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# 5th NURSING HOME RESEARCH
## INTERNATIONAL WORKING GROUP

# LONG-TERM CARE RESEARCH

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## ABSTRACTS

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# SYMPOSIA

**S1- THE NURSING HOME 5DS –5 INTERRELATED ISSUES EVERY NURSING HOME TEAM NEEDS TO KNOW: DEPENDENCY, DEPLETION, DYSPHAGIA, DEHYDRATION AND DENTAL PROBLEMS.** Jos Schols *(Maastricht University, Maastricht, the Netherlands)*

*Communication 1:* **Care dependency of nursing home residents in the Netherlands throughout 2009 - 2017,** Suzanne Rijcken(1), Irma H.J. Everink(1), Jos M.G.A. Schols(1,2), Ruud J.G. Halfens(1) *((1) Department of Health Services Research and Care and Public Health Research Institute (CAPHRI), Maastricht University, Maastricht, the Netherlands; (2) Department of Family Medicine and Care and Public Health Research Institute (CAPHRI), Maastricht University, Maastricht, the Netherlands)*

**Backgrounds:** Care dependency is often measured among nursing home residents to assess the level of nursing care required. Due to implementation of the ageing-in-place policy in Dutch health care in 2015, which aims to keep older people at home as long as possible, it is expected that the care dependency among institutionalized older adults has been increasing. However, an analysis of the care dependency among nursing home residents throughout the years has not been performed. **Objectives**: The objective of this study is to investigate the course of care dependency of nursing home residents in the Netherlands between 2009 and 2017. **Methods:** This study is a secondary analysis of scores on the Care Dependency Scale (CDS), measured in the National Prevalence Measurement of Quality of Care (LPZ). The LPZ study is a cross-sectional multi-centre point prevalence survey, in which all patients residing in participating nursing homes are measured annually. Part of this annual measurement is the assessment of their care dependency with the Care Dependency Scale (CDS). The CDS consists of 15 items assessing dependency on several domains as mobility, continence and eating and drinking. The score on the CDS ranges from 15 to 75, where 75 indicates total independence. In this study, data collected from 2009 until 2017 in Dutch nursing homes are used. **Results:** Over the years, the number of participating nursing home residents varied from 1,649 (2016) to 6,352 (2010) and their mean age varied from 82.2 to 82.8 years. In between 2009 and 2014, the CDS sum score ranged from 47.5 (minimum score in 2014) to 53.4 (maximum score in 2012). The CDS sum scores after implementation of the ageing-in place policy were 45.2 (2016) and 45.3 (2017). Comparing the mean CDS score before and after 2015 shows a significant difference of 4.7. **Conclusion**: The results show that, after the implementation of the ageing-in-place policy, there is a significant trend of increasing care dependency of nursing home residents.

*Communication 2:* **Prevalence and Risk Factors of Dehydration among Nursing Home Residents: a Systematic Review,** Simone J.C. Paulis(1), Irma H.J. Everink(1), Ruud J.G. Halfens(1), Christa Lohrmann(2), Jos M.G.A. Schols(1) *((1) Department of Health Services Research, Faculty of Health, Medicine and Life Sciences; Care and Public Health Research Institute (CAPHRI), Maastricht University, Maastricht, the Netherlands; (2) Institute of Nursing Science, Medical University of Graz, Graz, Austria)*

**Background:** Dehydration is a prevalent disorder which can have serious consequences for health and wellbeing (e.g. delirium, falls and renal impairment), especially among nursing home residents. Despite this, studies about dehydration in nursing home residents are scarce. **Objectives:** To provide an overview of the prevalence rates and risk factors of dehydration among nursing home residents. **Methods:** A systematic literature review was executed in the databases PubMed, CINAHL and EMBASE to retrieve all the articles published until March 15, 2018. No data restrictions were imposed. Included studies contained primary data on prevalence rates and risk factors for dehydration among nursing home residents. **Results:** Nineteen studies were included. Overall, the methodological quality was moderate (68%). Prevalence rates of dehydration varied between 0.8% and 38.5%. Dehydration was operationalized using different methods such as blood tests, physical examination and urine tests. Furthermore, 49 risk factors for dehydration were identified. Only cognitive impairment and having a fever showed to be significantly associated with dehydration among nursing home residents in more than one study. Remaining risk factors were only investigated in one study or showed inconsistent results. **Conclusion:** Dehydration is a relevant and prevalent problem in nursing home residents. There is no unambiguous operationalization available on how to assess dehydration in this target population, which makes it difficult to compare studies properly. Only two risk factors were significantly associated with dehydration among nursing home residents. The remaining risk factors were only examined in one study or showed inconsistent results. Therefore, more research into the risk factors is needed to optimally prevent dehydration among nursing home residents.

*Communication 3:* **A cross sectional prevalence measurement on depletion, poor oral health and dysphagia in Dutch nursing home residents: results from the LPZStudy,** Viviënne A.L Huppertz(1), Ruud J.G. Halfens(2), Ardy van Helvoort(1,3), Lisette C.P.G.M. de Groot(4), Gert-Jan van der Putten(5), Jos M.G.A. Schols(2) *((1) Nutrition and Translational Research in Metabolism (School NUTRIM), Maastricht University, The Netherlands; (2) Department Health Services Research, Maastricht University, Maastricht, The Netherlands; (3) Danone Nutricia Research, Nutricia Advanced Medical Nutrition, The Netherlands; (4) Human Nutrition and Health, Wageningen University and Research, The Netherlands; (5) Amaris Zorggroep, Hilversum, The Netherlands)*

**Background:** Nursing home residents show a complex profile of multi-morbidities that complicate care and deteriorate quality of life. Depletion (malnutrition), poor oral health and dysphagia are common in this target group and may lead to complications like severe disabilities, aspiration pneumonia and dehydration. This presentation targets the understudied associations between depletion, poor oral health and dysphagia in somatic and psychogeriatric nursing home residents. **Methods**: Data were obtained from the cross-sectional National Prevalence Measurement of Quality of Care study (LPZ-study) using the study rounds of 2013-2017 for prevalence studies on depletion, poor oral health and dysphagia. These studies were conducted in residents aged 65 or older and admitted to somatic- and psychogeriatric wards of Dutch nursing homes. Clinical depletion was determined according to the ESPEN definition, based on age-adjusted reduced BMI and unintended weight loss (%). Indicators for poor oral health (problems eating due to dental problems, xerostomia and chewing difficulties) and dysphagia (swallowing difficulties or sneezing/coughing while swallowing) were assessed by means of a standardized questionnaire. Prevalence ratios (PR) were used to assess the associations between depletion and poor oral health and between depletion and dysphagia in nursing home residents. **Results**: The prevalence of depletion (malnutrition) in nursing homes varied between the different LPZ- study rounds from 10% to 12%. Xerostomia and chewing problems affected up to 29%

of the residents. Problems with eating due to dental problems or dysphagia (swallowing difficulties) were found in approximately 12% of the residents. Increased risks for depletion were found among residents who had problems with eating due to dental problems (PR 1.8 95%CI 1.4 - 2.3), experienced chewing difficulties (PR 1.6 95%CI 1.3 - 2.0) or swallowing difficulties (PR 1.5 95%CI 1.2 - 1.9 ). Risks were higher among residents admitted to psychogeriatric wards as compared to residents from somatic wards. **Conclusion:** Dental problems, difficulties chewing and dysphagia (swallowing difficulties) are important care problems that are associated with an almost twofold risk of depletion (malnutrition) in nursing home residents, especially in psychogeriatric residents.

