheimer's dementia were 39%, vascular and mixed dementia 52%, other dementias 9%. A classification of potential inappropriate drugs was made according to the Beers criteria. Data were collected through an appropriate software able to gather the main information on patients. In selected cases Naranjo Scale was applied. The study of possible drug-drug interactions was made by Micromedex 2.0. All analyses were performed using the SPSS program version 21.0 for Windows.
Results: Patients were functionally and moderately to severely cognitively impaired.71.8% of patients used 5–9 drugs and 10.6% more than 10 drugs. Kidney function was shown to be related to the number of drugs used (p = 0.0001). Overall anticholinergic drugs were 13.2%, tricyclics antidepressants 2.8% and ticlopidine 2.1%. Long half-life benzodiazepines were used in 4.3% of patients, antipsychotics in 20% of the cases. Proton pump inhibitors were used in 86.6% of the cases. Some interesting case reports were recorded too.
Conclusions: These data show the need for an accurate choice of drugs in elderly people. We expect further details through the application of STOPP and START criteria.

P-775
How can opiate prescribing be optimised in orthogeriatrics? An audit in a district general hospital setting

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Introduction: In the UK, two billion pounds is spent annually on the direct healthcare costs of hip fractures alone. To reduce further morbidity, mortality and cost, early mobilisation of the orthogeriatric population is essential, for which there is often a role for strong/ weak opiates. This patient cohort is particularly at risk of opiate toxicity and side-effects. Appropriate, anticipatory prescribing is essential.
Methods: Drug charts of 50 inpatients were assessed against 2 standards: 1. Regular laxative, PRN anti-emetic and PRN naloxone with every opiate prescription. 2. Maximum of one regular and one PRN opiate prescribed. Two interventions were commenced. Firstly, the ward round proforma was edited to include an "opiate" box so the clinician was prompted to assess this prescription. Secondly, an educational awareness campaign was initiated on the ward. Four months later, 50 drug charts were re-audited against the same standards.
Results: The number of correctly prescribed anti-emetics increased from 80% to 96%; laxatives from 76% to 90%; and naloxone from 16% to 80%. Inappropriate, simultaneous opiate prescriptions were eliminated with the number of 2+ regular opiates down from 2% to 0% and number of 3+ PRN opiates reduced from 36% to 0%.
Key conclusions: Simple measures at a local level can have a significant impact on safe opiate prescribing practices in this population. A ward round proforma with targeted prompts is an effective way to increase clinician adherence to prescribing standards.

P-776
Primary care hypnotic and anxiolytic prescription – reviewing prescribing practice over eight years

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Introduction: Over the last few years, hypnotic and anxiolytic medications have had their clinical efficacy questioned in the context of concerns regarding dependence, tolerance alongside other adverse effects.
Material and methods: Anxiolytic and hypnotic medications were defined in accordance with British National Formulary classes. All patients receiving a drug within this class in 2007, 2011 or 2015 were collated and anonymised using primary care prescribing data. Patients age, gender, name of the prescribed drug(s), and total number of prescriptions in this class over the year were extracted.
Results: There were 130 patients prescribed hypnotic/anxiolytic medications in 2007, 173 patients in 2011 and 267 in 2015, which was an increase from 3.1% of the practice population in 2007 to 4.1% and 6.3% in 2011 and 2015 respectively [p-value = 0.368]. The proportion of patients prescribed a benzodiazepine medication decreased between 2007 and 2015: 83.8% (n = 109) in 2007, 70.5% (n = 122) in 2011 and 51.7% (n = 138) in 2015 [p-value = 0.006]. The proportion of these patients prescribed a nonbenzodiazepine drug increased between 2007 and 2015: 30% (n = 39) in 2007, 46.2% (n = 80) in 2011 and 52.4% (n = 140) in 2015 [p-value = 0.001]. Patients over 65 were more likely to be prescribed a benzodiazepine than those under 65 [68.5% compared to 60.4%].
Discussion: This study reports a reduction in benzodiazepine prescriptions in primary care alongside increases in nonbenzodiazepine prescribing. Changes in this prescribing practice may reflect local changes in prescribing practice and alongside national recommendations.

P-777
How many pills are too much?

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Introduction: The most problematic expression of an ageing population is the clinical condition of frailty. Polypharmacy is common among the elderly and frail and is a strong predictor of potentially inappropriate medication.
Objectives: Evaluate the prevalence of polimedication (PM) in an Internal Medicine (IM) ward and its association with age and frailty.
Methods: Prospective observational study. Data collected from all patients admitted during 2015 in an IM ward. Measured the number of medications (NM) before admission, PM (more than 5 medications) and the Clinical Frailty Score of Rockwood (CFS). Used t-test, qui-square and spearman correlation when appropriate, considering a statistically significant p of less than 0.05.
Results: N = 374 patients, median age of 81 years. Between those below or above 65 years there was a difference on the average NM (3 vs 6, $p < 0.01$) and on the prevalence of PM(61% vs 20%, $p < 0.01$), also seen between those with a CFS below or above 4 (4 vs 7 and 8% vs 47%, $p < 0.01$). There was a low to weak positive correlation between frailty and the NM after adjustment for age (ro = 0.274, $p < 0.01$).
Conclusion: We found a high prevalence of PM, especially among the elderly and frail. Frailty score and NM had a weak positive correlation. A higher strength of correlation was expected, according to the literature and our daily practice. We postulate this might be the result of an indiscriminate prescribing practice, which should be revised especially in the frailer population.

P-778
Effects of cholinergic burden decrease on behavioral disorders among elderly demented subjects

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Objectives: Drugs with elevated cholinergic burden (CB) are frequently prescribed for elderly subjects with behavioral and psychological symptoms of dementia (BPSD). The aim of this study was to assess the evolution of frequency, severity and caregiver distress of BPSD according to the variation of the CB of 20%.
Methods: A prospective and monocentric study performed in an acute care Alzheimer unit. The CB was assessed by the Anticholinergic Cognitive Burden (ACB) scale. BPSD were assessed by the Neuro-Psychiatric Inventory (NPI) nursing home version. Multivariate analysis was performed using logistic regression (dependent variables: the reduction of frequency X severity and caregiver distress; explanatory variables: the reduction of CB of 20%).
Results: 60 patients were included (average age: 84.5 ± 6.0 years). Twenty two patients (36.6%) had possible Alzheimer disease, 12 (20.0%) had mixed dementia, 6 (10.0%) vascular dementia, and 2 (3.3%) Lewy body dementia. Fifty (83.3%) patients were exposed to drugs with elevated CB. Among them, 15 (30%) had a drug with a CB score ≥1. The decrease of frequency X severity score was significantly associated with the reduction of 20% of CB (OR 3.0; IC 95% 1.1–8.7; $p = 0.01$). The decrease of caregiver distress score was significantly associated with the reduction of 20% of CB (OR 15.3; IC 95% 3.1–77.5 ; $p = 0.001$).
Conclusion: The reduction of CB allows the decrease of frequency, severity and caregiver distress of BPSD. The management of BPSD must associate non pharmacological therapies to the optimization of drug prescription.

P-779
Investigation of prescriptions delivered to the elderly in community pharmacies

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Introduction: Polymedication is a well-known issue in the elderly since it is linked with potentially inappropriate medication (PIM). One of the objectives of the IPOP study was to evaluate the prescriptions in the community setting in France in order to have a descriptive view of the potential PIM in a large cohort of elderly patients.
Methods: Elderly patients (>65 years) with 3 or more medications visiting one of the 81 participating community pharmacies were included. Prescriptions were analyzed with the Beers criteria (JAGS-2015) for the detection of PIM in elderly patients according to their 5 main lists of criteria.
Results: 905 patients (1 prescription/patient) were included (women: 54.4%; median age: 77). 6839 drugs were prescribed (mean/median: 7.6/7 drugs). 751 (83.0%) patients had at least one Beers criteria for PIM use. 664 (73.4%) patients had at least one Beer criteria for PIM due to drug–disease/syndrome. 489 (54.0%) patients had at least one Beers criteria for PMI to be used with caution. 139 (15.4%) patients had at least one Beers criteria for potentially clinically important non-anti-infective drug–drug interactions. 167 (18.5%) patients had at least one Beer criteria for non-anti-infective medications that should be avoided or have their dosage reduced with renal function. Multivariate analysis reported that when the number of drugs/prescription increased then the risk of PIM increased.
Conclusion: IPOP reported that many patients are potentially exposed to PMI because of their age. It is therefore important to use tools/criteria in order to improve the safety of the treatment.

P-780
Comprehensive geriatric care reduces potentially inappropriate prescribing in frail, anemic elderly patients with a hip fracture

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Introduction: Frail elderly patients are vulnerable to potentially inappropriate prescriptions (PIPs) and accordingly comprehensive geriatric care (CGC) includes a review of the patient's medication. The Screening Tool of Older Peoples Prescriptions (STOPP) has been developed to identify PIPs among elderly patients. The present study aims to investigate if CGC reduces the number of PIPs among frail, anemic, elderly patients with hip fracture.
Methods: Using data from the "Transfusion Requirements In Frail Elderly" (TRIFE) study, we investigated medication among 50 consecutive frail patients aged 65 or more, admitted to Aarhus University Hospital from a nursing home or sheltered housing with a unilateral hip fracture between October 10, 2012 and June 6, 2013. All the patients received CGC. Using the STOPP criteria, we identified the prevalence of PIPs at admittance and after the termination of CGC (30 days).
Results: The mean age of the patients was 87 years (SD 7.4), 80% were women, and 70% came from nursing homes. The prevalence of patients with at least one PIP, as defined by the STOPP criteria, was 86% at admission and 79% at termination of the CGC. The median number of PIPs at admittance was 2 (IQR 1–3) compared to 1 (IQR 1–3) at termination (P = 0.0045).
Conclusion: CGC significantly reduced the prevalence of PIPs in this group of patients, but did not remove them entirely. This may indicate that some patients' PIPs represent necessary medication. It certainly emphasises the need for continued focus on the quality of prescribing among frail, elderly people.

P-781
Hypoglycemic coma with fatal outcome in a patient treated with cotrimoxazole and sulphonylurea

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Introduction: Hypoglycemia can lead to severe complications such as coma. Some drugs like sulfonylureas can cause this disorder. Hypoglycemia is also a known side effect of cotrimoxazole.
Objectives: To report a fatal case of hypoglycemic coma in a patient treated with glimepiride and cotrimoxazole.
Observation: This case concerns a 62 year-old male patient treated with glimepiride for diabetes. In August 2015, cotrimoxazole treatment was started in a context of Staphylococcus aureus infection and the patient developed renal failure. A few days later, the patient fell into a coma with Glasgow score 3 and capillary blood sugar level of 0,13 g/L. Hypoglycemic coma was retained. The patient died 7 days after the beginning of the first symptoms.
Conclusion: Fixation of glimepiride on potassium channel ATP-sensitive in the beta cells of Langerhans islets causes inhibition of potassium efflux, resulting in cellular cell depolarization causing insulin release. Sulfamethoxazole is a sulfonamide chemically similar to sulphonylureas. Glimepiride is metabolized by cytochrome 2C9; sulfamethoxazole is a potent inhibitor of this cytochrome. These data suggest pharmacodynamic and pharmacokinetic interaction. In the summary of products characteristics (SPC) of glimepiride, potentiation of hypoglycemic effect is mentioned with certain drugs including some long acting sulfonamides. In cotrimoxazole SPC, safety precaution is noted with chlorpropamide, tolbutamide (two sulfonylureas). Several publications suggest an increased risk of hypoglycemia when cotrimoxazole is associated with glyburide or glipizide. We didn't find any publication mentioning an interaction between cotrimoxazole and glimepiride. Health professionals should remain vigilant for hypoglycemia in patients receiving these drugs, especially in patients with renal failure.

P-782
Use of QT- interval prolonging drugs in patients admitted to geriatric department

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Usage of QT interval prolonging drugs was assessed in 231 patients (65 men and 166 women) being admitted to geriatric department with average age 82 yrs (range 66–99 yrs). 80.3% of patients came from home, the rest were transferred from other departments. 80 (34.6%) patients used no drug prolonging QTc 72(31.2%) 1 drug, 50 (21.6%) 2 drugs, 23(10%) 3 drugs and 5(2.1%) 4–6 drugs. Use of QT prolonging drugs was increasing with age (60% in age group 65–74 years, 67.9% in age group 75–84 years and 78% in patients over 84 years) Patients transferred from other departments used these drugs more often than those coming from home (75.6%, resp. 69.9%). The most frequently used groups were diuretics (36%), antipsychotics (24%), pantoprazol (22.5%) and antidepressive drugs (10.4%). Patients using QTc prolonging drugs died more often in next 3 months (30.3% versus 16.7%). The difference was biggest in those using more than 1 drug (43.7% in deceased and 28.7% in surviving patients).

P-783
STOPP Frail (Screening Tool of Older Persons Prescriptions in Frail Adults with Limited Life Expectancy): consensus validation

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Introduction: To validate STOPPFrail, a list of explicit criteria for potentially inappropriate medications (PIMs) in frailer older adults with limited life expectancy. A Delphi consensus survey of an expert panel (n = 17) comprising specialists in geriatric medicine, clinical pharmacology, palliative care, psychiatry of old age, clinical pharmacy and general practice.
Methods: STOPPFrail criteria was initially created by the authors based on clinical experience and appraisal of the available literature. Criteria were organised according to physiological system. Panellists ranked their agreement with each criterion on a 5-point Likert scale and invited to provide written feedback. Criteria with a median Likert

response of 4/5 (agree/strongly agree) and a 25th centile of ≥4 were included in the final criteria.
Results: Three Delphi rounds were required. All panellists completed all rounds. Thirty criteria were proposed for inclusion; 27 were accepted. No new criteria were added. The first two criteria suggest deprescribing medications with no indication or where compliance is poor. The remaining 25 criteria include lipid-lowering therapies, alpha-blockers for hypertension, anti-platelets, memantine, neuroleptics, proton pump inhibitors, H-2 receptor antagonists, antispasmodics, theophylline, leukotriene antagonists, calcium supplements, bone anti-resorptive therapy, selective oestrogen receptor modulators, non-steroidal anti-inflammatories, corticosteroids, 5-alpha reductase inhibitors, alpha-1 selective blockers, muscarinic antagonists, oral diabetic agents, ACE-inhibitors, angiotensin receptor blockers, systemic oestrogens, multivitamins, nutritional supplements and prophylactic antibiotics. Anticoagulants and anti-depressants were excluded. Despite incorporation of panellists' suggestions, acetyl-cholinesterase inhibitors remained inconclusive.
Conclusion: STOPPFrail comprises 27 criteria that are potentially inappropriate in frailer older patients with limited life expectancy. STOPPFrail may assist in deprescribing medications in these patients.

P-784
Unavailability of drugs as a cause of inappropriately omitted antiparkinsonian doses in Parkinson's disease inpatients

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Introduction: One of the most important risk factor for motor function deterioration in Parkinson's Disease when patients are admitted to hospital is wrong timing of antiparkinsonian drug administration, which has, more recently, shown to prolong hospital stays in about 4 days.
Method: All PD patients admitted to any of the 11 public acute care hospitals in the Basque Country during 2011–2012 were included. Since 2011, all hospitals share a single informatics application (e-Osabide) for inpatient pharmacotherapeutic management including electronic administration records. When a registry of no administration was made for a certain dose, the reason for omission was also recorded. We chose omitted doses only due to unavailability of the prescribed drug.
Results: We included 1.628 patients admitted 2.546 times. Of the 80.043 prescribed antiparkinsonian doses, 210 were not administered because the prescribed drug was not available on time. In all 11 acute health care hospitals at least one dose could not be administered because of this reason. The most frequently implicated drug was L-Dopa in combination (104 doses) followed by pramipexole (31 doses), ropinirole (30 doses), rotigotine (19 doses), rasagiline (19 doses), entacapone (3 doses), cabergoline (2 doses) and selegiline (2 doses).
Conclusions: Antiparkinsonian drug omissions occurred in all hospitals. The most frequent omitted drug was L-Dopa in combination. In our opinion having all possible drugs on time, as suggested by some authors, seems unfeasible especially in small hospitals. A therapeutic interchange protocol where each unavailable drug is converted to the equivalent levodopa dose could be a realistic solution.

P-785
Danish register-based cohort study on the dosage association between antidepressants and hyponatremia

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Objective: There is a known association between some antidepressants and hyponatremia. In case of drug-induced hyponatremia it is common practice to reduce the dosage, however the effect of lowering the dosage is not fully investigated. The aim of this study is to investigate the association between high and low dosage of the most commonly used antidepressants and hyponatremia.
Methods: This is an observational Danish register-based cohort study using nationwide registers. The study cohort consisted of all residents in The North Denmark Region who initiated treatment with antidepressants from January 1st 1998 to December 31th 2012. The association between high and low dosage of different antidepressants and hyponatremia was analysed using multivariable Poisson regression models to determine incidence rate ratios (IRR).
Results: There were 91,100 individuals included in the study, of these 13.77% (n = 12,550) had an event of hyponatremia. Using low dose as reference IRRs and confidence intervals (CI) for the association with hyponatremia and high doses were for citalopram (40 mg) 1.11 (CI 1.01–1.21); escitalopram (20–40 mg) 1.22 (CI 1.01–1.47); paroxetine (40–60 mg) 1.57 (CI 1.22–2.01); sertraline (100–200 mg) 1.96 (CI 1.65–2.32); venlafaxine (150–300 mg) 1.21 (CI 0.99–1.49) and mirtazapine (22.5–45 mg) 1.14 (1.00–1.21).
Key conclusions: Our study showed an increased risk of hyponatremia for high dosage compared to low dosage for all included antidepressants, except venlafaxine.

P-786
Comparison of tools to reduce polypharmacy on hospital discharge in a real-world elderly population

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Introduction: As the UK population ages, survival from chronic illness increases the prescribing of medications and the burden of polypharmacy. We sought to compare and determine the effectiveness of validated tools on reducing the number of medications prescribed on discharge from a cohort of elderly patients.
Methods: All patients over the age of 65, discharged from a UK hospital between 16th January and 30th January 2015 were identified from discharge records. Demographics, co-morbidities and total number of medications on discharge were recorded. The modified Beers Criteria and the Screening Tool of Older People's potentially inappropriate Prescriptions (STOPP) criteria were retrospectively applied.
Results: 139 patients (average age of 82 ± 10 years), (45% male) with multiple co-morbidities (median 3, range 0–8) were identified. Each patient was prescribed an average of eight medications. Application of the Beers Criteria in both strict (stopping drugs listed as "inappropriate medication use") and broad (stopping medications listed as "inappropriate medication use", "drug-disease interactions" and "use with caution") and STOPP resulted in a significant reduction in average number of medications on discharge (original 8 ± 4 medication vs. Beers Strict Criteria 7 ± 4 (paired t-test, $p < 0.05$) vs. Beers Broad Criteria 7 ± 4, (paired t-test, $p < 0.05$) vs STOPP 7 ± 3 (paired t-test, $p < 0.05$)).
Conclusion: This study suggests that the implementation of polypharmacy screening pre-discharge may afford a reduction in medications and should be considered as part of the discharge process for elderly patients. Application of STOPP criteria afforded a medication reduction much more compared to the Beers Criteria.

P-787
Our knowledge of herbal medicines as healthcare professionals needs to be better

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Introduction: Older adults are increasingly using herbal medicines (HM) to boost longevity, treat pain and boost memory. It is therefore important for health care professionals (HCPs) to have a working knowledge about HM.
Methods: A cross sectional web-based survey of HCPs working within the Department of Medicine at a UK district general hospital was carried looking at their knowledge of HM.

