

didn't have: iron, folate or vitamin B12 deficiency, acute renal failure, hypo-ou hyperthyroidism, known or suspected myelodysplastic syndrome (platelets < 150 G/L or leucocytes < 4 G/L or MCV > 100  $\mu$ 3). 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  $85 \pm 6$  years. A mild anemia was found in 43% patients ( $n = 35$ ). The overall mean Hb level was  $12,4 \pm 0,8$  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.

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## **Area: Organisation of care and gerotechnology**

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#### 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 smart scale 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.

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## 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%CI. 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.