**S2- WHAT HAVE WE LEARNED FROM THE SENIOR COHORT ? A FOCUS ON FRAILTY, SARCOPENIA, NUTRITIONAL NEEDS AND HEALTH OUTCOMES.** Olivier Bruyère *(Department of Public Health, Epidemiology and Health Economics, University of Liège, Belgique)*

*Communication 1:* **Description of the SENIOR cohort.** Olivier Bruyère *(Department of Public Health, Epidemiology and Health Economics, University of Liège, Belgium)*

In many countries older people are increasingly cared for in nursing homes towards the end of life. The International Association of Gerontology and Geriatrics has called for increased empirical research in this area to help improve quality of life of the residents. There are, however, a number of challenges and methodological issues involved in conducting research in nursing homes, which can restrict the conduct of research. Frailty is a syndrome characterized by reduced physiological reserve and increased vulnerability to adverse outcomes, resulting from cumulative deficits of multiple systems. It represents a huge potential public health issue at both the patient and the societal levels because of its multiple clinical, societal consequences and its dynamic nature. Nevertheless, little is known about frailty among nursing home residents. Therefore, we decided to develop the SENIOR (Sample of Elderly Nursing home Individuals: an Observational Research) cohort, to contribute to the assessment and the management of frailty in this specific setting. SENIOR is a longitudinal ongoing study on 662 subjects (83.2±8.9 years, 72.5% of women) from 28 nursing homes in Liège, Belgium. To be included in this cohort, subjects need to be oriented, volunteers and able to walk. A large number of socio-demographic, anamnestic and clinical data are collected each year. As summarized below, the data collected at baseline in the SENIOR cohort will be presented in the first communication, based on 3 scientific publications. The prevalence of frailty, assessed using the 5 Fried's criteria, is 25.1%, pre-frailty, 59.8% and robustness, 15.1%. Compared to non-frail subjects, frail subjects have lower physical and muscular performances and a lower quality of life. The prevalence of frailty varies from 1.70% (Frailty Index) to 76.3% (Groningen Frailty Indicator) depending on the operational definition used and the concordance between the definitions was low (Overall Kappa Coefficient: 0.014 (-0.057 – 0.085)). The prevalence of sarcopenia was 38.1%. Among frail, pre-frail and robust subjects, respectively 47%, 38.9% and 16.3% were diagnosed sarcopenic. The prevalence of sarcopenia according to ten different operational definitions of frailty ranged between 32.8% (i.e. Frail scale Status and Frailty Index) and 47% (i.e. Fried definition). After adjustment on age, sex and number of co-morbidities, the probability of being sarcopenic when the patient is frail is increased by 2.36 (OR= 2.36, 95% CI=1.31-4.13; p=0.004.

*Communication 2:* **Evaluation of the energy balance of the SENIOR population and its determinants.** Fanny Buckinx *(Department of Public Health, Epidemiology and Health Economics, University of Liège, Belgium)*

To assess the energy balance of nursing home residents, their dietary and their energy expenditure has been accurately measured. Moreover, the influence of the psycho-emotional dimension related to the environment on the food intake of residents have also been taken into consideration. The results are based on 4 scientific publications. Nutrient content of the served food and real food consumption was calculated for all meals during a 5-day period by precise weighting method. Seventy-four Belgian nursing home residents (75% of women, 85.8±7.04 years) were included in this analysis. The mean energy content of the served food was 1783.3±125.7 kcal per day. However, residents did not eat the whole of the meals and the actual energy content of the consumed food was significantly less (1552.4±342.1 kcal per day; p<.001). The energy expenditure of the participants was calculated using indirect calorimetry. A total of 25 subjects were included in this study (88.1±5.8 years; 84% were women). The mean basal metabolism estimated was 1087.2±163.2 kcal. The physical activity level was 1.29±0.1 and the energy expenditure due to the thermogenesis was 163.1±28.9 kcal. Thus, the mean daily energy expenditure was 1575.2±210.6 kcal, which was within the range of the actual calculated energy intake of the residents (1631.5±289.3 kcal; p=0.33). Based on a survey combined with a video approach, we highlighted that, on the one hand, after adjustment on confounding variables, the perception of the quantity of food served by the residents is the only single factor associated with food consumption (P=0.003). On the other hand, experts and nonexperts did not perceive any environmental factor that seems to be significantly associated with residents' food intake.

*Communication 3:* **Prediction of hard clinical endpoint in the SENIOR cohort.** Alexia Charles *(Department of Public Health, Epidemiology and Health Economics, University of Liège, Belgium)*

**Background:** The interest of the anamnestic and clinical characteristics of the subjects to predict the occurrence of negative health outcomes (ie. Falls, death, frailty and loss of autonomy) was evaluated in the SENIOR study. Respectively 584 and 565 subjects were monitored over 12 months for mortality assessment and for occurrence of falls. Among them, 93 (15.9%) died and 211 (37.3%) experienced a fall during the 1-year of follow-up. When comparing the clinical characteristics of deceased participants and those still alive, being a man (OR=1.89; 95% CI: 1.19-3.01; P=0.002) and being diagnosed with sarcopenia (OR=1.7; 95% CI: 1.1-2.92; P=0 .03) were independent factors associated with 1-year mortality. Other independent factors that were significantly associated with the 1-year occurrence of falls were the results obtained with the Tinetti test (OR=0.93; 95% CI: 0.87-0.98; P=0.04), with the grip strength test (OR=0.95; 95% CI: 0.90-0.98, P=0.03), and with the isometric strength test of elbow extensors (OR=0.93; 95%CI: 0.87-0.97; P=0.04). The relationship between low peak expiratory flow (PEF) and decreased physical capacity as well as the incidence of frailty among nursing home residents has been assessed. Among subjects with complete evaluations at baseline (646 subjects (83.2±9 years and 72.1% of women)), 297 subjects (45.7% of the population) displayed a low PEF. In this subgroup, calf circumference (p=0.03), physical capacity (pvalues from 0.01 to <0.001), muscle strength (p<0.001), balance and gait score (p<0.001) were significantly lower as compared to subjects displaying normal PEF. Subjects who became frail after one year displayed, at baseline, a lower percentage of the theoretical PEF value as compared to those that did not become frail (respectively 88.52±45.06 vs. 102.78±50.29, p=0.03). However, after adjustment for confounding variables, the percentage of the theoretical PEF value was no longer associated with the occurrence of frailty. The relationship between isometric strength and the loss of autonomy (i.e. decrease of ≥1 point on the ADL scale) between baseline and 12-month follow-up has been assessed. A total of 204 subjects (83.2±8.99 years and 72.5% of women) were included in this analysis. Threshold values of isometric strength were respectively 0.94, 1.07, 0.77, 0.88, 0.78, 0.79, 0.99 and 0.71 N/kg for knee flexors and extensors, ankle flexors and extensors, hip abductors and extensors, elbow flexors and extensors. After adjustment on age and sex, the cut-off values for knee extensor (p=0.04) and for ankle extensors (p=0.03) were significantly predictive of loss of autonomy.