Results: 67 HCPs took part in this survey. Of these 19% (13) were Consultant Physicians, 18% (12) were Pharmacists and the rest 63% (42) were trainees in Medicine. 37% (25) routinely ask patients about HM use. The commonest reasons for not asking were "don't remember to ask (33%;21) and lack of knowledge about herbal medicines (20%, 13). The commonest herbal medicines that HCPs had come across were Ginseng (54%,36), Gingko Biloba (49%, 33) and garlic (48%, 32). 40% (27) were aware that Gingko improves memory whilst 64% (43) felt that St John's Wort can cause transplant rejection in patients on cyclosporine. Only a fifth of HCPs recognised the potential drug interaction between Gingko biloba and clopidogrel whilst 48%(32) recognised that garlic and 25%(17) recognised that Gingko Biloba had antiplatelet activity. Only 3% (2) of responders rated their knowledge as very good and good.
Conclusion: Our findings suggest that HCPs knowledge about HM is poor. We need to ensure that education about common herbal medicines is provided as part of multidisciplinary teaching programmes and that we improve HCPs awareness of where to access relevant information about HM.

P-788
Development of lidocaine patch guidelines for short term use

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Introduction: Local consensus supports lidocaine patch use in older patients as adjunctive therapy for fractures and acute back pain. Local primary care guidelines restrict use based on insufficient evidence for neuropathic pain.
Methods: Literature review For fractures and back pain there is a paucity of quality evidence. In non-randomised, open-label trials there is a 50% reduction in back pain [1,2]. In rib fractures a randomised-controlled trial demonstrated significant and persistent reductions in pain after 5 days [3]. Audit 71 patients were prescribed lidocaine patches in 7 months (40 "geriatrics", 31 "other"). Indications: 45% fractures, 25% back pain, 30% other. 61 patients previously failed trials of other analgesics due to side effects (SE) (26%) or inefficacy (75%). Overall 55% had documented improvement in pain with lidocaine patches – 59% were fracture and 56% back pain patients. 23% of patients experienced significant improvement in mobility and engagement with the therapists.
Conclusion: Lidocaine patches are relatively expensive in comparison to other analgesia [4] but may improve management of localised musculoskeletal pain especially in groups at risk of SE from other agents e.g. elderly patients and those at risk of falls [5]. Patch use may facilitate early mobilisation and potentially reduce length of stay thus offsetting the cost of the patches. Guidelines to support short term use in hospital and community have been developed. Recommendations Trial patch for 10 days. 24 hour removal. If pain returns repeat once. If pain returns again refer back to initiating team.

References

1. Galer BS, Gammaitoni AR, Oleka N, Jensen MP, Argoff CE: Use of the lidocaine patch 5% in reducing intensity of various pain qualities reported by patients with low-back pain. *Curr Med Res Opin* 2004, 20(Suppl 2): S5–S12.
2. Argoff CE, Galer BS, Jensen MP, Oleka N, Gammaitoni AR: Effectiveness of the lidocaine patch 5% on pain qualities in three chronic pain states: assessment with the Neuropathic Pain Scale. *Curr Med Res Opin* 2004, 20(Suppl 2): S21–S28.
3. Cheng Y-J: Lidocaine skin patch (Lidopat® 5%) is effective in the treatment of traumatic rib fractures: a prospective double-blinded and vehicle-controlled study. *Med Princ Pract* 2016, 25: 36–39.
4. HSCB letter Northern Ireland Lidocaine Plaster (Versatis®) – Recommendations for Primary and Secondary Care in Non-Specialist settings. November 2013.
5. Pirmohamed M, James S, Meakin S *et al.* Adverse drug reactions as cause of admission to hospital: prospective analysis of 18 820 patients. *British Medical Journal* 2004; 329(7456): 15–19.

P-789
Prevalence of preventive cardiovascular medication use in nursing home residents with short life expectancy. The SHELTER Study

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Introduction: In nursing home (NH) residents with a very short life expectancy, the benefits of preventive cardiovascular medication maintenance are questionable.
Objective: To assess the prevalence of four classes of preventive cardiovascular medication (PCM) in nursing home residents.
Methods: A 12 months prospective cohort study was conducted in 57 NH in 8 countries (Czech Republic, England, Finland, France, Germany, Italy, The Netherlands, Israel). We assessed the prevalence at first measurement of 4 classes of PCM: oral anticoagulants (OAC), platelet aggregation inhibitor (PAI), antihypertensive (AHT), and lipid modifying agent (LMA), in older (60+) residents with valid medication assessments. The PCM prevalence was compared across the length of stay (short < 60 days, mid, long >12 months), mortality risk as defined by CHESS > 3 (Changes in Health, End-Stage Disease, Signs, and Symptoms Scale), and cognitive impairment by CPS > 2 (cognitive performance scale).
Results: Of the 3759 eligible residents, 2175 (57.9%) used at least 1 or more PCMs. The prevalence of the four groups of PCM: OAC, PAI, AHT and LMA was 5.6%, 34.9%, 35.7%, and 10.4% respectively. PCM use was lower in long stay residents versus mid stay: 56.0% vs. 62.7%, in cognitively impaired residents (47.1% vs 67%), and in residents with a high mortality risk (47.4% vs 58.6%).
Conclusion: Although the prevalence of PCM use was lower in long stay, cognitively impaired residents, and persons with a high mortality risk, there seems to be room for deprescribing.
Keywords: Keywords: Cardiovascular disease; medication; Cognitive impairment; Nursing home resident; Shelter study.

P-790
Metformin-associated lactic acidosis in the very old: reflexions about a case report

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Introduction: Metformin is first line therapy for type2 diabetes. Metformin-associated lactic acidosis (MALA) is rare, but has 50% mortality rate. MALA risk factors are renal impairment and a secondary event like cirrhosis, sepsis or hypoperfusion. Metformin contraindications include moderate to severe renal dysfunction, hepatic insufficiency and circulatory dysfunction. Very elderly patients are a risk group for metformin treatment. Case Report A 96 year old male, autonomous, was admitted to an emergency department in shock. He had medical history of type2 diabetes, essential hypertension and mild cognitive impairment. He was medicated with metformin, furosemide and ramipril. On admission he was unresponsive, had immensurable arterial blood pressure, respiratory rate was 29 per minute and had ventricular escape rhythm. Atropine was administered with response. Objective analysis revealed severe lactic acidosis with pH 7,01 and lactate >130 mg/dL, acute renal failure and no elevated inflammatory parameters. Patient was started on antibiotics and resuscitation with crystalloid fluids with clinical benefit. MALA was admitted. He was putted under renal dialysis with progressive correction of lactic acidosis and renal function recovery. After 5 dialysis sessions the patient recovered from renal insufficiency and was discharged 14 days after hospital admission. Metformin and furosemide were removed from his prescription. The patient remains alive and autonomous a month after hospital discharge.

Conclusions: This case brings MALA to attention, underlining the need for thoughtful metformin use and details the seriousness of MALA in a very elderly patient, focusing on the need of high clinical suspicion to improve outcomes.

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Cancer: one of the most prevalent diseases in geriatric population

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Introduction: Heavy metals and cancer are a subject widely spoken and studied given to their level of exposure by the entire population, mainly people of an advanced age. Despite being a well-known theme, we still do not know the mechanisms related to cancer presence and contact with heavy metals. For this reason, we investigated the possibility of the presence of heavy metals in samples from renal carcinoma tissue and renal adjacent tissue, in patients that do radical or partial nephrectomy. This study was approved by the local ethics committee of Centro Hospitalar de S. João, E.P.E. and patient consent was obtained from all participants.
Methods: The collected samples were processed and observed by using Scanning Electron Microscopy coupled with X-Ray Microanalysis (SEM-XRM), with the aim of comparing qualitatively and semi-quantitatively the existence of heavy metals.
Results: The results obtained in this study showed there was a significant difference between the amount of heavy metals present in samples of tumor tissue and adjacent tissue, used as a control. The tumor tissue was found to have a sequestering of some types of metal, contrary to what happened with control tissue.
Conclusions: With these results, we can suggest that heavy metals play a role in the oncogenic pathway of renal cell carcinoma. It is necessary to question if the presence of heavy metals in tumor tissue is a cause or a consequence of carcinogenesis phenomenon or if these metals can be used as biomarkers with a diagnosis or prognosis interest for geriatric population.

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Use of central nervous system active medications in patients with Parkinson's disease or Parkinsonism

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Introduction: Patients with Parkinson's disease (PD) are frequently prescribed CNS active drugs, many of which have side effects and wide spectrum of drug interactions. Antimuscarinics can lead to confusion. Tricyclic and related antidepressants have varying degrees of antimuscarinic side effects and cardiotoxicity. There is increased CNS toxicity when SSRIs or Tricyclic Antidepressants are given concomitantly with Selegiline or Rasagiline. There is risk of extrapyramidal side effects when antipsychotics are given with amantadine. Opioids can cause Confusion, hallucinations and muscle rigidity. And Antipsychotics antagonize the effect of PD dopaminergic drugs. Most CNS active drugs also increase the risk of falling.
Aim: To study the use of CNS active drugs in patients with PD or Parkinsonism.
Method: Prospective study of CNS active drugs' use in 200 consecutive patients attending PD clinic in a UK teaching hospital. Patients' notes and electronic records were reviewed. Data were collected on excel and descriptive statistics were used.
Results: 200 patients were included; 115 males and 85 females with mean age of 73 and 72 years respectively. 88% of patients had PD, 10% had secondary Parkinsonism and 2% had Parkinson's plus syndrome. 33% of patients had 1 or 2 falls in the previous 6 months, 18% had 3 or more falls.
28% of patients were on Antimuscarinics, 20% were on antidepressants, 11% on opioids, 5% on sedatives and 3% on antipsychotics .
Conclusion: Many patients with PD or Parkinsonism are on many CNS active drugs. Patient – drug and drug – drug interactions should be meticulously considered before prescribing. The indication, dose and risk/benefit should be regularly reviewed and dose adjusted or the drug stopped.

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Resistant hypocalcemia with denosumab therapy

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Case report: A 73-year old patient had non-traumatic right hip fracture while being on alendronate and daily calcium 1200 mg and colecalciferol 800 units. Her past medical history includes autoimmune pancreatitis, ileojejunostomy, biliary stricture and chronic kidney disease. She also had L1 vertebral fracture. She was on warfarin, bisoprolol, amlodipine, citalopram, creon, and ferrous sulphate. She is a non-smoker and occasionally drinks alcohol. DEXA scan showed osteoporosis of the lumber spine with a T score of –2.7 at L1 and osteopenia of the left hip with a T score of –2.4. Alendronate was stopped and she was started on Denosumab 60mg subcutaneously every six months. Calcium level before initiation of Denusumab was normal. She also continued on daily calcium 1200 mg and colecalciferol 800units. Three years later she attended A&E on two occasions with hypocalcaemia related symptoms. Despite calcium and vitamin D treatment her corrected calcium level was still low at 1.71 and 1.96 mmol/L. Phosphate and alkaline phosphatase were normal. Her total 25-hydroxy-vitamin D level was insufficient at 29 nmol/L. Her chronic kidney disease was stable with urea of 16.8 mmol/L and Creatinine was 170 umol/L. Her magnesium level was normal.
Discussion: The most common cause of hypocalcaemia is vitamin D deficiency (1). Other causes include: malnutrition, malabsorption, chronic kidney disease and hypoparathyroidism. Bone resorption inhibitors such as Denosumab and bisphosphonates may induce hypocalcaemia in patients with pre-existing vitamin D deficiency. In patients with hypomagnesaemia, hypocalcaemia is difficult to correct without magnesium repletion first (2) because serum magnesium is essential for the synthesis and release of parathyroid hormone (3). In this case, the patient had pancreatic insufficiency, biliary stricture and short bowel syndrome due to ileojejunostomy. All can lead to malabsorption of vitamin D, calcium and magnesium. Denosumab therapy is likely to have exaggerated the hypocalcaemia and exposed the vitamin D deficiency.
Conclusion: Calcium and vitamin D should be assessed and optimized before initiating Denosumab therapy. Monitoring of calcium and vitamin D levels is recommended throughout treatment, especially in patients predisposed to hypocalcaemia or vitamin D deficiency.

References

1. Holick MF. Vitamin D deficiency. *N Engl J Med* 2007;357:266.
2. Cooper MS, Gittoes NJ. Diagnosis and management of hypocalcaemia. *Brit Med J* 2008;336:1298–302.
3. Anast CS, Winnacker JL, Forte LR, Burns TW. Impaired release of parathyroid hormone in magnesium deficiency. *J Clin Endocrinol Metab* 1976;42:707.

P-794

Medication review starts from the front door: the success of STOPP/START criteria in frail elderly patients in the emergency department

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Background: Polypharmacy and potentially inappropriate medication (PIM) are common problems in frail elderly patients. STOPP/START tool is validated for in- and outpatients. Medication review should be part of Comprehensive Geriatric Assessment delivered in Emergency

Departments (EDs) but is often inconsistent. The authors determine the benefit of introducing STOPP/START for frail patients in ED and its impact on polypharmacy.
Methods: Prospective interventional cohort study in the ED of a British University Hospital over an 8-week period. All patients admitted to the ED Frailty Unit included. STOPP/START criteria applied. Statistical analysis performed in SPSSv23.
Results: 173 cases identified. Median age 87 (92–82) years old, 74.4% female, Clinical Frailty Scale 6 (6–4), Cumulative Illness Rating Scale-Geriatrics 10 (14–6), 51.1% presenting with falls. Overall, patients had 7 (10–5) drugs on admission, 29.4% PIM and an indication to start treatment in 13.9% of cases. Patients discharged home from ED had fewer drugs on depart than those leaving wards ($p = 0.038$). Systematic use of STOPP/START criteria in frail elderly in ED allowed a significant reduction in polypharmacy ($p = 0.019$). Most commonly discontinued drugs were bisphosphonates (12.3%), proton-pump inhibitors (12.3%), and loop diuretics (9.6%). This intervention prompted discontinuation of further drugs not included in STOPP/START.
Conclusions: To our knowledge this is the first study to focus exclusively on frail patients assessed in ED. Almost a third of frail elderly patients presented with PIM. Moreover, active screening resulted in a significant reduction in polypharmacy. Finally, this study represents a contribution to the development of a deprescribing policy in our Hospital.

P-795
Falls of older patients: the influence of drugs

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Introduction: Falls among the older patients are associated with high morbidity and mortality. The incidence of falls increases with age. History of falls, muscle weakness, dementia, neurologic disorders, visual impairment and medication use, are some risk factors for falls. Polypharmacy is associated with adverse outcomes and drugs like benzodiazepines, hypnotics, antipsychotics, antidepressants, anticholinergics, dopaminergic drugs or medication which cause postural hypotension, are associated with a significant risk of falls.
Goals: To characterize the pharmacological profile of older patients (≥65 years old) with falls.
Methods: Cross-sectional study. Data were collected during their 1st attendance in geriatric medicine.
Results: We studied 215 patients (144 women; 71 men), media age of 80.4 (65–93) years old. Media drugs/patient was 7.8 (0–19). All patients took medications that may increase the falls risk or may cause/worsen orthostatism; 41 (19.1%) patients, with mean age 81.3 years old had history of falls. The highest frequency of falls was in women (75.6%), and in patients with age between 75 and 84 years old. In the falls group media drugs/patient was 9 (0–18) and 75.6% was taken one or more potential inappropriate medication according to Beers 2015.
Conclusions: Medications associated with increased risk of falls were prescribed in all studied patients. Patients with falls were in the older group (mean age 81.3). These patients took more drugs (9.0) than the group without falls (7.6). To reduce falls, in the prescription for older patients we should avoid inappropriate drugs, take attention to correct doses and reduce the number (as possible) of drugs/patient.

P-796
Clinical and pharmacological correlations in geriatrics

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Introduction: Elderly people have multiple co-morbidities, leading to greater functional disability and polypharmacy. Particular pharmacological properties increases the adverse reactions possibility. The aim of this study was to determine clinical and pharmacological correlations in geriatric population. METHODS: A prospective study was performed on 106 patients, who were 65 years and older, hospitalized on the same day in Internal Medicine department of a centralized hospital in Portugal. We sought to identify the relationships between: sex, age (<80;≥80), living in elderly care institutions (LECI), autonomy degree (Katz scale: high, moderate dependence and independent), number of pathologies (≤3;≥4), fall/fracture history, Morse scale (<51;≥51), total (≤7;≥8) and potentially inappropriate (PI: 0;≥1) number of drugs (Beers criteria). RESULTS: More than half (53%) of the sample was female and 76% were 80 years and older. About 92% had high dependency, 20% were LECI and 19% were at high risk of falling. On average, they had 3.72 pathologies and were treated with 7.58 drugs, of which 50% were PI (75% neurologic medication). There was withdrawal of the drug in 11%, yet only 3% was determined association with hospitalization. Respiratory pathologies accounted 47% of admissions and mortality was 13%. Older patients had high dependence ($p = 0.007$). LECI was associated to PI drugs ($p = 0.003$), but with less fall/fracture history ($p = 0.048$). Total ($p < 0.001$) and PI ($p = 0.008$) number of drugs increased with the number of pathologies. Number of PI drugs increased with the total number of drugs ($p < 0.001$). CONCLUSION: Pharmacological management should be dynamic, requiring greater training and individualization of hospital care.

P-797
Inappropriate prescription of PPI's and statins and their contribution to poly-medication in elderly

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Objectives: Poly-medication is frequently observed in frail older patients assessed by the liaison team in the hospital. Proton pump inhibitors (PPI's) and Statins are often part of the regimens. The aim of this study was to assess the appropriateness of these prescriptions and to analyze their contribution to poly-medication.
Methods: Fifty-one successive geriatric patients aged 82.2 ± 4 years, screened at risk by ISAR were enrolled. Demographic data, Short Emergency Geriatric Assessment score (SEGA), total number of drugs taken and the prescriptions of PPI's or Statins were recorded. Inappropriate prescriptions (IP) of these 2 drugs were assessed according to the EBM for Statins, and to the Belgian reimbursement criteria for the PPI's.
Results: The geriatric profile of the patients was illustrated by the high median SEGAscore (12/26; 82% > 8/26), and the mean number of medications of 8.0 ± 3.6 . Prescription of Statins was observed for 24 patients (47%) of whom 6 IP (25%); while 25 patients (49%) had a PPI prescribed, with 19 IP (76%). The IP were increasing with older age for PPI's ($p = 0.047$), and decreasing for Statins ($p = 0.025$). The Statins IP are associated with a poly-medication of 11 vs 8 medications ($p = 0.054$) and of 10 vs 7 drugs for IPP's ($p = 0.047$).
Conclusions: PPI's and statins are frequently prescribed and need to be taken into account in the revision of the treatments. Not only to prevent their own side effects, but also as indicators of poly-medication and possible additional IP.

P-798
Antipsychotics agents in dementia

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Introduction: World population aging is associated with an increasing number of people with dementia. This fact should motivate medical community to improve the appropriate use of drugs that control the behavioral and psychological symptoms often associated with dementia. Thus, the aim of this study is to review the proper use of antipsychotics agents in dementia.
Methods: Literature research in PubMed with the MeSH terms antipsychotic agents, elderly and dementia, of review articles and

systematic reviews, published in the last 10 years, in English or Portuguese. It was also carried out research in textbooks and guidelines.
Results: Atypical antipsychotics are a good therapeutic option to control behavioral and psychological symptoms in dementia. However, they should be used with caution, optimizing the dose and duration treatment. Common target dose ranges in dementia are 0.25–1 mg of risperidone, 2.5–7.5 mg of olanzapine, 12.5–150 mg of quetiapine, 5–10 mg of aripiprazole. Treatment should be short-term (6–12 months) and discontinued with a 3–6 months' history of behavioral stability. Beers Criteria recognize the increased risk of stroke and mortality associated to antipsychotics treatment in people with dementia, and that they should be avoided unless patient is threat to self or others.
Key conclusions: Behavioral disorders and psychopathological symptoms associated with dementia decrease patient's quality of life and cause physical and psychological stress of caregiver. Antipsychotic agents have an important role in controlling these symptoms. Therefore, medical community must have an adequate knowledge of efficacy, risks and correct use of these drugs.