## S3- CLINICAL AND RESEARCH APPLICATIONS OF INTERRAI TOOLS IN LONG-TERM CARE IN EUROPE AND CANADA.

Roberto Bernabei *(Dept. of Geriatrics, Catholic University of Rome, Italy)*

*Communication 1:* **Understanding care transitions for frail seniors with heart failure in Canadian home care and long-term care: how to apply the interRAI CHESS scale.** George Heckman *(Schlegel-University of Waterloo Research Institute for Aging, University of Waterloo, Waterloo, ON, Canada)*

**Backgrounds:** HF affects 20% of nursing home (NH) residents, causing a high burden or morbidity and mortality. Targeting these residents with HF-specific care processes could improve outcomes. InterRAI assessments help identify clinical problems and support care planning for NH residents. The Changes in Health and End-stage disease Signs and Symptoms (CHESS) scale reflects health instability and predicts mortality in NH residents with HF. **Objectives:** We examined health status transitions among older NH residents with HF, and how well the CHESS scale predicts these transitions. **Methods:** The study sample was derived from admission RAI-MDS 2.0 assessments for NH residents aged ≥65 years in Ontario, Alberta, and British Columbia, Canada, from 2010 to 2016. These were linked to national hospitalization and ambulatory care databases. We modeled changes in states using discrete time nonhomogeneous Markov chain models and determined adjusted odds ratios for transitions from admission CHESS states to a different CHESS state for residents remaining in the NH at 3 months, or absorbing states (hospital, death, other NH, or discharged from the home). **Results:** 162,045 NH residents were identified, 22,011 (18%) of whom had HF (mean age 86 years, 64% women). At baseline, 36.9%, 53.1% and 10.0% had CHESS scores of 1, 2, and 3-5 respectively. Among residents still living in NH at follow-up, HF was associated with an increased likelihood of transition to a higher CHESS state. Residents with HF were also more likely to transition to acute care or to die. CHESS scores were highly predictive of mortality among all residents, and the relative proportion of survivors decreased with increasing CHESS scores. **Conclusion:** Among newly admitted NH residents, HF was associated with a greater likelihood of transitioning to greater health instability, acute care, or death. Admission CHESS scores were highly predictive of subsequent health transitions, and have the potential to support risk stratification for residents with HF.

*Communication 2:* **Functional, informal care, and environmental predictors of outcomes of community care in Europe.** Henriëtte van der Roest *(Department of General Practice and Elderly Care Medicine, Amsterdam Public Health Institute, VU University Medical Center, Amsterdam, The Netherlands)*

**Backgrounds:** Increasing numbers of care dependent older people rely on community care in Europe. Ageing is the major driver of this increase, but also the shift in long-term health care policy towards deinstitutionalisation, and the preference to age in place. Age, functioning, comorbidity, and polypharmacy, are known predictors for death, hospitalisation, and institutionalisation in elderly care populations. But less is known about other supporting factors like the role of informal care, problems with housing, or the environment on outcomes of community care. **Objectives:** This study explores predictors within patient functioning, informal care, housing, and environment for four different outcomes of community care over a one-year period. **Methods:** A longitudinal design with follow-up assessments at six and 12 months was conducted in a sample of 2884 community care patients in Belgium, Finland, Germany, Iceland, Italy, and the Netherlands. Data were collected with the interRAI-Home Care between 2014 and 2016. The dependent variable had four levels: one-year continuation of care, discharge to home, nursing home admittance, and mortality. Independent variables were patient functioning, and informal care, housing and environmental related factors at baseline. Univariate and multinomial logistic regression analyses were performed to explore predictors for outcomes of community care. This study is part of the IBenCproject. **Results:** A total of 2147 individuals could be followed for a one-year period, the average age was 83.0 (±7.2), of and 1476 (68.8%) were female. Over one year 69.0% remained in care, 3.8% was discharged without care, 10.8% was admitted to a nursing home, and 9.3% died. From the 11 variables considered, ADL and iADL dependency, informal iADL support, emergency assistance, accessibility of grocery store unassisted, and availability of grocery home delivery service, controlled for hospital stay, significantly predicted outcomes of community care (R2=.10), After controlling for country, ADL and iADL dependency remained significant predictors (R2=.17). **Conclusion:** In addition to ADL and iADL dependency, safety, and fulfillment of basic needs have impact on outcomes of community care. The results suggest that handling these factors and outcomes of community care might be influenced strongly by national policy or organisational care practice.

*Communication 3:* **Drug utilization and its relationship with physical and cognitive function in nursing home residents in Europe.** Davide L. Vetrano *(Department of Geriatrics, Catholic University of Rome, Italy. Aging Research Center, Karolinska Institutet, Stockholm, Sweden)*

**Backgrounds:** The pharmacological treatment of frail nursing home (NH) residents challenges prescribing physicians, as confirmed by the high prevalence of polypharmacy found in this population, and the risk of consequent iatrogenic illness. **Objectives:** To summarize the evidence regarding drug utilization and its relationship with physical and cognitive function in older European NH residents participating in the Services and Health for Elderly in Long TERm care (SHELTER) project. **Methods:** The study population consisted of 4156 NH residents from 57 facilities in 7 European Union countries (Czech Republic, England, Finland, France, Germany, Italy, and The Netherlands) and 1 non-EU country (Israel). The multidimensional assessment tool interRAI-LTCF was used for baseline and follow-up assessments (3, 6 and 12 months). Drug information was gathered at baseline and follow-up. Cross-sectional and longitudinal analyses were carried out, and different methodologies applied in order to address the study aims. **Results:** Polypharmacy (5+ drugs) was observed in 2000 (49.7%) residents. These numbers did not decrease significantly when only NH residents with severe cognitive impairment (N=1149) were considered. As compared with non-polypharmacy, excessive polypharmacy was directly associated not only with presence of chronic diseases but also with several symptoms. An inverse association with excessive polypharmacy was shown for age, disability, and cognitive impairment. Among participants with severe cognitive impairment, 45% were using inappropriate drugs. Inappropriate drug use was directly associated with specific diseases and recent hospitalization. An inverse relation was shown between inappropriate drug use and presence of a geriatrician in the facility (45% lower odds; P<0.001). A high medication burden resulted finally associated with faster cognitive decline. **Conclusions:** Polypharmacy is common among NH residents in Europe and related to an excess of negative health-related events. High medication burden is associated with severe functional decline in this population. The findings provided by the SHELTER study may help to better guide drug prescription and medication review in older NH residents, especially those frail and with conditions that limit life expectancy.

**S4- INTERNATIONAL PSYCHOGERIATRIC ASSOCIATION SYMPOSIUM ON PEOPLE WITH YOUNG ONSET DEMENTIE.** Raymond Koopmans *(Radboud University Medical Center, Nijmegen, the Netherlands)*

*Communication 1:* **Advance Care Planning in Young-Onset Dementia: perceptions of physician and family caregivers: the Care4Youngdem-study** Brenda G.J. Pistorius(1,3), Jenny T. van der Steen(1,2,3), Christian Bakker(1,3,4), Marjolein E. de Vug (5), Raymond T.C.M. Koopmans(1,3,6) *((1) Department of Primary and Community Care, Radboud university medical center, Nijmegen, The Netherlands; (2) Department of Public Health and Primary Care, Leiden University Medical Center, Leiden, The Netherlands; (3) Radboudumc Alzheimer Center, Nijmegen, the Netherlands; (4) Florence, Mariahoeve, Center for Specialized Care in Young-Onset Dementia, The Hague, the Netherlands; (5) School for Mental Health and Neuroscience, Alzheimer Center Limburg, Maastricht University Medical Center, Maastricht, the Netherlands; (6) De Waalboog «Joachim en Anna», Center for Specialized Geriatric Care, Nijmegen, the Netherlands)*

**Background:** Palliative care including advance care planning is of increased importance in dementia. People with young-onset dementia have a strongly reduced life-expectancy compared to healthy adults and most are unable to participate in the medical decision-making process at the end of life. Advance care planning (ACP) may help to personalize end-of-life care, but there is no research on ACP in YOD **Objectives:** To assess professional and family caregivers' perspectives on the practice of ACP in institutionalized people with YOD. **Methods:** The Care4Youngdem study is a questionnaire-based longitudinal study in residents of specialized units for YOD of 14 long-term care facilities (LTCF) in the Netherlands. Physicians and family caregivers' questionnaires included issues concerning course of the dementia, advance care planning, shared decision making, symptom management and quality of life. **Results:** Preliminary data of the 142 residents included so far showed that in 83% of the cases, family caregivers stated that their loved ones were incapable of making medical decisions by themselves. Moreover, 42% of the patients had never talked about their wishes regarding future medical treatments according to family caregivers. Physicians indicated that at admission to the LTCF, 25% had ACP agreements, with 4% having a written advance directive. During admission, 86% had a do-not-resuscitate agreement and 17% had an agreement to avoid life-prolonging treatments. A treatment goal aimed at preserving wellbeing and quality of life was prioritized in almost 70% of the patients. Almost a quarter (23%) of the family caregivers experienced involvement in the medical decision-making process as burdensome. **Conclusions:** This is the first study to assess ACP in people with YOD. Although ACP is important to optimize end-of-life and palliative care in dementia, most persons with YOD entered the LTCF without ACP agreements. Nevertheless, after admission, quality of life was often prioritized. The shared-decision making process in people with YOD regarding ACP process can be improved if it is initiated before admission to a LTCF.

*Communication 2:* **Neuropsychiatric symptoms and psychotropic drug therapy in advanced stages of young and late onset dementia.** Janine Diehl-schmid *(Department of Psychiatry and Psychotherapy, Klinikum rechts der Isar, Technical University of Munich, Germany)*

**Background:** In the last years, young onset dementia (YOD) has become a focus of research. However, not much is known about symptoms, therapy, (palliative) care and needs of patients in advanced disease stages. **Objectives:** The aim of the present study is to describe neuropsychiatric symptoms and psychotropic drug therapy in advanced YOD and detect differences to LOD. **Methods:** Patient assessment was performed within the German study EPYLOGE (IssuEs in Palliative care for people in advanced and terminal stages of Young-onset and Late-Onset dementia in GErmany). EPYLOGE is one of the first studies worldwide, that is investigating how patients with advanced YOD, who live in the community or in long term care (LTC) facilities, are being cared for and if there are differences compared to patients with late onset dementia (LOD). **Results:** As of May 1st, 2018, 46 patients have been included, 26 with YOD, 20 with LOD, all of them in advanced dementia stages (Clinical Dementia rating = 2 or 3). 54% of the YOD and 60% of the LOD patients were cared for at home. On average, neuropsychiatric symptoms (treated and untreated) did not differ between patients living at home or in LTC. Although not statistically significant, there was a trend to more severe neuropsychiatric symptoms in YOD. Disinhibition and irritability were more frequent in YOD than in LOD. Over two third of all patients were treated with psychotropic drugs. More patients with YOD than LOD were treated with antipsychotics (42% of YOD, 28% of LOD; $p < 0.05$), mainly risperidone, melperone and pipamperone in low doses. There were no differences regarding the treatment with antidepressants (50% of YOD, 43% of LOD) and antidementia drugs. (27% of YOD, 33% of LOD). Benzodiazepines were prescribed only very rarely. **Conclusion:** More detailed analyses are needed to investigate the reasons for as well as the effects and side effects of the frequent use of antipsychotics, particularly in the group of patients with YOD. Given the well-known risks of the use of anti-psychotics, strategies to avoid these drugs might be necessary.

*Communication 3:* **Experiences with and preferences for advance care planning in young-onset dementia: an exploratory interview-study with family caregivers.** R. Van Rickstal(1), A. De Vleminck(2), S. Engelborghs(3), L. Van den Block(4) *((1) of-Life Care Research Group, (Free University Brussels – Ghent, University); (2) End-of-Life Care Research Group, (Free University Brussels – Ghent University); (3) the Belgian Dementia Council (BeDeCo), (University of Antwerp); (4) End-of-Life Care Research Group, (Free University Brussels – Ghent University))*

**Background:** Although Advance Care Planning is highly relevant for patients with dementia, no research exists on ACP for people who are diagnosed with dementia before the age of 65 or i.e. young-onset dementia (YOD). Nevertheless, it has been suggested that people with YOD might have distinct needs and preferences for ACP due to their phase of life, requesting more autonomy and playing an active role in decision-making. **Objectives:** This study aims to explore -from family caregivers' perspectives- experiences with ACP and preferences and recommendations for how to engage in ACP with these patients and their family carers. **Methods:** We conducted 15 in-depth semi-structured interviews with family caregivers in Flanders (Belgium) of people formally diagnosed with YOD. The interviews were analyzed through the method of constant comparative analysis. **Results:** Several barriers clarify why ACP is not or cannot be undertaken by the respondents in our study. Among these are emotional impediments they feel towards (initiating) discussions about end-of-life topics (e.g. fear they will hurt the patient), characteristics inherent to dementia (e.g. progressive mental incompetence and unpredictability of disease trajectory) and the insufficient information they receive, with regard to YOD as a disease, the goals and process of ACP and the support available. Services that are difficult to access and are not appropriate for younger patients also play an important role. **Conclusion:** A funnel of deficiencies stands in the way of receiving high-quality care, including a choice of whether or not to engage in ACP. Several recommendations are made to facilitate ACP for this distinct patient group and their caregivers, yet further research is required.