P-799
Polypharmacy in elderly patients admitted to Acute Medical Wards, Hospital Sungai Buloh, Malaysia

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Introduction: Several studies show that over-prescribing in elderly is frequently associated with unwanted side effects and medicine interactions. This study aims to observe the demographics of elderly patients admitted to our acute medical wards and the prevalence of polypharmacy among the elderly.
Method: Elderly patients admitted were interviewed for medication histories. Data on demographics, patient's medication lists and discharge outcome were gathered. STOPP Criteria along with Beers' were used to decide for potential medicine that could be stopped. Data were prospectively collected over a 12-week period, and analysed via SPSS version 20.0.
Results: Out of the 209 paients, only 61.7% (129) patient data were analyzed after exclusions. 14% of the population were above 80 years old and 46.6% were male, (64). 31/64 of the males were in the age group of 71–80 years ($p \leq 0.26$). Malays dominated, 57.4% (74) and 79.8% had multiple admission. 50/129 (38.8%) presented with polypharmacy on admission and significantly associated with PIP according to STOPP and Beers ($p \leq 0.000$). Polypharmacy was also associated with ADR, for which 4/6 patients with ADR experienced polypharmacy ($p \leq 0.15$). Polypharmacy on admission was not associated to age group, ethnicity and education level. On discharge, 43.4% (56) were on polypharmacy. 33/50 patients on polypharmacy during admission remained to be on polypharmacy on discharge ($p \leq 0.000$). Among those with polypharmacy on discharge, 55.3% (31) has potential. On discharge, nearly half (55.3% (31)) still had at least one potential medicine that can be stopped.
Conclusion: There was high prevalence of polypharmacy and PIP use in older adults both pre admission and on discharge. Interventions should be done to minimize this occurrence via the STOPP and Beers criteria. Abbreviation: ADR: Adverse Drug Reactions PIP: Potentially Inappropriate Prescription

P-800
Acute kidney failure due to anti-inflammatory drugs and antihypertensive drugs in elderly inpatients

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Introduction: The "triple whammy" refers to the combination of diuretics, non-steroidal anti-inflammatory drugs (NSAIDs), ACE inhibitors (ACEI) and/or angiotensin receptor antagonists (ARA) that may impair the kidney function (KF).
Objectives: To identify the risk of the triple whammy in hospitalized elderly patients prescribed with NSAIDs and antihypertensive drugs (AHTd) simultaneously.
Methods: We selected elderly inpatients (≥65 years old) from all inpatients prescribed with NSAIDs and AHTd simultaneously, during the first half year/2015. For patients medicated with NSAIDs plus ACEI/ARA plus diuretics, we evaluated change in serum creatinine and estimated glomerular filtration rate (eGFR) – MDRD calculator. Data was analysed using Excel2007®.
Results: 396 of 662 inpatients medicated with NSAIDs and AHTd simultaneously were elderly. 156 elderly inpatients (39%) were prescribed with NSAIDs plus ACEI/ARA plus diuretic (mean age: 76 years old); most (28%) were prescribed in the orthopedic ward. 40% were using 1 NSAID plus 1 ACEI plus 1 diuretic. The most common NSAID was cetorolac (31%) while losartan (39%), enalapril (39%) and furosemide (67%) were the most used ARA, ACEI and diuretic, respectively. 32% of them saw a decline of their KF, 30% were not monitored and 38% remained stable. Among patients with worsened KF the average increase of serum creatinine was of 0.72+/−0.69 mg/dL and eGFR decrease was of 27.5+/−20.22 mL/min.
Conclusion: The prevalence of elderly inpatients medicated with NSAIDs plus ACEI/ARA plus diuretics is considerably high given that they're a susceptible population to suffer from "triple whammy", a potentially serious preventable adverse effect.

P-801
Serotonin syndrome and polypharmacy

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Introduction: The serotonin syndrome is a potentially life-threatening adverse drug reaction that can be caused by the use of drugs that increase the availability of serotonin. Elderly people are at risk of serotonin syndrome because of comorbidity and polypharmacy. We describe a case of serotonin syndrome in an 84-year-old woman.
Methods: Mrs. M., an 84-year-old woman with a history of depression and osteoarthritis, was admitted to hospital with a 3-days history of hypervigilance, insomnia, tremor and difficulty with speech articulation. She was polymedicated and she had been taken paroxetine 30 mg daily, quetiapine 25 mg daily and fentanyl 25 mcg every three days. On exam, Mrs. M. was dehydrated and afebrile and she had agitation, tachycardia, shivering, stiffness, diaphoresis, mydriasis, horizontal ocular clonus and inducible clonus in the lower extremities.
Results: We though about the possibility of serotonin syndrome and we started treatment with parenteral fluids and benzodiazepines after stopping oral treatment and fentanyl. Instead treatment, Mrs. M. started with hyperthermia, autonomic instability, rhabdomyolysis and renal failure and we added parenteral chlorpromazine. After this we could control agitation, diaphoresis, shivering and stiffness with persistence of hyperthermia and tachycardia. Lastly, Mrs. M. died after sudden cardiorespiratory arrest.
Key conclusions: Serotonin syndrome is a predictable consequence of excess serotoninergic agonism on serotoninergic receptors and it is a potentially life-threatening adverse drug reaction. Elderly people are at risk of serotonin syndrome because of comorbidity and polypharmacy.

P-802
Orthogeriatrics unit: an opportunity to medication reconciliation in the elderly with hip fracture

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Introduction: The elderly with hip fracture register a common prescription habit of 8 medicines, with possible adverse reactions – inadequate polypharmacy.
Objective: Therapeutic Adjustements (TA) in patients with hip fracture admitted in an Orthogeriatric Unit were performed. Its registration and follow up were pursued.
Material and methods: Epidemiologic, observational, descriptive study performed during 30th April 2015 – 8th June 2015. Population: elderly patients with admission diagnosis in an Orthogeriatrics Unit of hip fracture in this period of time. Pharmacological treatment information sources: MedoraR, JimenaR, FarmatoolsR, anamnesis. Bibliographic sources: STOPP-STARTR criteria. Database and its analysis: File MakerR.
Results: 189 TA were registered in 58 patients (42 women, 16 men). Mean age 86 (+/−8) year-old. 3,7 TA were registered per patient and 6,2 per workday. The most frequent TA implied were: 46 medicines were switched because of absence in hospital pharmacological guide (mainly ARA II and statins). Posology adjustment to admission's clinical situation was performed in 16 of 20 TA: antihypertensives in 9 AT and oral antidiabetics in 7. More adequate medicines in the frail patient were the option in 10 of the 12 TA, 8 of which being psychotropic agents.
Conclusion: The elderly admission in an Orthogeriatric Unit due to hip fracture may be a golden opportunity to review and adjust pharmacological treatment in inadequate polypharmacy. Antihypertensive drugs, statins, oral antidiabetics and psychotropic agents were the most often adjusted medicines.

P-803
Drug prescription in the elderly: are we doing it right?

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Objectives: The Beers criteria, the Screening Tool of Older People's Prescriptions (STOPP) and Screening Tool to Alert to Right Treatment (START) criteria have been devised to help with drug prescription in our increasingly ageing population. This work aims to revise the prescription charts of admitted elderly patients, to conclude on the appropriateness of our practice and on what needs to be changed.
Methods: We performed an observational cross-sectional study, including patients over 64 years admitted to an internal medicine ward. The data analyzed was patient age, sex, current pathologies, creatinine level for calculation of glomerular filtration rate and drugs prescribed.
Results: A total of 44 patients were included, 52.3% males and 47.7% females, with an average of 80 years. About 9 drugs per patient were prescribed (4–17 drugs). In light of Beers criteria, 63.6% of the admitted patients had at least one potentially inappropriate prescribed drug. Using STOPP criteria, this number decreased to 43.2%. The most frequent potentially inappropriate drugs/drug classes were benzodiazepines, amiodarone, hydroxyzine, atypical antipsychotics, non-steroid anti-inflammatory drugs and tricyclic antidepressants. Analyzing patients' prescriptions regarding the START criteria, 40.9% had a potentially omitted drug, and the most frequent drugs were cholinergic agents for the treatment of dementia, angiotensin-converting enzyme inhibitors, antiplatelet agents and statins.
Conslusion: A lot needs to be done in this area, and knowing what drugs are most frequently culprits will help fine tune drug prescription, decreasing polypharmacy and adverse reactions. However, these criteria shouldn't be applied blindly, and clinical judgement is called to action when considering these tools.

P-804
Polypharmacy in elderly patients – application of Beers Criteria in a Medical Service

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Introduction: Alongside with the aging of the population, the prevalence of diagnosed chronic diseases increases, which ultimately, leads to polypharmacy in the elderly. This presents a public health issue with potential serious complications. Therefore the optimization of drug therapy is essential. Beers et al published criteria for determining the extent of excessive and inappropriate consumption of drugs in the elderly.
Objectives: To assess the prevalence and factors associated with potentially inappropriate polypharmacy in the elderly treated in the infirmary and ambulatory settings.
Methods: Cross-sectional observational study in a Medical Unit. Inpatients (hospitalized) and outpatients (ambulatory setting), 65 years old or older were evaluated in regards to the prescribed medical therapy. The inappropriate medication (IM) factors based on Beers Criteria 2012 were registered and the statistical analysis was carried out in Excel®.
Results: We enrolled 45 patients: 55% female and with an average age of 80 years. Maximum number of drugs was of 17 in the outpatients (ambulatory setting) and 19 in the inpatients (hospitalized) with an average of 8 drugs in outpatients and 11 in inpatients. Of the 489 drugs 11.7% were IM. About 78% of the population had one or more IM of which 53.3% had only one IM prescribed. The greater the number of drugs, the greater the likelihood of IM: 91% of patients with 11 or more drugs had at least 1 IM. Also, patients with dementia had more prescribed IM (45.5%): antipsychotics and benzodiazepines. The most prescribed IM were metoclopramide (18%), amiodarone (12%), hydroxyzine (12%) and quetiapine (10%). The most inappropriate prescribed drug classes were antipsychotics (19.3%), prokinetics (17.5%) and antiarrhythmics (14%). Eleven cases of IM-related pathology were found.
Conclusions: Polypharmacy and the usage of potentially inappropriate drugs are common among the elderly. Nonetheless, we cannot disregard that Beers et al state that these criteria should not override clinical judgment. Therefore, studies, evaluating the pattern of usage of drugs and adverse outcomes, are imperative, as well as developing strategies to improve the quality of clinical prescription in the elderly.

P-805
Age and comorbidity as predictors of inadequate proton pump inhibition

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Objectives: Proton Pump Inhibitors (PPIs) are widely used for treatment of gastrointestinal (GI) pathology and prevention of upper GI bleed. This is frequently done inadequately in hospitalized medical patients as well as at discharge with possible consequences for the elderly population namely iatrogenic and polypharmacy. Purpose of this study was to identify predictors of inadequate PPI prescription.
Methods: Prospective observational study of 3 months with consecutively admitted patients at an Internal Medicine ward, aged 18 years and over. Demographic and prescription data were recorded and clinical files reviewed for verification of PPI need. A set of criteria for appropriate indications was developed for guidance. Chi-square tests were used with 95% confidence interval.
Results: 585 patients were included. Mean age was 75 years (± 14.6) and 55% of patients had ≥4 comorbidities. 373 patients were medicated with a PPI on admission; 83% of these inadequately. Predictors of inadequate PPI initiation during hospitalization were: female sex odds ratio (OR) 1.49 (1.02–2.17), age ≥75 years-old OR 2.02 (1.24–3.30) and PPI before admission OR 3.41 (2.03–5.76). 163 patients were medicated with a PPI prior to admission, 52% of which without clear indication. 212 received a PPI at discharge, 57% inadequately as well. Predictors of inadequate PPI prescription at discharge were: 4–6 comorbid states OR 1.89 (1.15–3.10), 7–9 comorbid states OR 4.51 (1.85–10.99) and age ≥75 years OR 4.83 (1.99–11.73).
Conclusion: This study shows that elderly patients are at an increase risk for PPI initiation during hospitalization as well as at the time of discharge.

P-806

Non-vitamin K Oral Anticoagulants (NOACs) in patients with hip fracture; prevalence of use and implications

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Objectives: To study prevalence of use of NOACs, and their implications on waiting-time for surgery, length of stay (LOS), and blood transfusions in older hip fracture patients. Further, to compare s-concentrations of NOACS to medication lists, and estimate the half-life (T1/2) of NOACs in users.
Methods: A prospective observational study of older (≥65 years) hip fracture patients consecutively included from October 2015 to February 2016. Medication reconciliation, time for last consumed dose of NOAC, start of surgery, LOS and blood transfusions were registered. Blood samples from admission and right before surgery were analyzed for s-concentration of NOAC to compare with recorded use and estimate NOAC T1/2.
Results: We included 167 patients; median age 84 years (range 65–101), 122 females (73.1%). 76 (45.5%) used antithrombotic agents; 11(6.6%) NOAC, 15 (9.0%) warfarin and 50 (29.9%) platelet inhibitors. NOAC-users had longer median waiting-time for surgery than warfarin users; i.e. 44 vs 25 hours, p = 0.016. Median LOS was not longer forNOAC-users than warfarin-users (8 vs 7 days, p = 0.134). Blood transfusions were given to 36.4% of DOAC-users vs 21.4% of warfarin-users (p = 0.65) Estimated mean T1/2 of NOACs were 33, 16.5 and 14.5 hours for dabigatran (n = 2), apixaban (n = 4) and rivaroxaban (n = 2), respectively.
Conclusions: Almost half of the hip fracture patients used antithrombotic agents, but only a minor fraction was treated with NOACs. NOAC-users had longer waiting-time for surgery and a non-significant tendency to receive more blood transfusions. For many of the NOAC-treated patients, the estimated T1/2 was longer than specified in the product information.

P-807

Drug prescription in the elderly: revaluation of potentially inappropriate prescribing during hospitalization according to STOPP and START criteria version 2

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Objectives: Polypharmacy and potential inappropriate prescribing (PIP) are major risk factors for serious adverse drug events (ADE) in the elderly. Many screening tools for detecting PIP have been developed to guide physicians in prescribing optimization. The widely used STOPP and START criteria have demonstrated association between PIP and avoidable ADE. The main objective of this study was to measure the revaluation of PIP during the hospital stays according to STOPP criteria version 2.
Methods: A cross sectional study has been conducted in a 2000-beds teaching hospital. All patients over 75 years old of 20 wards were enrolled to compare prescriptions at admission and discharge, and assess change in PIP during hospitalization based on STOPP criteria.
Results: Among the 166 patients included, 56% had PIP at admission. Although the average number of medicines by patients increased by 18.6% during hospitalization, their prevalence was reduced at discharge (37%). Among the 150 PIP detected, 56% were stopped during hospitalization. The main PIP concerned loop diuretics (26.0%), benzodiazepines (22.7%) and opioid analgesics (13.3%). The majority of discontinuations were performed in geriatrics units (59.5%), involving only 32.5% of patients included, while other care units are less involved in this process.
Conclusion: The update and the dissemination of our institutional practice guidelines will encourage health care service, hosting elderly patients, to pursue this effort. Communication among health care providers is fundamental to promote the maintenance or the revaluation of the changes that have been made, at discharge.

P-808

Benefits of pharmaceutical care services in optimizing pharmacotherapy in the elderly

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Objectives: Treatment optimization is a major public health issue in the elderly. Different tools like the explicit criteria STOPP and START have been developed in order to guide physicians and pharmacists in this process. The objective of this study was to assess the benefits of pharmaceutical care (PC) on prescriptions revaluation in this specific population.
Methods: An observational study has been conducted in a 2000-beds teaching hospital. All patients over 75 years old hospitalized in 20 care units (CU), including 10 with PC, were enrolled to compare prescriptions at admission and discharge according to STOPP criteria version 2. Pharmaceutical interventions (PI) performed were collected.
Results: Among the 166 patients included, 55% were admitted in units with PC. At admission, 74 and 76 potential inappropriate prescribing (PIP) were observed in units with PC and others, respectively. During hospitalization, the revaluation rate of PIP was 53% and 59%, respectively (p > 0.05). In PC units, 150 PI were proposed in which 7 conducted to stop potentially inappropriate prescriptions. The majority of PI concerned request for dose adjustment (27.3%) drug renewal at admission (20.7%), substitutions proposals according to the drug formulary of our institution (16.0%) or suggestions for discontinuation treatment (12.7%).
Conclusion: Explicit criteria allow a first approach to revaluation of prescription by targeting the most high risks drugs. However they don't cover all the complexity of optimizing prescriptions. Further assistances coming from PC activity suggest other areas of improvement, making multidisciplinary collaboration involving clinical pharmacists essential.

P-809

Polypharmacy in the elderly and the Internal Medicine ward – an observational study in a Portuguese tertiary hospital

A. Rola, J. Monteiro. *C.H.P.*

Introduction: Polypharmacy is an ambiguous term applied to an evergrowing number of elderly patients. No standard definition exists, with most studies embracing the arbitrary number of five or more prescribed medications to define the term. Only a few studies exist regarding this issue during hospitalization.
Methods: We analyzed a randomized sample of 299 elderly patients from a 1231 universe admitted between January 1st and the 30th of June in all Internal Medicine wards at a tertiary Portuguese hospital, comparing the number of medications being prescribed on admission and discharge dates. Data were taken consulting admission and discharge summaries from clinical electronic records. The number of diagnostics made, patient functional status, and existing cognitive deficit were taken into account. Patients who died during hospital admission were excluded.
Results: On admission, 81.27% (n = 243) of elderly patients were taking five or more medications, and 29.77% (n = 89) ten or more. On discharge, 79.93% (n = 239) and 29.43% (n = 88) of patients, respectively. Of the 25.41% (n = 76) of totally dependent patients, 18.73% (n = 56) were polymedicated at both moments, with 21 patients having ten or more drugs on admission, versus 14 on discharge. Of the totally dependent and cognitively impaired patients, 16.05% (n = 48)

were polymedicated, versus 14.72% (n = 44). The mean number of diagnostics were 8 and 9 per patient, respectively.
Conclusions: Polypharmacy is a reality among elderly patients, with hospitalization currently not being an opportunity to reduce medicine numbers, even when its use can be questionable. Can not medicating sometimes be the best approach?

P-810
A point prevalence study of psychoactive drugs and the elderly patient in the hospital setting

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Introduction: Over-prescription of psychoactive drugs is a major issue in hospitalized patients. Using psychotropics in the elderly is challenging given changes in pharmacokinetics, pharmacodynamics, polypharmacy potential, and increasing possible adverse effects.
Methods: The aim of this study was to establish the prevalence of psychotropic medication use in the hospitalized elderly patient. A randomized sample of 299 elderly patients from a 1231 universe admitted on the first semester of 2015 in all Internal Medicine wards at a tertiary Portuguese hospital was analyzed. Data were taken consulting clinical electronic records. Patients who died during hospital admission were excluded.
Results: On admission 188 (62.9%) of patients were on psychotropics, with 113 (37.8%) taking benzodiazepines; 99 (33.1%) antidepressants; 35 (11.7%) neuroleptics, 20 (6.7%) anti-parkinsonians and 19 (6.4%) anti-epileptic drugs. 195 (65.2%) patients went home on psychotropics, with a similar drug class profile. On discharge, 17 patients (9%) ceased psychoactive drugs, while 24 "virgin" patients (21.6%) began psychotropic therapy. Patients were identified with having cognitive impairment (34.4%), chronic pain (9.4%), active psychiatric disorder (10.7%), withdrawal syndromes (0.7%), and seizure history (5.4%). Of the 99 patients already having antidepressants, only 56 had identified chronic pain or active psychiatric disorder (56.6%). On admission, 8.7% of patients were on psychotropics and totally dependent, versus 9.6% on discharge.
Conclusion: Almost two-thirds of patients admitted were on psychoactive drugs, with this numbers remaining unchanged on discharge. Prescription of such therapy in the elderly should be done carefully, restricted to when there is a clear benefit for quality of life.