**S5- TOWARDS A BETTER UNDERSTANDING OF EFFECTS AND ACTIVE INGREDIENTS OF THE NAMASTE CARE PSYCHOSOCIAL INTERVENTION FOR NURSING HOME RESIDENTS WITH ADVANCED DEMENTIA.** Jenny T van der Steen *(Department of Public Health and Primary Care, Leiden University Medical Center, Leiden, the Netherlands)*

*Communication 1:* **Feasibility and acceptability of Namaste Care in Canada: Pilot study findings.** Sharon Kaasalainen(1), Paulette V Hunter(2), Vanina dal Bello-Haas(3), Lisa Dolovich(4), Katherine, Froggatt(5), Thomas Hadjistavropoulos(6), Maureen Markle-Reid(1), Jenny Ploeg(1), Prof. Lehana Thabane(7), Jenny T van der Steen(8), Ladislav Volicer(9) *(1) School of Nursing, McMaster University, Hamilton Ontario, Canada; (2) Department of Psychology, St. Thomas More College, University of Saskatchewan, Saskatoon, Canada; (3) School of Rehabilitation Sciences, McMaster University, Hamilton, Ontario, Canada; (4) Leslie Dan Faculty of Pharmacy, University of Toronto, Toronto, Ontario, Canada; (5) International Observatory on End of Life Care, Faculty of Health and Medicine, Lancaster University, Lancaster, UK; (6) Department of Psychology, University of Regina, Regina, Saskatchewan, Canada; (7) Department of Health Research Methods, McMaster University, Hamilton, Ontario, Canada; (8) Department of Public Health and Primary Care, Leiden University Medical Center, Leiden, The Netherlands, and Department of Primary and Community Care, Radboud university medical center, Nijmegen, The Netherlands; (9) University of South Florida, Tampa, Florida, USA)*

**Objectives:** Residents living and dying in long-term care (LTC) homes represent one of society's most frail and marginalized populations of older adults, particularly those residents with advanced dementia who are often excluded from activities that promote quality in their last months of life. The purpose of this study is to evaluate the feasibility, acceptability and effects of t Namaste Care; an innovative program to improve end-of-life care for people with advanced dementia. **Methods:** This study used a mixed methods survey design to evaluate the Namaste Care program in two LTC homes in Canada. Pain, quality of life, and medication costs was assessed for 31 residents before and 6-months after they participated in Namaste Care. The program consisted of 2, 2-hour sessions per day for 5 days/week. Namaste Care staff provided high sensory care to residents in a calm, therapeutic environment in a small group setting. Feasibility was assessed in terms of recruitment rate, number of sessions attended, retention rate, and any adverse events. Acceptability was assessed using qualitative interviews with staff and family. **Results:** The feasibility of Namaste Care was acceptable with a participation rate of 89%. However, participants received only 72% of the sessions delivered and only 78% stayed in the program for at least 3 months due to mortality. After attending Namaste Care, participants' pain, quality of life improved and medication costs decreased (absolute figures, not tested statistically). Family members and staff perceived the program to be beneficial, noting positive changes in residents. The majority of participants were very satisfied with the program, providing suggestions for ongoing engagement throughout the implementation process. **Conclusions:** These study findings support the implementation of the Namaste Care program in Canadian LTC homes to improve quality of life for residents. However, further testing is needed on a larger scale.

*Communication 2:* **A realist review of Namaste Care and similar multisensory interventions as an intervention for people living and dying with dementia in long term care settings.** Frances Bunn(1), Claire Goodman(1), Jennifer Lynch(1), Catherine E. Walshe(2), Nancy Preston(2), Katherine Froggatt(2) *((1) Centre for Research in Public health and Community Care (CRIPACC) University of Hertfordshire, Hatfield, UK; (2) International Observatory on End of Life Care, Faculty of Health and Medicine, Lancaster University, Lancaster, UK)*

**Background:** Namaste Care is a complex structured multisensory approach. Despite its intuitive appeal little is known about how it works and in what circumstances. **Objectives:** As the first stage of a feasibility trial in the UK, the aim was to review the evidence to provide an explanatory account of how Namaste or similar interventions might work for people living and dying with dementia in care homes. **Methods:** Using a theory driven approach, the review was informed by RAMESES* guidance for realist synthesis. It had two stages, a scoping of the literature to develop explanations of Namaste or similar approaches was thought to work and an in depth review of evidence to develop and test these theories. Twenty stakeholders including user/patient representatives-were involved in developing and validating the theory. **Results:** We included 85 papers. Eight focused on Namaste Care and the remainder on sensory interventions. We identified three contextmechanism-outcome configurations that based on the evidence could explain how Namaste Care worked for care home residents with dementia and in what circumstances. An overarching theme concerned the importance of activities that triggered moments of connection for people with advanced dementia. **Conclusions:** This review provides a framework to judge the feasibility and likely success of Namaste Care in long-term settings. Key for staff and residents to consider is what needs to be in place for the intervention to generate feelings of familiarity, reassurance, engagement and connection. *Wong G, Greenhalgh T, Westhorp G, Buckingham J, Pawson R. RAMESES publication standards: realist syntheses. BMC Med. 2013;11(1):21.

*Communication 3:* **Effects of the Namaste Care program on observed discomfort in people with advanced dementia: a cluster-randomized controlled trial.** Hanneke JA Smaling(1,2), Karlijn J Joling(3), Sarah MMM. Doncker(1), Wilco P Achterberg(2), Anneke L Francke(1,3,4), Jenny T van der Steen(2,5) *((1) Amsterdam Public Health research institute, Department of Public and Occupational*

*Health, VU, University Medical Center, Amsterdam, The Netherlands; (2) Department of Public Health and Primary Care, Leiden University Medical Center, Leiden, The Netherlands; (3) Netherlands Institute for Health Services Research (NIVEL), Utrecht, The Netherlands; (4) Expertise Center Palliative Care, VU University Medical Center, Amsterdam, The Netherlands; (5) Department of Primary and Community Care, Radboud university medical center, Nijmegen, The Netherlands*

**Background:** There is some evidence of effects of Namaste Care, but rigorous trials along with process evaluations are needed to better understand effects on patients and on family caregivers. **Objectives:** To examine whether and how Namaste Care with an emphasis on involving families impacts comfort and other outcomes in nursing home residents with advanced dementia. **Methods:** Randomized controlled trial in 19 Dutch nursing homes, ten of which implemented Namaste Care and nine provided usual care. Data collection started May 2016 and will conclude December 2018. Quantitative data about 185 nursing home residents with advanced dementia is collected using validated tools, including the observational Discomfort Scale – Dementia Alzheimer Type during a year. Semi-structured qualitative interviews are conducted with nursing staff and family caregivers after 12 months. **Results:** With data collection still ongoing, we present preliminary quantitative and qualitative data of the effects of Namaste Care on people with advanced dementia as assessed after 1 and 3 months. Observed discomfort decreased over time ($p<.05$, $\eta 2=.02$), with the intervention group showing a significantly lower level of discomfort compared to the control group: $F(1, 183)=6.38$, $p<.05$, $\eta 2=.03$. Eleven interviews conducted with family caregivers and nursing staff so far indicate decreased behavioral symptoms of dementia, more engagement in activities, and more verbal interaction. **Conclusion:** A Namaste Care program that capitalizes on family involvement can decrease discomfort in people with advanced dementia and also impact other patient outcomes. Further quantitative and qualitative analyses will examine the effect on family caregiving experiences and mediating factors.

**S6- IMPROVING RATIONAL PRESCRIBING FOR URINARY TRACT INFECTIONS (UTI) IN FRAIL ELDERLY (IMPRESU): DESIGNING ANTIMICROBIAL STEWARDSHIP PROGRAMS FOR UTI IN LONG TERM CARE.** Cees M. Hertogh *(Department of General Practice & Old Age Medicine, Amsterdam Public Health, VU University Medical Center, on behalf of the ImPresU consortium)*

There is growing evidence that long term care facilities (LTCF) may serve as a reservoir for multi-drug resistant organisms, with antibiotic overuse as an important cause for the increase in antibiotic resistance. Therefore, reducing inappropriate antibiotic use is an international health priority. Antimicrobial stewardship programs (ASP) are an important tool for improving antibiotic use and should be a requirement for nursing home infection control programs in all European countries. Since suspected urinary tract infection (UTI) is the most common reason for antibiotic use (60% of all antibiotics in LTCF are prescribed for UTI), much of which is potentially unnecessary, stewardship efforts directed to management of UTI are urgently needed. The development of such stewardship programs is the goal of the ImPresU (Improving rational Prescribing for UTI in frail elderly) consortium, a JP-AMR transnational collaboration between Norway, Sweden, Poland and the Netherlands. The symposium will discuss two important drivers of antibiotic use in current practice and sketch possible solutions: the role of non-specific signs and symptoms as a cause of antibiotic overuse (communication 1 and 2) and the problem of recurrent UTI, another relevant driver of antibiotic use, specifically in older women and at times resulting in more than 6 courses of antibiotics yearly (communication 3).

*Communication 1:* **Towards a new paradigm: developing new criteria for the empiric treatment of UTI in the nursing home setting and the relation thereof with current prescribing practices.** Maarten de Jong(1), Laura van Buul(1), Berend BuysBallot(2), Cees Hertogh(1,2) *((1) Department of general practice and old age medicine, VU University Medical Center, Amsterdam Public Health, Amsterdam, Netherlands; (2) National Institute for Public Health and the Environment, Ministry of Health, Welfare and Sports, Bilthoven, Netherlands)*

**Background:** An enormous challenge in the field of UTI in LTCF residents is, that nonspecific symptoms (e.g. 'not being her-/himself', confusion, restlessness, or other behavioral symptoms) are frequently ascribed to a UTI, while these symptoms are far from unique to UTI and very often have other causes. Combined with the presence of bacteriuria – easily objectified by a urine dipstick – the diagnostic shortcut to a diagnosis of UTI and the subsequent prescription of a course of antibiotics is easily and frequently made. However, in view of the high prevalence of asymptomatic bacteriuria (ABU) in nursing home residents (25–50% for women and 15–40% for men), many prescribing decisions based on non specific signs and symptoms might not be appropriate. In the absence of a gold standard to distinguish between ABU and true UTI in frail older persons, the best next step to take is to better define clinical criteria for antibiotic prescribing and non-precribing in cases of suspected UTI. These criteria might then be used to assess current prescribing practice and develop new ASB programs. **Method:** a Delphi procedure was chosen to find consensus among an international expert panel on which signs and symptoms, commonly attributed to UTI, should and should not lead to antibiotic prescribing in frail older adults and to integrate the results into a decision tool for the empiric treatment of suspected UTI in this population. Next a national pilot was conducted on antibiotic surveillance and stewardship with the active participation of all six academic networks for long term care in the Netherlands to compare current prescribing practice for UTI with the criteria as developed by the Deplhi panel. **Results:** In four questionnaire rounds, the panel 1) evaluated the likelihood that individual signs and symptoms are caused by UTI, 2) indicated whether they would prescribe antibiotics empirically for combinations of signs and symptoms, and 3) provided feedback on a draft decision tool. Experts agreed that the majority of nonspecific signs and symptoms should be evaluated for other causes instead of being attributed to UTI, and that urinalysis should not influence treatment decisions unless both nitrite and leukocyte esterase are negative. These and other findings were incorporated into a decision tool for the empiric treatment for suspected UTI in frail older adults with and without an indwelling urinary catheter. Next, 6 participating long term care facilities (N = 5294 residents) registered all their UTI related consultations during a four month period. Registration forms were built directly into the software of the electronic patient file to ensure accurate data collection with limited time investment. Antibiotics were prescribed for 729 of suspected UTIs. 244 of these prescriptions were based only on nonspecific signs and symptoms, or on findings of urine analysis solely, without any accompanying signs and symptoms. On average 43% of the (non)prescribing decisions were not in accordance with the criteria as developed by the Delphi panel **Conclusions:** A decision tool for suspected UTI in frail older adults was developed based on consensus among an international expert panel and applied in a national surveillance pilot to evaluate the appropriateness of treatment decisions in current nursing home practice in the Netherlands. Findings indicate that there is ample room for improvement and hence to further reduce inappropriate antibiotic prescribing. The results of this Delphi study are currently being integrated in a new national guideline on UTI in frail older persons. Further, they are core to a multifaceted ASP developed by the ImpresU consortium to improve rational prescribing for UTI in frail older persons.

*Communication 2:* **The confusing relation between confusion and urinary tract infection in the Elderly: findings from a systematic literature review and implications for research.** Pär-Daniel Sundval(1,3,4), Alexander Bowden(2), Ronny Gunnarsson(1,3,4) *((1) Cairns Clinical School, College of Medicine and Dentistry, James Cook University, Australia; (2) Cairns Hospital, Queensland Health, Cairns, Queensland, Australia; (3) Närhälsan, Research and Development Primary Health Care, Region Västra Götaland, Research and Development, Center Södra Älvsborg Sweden; (4) Department of Public Health and Community Medicine/Primary Health Care, Institute of Medicine, Sahlgrenska Academy at the University of Gothenburg, Sweden)*

**Background:** Non-specific symptoms in elderly patients such as confusion is often suspected to be caused by a urinary tract infection (UTI) and it continues to be the most common reason for suspecting a UTI despite many other plausible causes. This leads to significant over diagnosis of UTI, increased inappropriate antibiotic use and potentially harmful outcomes through misdiagnosis. This problem is particularly prevalent in nursing homes settings. The aim of this study was to clarify the correlation between lower UTI or bacteriuria and concurrent confusion. **Methods:** A systematic literature review was conducted assessing the association between confusion and UTI in the elderly. PubMed, Scopus and PsychInfo were searched with the following terms: confusion, delirium, altered mental status, acute confusional state, urinary tract infection, urine infection, urinary infection and bacteriuria. Inclusion criteria and methods were specified in advance and documented in the protocol, which was published with PROSPERO (registration ID: CRD42015025804). Quality assessment was conducted independently by two authors. Data was extracted using a standardised extraction tool and a qualitative synthesis of evidence was made. **Results:** 1702 original records were identified of which 22 were included in the final analysis. Following this review, it appears that insufficient evidence is available to accurately determine if UTI and confusion are associated. **Conclusion:** The potential link between UTI and nonspecific symptoms in elderly patients remains confusing. It is questionable whether epidemiological studies will be able to resolve this problem. The presentation will discuss what next logical steps are needed to clarify the confusing issue of the relation between confusion and UTI, especially in older persons with cognitive impairments.