P-811
Benzodiazepines: potentially dangerous, highly used

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Introduction: Despite its proved risks, long-term use of benzodiazepines (BZD) is still a concerning reality. The elderly, especially susceptible to its deleterious effects are among their most frequent users.
Objectives: To evaluate and characterize the prevalence of BZD prescription in a population of patients admitted to an Internal Medicine (IM) ward.
Methods: cross-sectional study. Data collected from patients admitted during 2015 in an IM ward. Measured the prevalence of BZD prescribed previously to admission and described the main characteristics of the patients with BZD prescription. The Clinical Frailty Score of Rockwood (CFS) was used as a measure of frailty. Chi-square tests were used considering a statistically significant p of less than 0.05.
Results: N = 374 patients, median age of 81 years. The overall prevalence of BZD prescription was 26%. It was higher among those aged 65 or above (29% vs 6%, $p < 0.01$) and throughout increasing levels of frailty ($p < 0.01$), being similar among patients with or without dementia ($p = 0.43$). When present, the majority of the BZD were prescribed for more than 4 weeks.
Conclusion: We found a high prevalence of BZD prescription, especially among those more prone to their potential risks: the old, frail and patients with dementia. Considering the known dangers of long term BZD use (greater risk of falls, cognitive and motor decline, dependency, agitation, confusion and even mortality), its start should be continuously discouraged and, when present, its tapered discontinuation should always be considered.

P-812
Chronic diarrhea? Think about olmesartan

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Introduction: Olmesartan, is a selective angiotensin II receptor blocker (ARB) indicated in hypertension's treatment. Since 2012, several cases of chronic diarrhea and weight loss due to severe sprue-like enteropathy associated to Olmesartan have been reported, yet this is not known by many physicians.
Clinical Case: Female, 74-year-old, with a history of diabetes mellitus type II, hypertension, hypothyroidism treated with levothyroxine, amlodipine and olmesartan, metformin and sitagliptin. On May 2015, she presented at her family physician's office with non-bloody diarrhea and vomiting that had started three days before. She denied fever and abdominal pain. Physical examination was normal. She was diagnosed with viral gastroenteritis and treated with loperamide and strengthening hydro intake. Two weeks later for worsening she was admitted at internal medicine department. Physical examination was normal except for mucocutaneous dehydration. Blood chemistry revealed hyponatremia and metabolic acidosis. A month later, for persistent diarrhea and weight loss measured in 5kg, her family physician ordered an abdominal CT-scan, a colonoscopy and a esophagogastroduodenoscopy, to rule out a cancer or an inflammatory bowel disease. All the exams she performed were negative. On July, she was admitted again at internal medicine department. Chart review revealed daily use of olmesartan. Given the patient extensive negative workup, a diagnosis of olmesartan-induced enteropathy was made. After discontinuing the medication, her symptoms gradually improved, with complete resolution in weeks.
Conclusions: This case provides further evidence for olmesartan-induced sprue-like enteropathy, and emphasises the importance of its awareness, especially in elders due to dehydration risk and among physicians alike.

P-813
Selective serotonin-reuptake inhibitors (SSRI) and hyponatremia in the elderly: a case report

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Introduction: Higly used in the treatment of depressive and anxious disorders, selective serotonin-reuptake inhibitors (SSRI) are associated with hyponatremia and/or syndrome of inappropriate secretion of antidiuretic hormone (SIADH) as a side effect. Many studies demonstrate that this adverse drug reaction is more common in older patients (≥65 years) and in those using diuretics and should be used with caution.
Clinical case: 85-year-old female, with diagnosis of hypertension, atrial fibrillation, heart failure (grade II/IV NYHA), mechanical aortic valve, treated with olmesartan/hydrochlorothiazide, furosemide, digoxin and warfarin. In a psychiatric evaluation she was diagnosed with depressive syndrome and started sertraline for its treatment. The reappraisal consult with the psychiatrist was scheduled for six weeks later. Three days after beginning SSRI she developed muscle weakness, lethargy and dizziness and her relatives took her to the family physician. Physical examination was normal except for the cognitive changes, therefore the physician requested lab exams to screen for possible infections or other causes of this kind of symptoms in the elderly. An hyponatremia of 122 mEq/L was identify and associated with the begin of the sertraline treatment which was titrated and sodium levels was corrected. After a few days, patient condition improved.
Conclusion: With this case we want to emphasize the importance of a careful monitoring of the elderly patients when any treatment with SSRIs is started, especially in those treated with diuretics as well. This kind of side effect occurs very quickly and could be life-threatening.

P-814

Diseases linked to polypharmacy and consequences of multiple drug use in consecutively admitted elderly patients at the time of admission

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Introduction: Several factors contribute to polypharmacy (use of ≥5 drugs) in the elderly, a phenomenon with negative consequences. Objective was to assess the diseases linked to polypharmacy and the consequences of polypharmacy in patients aged ≥65 years.
Methods: In 276 patients, mean age 80.39 ± 8.020 M ± 1SD, (50.4% women) demographic characteristics, medical history, medications and cause of admission were recorded. Adverse drug reactions (ADR) assessed using Amended-Hallas criteria. Chi-square test was used to compare the data. Statistically significant variables were processed with multivariate analysis.
Results: 53.6% of patients belonged to polypharmacy group. In 15.9% an ADR was the main cause of admission. 16.3% had a lower significance ADR. 18.4% had an ADR and 6.6% was hospitalized for an ADR in the past. The probability of an ADR as a main cause of admission ($\chi2 = 11.772$, $p = 0.001$) or of an ADR of lower significance ($\chi2 = 10.400$, $p = 0.002$) was significantly higher in polypharmacy group. Patients receiving ≥5 medications were more likely to have either an ADR ($\chi2 = 12.278$, $p = 0.000$) or an ADR-induced hospitalization ($\chi2 = 6.895$, $p = 0.012$) in the past. In multivariate analysis polypharmacy patients were more likely to suffer from arterial hypertension (p = 0.024, OR = 2.224, 95%CI 1.113–4.443), coronary artery disease (p = 0.000, OR = 7.015, 95%CI 2.676–18.393), heart failure (p = 0.034, OR = 4.395, 95%CI 1.117–17.297), atrial fibrillation (p = 0.006, OR = 3.453, 95%CI 1.435–8.313), diabetes mellitus (p = 0.007, OR = 2.593, 95%CI 1.295–5.192), dementia (p = 0.001, OR = 4.371, 95%CI 1.794–10.649) and COPD (p = 0.013, OR = 4.651, 95%CI 1.383–15.638).
Conclusions: Polypharmacy mainly was linked to cardiovascular diseases. If deprescribing is not feasible, physicians must oversee those patients in order to recognise early, possible drug reactions.

P-815

Inappropriate proton pump inhibitors (PPIs) use in consecutively admitted elderly patients at the time of admission: prevalence and determinants

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Introduction: PPI's high efficacy, good tolerance, safety profile, and acceptable cost are the main reasons, contributing to their frequently off label use. The objective of this study was to assess the prevalence and risk factors for inappropriate PPI's use (according to NICE guidelines) in consecutively admitted elderly patients.
Methods: In 236 patients, mean age 80,50 ± 7,88 M ± 1SD, (49,6% women) demographic characteristics, medical history, medications, Katz-index, Charlson-Comorbidity-Score and reason of admission were recorded. Chi-square test was used to compare categorical data. Student's t-test and Man-Whitney U test were used to compare continuous data. Only variables being statistically significant were processed with multivariate analysis.
Results: The mean number of diseases and medications were 3.08 ± 1.60 and 5.10 ± 2.92 M ± 1SD respectively. 46.6% received anti-platelet/anticoagulant agents. 8.9% were admitted due to an upper gastrointestinal bleeding. 50 patients (21.2%) received PPI's without an indication. Mean number of both diseases ($t(234) = -3.543$, $p = 0,000$) and medications ($U = 2.193$, $p = 0,000$) were significantly higher for patients receiving PPI's inappropriately. Furthermore those were more likely to receive blood thinners ($\chi2 = 9.585$, $p = 0,002$). In multivariate analysis number of diseases was the only independent predictor of inappropriate PPI use (p = 0,000, OR = 1.446, 95%CI 1.209–1.729). When we compared patients receiving PPI's without indication with those who didn't receive, no statistical significant difference was found in the occurrence of upper GIT bleeding.
Conclusions: The most important determinant of inappropriate PPI use was the number of diseases. PPI use without indication had no additional benefit regarding upper GIT bleeding occurrence.

P-816

Potentially inappropriate medications (PIMs) used by consecutively admitted elderly patients in a Greek hospital: prevalence and independent predictors

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Introduction: Despite the extend of information on PIMs, health professionals continue to prescribe them, leading to increased morbidity, mortality and health-care cost. Objective was to assess both prevalence and predictors for PIM use.
Methods: In 178 patients, mean age 79,63 ± 8,289 M ± 1SD, (50% women) demographic characteristics, medical history, medications, Katz-index and Charlson-Comorbidity-Score were recorded. PIMs were assessed using updated Beer's criteria. Chi-square test was used to compare categorical data. Student's t-test and Man-Whitney U test were used to compare continuous data. Variables being statistically significant were processed with multivariate analysis.
Results: 26,9% were taking at least one PIM. Among 50 cases of PIMs, that elderly should avoid, independent of their condition, benzodiazepines were the most common drugs (23 cases). Moreover, in 50 other cases of PIMs, that elderly with certain illnesses or syndromes should avoid, benzodiazepines in patients with history of falls, was the most frequent combination (13 cases). Statistical difference was found while comparing the PIM and the non-PIM group according to the number of diseases ($t(175) = -3.906$, $p = 0,000$) and medications, ($t(175) = -3.842$, $p = 0,000$) the presence of atrial fibrillation (AF) ($\chi2 = 9.118$, $p = 0,003$), neuropsychiatric disorders ($\chi2 = 31.924$, $p = 0,000$) and stroke ($\chi2 = 4.106$, $p = 0,043$). Patients aged above 80 were more likely to receive at least one PIM ($\chi2 = 4.807$, $p = 0.028$). In multivariate analysis the only independent predictors were AF (p = 0.011, OR = 4.216, 95%CI 1.382–12.860) and neuropsychiatric disorders (p = 0.000, OR = 8.329, 95%CI 3.441–20.160).
Conclusions: Almost 30% of patients received at least one PIM. Patients at risk for PIM prescribing are those who suffer from AF and neuropsychiatric disorders.

P-817

Chronic femoral haematoma (FH): a hidden cause of anemia in a 66-year old woman

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Background: Systemic thrombolytic therapy is a widely accepted indication for patients with PE who present with hemodynamic instability. FH is the most common vascular access site complication and can result in decrease in hemoglobin. Many hematomas resolve within a few weeks as the blood dissipates and is absorbed into the tissue.
Objective: To describe a patient, who underwent an extended workup for anemia, before the diagnosis of chronic blood loss due to FH, was reached. Case presentation: She was admitted for her normochromic normocytic anemia. She suffered from multiple sclerosis. 2,5 months later she had a massive pulmonary embolism; she underwent systemic thrombolytic therapy and, subsequently, received rivaroxaban. During hospitalization, she received 7 RBCs units. At discharge her Hct was 29,9%. 25 days later she was admitted with Hct 22.0%. B12, folic acid and ferritin levels were normal. Immunological examinations,

myelogram and infectious diseases investigation were negative. From the chest/abdominal CTs the only finding was an effusion located in the left thigh. During investigation she received 3 RBCs units. In the absence of diagnosis we reevaluated the imaging studies during the past three months and the femoral effusion was present with unchanged size. Rivaroxaban discontinued for 2 days; subsequently the patient received enoxaparin and was discharged. One month later the Hct remained stable and the femoral effusion was absent.
Conclusion: Chronic blood loss due to hematoma must be considered in the differential diagnosis of anemia especially in patients that underwent invasive procedures and consecutively continue to receive anticoagulants.

P-818
The effectiveness of geriatric integrated outpatient service in a tertiary teaching hospital in southern Taiwan

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Introduction: To evaluate the effectiveness of geriatric integrated outpatient service in a tertiary teaching hospital.
Methods: This prospective study enrolled the subjects aged 65 years and over who visited the geriatric outpatient service for study. Those who visited our hospital for 4 times and more in the past one year were recruited and those who didn't visit our hospital 9 months later were excluded. The clinical pharmacists would interview every patient and reported the results to geriatricians. The number of drugs, the visiting times and the expenditure of drugs one year before and after the first visit to the geriatric integrated clinics were recorded from the computer system of our hospital for comparison.
Results: From Jan 2008 to Dec 2012, 999 older people were enrolled (mean age = 83.3, SD = 6.93, 69.5% male). By comparing previous one year to intervention year, the total visiting times for all outpatient services decreased for 21.3% (from 12.7 to 10.0 times per person), total cost of drugs decreased for 12.3% (from 412 to 357 in Euros per person) and total numbers of drug per person per year decreased for 15.5% (average 5.6–4.7 tablets per person).
Conclusions: Through geriatric integrated outpatient service with cooperation with clinical pharmacists, the number of drugs, the times of visiting for outpatient services and the expenditure of drugs could decrease significantly. Further outcome study is needed to conclude the benefits of geriatric integrated outpatient service.

P-819
EURO-FORTA: a study to promote the usage of the FORTA (Fit fOR The Aged) List internationally

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Introduction: The elderly are the main recipients of medications in many regions of the world. Numerous trials have revealed that a large section of the elderly is subject to inadequate drug treatment. The reason is that for most of the drugs there is hardly any evidence regarding efficacy and safety in the aged. Furthermore, the presence of multimorbidity and as a result polypharmacy aggravates this problem. In order to effectively address this issue and to ameliorate the appropriateness and quality of drug treatment in the elderly, our group has developed a clinical aid called the FORTA List. FORTA was originally created by Wehling, and the FORTA List was validated by 20 experts in a Delphi consensus procedure. Furthermore, we evaluated FORTA's utility in a pilot clinical trial and in a randomized prospective trial. These two studies showed that FORTA significantly ($p < 0.001$) improves the quality of drug treatment.
Methods: Based on these results, we conducted a consensus validation of country-specific FORTA Lists in the UK, France, Poland, Italy, Spain, the Nordic countries and the Netherlands. In this study, we used a self-developed algorithm to choose experts in the field of geriatrics with high experience in pharmacotherapy.
Results: 46 experts agreed to participate in our study. In a preliminary analysis of the data from 4 participating countries each mean consensus coefficient was higher than 0.9.
Conclusions: The overall consensus among experts is very high. The outcomes of this project will be used to develop country-specific FORTA Lists and a European FORTA List.

P-820
A crucial update of the FORTA ("Fit fOR The Aged") List: a clinical tool for the optimization of drug treatment in the elderly

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Introduction: Numerous trials have revealed that the aged are often subjects to inappropriate and unsafe drug treatment. The main reason for this problem is that for most of the drugs there is no evidence regarding efficacy and safety in the aged. This problem is worsened by the high prevalence of multimorbidity and therefore polypharmacy in this population. To raise the appropriateness of pharmacotherapy in the aged, we have developed a clinical aid called the FORTA List. FORTA was originally invented by Wehling and validated and expanded by twenty experts in a Delphi consensus procedure. Subsequently, we evaluated FORTA's usefulness in a pilot clinical trial as well as in a controlled prospective trial. These trials showed that FORTA significantly increases the quality of pharmacotherapy and reduces the frequency of adverse drug reactions.
Methods: As an evidence-based document the FORTA List needs regular updates as the field of geriatric pharmacology progresses rapidly. Thus, we performed a new Delphi survey to update this helpful clinical tool. This Delphi consensus procedure involved over 20 experts who evaluated the proposal of 4 initiators.
Results: The new FORTA List now contains nearly 50 additional items as compared to its first version and 3 new indications (nausea and vomiting, hypothyroidism, obstipation) were added to the list resulting in almost 30 indications in total. The overall mean consensus coefficient which reflects the degree of agreement among raters increased from 92.2% to 93.8%.
Conclusion: All in all, the updated list now incorporates more illnesses and contains more drugs used to treat the elderly.

P-821
Pharmaceutical care in geriatrics in Poland

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Introduction: In Poland, in spite of the alarming data regarding the potential inappropriateness of pharmacological treatment among elderly, there is no system of pharmaceutical care. The aim of the research was to create a practical model for pharmaceutical care in geriatrics which will be based on the set of Criteria Defining Potentially Inappropriate Pharmacotherapy in Geriatrics developed within the project.
Methods: The study was done among 300 elderly patients (195 female [F], 105 men [M]; mean age: 74.9 ± 7.3] within 10 public pharmacies. The including criteria was patient age (65 years+) and the number of drugs (prescribed [Rp] and over the counter [OTC]) taken regularly (10+) Pharmacists involved within the projects organized meetings with the patients to assess the appropriateness of pharmacological treatment and in case of incorrect treatment they undertook the pharmaceutical interventions.
Results: The mean number of Rp and OTC drugs before and after the pharmaceutical intervention was relatively: 11.8 ± 2.9 (F:11.8 ± 2.8; M:11.9 ± 3.3) and 11.5 ± 2.9 (F:11.5 ± 2.7; M:11.6 ± 3.3). The mean number of consulting physicians was 3.6 ± 0.9 (87% of studied subjects were seen by general practitioners and 73% by cardiologists). The major inappropriateness of treatment involved: concomitant usage of NSAIDs (ibuprofen, diclofenac, naproxen) and ACE-I (enalapril, perindopril) in subjects with hypertension, consumption of NSAIDs

and aspirin 75–150 mg at the same time, concomitant consumption of omeprazol and clopidogrel.
Key conclusions: Due to the potential inappropriateness of pharmacological treatment among elderly the system of pharmaceutical care in geriatrics seems to be one of the core element of healthcare system.

P-822
Colistin: an unknown adverse drug reaction in an elderly patient

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Introduction: Interest in colistin use has increased dramatically in recent times because of the emergence of bacterial strains resistant to other clinically available antibiotics. Colistin has demonstrated an excellent activity against various Gram-negative rod-shaped bacteria, including multidrug-resistant Pseudomona aeruginosa, Acinetobacter baumannii and Klebsiella pneumoniae.
Case report: An 86 year-old male patient was medicated with colistimethate sodium 2 MU/24 h (160 mg of colistimethate), adjustmented to renal function, because of an Acinetobacter baumannii pneumonia, developing leukopenia (0.8 × 10^9/l) and neutropenia (0.1 × 10^9/l) six days after treatment was began. Both were reversible eleven days on discontinuation of treatment. No other treatments were involved, and it was reported that the renal function did not get worse. This unknowed adverse drug reaction was reported to the Regional Pharmacovigilance Centre.
Conclusion: Colistin became available for clinical use in the 1960s, but was replaced in the 1970s with other antibiotics owing to its toxicity. The optimal treatment dose according to the most recent pharmacokinetic data for systemic infections in adults ranges widely between 240 and 720 mg daily in two or four divided doses. Nephrotoxicity and neurotoxicity are the most common adverse effects. Toxicity is dose dependent and reversible on discontinuation of treatment. Clinicians should be careful about the adverse effect of colistin use. The usefulness of colistin has been clearly documented and we believed that colistin will be the "last line" therapeutic drug against Multiple-Drug-Resistant Gram-negative pathogens in the 21st century.

P-823
Occurrence of a serotonin syndrome on escitalopram and tramadol in a porphyria patient

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Introduction: Tramadol is associated with serotonin syndrome (SS), a potentially lethal side effect, and is contraindicated in porphyria patients. Here is the case of a porphyria patient that suffered SS following tramadol administration. Case presentation: An 83 year-old male with history of porphyria, depression, ischemic cardiopathy and atrial fibrillation was hospitalised for dyspnea and falls. His treatments were escitalopram 10 mg, fluindione, pantoprazole, perindopril, bisoprolol, spironolactone, rosuvastatin, paracetamol and furosemide. January 19th: prescription and administration of one dose of tramadol extended-release 100 mg, no escitalopram received. January 20th: he presented clonic seizures without loss of consciousness, postictal state, drowsiness, myoclonic seizures, stiffness, Babinski signs and fever. SS was suspected. Escitalopram and tramadol were discontinued. Provided care was active surveillance, EEG and CT scan. Complete symptom resolution occurred by January 22th.
Key conclusions: The association of escitalopram and tramadol led to a SS. Tramadol introduction was the only treatment modification prior to symptoms. Although he did not receive escitalopram on January 19th, its half-life of 30 hours meant that it could still interact with tramadol. Fast recovery at drug discontinuation increased the iatrogenic suspicion. The patient did not experience any porphyria crises even though he received different treatments that could have triggered one (tramadol, spironolactone and IV paracetamol). They were discontinued on January 20th. Considering the symptoms began after a standard dose of tramadol, it is likely that its interaction with escitalopram was responsible for the SS. It is not possible to confirm the increased susceptibility of SS in porphyric patients due to a lack of data.

P-824
Consequences of the angiotensin-converting-enzyme inhibitors on kidneys in high-risk elderly patients

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Introduction: Many medicines are nephrotoxic. Among them, angiotensin-converting-enzyme inhibitors (ACEI) are known to induce functional acute renal failure (ARF). They are widely used in geriatric population.
Methods: Here is a case of an ACEI-induced nephropathy aggravated by left-kidney artery thrombosis and right-kidney artery stenosis.
Context: A 90 year-old female patient with history of hypertension and transient ischemic attack, was hospitalized for an acute degradation of general state. Biological tests were normal and renal clearance was at 47 mL/min. Due to hypertension, ramipril was prescribed at 5 mg and reported well tolerated beforehand. She was transferred to after-care where the patient experienced nausea and vomiting. Discovery of an acute renal failure with renal clearance at 17 mL/min. Digoxin and ramipril were discontinued. RC degradation at 9 mL/min led to dialysis sessions. The echography revealed "normal kidneys". Pharmacovigilance experts imputed the functional ARF to ramipril with one similar case reported in France. The Doppler ultrasound showed a left-kidney artery thrombosis and a right-kidney artery stenosis. Progressive improvement followed with RC at 13 mL/min on 25/03.
Key conclusions: We identified avoidable mistakes: No biologic monitoring at ramipril initiation nor the following 11 days despite patient transfer No pharmaceutical analysis Non-avoidable mistakes and contributory factors include: Potentially nephrotoxic drugs have been administrated before discovery of the nephropathy Old, diabetic and dehydrated patient No recommendation on systematic nephropathy research by imaging at ACEI initiation Many contributory factors and malfunctions led to this incident with important consequences. It is important to follow recommendations on nephrotoxic drug monitoring in high risk patients.

P-825
Duodenal ulcer perforation linked to long-term nicorandil-acetylsalicylic acid association

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Introduction: Duodenal ulcer (DU) is a disease affecting 8% of the active population and its incidence has been decreasing in the past years. The most well-known drug causing DU are NSAIDs. Here is the case of a patient suffering from a duodenal bulb perforation (DBP) while being treated by acetylsalicylic acid (AA) and nicorandil, also known to worsen DU.
Context: A 93 year-old woman was admitted for a confusional syndrome. Her medical history include Alzheimer's disease, hypercholesterolemia, high blood pressure and acute coronary syndrome (ACS) in 2003 with the introduction of AA 160 mg and nicorandil 10 mg. Between 2012 and 2014, omeprazole (proton pump inhibitor, PPI) was started for epigastric pain. In February 2016, she was hospitalised for a generalised peritonitis due to a DBP. One month later, she was hospitalised and a recurrence of DU was suspected, which justified nicorandil discontinuation. Gastric disorders were resolved thirty days later.
Key conclusions: The patient may have experienced two occurrences of DU. Nicorandil-AA long-term association probably led to a DBP, a serious and rare DU complication. ACS history meant that AA's risk-benefit ratio was in favour of its maintenance. Considering that nicorandil-only discontinuation led to symptoms resolution, it is likely

that DBP's origin was iatrogenic and that omeprazole was sufficient to prevent AA's gastric adverse reaction. Nicorandil–AA long-term association showed an increased risk of DU and DBP. Early PPI initiation with clinical surveillance and adverse reaction control should be discussed at the introduction of every nicorandil-AA association.

Area: Pre and post-operative care

P-826
Preliminary data of the "Gruppo Italiano di Ortogeriatria, GIOG" database in elderly patients admitted to Orthogeriatric Units after hip fracture

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Introduction: Recently, the Italian Association of Psychogeriatrics (AIP), the Italian Society of Gerontology and Geriatrics (SIGG) and the Italian Society of Hospital's and community Geriatrics (SIGOT) have developed a dataweb to collect data of hip fracture (HF) patients admitted to a network of Italian Orthogeriatric Units (OU). Here we report some preliminary data.
Methods: From February 1st, to May 13th, 2016, the data of 257 patients admitted to 7 OUs were collected, including demographics, functional and cognitive status, type of fracture and surgery, time from HF to surgery, delirium, osteometabolic drugs, length of hospital stay (LOS) and destination at discharge.
Results: Mean age was 86.0 + 5.9, with predominant females (74.7%). 235 patients (91.4%) were admitted from home and 22 (8.5%) from nursing home. Before HF, 102 (39.6%) patients were able to walk without aids outside home and 51 (19.8%) to walk only inside. Only 15.2% of patients took osteometabolic drugs. According to Short Physical Mental Status Questionnaire score (211 patients), normal cognitive status was found only in 98 (46.4%) patients. Type of fracture was mainly intertrocantheric (n = 103, 40%) and intramedullary nail (122, 47.7%) was the most frequent surgical intervention, with a time from HF to surgery of 53.2 + 75.3 hours. Delirium occurred post-operatively in 24.1% patients. At discharge, 146 patients (75.6%) were sent to rehabilitation units, with most patients being on osteometabolic treatment (n = 151, 78.2%). The average LOS was 10 + 5.8 days.
Conclusion: These preliminary data will serve at a basis for future studies and benchmarking purposes among OU in Italy.

P-827
Proximal femoral fractures: readmission and mortality one year post operatively

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Introduction: Proximal femoral fractures are a public health problem of growing importance. This type of fracture is associated with a high mortality and morbidity. The aim of this study is to describe mortality and readmission rate in the first year after surgery for proximal femur fracture in an elderly population.
Methods: This was an observational, descriptive and retrospective study of a sample of 149 elderly patients, hospitalized for proximal fractures of the femur (neck and trochanteric region) and submitted to surgical treatment between January and December 2014. The data was statistically analyzed using the Statistical Package for Social Sciences (SPSS – 19.0).
Results: The sample was composed by 113 female (75.8%), with an average age of 82.3 years.). The number of readmissions for any reason in the first year was 52 (34.9%) with respiratory infection being the most frequent reason (32.7% of readmissions). Younger patients had a longer hospital stay ($p < 0.05$, 95%) and 11.4% of the readmissions occurred in the first month. Male patients had a higher readmission rate. One year mortality was 12.8% (19 patients), being respiratory infection the main cause (42.1% of all deaths). Mortality in men was 22.2% versus 9.7%, with a statistically significant difference.
Key conclusions: We conclude that patients treated for proximal femur fracture had a high readmission and mortality rate in the first year of follow-up, mainly caused by respiratory infection. Male had a higher readmission and mortality rate.

P-828
Combined pharmacological and mechanical methods for the prevention of venous-thromboembolism (VTE) in surgically treated hip-fractured elderly

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Obejctive: The incidence of VTE could still be as high as 19% in patients with surgically treated hip fractures while on pharmacological prophylaxis. The application of combined pharmacological and mechanical methods as VTE prophylaxis following surgery for hip fractures has not been widely described. Possible synergistic effect of the combined methods could not be dismissed.
Method: We studied 259 patients with surgically treated hip fractures (mean age 78.6 ± 8.9), who were admitted to the Hip Fracture Unit between November 1, 2014 and October 31, 2015. Demographic, medical and surgical data of patients were recorded during first admission and if there were re-admissions. Mechanical calf compressors and anti-embolism stockings were used as mechanical methods whereas low-molecular weight heparin or unfractionated heparin were used as pharmacological methods. The combined method was started from the first day of admission to all patients above except those with absolute contraindications. Deep vein thrombosis(DVT) was confirmed by ultrasonography and pulmonary embolism(PE) was confirmed by CT pulmonary angiography.
Results: 2.7% had DVT and 0.8% had PE. The combined method had a relative risk ratio 0.969(CI 95% 0.946–0.992). 1(0.003%) mortality was associated with the VTE-positive group. Mean length of stay was significantly higher in patients with DVT(14.67 vs 24.14, $p = 0.19$). No complication was report from mechanical methods. Complications from the pharmacological method which consisted of minor/major bleeding from the wound, major bleeding not from the wound and heparin-induced thrombocytopenia were not reported.
Conclusion: VTE is a serious complication in patients with hip fracture. The combined method has a promising synergistic effect in VTE prevention.

P-829
Does the use of a fascia iliaca block reduce length of hospital stay and opioid use in older patients with neck of femur fractures?

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Introduction: Currently, 65,000 hip fractures each year are leading to the occupation of over 4,000 inpatient beds at any one time across the United Kingdom. The National Institute for Health and Care Excellence quality standards for hip fracture cites the use of fascia iliaca block (FIB)

and the British Orthopaedic Association recognises the importance of the FIB. Increasing evidence shows the FIB improves patient's rehabilitation by giving quick and effective pain relief.
Methods: We retrospectively examined the clinical notes of patients admitted with a fractured neck of femur (NOF) for evidence of FIB, whilst also recording the frequency of administration of opioid analgesia. 98 patients were admitted with a NOF between July and end of September 2015. Paper and electronic notes were examined and evidence of FIB was identified. The Length of hospital stay, amount of codeine phosphate and morphine sulphate were all noted. The notes of outliers were examined in further detail in order to aid our discussion.
Results: Overall, 21/98 patients did not have clinical notes available. Of those accessible, 50/77 patients received a FIB and 27/77 did not. The mean length of inpatient stay was reduced by 2 days in patients receiving FIB. Postoperative Oral morphine solution was higher in the population who received a FIB. However, for some of these patients there were other medical reasons for increased analgesia requirements.
Conclusion: Using a FIB allows early and effective pain control. This prevents pre-operative and post-operative complications, helps patients to mobilise early and hence an earlier discharge.

P-830
The intersectoral treatment and prevention path for geriatric risk patients

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Objectives: Whether in a hospital or in a general practice, patients and their families need an individual supply and care plan during, before and after hospital stay. The individualized treatment-path is adaptable and depends on the individual need for assistance. Over the past decades, age structure has changed dramatically. Multimorbidity and increase of physical and mental impairments are typical signs. As a consequence, the uncertainty of walking rises with higher risk of falling and nevertheless, there are limitations in the activities of daily living. More than 50% of patients in acute care and emergency departments are older and multimorbid. In order that, there are individual, complex and long-term problems that threaten patient's autonomy, respectively. In comparison to younger people, the probability to get sick or fall is very high. In addition, there are increased declines in mobility and cognition as a consequence of the physiological age processes. These factors are directly related to autonomous action in everyday life of older people and affect quality of life during inpatient and outpatient setting.
Methods: A special "Bewegungs- und Kognitionsgruppe" into the geriatric "Schwerpunktpraxis"
Results: The aim of this study was to determine, whether training of mobility and cognitive function has potential to improve quality of life of older, multimorbid patients during a stay in acute geriatric hospital and in a special "Bewegungs- und Kognitionsgruppe" into the geriatric "Schwerpunktpraxis".
Conclusion: The aim of this intersectoral medical, nursing and therapeutic study was to improve the individual quality of life. This may involve an increase in the ability to help themselves, reduction of long term care and a reduction of medicine usage.

P-831
Endoscopic retrograde cholangiopancreatography (ERCP) for the elderly and extremely elderly

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Objectives: To assess ERCP safety and effectiveness in elderly patients.
Methods: Clinical data from patients >85 years-old that underwent ERCP during a two year period was analyzed. Sample divided in elderly (85–90 years-old) and extremely elderly (>90 years-old).
Results: 147 duodenoscopies were performed, 98 in elderly and 49 in extremely elderly patients. Most frequent diagnosis were lithiasis (61,2%) and neoplastic stenosis (27,9%), with 8,5% of normal exams. There was a 93% cannulation rate, in 15,5% after precut papillotomy or guidewire placement. Juxtapapillary duodenal diverticula identified in 20,4%. Immediate complications present in 7,7% of patients, namely bleeding (9) and bradycardia (1), with bleeding episodes managed endoscopically and only 1 case needing transfusion. Delayed complications (in 99 patients with 30days follow-up) identified in 2% of patients, namely cholangitis (1) and gastrointestinal perforation (1), treated endoscopically, with no cases of post-ERCP pancreatitis. Mortality occurred in 4 patients (4%), with only 1 case due to ERCP (cholangitis/sepsis). There was an association between cannulation rate and presence of juxtapapillary diverticula ($p = 0{,}002$) and between immediate bleeding and precut execution ($p < 0{,}001$). No association identified between immediate bleeding and previous antiplatelet/anticoagulant therapy ($p = 0{,}771$) or between age groups and presence of immediate ($p = 0{,}817$) or delayed complications ($p = 0{,}071$).
Conclusions: ERCP was safe and effective in both elderly and extremely elderly patients. Presence of juxtapapillary diverticula was a negative predicting factor for a successful exam, whereas precut execution was associated to immediate bleeding. Age and previous treatment with antiplatelet or anticoagulant agents were not associated to increased risk of complications.

P-832
Reducing pneumonia and delirium in hip fracture patients by implementation screening for dysphagia

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Introduction: Pneumonia is an important cause of hospital mortality in frail patients after hip fracture surgery. A recent study suggests a high prevalence of oropharyngeal dysphagia (OD) in these patients [Love et al. 2013]. We hypothesized OD-screening would decrease post-operative pneumonia in hip fracture patients, as it does in patients after cerebrovascular disease [Brady et al. 2016].
Methods: Data were collected for a retrospective cohort study including all post-operative hip fracture patients on an orthogeriatric ward in Rijnstate hospital. The control group consisted of patients admitted from January 2013 until November 2014. All patients from November 2014 until December 2015 were screened for OD (intervention group). Data were extracted from electronic patient records including age, sex, frailty, death during admittance, diagnosis delirium and pneumonia .
Results: 814 patients were included. The control group consisted of 481 patients, average age 83.4 years ± 6.6, average ASA score 2.6 ± 0.7 and 18.5% living in a nursing home. In the intervention group 333 patients were included, average age 83.7 years ± 7.2, average ASA score 2.5 ± 0.7 and 16.0% living in a nursing home. In comparison to the control group OD screening resulted in a significant reduction of pneumonia from 10.4% to 5.7% ($p < 0.05$) and a reduction in delirium from 42.6% to 28.5%($p < 0.05$). In-hospital mortality decreased from 4.2% to 2.7% (not significant).
Conclusion: OD-screening resulted in a significant decrease of pneumonia and delirium. It seems plausible that this screening could be a potent intervention to reduce pneumonia and delirium in frail elderly after hip fracture surgery.

P-833
Impact of prostate cancer on body image: a descriptive approach

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Objectives: Receiving a diagnosis of cancer can be very difficult and emotionally challenging for patients and their families. The diagnosis and treatment of prostate cancer impacts a man on many levels. Men often experience a wide range of psychological and sexual difficulties.

There is limited research surrounding the psychosocial needs of men diagnosed with prostate cancer.
Methods: Demographic questionnaires and focus groups were used with a sample of 16 Portuguese men aged between 49 and 81 years.
Results: The psychosocial and psychosexual impact of this disease is influenced by a number of factors including medical factors, individual factors, and relationship factors. Overall, prostate cancer treatments (medical factors) did not disrupt sexual functioning or body image. Instead, hopelessness and fatigue (individual factors) were found to impact men's sexual functioning, and depression was related to men's own body image as well as how he perceived his female partner to view his body. Finally, men's perceptions of their female partners' view of their bodies (relationship factor) were related to the men's own body image and marital satisfaction.
Conclusion: Findings suggest a more positive view regarding the anticipated negative consequences of a prostate cancer diagnosis.

P-834
Latest trends in home care rehabilitation in knee prosthesis: a systematic review

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Objective: to analyze the existing studies on home care rehabilitation and physiotherapy in patients with a knee prosthesis intervention in the last 10 years.
Methods: this review identifies and synthesis the results of the interventions measured in terms of muscular strength, function, patient's quality of life and cost of the service, compared with other alternative treatments. The databases analysed were CUIDEN, PUBMED and PEDro.
Results: in relation to the systematic review, it has been proofed that there exists many international studies with good level of scientific evidence that provide a grade of "favourable recommendation" for the domiciliary physiotherapy in the treatment of knee prosthesis compared with traditional ambulatory physiotherapy. One of the more relevant characteristics of the domiciliary physiotherapy is that it is developed in a different environment and it is well accepted by the users. It gives people protection against comorbidities, service access, at the same time that it lets patients increase their capacities with the same effectivity than those offered in the traditional system aimed to improve functional and social autonomy. It has been proved a good capacity for the detection of risk groups, moveless, very dependent and with high morbidity that it has been converted in the main goal of these interventions in home rehabilitation.
Conclusions: Although there exist clear needs for increasing the number of studies based in the scientific evidence in relation to the domiciliary physiotherapy, due to that the studies are mostly based in observational studies, reviews and experts opinions including much variability and limitations.

P-835
Outcomes after hip fracture in patients aged 90 and older

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Introduction: The populations of industrialised countries are ageing, with subsequent increases in the number of people living with frailty, dependency and disability and the consequent need for costly nursing and social care. Falls and hip fracture are a common cause of hospitalisation in elderly people and result in significant disability, morbidity and mortality [1, 2]. Outcomes for patients undergoing surgery for hip fracture in the UK are well established through the National Hip Fracture database [3]. Knowledge about outcomes including survival, functional status and walking ability in the nonagenarian subgroup is limited [4–7].
Methods: 50 nonagenarian patients admitted with hip fracture to Scarborough Hospital were identified using the hospital's hip fracture database. All fracture types were included. Patient medical, operative, physiotherapy and occupational therapy records were retrospectively reviewed. 48 patients underwent surgery and all followed a similar post operative protocol with mobilisation on the first day if possible, regular orthogeriatric review, and low-molecular weight heparin administration for 1 month post operatively. Time to surgery, ASA grade, operative procedure and length of stay were recorded. The patients' pre and post-operative mobility and place of residence were defined. 30 day and 120 day mortality was calculated.
Results: We identified 37 females (mean age 93.5 years, range 90–100) and 13 males (mean age 93.2 years, range 90–100). Of these 48 underwent surgery to repair a hip fracture. A total of 16 patients (32%) died during follow up. 30 day mortality was 16% (8 deaths) and 120 day mortality was 28% (14 patients). The mean time to surgery was 27.21 hours (range 4.92–117.08). Average length of stay was 30.32 days (range 2–59). The median ASA score was 3 (60% of patients undergoing surgery) reflecting indicators of poor health status in this group. 20 patients (42% of the patients who underwent surgery) received spinal anaesthesia and 25 patients (52%) received a general anaesthetic.
Conclusions: The outcome of surgical management followed by rehabilitation for nonagenarians presenting to Scarborough Hospital with hip fractures is favourable in selected patients despite many having multiple co-morbidities and high anaesthetic risk. Patients aged 90 years or older with hip fracture achieve surprisingly good outcomes and many are able to return home with preserved independence after operative intervention and appropriate rehabilitation.