*Communication 3:* **Recurrent UTI in older women: challenges and promising alternatives: Can use of methenamine prevent UTIs in elderly women with recurrent UTI?** Linda Rui, Svein Gjelstad, Morten Lindbæk *(Antibiotic Centre for primary Care, University of Oslo, Norway)*

**Background**: Recurrent UTI, defined as 2 or more symptomatic UTIs within 6 months, or 3 or more infections within one year, is a relevant driver of antibiotic prescription in older women. Hence, the question of feasible and proportional preventive measures is an important issue in this field. Use of cranberry products or estrogen therapy are advised as preventive strategies, but the evidence for their benefit is variable. Alternatively low-dose antibiotic prophylaxis may be prescribed. Antibiotics however have risks and benefits and can lead to changes in gut and vaginal flora that further predispose older women to UTI. Long-term prophylaxis is also associated with the development of antimicrobial resistance. While hardly used in other European countries, in Norway and Sweden methenamine hippurate is frequently prescribed as prophylaxis for recurrent UTI. This is not an antibiotic and side effects are reported to be low according to a recent Cochrane review (Lee 2012). This review suggested that methenamine hippurate may have some benefit in patients without renal tract abnormalities (symptomatic UTI: RR 0.24, 95% CI 0.07 to 0.89; bacteriuria: RR 0.56, 95% CI 0.37 to 0.83). Although methenamine hippurate may be effective for preventing UTI in the short term, there is a need for large RCTs to clarify both the safety and effectivity of preventive methenamine hippurate for longer term use, particularly in older women who are at an increased risk for recurrent UTI. **Methods:** As a first step we performed an observational study based on data in the Norwegian prescription Database (Nor PD). In the database we identified women aged 40-80 years who had at least 3 courses of UTI-antibiotics during one year. The following groups were identified for analysis. First a group of patients who had started the use of methenamine; they were analyzed before and after start of methenamine. In addition, we also sorted out those who never received methenamine. We followed these patients through one year and calculated the number of UTI-courses. **Results:** The analysis of the data is not yet finalized at the moment of this submission, but preliminary findings indicate a clinical relevant reduction of UTI in the methemanine hippurate group. More definite data will be presented at the symposium. **Discussion:** The observational study will provide indications whether methenamine can have a preventive effect on the number of UTIs in women with recurrent UTIs. However, the current study includes both younger and older women. Older women are a specific risk group for recurrent UTI, due to a higher comorbidity load with advancing age. Therefore, in order to clarify whether methenamine can have a preventive effect in long term treatment in older women a sufficiently powered RCT is needed. We therefore plan to perform a double blinded RCT in women aged ≥ 70 years with recurrent UTIs, defined as 3 or more AB courses for UTI with specific symptoms (i.e. symptoms related to the urinary tract) during the last year, or 2 courses during the last 6 months as inclusion criteria. Exclusion criteria will be: inability to give informed consent, known allergy for antibiotics, immunocompromised patients, patients with neuropathic bladder, terminally ill patients. The medication will be standard clinical practice of methenamine hippurate 1g x2 daily for 6 months or placebo 1 tablet x 2 for 6 months. The intervention will continue for six months. Patients are then followed for another six months. The tablets will be encapsulated so patients and doctors will be blinded to the content. At inclusion the following data will be registered for each patient: medical history on UTIs, including complications, previous surgery, chronic diseases, regular medication. A urine stick will be used to measure urinary ph. During the one year study duration, each new episode of UTI will be registered by the GP practice including symptoms and what antibiotic is given in addition to methenamine/placebo. The duration of symptoms and complications will be registered for each episode. The study will be conducted in the four countries participating in the ImPresU consortium (Netherlands, Norway, Poland and Sweden), and will provide an answer to two important research questions: 1. Whether methenamine hippurate can prevent UTIs in elderly women with recurrent UTI; 2. Whether such an effect will continue after a course of 6 months treatment or if the women will again have recurrent UTIs after end of the treatment. This will be observed for another half year. **Conclusion:** If we will find a significant and clinical relevant reduction of antibiotic prescriptions for UTI in this group of older women, preventive use of methemanine hippurate can be incorporated in antimicrobial stewardship programs for prudent (therapeutic and prophylactic) use of antibiotics for UTI's in older women. As such it may contribute to a lower development of resistant strains of bacteriae causing UTI in older women.

## S7- INNOVATIVE INTERVENTIONS TO IMPROVE THE END OF LIFE FOR NURSING HOME RESIDENTS WITH DEMENTIA.

Raymond Koopmans *(Radboud University Medical Center, Nijmegen, the Netherlands)*

*Communication 1*: **Developing and implementing the Compassion Intervention, a model for integrated care for people with advanced dementia towards the end of life in nursing homes.** Elizabeth L Sampson, Bridget Candy, Sarah Davis, Anna Gola, Nuriye Kupeli, Victoria Vickerstaff, Louise Jones, Kirsten Moore *(Marie Curie, Palliative Care Research Department, University College London, UK)*

**Background:** Nursing homes are a common place of death for people with dementia in high income countries yet concerns remain about quality of end-of-life care. **Objectives:** To 1) develop a theory-driven intervention to improve end-of-life care for people with dementia, 2) conduct a feasibility study to understand how the Intervention operates in nursing homes in different health and social care settings, 3) collect outcome data and estimate costs, 4) establish the Intervention causes no harm. **Methods:** A realist-based approach. Qualitative and quantitative data informed intervention development: 1) systematic review of existing evidence, 2) detailed cohort study of people dying with advanced dementia, 3) qualitative interviews and focus groups from people with dementia, carers, health and social care staff. Data informed the RAND/UCLA Appropriateness Method (RAM) to achieve consensus on intervention components. Components were mapped to underlying theory of whole-systems change and the intervention described in a detailed manual. We conducted a naturalistic intervention feasibility study in two nursing homes in northern London (UK) comprising, 1) integrated, interdisciplinary assessment and care, and 2) education and support for staff and family carers, delivered for six months by an Interdisciplinary Care Leader. Process and outcome data (including costs) and resident symptoms were recorded monthly. Semi-structured interviews were conducted with staff (7, 11 and 15 months) and family carers (7 months). **Results:** Large contextual differences were identified between sites. Core components were implemented in both nursing homes. The Intervention prompted efforts to improve advance care plans, pain management and person-centred care and did not cause harm. Outcomes were identified for future studies. The Interdisciplinary Care Leader cost £18,255 over six months. **Conclusions:** Using strong underpinning theory to develop the intervention enabled adaptation to context and successful implemented. We demonstrated feasibility and acceptability of this Intervention to improve end-of-life care in advanced dementia.