References

1. Gill TM, Allore HG, Holford TR, Guo Z. Hospitalization, restricted activity and the development of disability among older persons. *JAMA* 2004;292(17):2115–24.
2. Brenneman SK, Barrett-Connor E, Sajjin S, Markson LE, Siris ES. Impact of recent fracture on health-related quality of life in postmenopausal women. *J Bone Miner Res* 2006;21:809–16.
3. www.nhfd.co.uk
4. Kauffman TL, Albright L, Wagner C. Rehabilitation outcomes after hip fracture in persons 90 years old and older. *Arch Phys Med Rehabil* 1987;68:369–71.
5. Shah MR, Aharonoff GB, Wolinsky P, Zuckerman JD, Koval K. Outcome after hip fracture in individuals ninety years of age and older. *J Orthop Trauma* 2001;15:34–9.
6. Holt G, Smith R, Duncan K, Hutchison JD, Gregori A. Outcome after surgery for the treatment of hip fracture in the extremely elderly. *J Bone Joint Surg Am* 2008;90(9):1899–905.
7. Formiga F, Lopez-Soto A, Sacanella E, Coscojuela A, Suso S, Pujol R. Mortality and morbidity in nonagenarian patients following hip fracture surgery. *Gerontology* 2003;49(1):41–5.

P-836
Validity of three risk prediction models to predict 1-year mortality in hip fracture patients

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Introduction: Mortality is high after hip fracture (HF). It is useful to know what patients are in a higher risk of mortality in order to implement preventive interventions. Several scoring instruments have been applied to predict this mortality risk.
Objective: To identify the most accurate predictor of one-year mortality following HF.
Methods: In a sample of 509 consecutive HF patients admitted at an acute Orthogeriatric Unit University Hospital three prognostic scores (Abreviated Charlson Index -AChI-, American Society of Anesthesiologists –ASA- Scale, and The Nothinghan Hip Fracture Score –NHFS-) were applied in the first 72 hours from admission. Cut-offs were >2 for ASA, >2 for AChI and >4 for NHFS. Patients were assessed for survival 1 year after discharge.

Results: Mean age was 85.6 (± 6.9) years, 89.2% were women. Overall 1-year mortality was 23.2%. Sensitivity to predict 1-year mortality was 53% for AChI, 86% for ASA and 91% for NHFS. Unadjusted 1-year mortality Odds Ratio (OR) (CI 95%) were 2.16 (1.48–3.15) for AChI, 3.29 (1.88–5.78) for ASA, and 4.99 (2.67–9.31) for NHFS (all with $p < 0.001$). Age and sex adjusted 1-year mortality OR (CI 95%) were 1.90 (1.30–2.81) for AChI ($p = 0.001$), 2.90 (1.64–5.12) for ASA ($p < 0.001$), and 4.02 (2.10–7.81) for NHFS ($p < 0.001$).
Conclusions: The three scoring instruments analysed showed a good accuracy for predicting 1-year mortality. The Nothinghan Hip Fracture Score showed the best discriminative performance. (Founded with grants from IdiPAZ and Nestle Health Science, 2013)

P-837
Comparison of key characteristic differences of younger versus older patients admitted with major trauma

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Introduction: There is an increasing proportion of elderly patients admitted with major trauma. We looked at patients admitted with trauma to a national major trauma centre in the East Midlands, United Kingdom. We aimed to find out key characteristic differences between those 65 and over versus those younger.
Method: Data was analysed retrospectively though Trauma and Audit Research Network (TARN) and medway database for patients admitted to Queen's Medical Centre Nottingham from April 2014 to March 2015.
Results: There were 1514 patients admitted with trauma, of which 589 (38.90%) were 65 and over. The mechanisms of injury in those ≥65 yrs were mainly: 68.93% fall <2 metres; 14.10% fall >2 metres and 15.62% vehicular incidents, whilst in those <65 yrs it was mostly due to vehicular incidents (43.57%), fall <2 metres (32.97%), and fall >2 metres (11.68%). The average length of stay (LOS) was 17 days for the older age group versus 13 days for the younger age group. The mortality amongst the older age group was 13.24% as compared with 3.14% in the younger counterparts, Of the older patients ,152 (56%) went back to their usual place of residence as compared to 562 (84%) of the younger patients. Percentage distribution according to injury severity score (ISS) was similar in both groups.
Conclusion: A significant proportion of patients admitted with trauma are elderly. Although elderly are more likely to have low impact injury, they have relatively similar ISS scores, longer LOS, higher mortality and are less likely to be discharged home compared to their younger counterparts.

P-838
A retrospective study of regional anaesthesia with continuous peripheral nerve blocks to enhance recovery in elderly patients following hip fracture fixation – the Singapore experience

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Introduction: In late 2014, KTPH spearheaded the first tripartite Hip Fracture Unit (HFU) in Singapore, where Geriatrics, Orthopaedics and Anaesthesia, along with allied health, sought to integrate and improve hip fracture care. Recognising that pain management is a major cornerstone, we championed the concept of optimal analgesia throughout the patient journey, not just perioperatively, and focused on early ambulation. While opioids and single injection nerve blocks have been advocated 1,2, we explored the routine use of continuous peripheral nerve blocks (CPNB).
Methods: Retrospective analysis of 470 patients admitted under the HFU conducted from November 2014 to January 2016.
Results: A total of 374 patients who underwent hip fixation received CPNB to address fracture or surgical pain. Patients with CPNB had optimal analgesia scores, able to ambulate at mean 2.3+/−1.9 post-operative day (POD) compared with international data of mean 5 days, with a comparable average age 79.6+/−8 years vs 80+/−7 years 2,3. Length of stay remained stable despite having increasingly older (mean increased by 2 years) and complex patients (increase of American Society of Anesthesiologists physical status score (ASA) 3 by 22% and ASA 4 by 7%). Patient satisfaction scores were consistently near 100%. No CPNB related infections or unwarranted motor blockade were found.
Conclusion: A paradigm shift towards a functional-targeted continuous pain management has improved the quality of care for increasingly complex HFU patients, and promoted early ambulation and recovery. Our innovative use of CPNB is a safe and potentially new analgesia gold standard for hip fracture management.

References

1. *Australian and New Zealand Guideline for Hip Fracture Care-Improving outcomes in hip fracture care for adults*. Australian Government: National Health and Medical Research Council: 2014.
2. Hip fracture management. NICE guidelines 2014.
3. Siu AL, Penrod JD *et al.* Early Ambulation after Hip Fracture: effects on function and mortality. *Arch Intern Med* 2006: 166(7): 766–771.

P-839
Chest X-ray for hip fractures: are we missing anything?

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Background: Many feel that a pre-operative chest x-ray (CXR) in hip fracture patients is important to optimise management and avoid delay to surgery [1]. However, relevance of CXR for otherwise presumed healthy individuals aged 60 and older is contentious [1][2]. The authors investigate the outcome of routine CXR for hip fracture patients in clinical practice.
Methods: Exploratory analysis of routinely collected data in an orthogeriatrics ward of a British University Hospital over a 5-month period. All patients aged 60 and over admitted with hip fracture were included. CXRs conducted at presentation were reviewed by Radiologist and Geriatrician for pathology and then contrasted with any repeat CXR conducted during the same admission.
Results: 130 cases retrieved, of which 127 had an initial CXR. Pathology was identified in 28% of cases. During the same admission, 47% required repeat CXR. Comparison was drawn to the initial x-ray. Of these, a further 22 cases showed new pathology. More than a half showed new consolidation. Other findings included pulmonary oedema and lung nodules. Overall, 56% of the initial CXRs conducted were relevant in the immediate or later management. Those more likely to have positive findings were older, frail and had dementia. Nonetheless, pathology was evident across all age groups.
Conclusions: Almost a third of patients admitted with hip fracture had a pathological CXR. Half of conducted CXRs had a direct impact on the patients' medical management. Therefore, a routine pre-operative CXR as a baseline for patients over 60 should be included in hip fracture clinical pathways.

References

1. British Orthopaedic Association. *The care of patients with hip fractures*. The Blue Book. September 2007.
2. Royal College of Radiologists. *Pre-op CXR for Elective Surgery*. Online guidance, 2008.

P-840

Quality improvement with implementation of a checklist for safe discharge of hip fracture patients to nursing home

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Objectives: Patients living permanently in nursing homes (NH) are frail, have comorbidities, often dementia, and have high 30-days mortality after a hip fracture. They are often discharged back to the NH short time after surgery. The objective was to implement a check-list for safe discharge of these patients to improve their survival.
Methods: A quality study of NH-patients with 30-days follow up after hospital stays for surgery of hip fracture from 01.01.2014 to 31.12.2015. Data were obtained from a quality registry where information are collected by an interdisciplinary team. Deaths within 30 days after discharge from hospital was registered the year before and the year after implementation of the checklist which included normal vital signs, stable cardiovascular function, normal consciousness (Glasgow Coma Scale >13), haemoglobin second postoperative day >8 g/dL, surgical wound dry, no fever or ongoing intravenous antibiotic treatment and acceptable fluid and nutrition intake.
Results: After implementation of the checklist, 110 patients; 85 (77%) women, mean age 89 (+/−7.4) compared with 119 patients in 2014; 82 (69%) women, mean age 88 (+/−7.2) in 2014, were discharged to NH. Blood transfusions increased from 31 (26%) before to 40 (36%), p = 0.12, after implementation. LOS increased from 2.8 (+/−1.8) to 3.8 (+/−1.9) days, and 30-days mortality decreased from 16 (13.4%) to 10 (9.1%), p = 0.41.
Conclusions: After implementation of a checklist for safe discharge of NH-patients after surgery for hip fracture, we had a trend of increased number patients in need for blood transfusions, longer LOS, and decrease in short-term mortality (non-significantly).

P-841

Predicting 1 year mortality in patients after repair of fractured neck of femur (#NOF) using the Nottingham hip fracture score (NHFS)

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Introduction: Surgical repair of fractured neck of femurs (#NOFs) is associated with high post-operative mortality, poor functional outcome and significant social costs. The accurate prediction of risk pre-operatively is beneficial for several reasons – informed consent, optimisation of co-morbidities and planning of clinical management. The Nottingham Hip Fracture Score (NHFS) is a validated scoring system which uses 7 pre-operative variables to estimate 30 day post-operative mortality. We aimed to assess the validity of the NHFS to predict 1 year mortality for a cohort of patients within the Sandwell and West Birmingham Hospitals (SWBH) NHS Trust.
Methods: Mortality was retrospectively predicated by calculating the NHFS of 100 patients over 65 who underwent surgical repair of #NOF during December 2014 – May 2015. Actual 1 year mortality data was collected from the hospital NOF# database. Patients were risk stratified as low risk (NHFS ≤4) and high risk (NHFS >5).
Results: With a NHFS ≤4, average survival was 87.2%, compared to predictions of 89.9% and with a NHFS Score of >4, average survival was 73.8% compared to predications of 68.6%; i.e. predictions were very close to the actual figures obtained. An awareness of NHFS scoring has shown to improve survival rates, particularly in the high risk group.
Key conclusions: The NHFS shows promising results for use as a predictor of both 30 day and 1 year mortality following surgical repair of #NOFs within the SWBH Trust. Pre-operative risk stratification is valuable to the multi-disciplinary team to optimise care. Larger scale studies will support this further.

P-842

Results of interdisciplinary approach in elective surgery for colorectal cancer in geriatric patients: a case-control study

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Introduction: Population aging is generating an increase of hospital surgical activity in geriatric patients. Given the functional, cognitive, social and clinical profile of these patients, geriatric assessment in the context of an interdisciplinary approach it is spreading in these processes.
Objectives: To evaluate the possible improvement of hospital care quality provided by an interdisciplinary team (geriatric medicine and general surgery departments) in elective surgery for colorectal cancer.
Methodology: A case-control study in patients over 69 admitted for surgery recruited between 2007 and 2012. Case was defined as the patient treated with an interdisciplinary approach and control as patient followed by general surgery staff.
Results: The sample was composed of 320 patients (206 cases and 114 controls) with a mean age of 77 (SD = 4.99) years, 199 (62.2%) men. The cases presented a significant reduction in the odds ratio (OR) of incidence of delirium 0.19 (95% CI 0.15–0.52; p 0.001) and the OR of geriatric syndrome incidence 0.17 (95% IC 016–0.56; p 0.001). There was no difference in the length of stay. Cox regression showed no significant difference in mortality between cases and controls (p = 0.41; 95% CI 0.65–2.84).
Conclusions: Cases had a reduced risk of delirium and geriatric syndromes during hospital admission without presenting longer hospital stays neither higher mortality.

P-843

Pre-operative functional mobility as an independent determinant of inpatient recovery of activities after total knee replacement in three subsequent different timeframes and pathways: results from a single-centre cohort study

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Background: Aim was to investigate whether preoperative functional mobility is a determinant of delayed inpatient recovery of activities (IRoA) after total knee replacement (TKR). A novelty to our approach is that we investigated if the association depends on postoperative circumstances and provided care in three time periods that coincided with clinical pathway changes.
Methods: A total of 682 patients scheduled for TKR in a regional hospital between 2009 and 2015, were screened in their functional mobility by the Timed up and Go (TUG) and De Morton mobility index (DEMMI). The cut-off point for delayed IRoA was set on the day that 70% of the patients were recovered, according to the Modified Iowa Levels of Assistance Scale (MILAS) (a 5-item activity scale). In a multivariable logistic regression analysis, we added either the TUG or the DEMMI to a reference model including predictors known from the literature. Moreover we investigated whether three time period, that coincided with clinical pathway changes, modified the association between functional mobility and IROA by using interaction statistics.
Results: TUG score (OR 1.10, 95%-CI: 1.06–1.15) was a significant determinant of delayed IROA in a model also including age, BMI, ASA score and ISAR score. DEMMI score (OR 0.96, 95%-CI: 0.95–0.98) was also a significant determinant of delayed IRoA in a model with the same covariates. These associations were not modified by the time period in which the TKR took place.
Conclusion: Functional mobility test performances of patients in TUG and DEMMI are independent and stable determinants of delayed IROA after TKR.

P-844

Feasibility and impact of a geriatrician-led liaison service for older people admitted as an emergency under general surgery. Salford-POPS – GS

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Objectives: Increasing numbers of older people undergo emergency hospitalisation and surgery. Comprehensive multidisciplinary has proven its value in orthopaedics and vascular surgery.
Methods: This prospective study describes patient characteristics and the impact of a geriatrician-led liaison service for older people admitted non-electively to general surgery. We provided daily case finding, multidisciplinary assessment, patient tailored interventions and discharge planning.
Results: Between 9th September 2014 and 30th November 2015 the liaison service reviewed 300 patients. Seventy individuals (23.3%) underwent surgery, 82 (27.3%) a non-surgical procedure, and 148 (49.3%) were managed non-invasively.
Mean age was 82.5 years (70–98), 61.3% ≥80 and 55.7% female. Most individuals lived in their own home (90.7%), were independent in basic (77.5%) and instrumental (52.5%) activities of daily living. 46.3% mobilised with no walking aids or using a stick.
Multimorbidity (5.2 chronic conditions on average, and 96% ≥2) and polypharmacy (8.6 medications on average and 41.4% taking ≥10 at presentation) were the norm. Liver and biliary conditions (23%) and cancer (19.3%) were the most common diagnoses. Median and mean length of stay were 8 days and 13 days (1–207).
30-day readmission rate was 14.3% (40/279). Mortality rates in hospital, 30-days after hospital admission, 30-days after surgery and 30-days post-discharge were 7% (21/300), 8.7% (26/300), 8.6% (6/70) and 5.4% (15/279) respectively.
Conclusions: Older individuals admitted non-electively under general surgery often have cognitive or functional impairment and complex social issues. A geriatrician-led liaison service facilitates recognition of complications, enhances management of multimorbidity and polypharmacy and drives discharge planning.

P-845

Prognostic factors in non-cardiac surgery in elders

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Background: Demographic transition have increased the number of elders who develop surgical need. There is few evidence among prognostic factors in the perioperative period in elders. Objetive: Find factors associated to complicagtions in the posoperative period among elder patients who underwent non-cardiac surgery.
Methods: Observational, descriptive, prospective trial which included patients 65 years and older who underwent non cardiac surgery. Data were taken from the patient's file. Inclusión criteria: patients 65 years or older who underwent non cardiac surgery. Exclusion criteria: ambulatory procedures and discharge before 24 hrs. We measured the baseline characteristics of the patients: age, gender, tipe of surgery, acute renal failure, vasoactive medications, current medications, laboratory results and geriatric syndromes. The main outcome was to identify factors associated to morbimortality in the posoperative period. Stadystical Analysis: Software SPSS. Cuantitative variables were analized by T Student, cualitative variables were analized by chi square test.
Results: Between july 2013 and june 2014 we included 100 patients 65 years and older who undergent non cardiac surgery. The mean age was 78.5 years old. 47.5% were scheduled procedures. The mean length of stay was 11.3 days, the patients of the neurosurgery department stayed longer. Acute kidney injury, depression, falls, sore ulcers and incontinency were associated with poor prognosis. The main complications were delirium, and pneumonia.
Conclusions: The elderly patient often needs surgery, scheduled or urgent. Most issues related to a poor prognosis may be corrected or prevented. Age is not related to a poor prognosis in elderly surgery patients.

P-846

Hemodynamic, geriatric and quality of life assessment after aortic valve replacement in an old population hospitalized in Liege University Hospital Belgium

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Introduction: Surgical aortic valve replacement (SAVR) remains the standard treatment of symptomatic aortic stenosis, though transcatheter AVR is indicated in non suitable surgical candidates. Risk of morbidity and mortality are satisfactory in aging subjects. Few data are available concerning the quality of life in the long-term after AVR.
Methods: We performed a retrospective study on 108 patients (age: 79 ± 5 years) who underwent surgical AVR or combined with coronary artery bypass between January 2001 and December 2006. In 2012 (6.6 ± 1.4 years after surgery), an echocardiography, a comprehensive geriatric assessment (CGA), an evaluation of quality of life were obtained.
Results: 30-day mortality was 9.2%. Survival at 1, 3, 5-year was 83%, 69.6%, 55.1%. Renal ($p = 0.011$) and respiratory ($p = 0.005$) failure, stroke ($p = 0.031$) and delirium ($p = 0.002$) increased the risk of early death. Pre and post surgery hemodynamic values showed a drop in mean aortic pressure gradients ($p < 0.0001$), an increase of effective orifice area ($p < 0{,}0001$). 67% of patient still living at home. The average Mini Mental State was 25.6 ± 4.2, 20% had a risk of malnutrition, and 10% had a suspicion of depression. 40% of the patients had fallen within 6 months. Quality of life was worse for physical activity and perceived health, better for limitations due to psychic state, physical pain, vitality and relationship, and similar on the limitations due to physical state and mental health.
Conclusion: Surgical AVR in elderly patients with aortic stenosis can be performed with an acceptable mortality. Both long-term functional recovery and quality of life appear reasonable.

Area: Psychiatric symptoms and illnesses

P-847

Psychotropic medication reconciliation: considering orthogeriatric unit admission a chance of therapeutic switch

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Introduction: The geriatric patient is particularly susceptible to serious side effects (falls, delirium, daily somnolence) of psychotropics (benzodiazepines, hypnotics, neuroleptics). Therefore, its withdrawal could possibly improve their quality of life. When considering psychotropic withdrawal, trazodone presents an ubiquitary action and a safe profile.
Objectives: To implement a psychotropic prescription withdrawal by alternative prescription of trazodone in an Orthogeriatric Unit during hip fracture perioperative period.
Material and methods: Retrospective observational descriptive study. Population: 65-year-old patients or older with hip fracture consecutively admitted in an Orthogeriatric Unit (June 2015 – May 2016). Inclusion criteria: on >3 month psychotropic treatment, eventual psychotropic side effects. Source: Medora®, Farmatools®, anamnesis and global geriatric assessment file. Database and statistical analysis: FilemakerPro®.

Results: N = 51 patients; 82.4% women; mean age 88 years old; 8.6 medicines per patient; 6 patients: more than 1 medicine withdrawal; 34 immediate replacement; 10: dose reduction; 9: posology frequency reduction. Removal of 44 benzodiazepines, 5 hypnotics, 2 tricyclic antidepressant. 100% started trazodone as an alternative treatment. Prescription follow up monitoring: 42 patients maintained prescription switch recommendation.
Conclusion: In patients presenting psychotropic adverse side effects, trazodone could be an adequate therapeutic alternative on psychotropic withdrawal. The stay in Orthogeriatric Units due to hip fracture could be a suitable moment to assess the convenience of withdrawal, reduction or substitution of some chronic medications, specially psychotropics.

P-848
Prevalence and risk factors of depression in elderly inpatients

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Objectives: Depression in the elderly is a widespread problem that is associated with several psychosocial and medical factors. The aims of this study were to estimate the prevalence of depression and to identify its associated factors in elderly hospitalized patients.
Methods: A descriptive and analytic study including 60 inpatients aged over 65, who were hospitalized in the Internal Medicine department of CHU Hédi Chaker, Sfax, during the period from September 2015 until January 2016. Data collection was conducted via a questionnaire exploring sociodemographic and medical data. Depression was assessed by the 15-item Geriatric Depression Scale (GDS-15).
Results: The average age of patients was 73, 48 ± 6,57 years. The socioeconomic level was mostly middling (83,3%). In our study, 18.4% of patients were living alone. Social and family problems were reported by 18.3% of patients. According to GDS-15, 21.7% of cases suffered from severe depression (score >12). A significant association was found between Female sex (p = 0,004), social or family problem (p = 0,000), social isolation (p = 0,001) and being dependent for activities of daily living(p = 0,005) with severe depression.
Conclusion: Depression is very common in elderly hospitalized patients. A systematic screening for this trouble in this population seemed to be necessary.

P-849
Deciding on the treatment for challenging behaviors in patients with dementia

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Introduction: There is concern about prescribing antipsychotics for patients with neuropsychiatric symptoms. For patients with dementia, physicians have to make the treatment decision together with proxies. It is unknown whether physicians, nurses and proxies would make the same treatment choice for the patient. Therefore, this study compares the ranking of attributes of antipsychotic treatment according to its importance for the treatment decisions between these groups.
Method: 16 and 10 attributes were selected for physicians/nurses and proxies respectively. A scenario depicting a patient with dementia demonstrating neuropsychiatric symptoms was shown and respondents had to choose an appropriate treatment (antipsychotics/non-pharmaceutical treatment). The attributes were rated by the respondents according to their choice using a Best-Worst Scaling case 1 design.
Results: 41 physicians, 81 nurses and 59 proxies filled in the questionnaire. The antipsychotic treatment option was chosen by 71% of the physicians, 71% of the nurses and 52% of the proxies. The respondents who chose antipsychotics rated "leading to a result the fastest" and "most effective" as most important. Only proxies rated the factor "having a low negative impact on the patient" as important. Of the respondents choosing the non-pharmaceutical treatment, nurses and elderly care physicians ranked "appropriateness" and "of little burden to the patient" as important. Proxies ranked "effectiveness" and "least negative impact on the patient" as important.
Conclusion: Effectiveness and negative impact of the two treatments were ranked differently. Proxies should be informed about side effects of psychotropics, and consented in a shared-decision making process about the preferred treatment option.

P-850
The outcomes of a care pathway for depression screening among respiratory insufficiency patients in pulmonary outpatient clinic

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Introduction: Major depression is prevalent, but often undiagnosed, among patients with chronic respiratory insufficiency. We developed a care pathway for identifying depression in patients visiting a tertiary care pulmonary outpatient clinic. Patients with Depression Scale (DEPS) scores suggesting depression were offered a referral to psychiatry service.
Methods: 149 patients (mean age 71 years, 60% males) visited the clinic during a five-month period. The most prevalent diagnoses were COPD (50%), sleep apnoea (34%), and obesity-hypoventilation (26%). 47% were using long-term oxygen therapy and 60% non-invasive ventilation. We evaluated the outcomes of the care pathway by retrospectively reviewing patient records.
Results: DEPS was administered to 98 patients (66%), of whom 24% scored ≥12 exceeding the cut-off for referral. Twelve patients refused referral. Of the eight patients referred, five patients were finally evaluated by a psychiatric nurse, and they all were deemed depressive. Age, gender, body mass index and pulmonary disease diagnoses were comparable in groups scoring <12 and ≥12 in DEPS. 12/25 of patients with smoking history >40 pack-years had positive screen, compared to 5/29 with 20–40 pack-years and 7/44 with lesser or no smoking history (p = 0.007). History of depression (7/16 vs. 17/82, p = 0.060) and poorer lung function (FEV1% 32.5 vs. 51, p = 0.098, n = 57) seemed to be associated with higher DEPS scores.
Key conclusions: Depression screening was positive in one-fourth of screened patients. Patients' compliance for further mood evaluation in psychiatry outpatient clinic was poor. Screening, evaluation and beginning of treatment should be done in parallel with the treatment in pulmonary clinic.

P-851
Clozapine induced cardiomiopathy in Parkinson's disease

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Introduction: Cardiomyopathy is considered to be a very rare, potentially fatal adverse reaction (ADR) associated with clozapine, although the real incidence might be greatly underestimated. So far, this ADR has only been described in relatively young schizophrenic patients, with higher incidence reported rates in Oceania. But clozapine is also used to treat psychotic symptoms in elderly patients, like patients with Parkinson's Disease (PD).
Method: We searched for cardiomyopathy cases associated with clozapine in PD existing in the European pahrmacovigilance database (Eudravigilance), which includes spontaneously reported ADR from the European Economic Area and in the case of clozapine, for which the marketing authorization holder is in Switzerland (Novartis), notifications from anywhere in the world. The Pharmacovigilance

Unit of the Basque Country performed a search using Standardized MedDRA Query "cardiomyopathy" in Eudravigilance database in February 2015. Secondly, cases affecting PD patients were selected and further analysed.
Results: Five cardiomyopathy cases in PD patients were found. Mean age: 70 ± 11.4 years (range 54–86). All patients were male. Two cases were notified in Ireland, 1 in France, 1 in Germany and 1 in USA. Clozapine dose was only known in three of the cases (12.5, 25 and 100 mg/day respectively). Latency was 6 years in one case, unknown in all the other reports.
Conclusions: Clozapine associated cardiomyopathy is not circumscribed to young schizophrenic patients. This potentially fatal adverse event ought to be considered when prescribing clozapine to elderly patients, like patients with PD.

P-852
Emotional and social loneliness, and depressive symptomatology among adults aged over 50

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Objectives: Previous research indicates that loneliness precedes depression, but little attention is paid to a putative reciprocal relationship between the two. We investigated whether a putative reciprocal causative relationship exists between depressive symptomatology, and emotional and social loneliness.
Methods: Using the data of 301 participants aged 50–83 (62% female) who partook in two waves of an observational cohort study, we used cross-lagged panel analysis within a Structural Equation Model to investigate potential relationships between loneliness and depressive symptomatology at two time points, controlling for covariates age and sex. We then analysed data from 5698 participants in the Irish Longitudinal Study of Ageing, aged 50–80 (66% female) to investigate whether depressive symptomatology is associated with changes in loneliness over time.
Results: Emotional loneliness was predicted by depressive symptomatology (beta = 0.280, $p < 0.001$), but not vice versa (beta = 0.054, $p > 0.05$). Social loneliness was also predicted by depressive symptomatology (beta = 0.128, $p < 0.001$), but not vice versa (beta = –0.038, $p > 0.05$). We then investigated whether depressive symptomatology at baseline predicts a base-free measure of change in overall loneliness between two time points, and found that it did (beta = 0.004, $p < 0.01$, controlling for covariates) although anxiety symptomatology was a better predictor (beta = 0.331, $p < 0.001$).
Conclusions: We report that depressive symptomatology precedes emotional and social loneliness although the link between depression and changes in loneliness over time is relatively small. Implications for clinicians treating patients with depressive symptomatology are considerable, given the deleterious outcomes associated with loneliness in later life.

P-853
Improving the detection of delirium, depression and suspected dementia in community hospital settings

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Introduction: Mental health disorders in older people are significant contributors to poor outcomes for hospital patients. Literature suggests hospital mental health liaison services must enable general hospital staff to better detect and manage the most common disorders.
Methodology: This pilot study introduced a combined screening tool in community hospitals for delirium, depression and dementia (the 3Ds). Three PDSA improvement cycles across three community hospitals over 18 months implemented a 3Ds Triple Screen supported by formal teaching, supervised practice and clinical pathway guidance delivered by an older people's mental health liaison team. Mixed methodology included pre- and post-implementation questionnaires gathering nurses' perspectives on confidence, competence and knowledge around detection and management of the 3Ds. Quantitative analysis related to referral rates to the liaison service, usage of the Triple Screen, incidence rates for the 3Ds and uptake of appropriate clinical pathways.
Results: Results indicate 50% reduction in referrals to the mental health liaison team, and incidence rates of delirium (22%), depression (59%) and dementia (32%) in keeping with UK national estimates for this population. 75% of nurses reported improved confidence in detection and management despite initial versions of the tool proving complex and burdensome. Informal feedback highlighted practice change towards more discussion with families to establish accurate clinical histories.
Conclusions: These results justify wider roll-out of the pilot to other community hospitals and have precipitated tool re-design and process enhancements derived directly from nurses' feedback. Greater focus is required on data quality and quantity to enable improved analysis of the project effects.

P-854
Depression as a predisposing factor to the low quality of life in elderly

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Introduction: Based the need to understand the determinants of quality of life (QOL) during aging and increased rates of depression in the elderly, this study aimed to evaluate the QOL associated with depression elderly in Basic Health Unit of the Federal District, Brazil.
Method: Quantitative approach, descriptive and cross-sectional with 277 elderly conducted from February to July 2013 used a semi-structured questionnaire, Geriatric Depression Scale, WHOQOL-OLD and WHOQOL-BREF. For analysis was used SPSS 20.0. Research approved by the Research Ethics Committee of SES/DF 194/10.
Results: In the sample prevailed females (63.5%), aged between 60 and 65 years (45.8%), retired (53.4%), married (54.9%) with complete primary education (73 3%), with income up to one minimum wage (59.9%), do not live alone (83.4%), non smoker (88.1%), non-alcoholic (90.3%) and sedentary (61, 7%). Depression was found in 37.2% (95% CI 31.0–42.6). The highest score of WHOQOL-BREF were Social Relations (M = 80.91) and worse in the Environment (M = 67.93). In the WHOQOL-OLD, better QOL was in past, present and future activities (M = 15.30) and worse Death and Dying (M = 14.56). The Cronbach's alpha showed homogeneity of the domains and facets. Elderly people with depression had poorer QOL in four domains of WHOQOL-BREF and the facets of the WHOQOL-OLD ($p < 0.001$).
Conclusion: Prevention is the best way to help the mental health of older people and reduce the damage to their QOL.

P-855
Primary insomnia and acupuncture – is there any evidence?

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Introduction: Primary insomnia is a common health issue, affecting 10–20% of worldwide population and its incidence increases with age. The aim of this study was to assess the evidence for the efficiency of the treatment of insomnia with acupuncture.
Methods: We performed a survey of clinical guidelines, systematic reviews, meta-analysis and randomized-controlled trials in Medline, Cochrane Library and National Guideline Clearinghouse (NGC), published between January 2009 and May 2016, in Portuguese and English, using the MeSH terms insomnia and acupuncture. Exclusion criteria: secondary insomnia, patients with other psychiatric disorders, cancer, ongoing hemodialysis treatment, menopause, studies that excluded elderly patients, studies that compared different auricular point prescriptions or stimulations in parallel groups and evaluation of acupuncture physiological effects. The SORT (Strength of

Recommendation Taxonomy) scale of the American Family Physician was used to grade the evidence.
Results: Thirty-seven studies were found. We selected one NGC guideline, three meta-analysis, four systematic reviews and three randomized clinical trials. There is consistent evidence of better quality and efficiency of sleep after treatment with acupuncture when compared with placebo, hypnotic drugs or sham acupuncture, but the quality of the studies analyzed was low (level 2). Therefore we attributed a level B recommendation.
Conclusion: Although most studies report some improvement of sleep, the current evidence is not rigorous enough to allow a high strength recommendation. Therefore we cannot refute or support the use of acupuncture. Better studies are needed, with larger sample size and better methodological quality.

P-856
Acute confusional syndrome in hospitalized patients with hip fracture

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Delirium is a frequent complication in hospitalized patients.
Objective: Determining characteristic of admitted patients suffering from hip fracture and delirium during their hospitalized period.
Material and methods: Observational, longitudinal and retrospective study of admitted patients medical records that suffer from hip fracture and have delirium during hospitalization period. Variables: sex, age, hospitalized period, domicile, type of delirium, beginning and duration, associated pathologies and consumed medicines. Tracing: 60 days. Statistical treatment: SPPSv.15.
Results: n = 66. Males:27,3%. Female:72,7%. Average age 85,1years; no sex differences. Average stay:14,1days; males 20,5 days; female:12 days. (Double stay for male). Domicile: Family 71,2%, Alone 6,1%, Residence 22,7%. Delirium: Hyperactive: 66,1%. Hypoactive:16,7%. Mixed:16,7%. Beginning of delirium:1st day:24,2%, 2nd day:16,7%, 3rd day:13,6%, 4th day:10,6%, 5th day: 1,5%, 6th day:13,6%, 6th day more than:7,5%. Delirium duration: Average duration: 2,4days. 40,9% 1day. 25,7% 2 days. 10,6% 3 days. 3,6% 4 days, 5 or more days 9%. Associated pathologies: Average pathologies: 3,1. Hypertension: 66.7%, heart disease: 34,8%, neurological disease: 34,8%, diabetes: 28,8%, dyslipidemia: 25,7%, psychiatric disease: 19,7%. respiratory disease 10,6%, renal failure:9,1%. Average consumption of drugs:4,8. Treatment: Surgery: 90,9%. Conservative: 9,1%.
Conclusion: The most common type is the hyperactive delirium lasts an average of 2,4 days and is presented in the first 24 hours. The comorbidity associated with delirium was hypertension, heart and neurological disease. The patient "type" with hip fracture who suffered delirium during hospitalization is a woman of 85 years with heart and neurological disease, which has an overactive delirium in the first 24 hours, lives in the family home, taking an average of 4 drugs, receives surgical treatment and remains hospitalized about 14 days.

P-857
Psychological predictors of the development of impulse control disorders in Parkinson's disease

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Introduction: Parkinson's disease is a progressive neurodegenerative disease affecting the motor system with myriad non-motor manifestations. Impulse control disorders (ICDs) are increasingly recognised as a complication of Parkinson's disease and, particularly, dopamine agonist therapy. ICDs involve behaviours that are performed repetitively, excessively and or compulsively to an extent that they interfere in major areas of life functioning and can have devastating consequences. Examples include hypersexuality, pathological gambling, punding and dopamine dysregulation syndrome. The aim of this review is to identify psychological factors that may be predictors of the development of ICDs in patients with Parkinson's disease. This may assist clinicians in determining the risk of ICD development when commencing a dopamine agonist and to advise caregivers and primary care physicians to be more vigilant.
Methods: Databases were systematically searched up to 15th April 2016, identifying 23 studies meeting inclusion criteria.
Results: Significant psychological predictors of the development of impulse control disorders included impulsivity, novelty seeking personality traits, alexithymia, mood disorders, anxiety, obsessive compulsive disorder and higher scores on neuroticism, social introversion and alienation-self/others on personality inventories. There was also an association with lower scores on agreeableness and conscientiousness.
Conclusions: There is a well-documented association in the literature between several underlying personality traits and psychiatric disorders with the development of impulse control disorders in Parkinson's disease. These factors could be used to predict the development of ICDs in patients with Parkinson's disease.

P-858
Psychometric properties of Hospital Anxiety and Depression Scale (HADS) in Iranian older adults

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Objectives: Co-morbid symptoms of anxiety and depression in older adults is associated with more physical and mental health complications. Late-life anxiety and depression can often be silent, missed or difficult to diagnose as older adults tend to express their emotions by body complaints. The present study evaluated the psychometric properties of Hospital Anxiety and Depression Scale (HADS) in Iranian older adults.
Methods: In this methodological study, 230 community-dwelling older people recruited. Subjects completed Persian version of HADS, Depression in Old Age Scale (DIA-S), General Practitioner Assessment of Cognition (GPCOG) along with a socio-demographic questionnaire. Internal consistency was measured by Cronbach's α and reliability evaluated by test-retest method. Factor structure of HADS was evaluated by principal component analysis.
Results: The mean age of the sample was 70.67 ± 9.51 years and 57.4% were male. Mean score of anxiety and depression were 7.43 (SD:2.51) and 10.22 (SD:2.81), and the frequency of anxiety and depressive symptoms were 18.4% and 21.1%, respectively. The Cronbach's α for HADS score was 0.844, indicating a high degree of internal consistency. Factor analysis revealed a two-factor solution that supported the theoretical construction of the scale. Higher HADS score was associated with higher DIA-S score and lower GPCOG score that confirmed concurrent and convergent validity. Significant correlations were found between age, gender, marital status and schooling and the HADS scores.
Conclusion: Persian version of HADS is of appropriate validity and reliability. It can be used as a screening instrument for anxiety and depressive symptoms in Iranian older people.

P-859
A quality improvement project to reduce violence and aggression enhancing patient's sense of safety on an older adult mental health unit

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Background: A local audit identified that 46% of patients felt unsafe during their in-patient stay and this was correlated with a high incidence of violence and aggression on the ward.

Aim: To implement and evaluate the impact of an enhanced therapeutic environment within an acute mental health unit on rates of violence and patients' sense of safety.
Project Design: A Quality Improvement project using PDSA cycles was used to address patients' safety concerns and ward violence. Over a six month period a project team worked with staff and patients to enhance the therapeutic environment including: creating an indoor garden, improved signage, staff training audit and feedback of ward environment using observation and the Ward Atmosphere Scale (completed by patients and staff). Outcome measures included monthly rates of violence and aggression, anti-psychotics prescribing and staff sickness. Patients' and staff perception of safety was measured using the Ward Atmosphere Scale (WAS).
Findings: Recorded incidence of physical aggression reduced by 40.4% and incidences of verbal aggression by 59.3% (47–28 and 81–47 respectively). Patients self-reporting of "feeling safe" on the ward increased to 100%. Rates of staff sickness reduced by 64% whilst prescribing of anti-psychotics was reduced by 26.9% on admission. There has been sustained improvement following the project.
Conclusion: The enhancement of the therapeutic environment combining staff training and environmental changes improved outcomes for patients and staff. Involving the patients and staff in all stages of the redesign created a sense of ownership and pride.

P-860
Catatonia, an underdiagnosed disease

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Introduction: Catatonia is a neuropsiquiatric syndrome, characterized by mutism, stupor, refusal to eat or drink, posturing, and excitement or hypokinesis. In spite of its important symptoms, it is not diagnosed correctly, delaying the treatment and increasing secondary complications. Benzodiazepines and ECT have been the main treatment for years.
Case: Male 89 years old. Personal history of Alzheimer disease with behavioral symptoms in treatment with risperidone. He walks with a cane and is dependent for basic activities of daily living, he lives in nursing home. Consultation for rigidity of 8 days of evolution, negativism, oppositional and fluctuation in the level of consciousness. He suffered a fall two days ago with a head trauma and symptoms of respiratory tract infection. On physical examination, the rigidity, mutism, oppositional, waxy flexibility, maintenance of antigravity positions, positive Grasping and sweating are emphasized. Cranial CT, electrocardiogram and chest radiography are normal, in analytical highlights a sodium 124 mEq/L and CK 634 U/L. Initially, respiratory tract infection is treated, hyponatremia and neuroleptics are removed, but despite everything, evolution is torpid, so reassessing the patient is diagnosed catatonia, with a score on the scale Bush-Francis 16/69. It starts treatment with lorazepam 2 mg every 8 hours, responding favorably and reversing symptoms.
Conclusion: Catatonia is an underdiagnosed disease which poses a diagnostic challenge and we must think about it, as it produces a large potentially reversible functional impairment with the establishment of an appropriate early treatment.

P-861
Loneliness and self-stigma among older adults with mental health problems in care homes

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Background: Loneliness associates with negative effects on older adult's health, while mental illness stigma associates with poor quality of life including increase social avoidance and isolation. There is, therefore, a potential inter-relationship between loneliness and mental illness self-stigma in older age, yet a limited number of studies aimed at examining it.
Aims: The aim of this study was: (a) to examine the inter-relationships between loneliness and self-stigma among older adults with mental health problems in nursing homes, and (b) to explore how this population experiences loneliness and self-stigma.
Methods: A mixed-methods approach was utilised. The first phase involved a questionnaire survey (n = 16), while the second phase involved a qualitative study (n = 10).
Results: Low levels of self-stigma (56.3%) were reported. However, a substantial number of older adults scored high on the self-stigma scale (43.8%). A relationship between stereotype endorsement and marital status (sig. = .010) was identified. More than half of the sample (68.8%) reported feelings of loneliness. There was also a correlation between loneliness, age (sig. = .062) and religiosity (sig. = .044). Seven themes emerged from the qualitative analysis: "social loneliness', "emotional loneliness", "emotional reactions", "coping mechanisms", "degree of insight into illness", "understanding and view towards mental illness", and "behavioural reactions".
Discussion: The small sample size of the quantitative study reveals the various methodological challenges in implementing research in long term care facilities. However, the qualitative study provides useful insights into the topic.
Conclusions: The study offers the platform for further investigation on the topic, while discusses implications for policy and practice.

P-862
Geriatric depression under-diagnosis: a population study

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Introduction: Previous prevalence estimates of geriatric depression have varied, showing that depression among the elderly might be under-diagnosed and under-treated. Nonetheless there are few population-based studies in Portugal.
Methods: The aim of this population-based study was to investigate the depression prevalence among the elderly patients aged 65 or over from a primary care facility in a rural setting (UCSP-Mira), applying a well-defined instrument – the Geriatric Depression Scale 30 (GDS30). The patients were randomly selected in the waiting room between 1st December 2015 and 31st March 2016. Any patient not registered at UCSP-Mira was excluded. Previous medical records were compared with the calculated scores and the probable undiagnosed depression rate was assessed. The previous use of antidepressants was characterized according to pharmacological major group, and related to the population identified morbidities.
Results: The depression prevalence rate registered at UCSP-Mira 13,3%. 116 nondemented individuals were enrolled; this sample represented 5% of the elderly population registered at UCSP-Mira; approximately half of the community-based elderly people who complied with the test had self-reported indications of depression (GDS30 > 11). Over 89% presented morbidities when compared with 64% among those who had not self-reported depression. A high percentage of elderly patients were prescribed antidepressants regardless of previous medical diagnosis or self-assessed depression.
Conclusion: The obtained results showed high rates of underdiagnosis, which leads to an inadequate pharmacological approach. This study raises medical awareness to this problem among the elderly population, where diagnosis and further intervention is might be more challenging.

Area: Urology and continence management

P-863
Urinary tract infections in elderly

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Objectives: Urinary tract infections (UTI) in elderly are frequent and polymorphic clinical symptoms. This is a public health problem both in support and cost they generate. The aim of the study is to study the epidemiological, clinical, paraclinical and therapeutic aspects of UTI in the elderly.
Methods: We conducted a retrospective study of 50 cases of UTI in the elderly collected in the Internal Medicine Department at Habib Thameur Hospital between January 2011 and December 2015 (Group I). We compared this group to another group of patients aged below 60 years also explored for UTI in the same service and during the same period (Group II).
Results: They were 37 women and 13 men in group I and 41 women and 9 men in the group II. In group I, the average age was 74.10 ± 6.7 years, in group II 43.58 ± 11.26 years. In group I, 35 patients (70%) showed no evidence of suspicion of a UTI on admission. 15 patients (30%) were admitted for suspected UTI. In group II, 36 patients (72%) showed no evidence of suspicion of a UTI on admission. 14 patients (28%) were admitted for suspected UTI.
Urological abnormalities underlying the UTI, detected by ultrasound, were more frequent in Group I (40%) than in Group II (12%).
Second-line antibiotics, due to the likely resistance of the micro-organism, had to be prescribed in 16% cases in Group I vs. 4% of cases in Group II. The evolution under antibiotic treatment was marked by the occurrence of 3 deaths and transition to renal failure in 4 cases for Group I. In Group II, the outcome was favorable in all cases.

P-864
Penile Cuff Test in old patients: feasibility in real life

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Introduction: The aim of this study was to assess the Penile Cuff Test (PCT) feasibility (non invasive cystomanomety) on a daily practice, for patients admitted for a treatment of lower Urinary tract symptoms.
Method: During the first three months of 2014, all patients admitted at University Hospital of Grenoble for a procedure to relieve prostate obstruction were included in the study (>50 years). All categories of limitations to the use of PCT were collected; for patients who underwent PCT, figures of pressure flow were collected on the modified nomogram of the ICS.
Results: Fifty patients were included (mean age 76 y (50–92). Out of 50, 16.4% of the patients could perform PCT. 60% were showing an obstruction (average voided volume 181,8 mL). Limitations to PCT realization were, presence of urethral, or a suprapubic catheter (30,9%), severe cognitive disorder (12.4%), no urge to urinate (16.4%), technical problem during the procedure (16,4%), patients had urethral stenosis (5,4%). The mean prostate volume was 60 g (30–120). The mean IPSS score was 18.8/35 (7–31), and the average index of quality of life was 4.78/6 (2–6). Procedure duration was 10 minutes. Eligible patients rated the difficulty to use the PCT 3/10 on an EVA scale (0 = very easy, 10: very difficult).
Key conclusions: This study highlighted the requirement to select patients precisely, despite that elderly patients should get the greatest benefit from PCT. Severe cognitive trouble, frequent preoperative urinary retentions are the main limitations. patients who underwent PCT found it simple.

P-865
What patients don't tell and what we do not ask? Continence service development steering group at district general hospital

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Urinary and faecal incontinence becomes increasingly prevalent with age. Despite the frequency of the problem, bladder and bowel dysfunction is not talked about openly. In our Trust in survey questionnaire, 90% of patients complaint of urinary incontinence, 65% complaint of faecal incontinence. Promoting awareness of continence issues and development of structured continence pathway may reduce prevalence of urinary and faecal incontinence in our Trust and improve patient's quality of life. We introduced Continence Steering Group and Continence Service to identify and improve the gaps in continence care. Our project was divided into 3parts: 1. Catheter Audit 35/103 patients had an indwelling catheter, 24/35 short term catheter, only 3/24 had TWOC, 2/24 had procedure explained to them and 2/24 had documented consent, 8/24 had bowel assessment done prior catheterisation and 1/11 patients had prostate examined. 2. Urinary Continence Audit 64/103 patients with urinary incontinence(UI). 60% of patients had UTI/Urosepsis with the subsequent morbidity with potential increased mortality. There was also poor awareness of the importance of concomitant bowel management and prostate assessment in the care ofUI. 3. Faecal Continence Audit 33/103 patients with faecal incontinence (FI). 40% of FI was associated with dementia,faecal loading and poor mobility. 58% of patient were FI daily. We identified very poor history and examination to look for cause of FI including basic rectal and abdominal examination. Urinary and faecal continence is common yet not comprehensively assessed. Partial assessments are leading to partial management of the causes of UI and FI with poor implementation of the right treatments. We have identified important educational and clinical governance issues to be addressed in different forums. We developed Continence Steering Group to improve our service and introduce continence pathways. A prospective study is currently being undertaken to validate this.

P-866
Kegel exercises in the incontinent older woman – is it worth it?

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Introduction: Urinary incontinence is a common affliction in women, especially in the elderly. While some cases might need surgery to mitigate the symptoms, others will not be eligible for it. Kegel exercises have shown a beneficial impact in urinary incontinence progression in younger age groups, so the transposition of these results to the elderly women would allow an improvement in quality of life without aggravating the polymedication concern.
Objective: To evaluate the efficacy of Kegel exercises in urinary incontinence symptoms in the elderly.
Methods: We searched PubMed with the terms: incontinence, Kegel and elderly with a time frame from 01/01/2000 to 30/04/2016. The Grading of Recommendations, Assessment, Development and Evaluation (GRADE) system was used to rate the quality of the evidence and recommendations.
Results: Our systematic search returned 27 papers from which 2 matched the inclusion criteria of women with at least 65 years and the evaluation of Kegel exercises efficacy. Considering a low quality of evidence from a randomized controlled trial and a prospective study, with a total of 87 participants, we could only provide a weak recommendation for the application of Kegel exercises.
Conclusions: In both cases the routine of Kegel exercises showed an improvement (32% and 36.4%) in the PAD test after 8 weeks of treatment. We can say that the Kegel exercises could be recommended to selected patients. However, it is necessary to conduct randomized clinical trials with larger samples and longer follow-ups to determine the real benefit in the elderly women.

P-867
Prospective study of the impact of urethral catheterization on geriatric inpatients

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Introduction: Catheter-Associated Urinary Tract Infection (CAUTI) remains one of the most common healthcare-associated infections. International guidelines agree on appropriate indications for the use of urethral catheterization (UC): acute urinary retention, perioperative

applications in selected procedures and accurate measurement of urine output in critically ill patients. The purpose of this study was to evaluate the impact of iatrogenic UC in hospitalized geriatric patients.
Methods: Prospective study including all geriatric patients (65 years or older) admitted to an Internal Medicine ward at our center in April 2016 who have UC during the hospital stay. RESULTS: In this period, 78 patients were admitted, 64 (82%) were geriatric. Among these, UC was performed in 43 (65%). Pneumonia and heart failure were the two most common causes of hospital admission. Median UC duration was 8 days (1–36). Most patients had no absolute indication for its use (60%). The most common reason for inappropriate UC was monitoring of urine output in non-critically ill patients. CAUTI incidence was 8% and 22% patients were still on UC when discharged from hospital. Older patients (90 vs 81 years) and those with a longer duration of UC (18 vs 8 days) were more likely to develop CAUTI, although such differences were not statistically significant ($p < 0,05$).
Conclusions: Most patients had inappropriate UC. Our sample size probably limited our outcomes. Nevertheless, duration of catheterization and age appear to be important risk factors for developing CAUTI. These results suggest that clinicians shall seek a multimodal approach in order to reduce unnecessary UC use.

P-868
A quality improvement project of "trial without catheter" practice – promoting continence care

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Objectives: To assess the "trial without catheter" (TWOC) practice in two geriatric hospitals, introduce a standard operating procedure (SOP) and improve the current practice and documentation thus promoting continence care in the elderly.
Methods: Data collection from patients' notes and discussions in interdisciplinary meetings including a consultant geriatrician with special interest in continence care and a continence nurse specialist.
Results: Poor documentation and variability in practice was noted in both hospitals. This led to the disregard of factors which potentially led to a failed TWOC. Standardisation and improved documentation were achieved after introducing a SOP.
Conclusion: TWOC is as important as catheterisation. Service provision and documentation can be improved by standardising the practice through discussion between professionals caring for the elderly. 15–25% of elderly in-patients require catheterisation [1]. "Trial without catheter" (TWOC), is therefore a common procedure. However, there is a lack of guidelines to standardise it, with healthcare trusts following their own SOPs. The only evidence-based review available is that published by "The Cochrane Collaboration" which aims to establish the best practice for TWOC based on the results of randomised and quasi-randomised controlled trials. The lack of standardisation was noted in two geriatric and rehabilitation centres on the Maltese Islands. This quality improvement project assessed TWOC procedures, compared them to the suggestions laid out by the Cochrane review and changed practice by establishing an SOP, a documentation form and educating doctors and nurses involved in continence care of elderly patients.

Reference

[1] Griffiths R, Fernandez R. Strategies for the removal of short-term indwelling urethral catheters in adults. *Cochrane Database of Systematic Reviews* 2007, Issue 2. Art. No.: CD004011. DOI: 10.1002/14651858.CD004011.pub3.

P-869
Factors associated with elevated post-void residual volume in a comprehensive geriatric outpatient assessment after hip fracture in older women

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Objectives: Elevated post-void residual (PVR) volumes in older patients may suggest detrusor underactivity (DU), a poorly understood geriatric condition. We examined the prevalence and factors associated with elevated PVR volume in a sample of older women undergoing comprehensive geriatric assessment (CGA) after hip fracture in an outpatient setting.
Methods: The data consisted of 409 women aged 65 years and over invited for an outpatient CGA including PVR measurement with a bladder-scan 4–6 months after the hip fracture. PVR of 160 ml or more was deemed elevated. Age-adjusted univariate logistic regression analyses were conducted separately for each domain of the CGA with odds ratios (ORs) and 95% confidence intervals (CI).
Results: Of the patients 64 (15.6%) had elevated PVR. In the CGA, difficulties in physical activities of daily living, longer time on the Timed Up and Go, malnutrition as measured by the Mini Nutritional Assessment and urinary or faecal incontinence were associated with elevated PVR. Increased age, moderate to severe renal dysfunction, taking four or more medications, impaired cognition, depressive mood, constipation, difficulties in instrumental activities of daily living and nocturia were not significantly associated with elevated PVR. Of the patients with elevated vs. non-elevated PVR, 12.5% vs. 2,6% ($p = 0.002$), died within one year of the hip fracture.
Conclusions: The association of elevated PVR with disability, malnutrition and incontinence in older women with hip fracture suggests connection between DU and frailty. PVR measurement may be included in the CGA especially in the frail older patient.

Late Breaking Abstracts – Poster presentations

LB-1
Has dementia research lost sense of reality? A descriptive analysis of eligibility criteria of Dutch dementia research protocols

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Background/objectives: A substantial proportion of dementia patients are excluded from research participation, while for extrapolation of the research findings it is important that the research population represents the patient population. The aim of this study is to provide an analysis of dementia research and its exclusion criteria in order to get a clearer picture whether the research participants represent the general dementia population.
Methods: Dementia studies registered at toetsingonline.nl between 2006 and 2015 were analysed. Study characteristics, funding and eligibility criteria were described and analysed using a standardized score-sheet.
Results: The search yielded 103 usable study protocols. The number of trials has increased over the years, and 35% of the studies were industry-financed. Alzheimer's disease was the most researched type of dementia (84%). In observational studies the most frequently observed exclusion criterion is a neurological condition, in drug studies and other intervention studies the most frequently used exclusion criterion is a somatic condition. 86% of all protocols had at least one exclusion criterion concerning comorbidity. Most studies focused on mild or moderate dementia (78%).

Conclusion: Our study has shown that the distribution of dementia research over the different subtypes of dementia does not correspond with the prevalence of these subtypes in clinical practice. The research population in the protocols is not representative of the larger patient population. A greater number of dementia patients could derive benefit from the conducted research, if the research agenda were more closely aligned with the disease prevalence. A better representation of all dementia patients in research will help to meet the needs of these patients.

LB-7

Therapeutic approach in diabetics 65+ y. in outpatient care 2015

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Background: Diabetes mellitus (DM) has a crucial impact on personal and social health. **Purpose:** An analysis of clinical characteristics in one out-patient department for diabetology.
Patients and methods: During the year 2015 authors treated 1,400 persons 65+ y. (71%); 638 men and 762 women of the average age (74.5 ± 7.1 y. vs. 76.5 ± 7.1 y.). We analyzed in the set: age, duration of diabetes, kind of therapy, obesity, presence of late diabetic vascular complications and overall approach in persons 65+ y. The patient set was divided to three age different subgroups: 1. 65–74 y. –50%; 2. 75–84 y. –33%; 3. ≥85 y. –17%. Development of DM was 64.4±10.6 y. Loneliness is a problem in maintenance of adherence to therapy in age different subgroups: 1. 65–74 y. –10.9%; 2. 75–84 y. –35.6%; 3. ≥85 y. –44.4%.
Results: Polypharmacy (5–9 drugs) took 44% of old diabetics and extreme polypharmacy (≥10 drugs) 4.5%. Obesity (BMI ≥ 30) men in comparison to women 46.3% vs. 44.3%; morbid obesity (BMI ≥ 40) 4.2% vs. 7%. Average waist circumference in both groups was also significantly higher in comparison to standard range in 345 men (51%) vs. 612 women (80.4%). The presence of late macrovascular complications took place in set in 50.4%. Methods of treatment in DM set 65+y. were diet only (MNT) 23%; oral antidiabetic drugs (OAD) altogether 60%; mere insulin or analogues 9% and combination of insulin with OAD 8%.
Conclusions: A geriatric patient faces a long-term threat of decompensation of functional status and therefore requires specific modification of the specialist′s approach to DM care.

LB-8

Depression and associated factors among hospitalized elderly: a cross sectional study in a Saudi teaching hospital

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Depression is a serious and often underdiagnosed psychiatric disorder. The purpose of this study was to examine the prevalence of depression and associated factors among hospitalized elderly. We included a consecutive series of patients (n = 208) aged 60 years and older who were admitted to the medical and surgical wards of King Abdulaziz University Hospital (KAUH). Participants were interviewed within 48 hours of admission using an interviewer administered questionnaire to provide basic demographic and clinical information. Patient Health Questionnaire-9 (PHQ-9) was used to screen for depression. DSM-V criteria was used to confirm the diagnosis. According to PHQ-9, there were 34(17%) and 21(10.5%) of the 200 patients diagnosed with major depressive disorder and other depressive disorder respectively. There was no statistical significant difference found between major depressive disorder, other depressive disorder and no depression groups in terms of sociodemographic and clinical measures except for the number of comorbidity which was significantly higher in the major depressive disorder group than the no depression group (post hoc p = 0.023). According to DSM-V criteria, There were 24(12%) of the 200 patients diagnosed with major depression which is less than the number diagnosed by PHQ-9. There was no statistical difference in patients' characteristics between DSM-V depression and no depression group. In conclusion, our study demonstrated a high prevalence rate of depression among hospitalized elderly. Consequently, physicians must maintain a high index of suspicion for such illness in this frail population.

LB-9

Patient journey to intermediate care from Emergency Department

V. Paranna, T. Wilton. *West London Mental Health NHS Trust and Ealing Hospital*

Ealing Home ward (HW) has a clinician based in Ealing Emergency Department (ED) to both receive referrals from ED staff that may be suitable for the service, and to proactively seek out patients that may match our selection criteria also. This study analyses the patient journey in ED who are reviewed by the HW team.
Methods: A prospective audit of all referrals from Ealing ED from June 21st to June 30th inclusive. Data collected through SystmOne & Symphony and analyzed through Excel [Poster Figure X].
Results: 43 patients were reviewed by the HW team during the period. 58% of patients were assessed in Trolleys, 40% in CDU [Poster Figure 1]. 55% of those assessed were accepted onto the HW caseload [Poster Figure 4]. Of the 55% accepted there was a 50:50 split between treated by HW at home (RR) or at Magnolia [Poster Figure 5]. 55% of referrals were female [Poster Figure 2]. Patients' ages ranged from 51 to 100, the majority were in their ninth decade [Figure 3]. There was also an expected increase in average age of patients when correlated with the discharge destinations level [Figure 6]. 72% of referrals were seen by the HW team within 4 hours of the patient registering in ED, the remainder were in CDU overnight and referred outside our working hours of 8 am till 8 pm [Poster Figure 7]. The time spent in the ED department increases with the level of input required by HW (home without RR input, home with RR, Magnolia) despite being seen and assessed within a similar time span [Poster Figure 8].
Conclusion:

- Needs further ED data analysis to improve the patient journey and to streamline the process.
- To improve efficiency in HW staff assessing the patients in Trolleys.

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