*Communication 2:* **Supporting family carers on establishing goals of care at the end of life for persons living with dementia.** Kevin Brazil, Gillian Carter, Chris Carter, Mike Clarke, Dorry McLaughlin, Peter Pasmore(1), Katherine Froggatt(2), Peter Hudson (3), George Kernohan(4) *((1) Queen's University Belfast, Northern Ireland, UK; (2) Lancaster University; (3) University of Melbourne, (4) University of Ulster)*

**Background:** In dementia care, family carers are often involved in decision-making on goals of care at the end of life on behalf of their family member who lacks decisional capacity. Advance care planning can support such carers in the decision-making of care goals. **Objectives:** This presentation will report on the evaluation of an advance care planning intervention for family carers in nursing care homes. **Methods:** A cluster randomized controlled trial evaluated an intervention that comprised a trained facilitator, family education, family meetings, documentation of advance care planning decisions and intervention orientation for general practitioners and nursing home staff. The study included 24 nursing homes located in Northern Ireland, United Kingdom. Family carers of nursing home residents classified as having dementia and judged as not having decisional capacity to participate in advance care planning discussions participated in the intervention. The primary outcome was family carer uncertainty in decision-making about the care of the resident (Decisional Conflict Scale). **Results:** There was evidence of a reduction in total Decisional Conflict Scale score in the intervention group compared with the usual care group (−10.5, 95% confidence interval: −16.4 to −4.7; $p < 0.001$; data of $n = 142$ family carers analysed). There was also evidence that family carer perception on quality of care provided in the care home increased (8.6, 95% confidence interval: 2.3 to 14.8; $p = 0.01$). **Conclusions:** Advance care planning was effective in reducing family carer uncertainty in decision-making concerning the care of their family member and improving perceptions of quality of care in nursing homes. Given the global significance of dementia, the implications for clinicians and policy makers include them recognizing the importance of family carer education and improving communication between family carers and formal care providers.

*Communication 3:* **Development and evaluation of a question prompt list for dementia at the end of life.** Jenny T. van der Steen(1,2), Carla CM Juffermans(1), Sten Heck(3), Mirjam M. Garvelink(4), Yvette M. van der Linden, Raymond T.C.M. Koopmans (2), Wilco P. Achterberg(1) *((1) Department of Public Health and Primary Care, Leiden, University Medical Center, Leiden, The Netherlands; (2) Department of Primary and Community Care, Radboud university medical center, Nijmegen, The Netherlands; (3) Leiden University, Leiden, The Netherlands; (4) Canadian Institutes of Health Research (CIHR) Québec, Canada; (5) Leiden University Medical Center, Leiden, The Netherlands)*

**Background:** Patients with dementia and their relatives need information and considerable support in advance care planning for the end of life. Question prompt lists are tools to support communication among informal and formal caregivers by providing examples of questions to encourage patients and relatives to ask about and discuss topics that are relevant to them. Question prompt lists have been developed and evaluated for cancer patients, for whom they enhanced participation in decision making and improved psychological outcomes. **Objectives:** To develop and evaluate a question prompt list for people with dementia and their caregivers at the end of life comprising background information and examples of questions.: **Methods:** A multidisciplinary team drafted a question prompt list that also incorporates basic information about dementia and palliative care, based on available booklets and question prompt lists. Qualitative evaluation with open-ended questions developed after each of three rounds in spring 2018 resulted in feedback from (1) older people and patient advocacy representatives, (2) family caregivers and bereaved family and (3) experts in caregiving, diversity and communication. A survey among elderly care physicians and general practitioners based on decision aid evaluation methodology including a validated acceptability scale rating as the primary outcome will provide a quantitative evaluation from the perspective of about 100 physicians. **Results:** Overall, the draft question prompt list was greatly appreciated by all three groups of end-users, in particular from the perspective of bereaved family caregivers. With their feedback, we modified the text, also adding text blocks with “Tips” and “Issues to consider.” As such, the question prompt list includes elements of a decision aid, information booklet and guide. Readers can select from eight topics what is relevant to them personally at a particular stage. We will present about the development and the results of the physician survey with data collection concluded before summer 2018. **Conclusion:** The question prompt list may fill a gap in seeking ways to develop advance care planning specific to dementia which are acceptable for a broad audience including those less likely to manage and plan ahead. An improved version of the question prompt list should be tested in practice as part of an innovative advance care planning intervention.

## S8- LIVING IN A MOVING WORLD! RESIDENTS IN THE CONTEXT OF RELOCATION, TRANSITION TO EMERGENCY ROOM OR PHYSICAL TRAINING.

Yves Rolland *(Gerontopole de Toulouse, France)*

Living in a nursing home is sometime not an easy ride. During this symposium, results of three different original researches will be reported for the first time. The first speaker will report original data on the impact of relocation on behavioral and psychological symptoms on elderly people living in a long term care unit institution. The second speaker will report the results of a systematic review of RCTs which investigated the effects of long-term exercise interventions on mortality, number of people hospitalized, number of falls, number of injurious falls, and number of people sustaining a fracture with a specific focus on nursing residents. Finally, the third speaker will reported the final results of the FINE study, a large observation study that assessed the factors associated with the transfer of NH residents to the emergency rooms.

### *Communication 1:* Impact of relocation on behavioral and psychological symptoms on elderly people living in a long term care unit institution.

Kamal EL Haddad *(Gerontopole de Toulouse, France)*

**Objectives:** The evolution of behavioral and psychiatric symptoms related to dementia among long term institution’s non demented and demented residents after an environmental change by an architectural transformation conserving the same medical staff. **Design:** This is a prospective, single arm study. One long term care unit. **Participants:** 116 nursing home residents (median age 82.33 [75.55-89.20], median NPI/NH score 22 [11-34.5] and a female ratio of 66.3 %), of which 102 live in classical unit and 14 in a specialized care unit. **Intervention:** Relocation of nursing home residents from an old designed nursing home to a modern newly built, environmentally adapted nursing home for people with dementia, conserving the same medical care and staff, with architectural transformation as the only changed factor. **Measurements:** Neuropsychiatric symptoms were evaluated as a part of a comprehensive geriatric assessment for each resident one week prior to the relocation and three times after the relocation; at 1 week, 4 weeks and 12 weeks using the Neuro-Psychiatric Inventory questionnaire. **Results:** When taking into account the type of unit, a mixed effect linear model found no significant change in the global NPI/NH score in the classic unit. But a significant decrease in the overall NPI/NH score at week 4 post relocation in the SCU was seen (β-coefficient for time by SCU -11.5 [-17.9 -5.2] 95%CI p <0.001) to reach a total decrease of 13 points by 12 weeks post relocation (β-coefficient for time by SCU -12.8 [-19.1 -6.4] 95% CI p <0.001). The NPI/NH score in the secured unit was accompanied by a statistically significant decrease in score of several items with a clinically relevant decrease in 3 points for disinhibition, apathy and agitation. Concerning the item aberrant motor behavior, we saw an increase by 3 points by W12 post relocation in the SCU. **Conclusion:** An environmental change by an architectural transformation significantly reduces behavioral and psychiatric symptoms among nursing home residents at one month.

### *Communication 2:* The effects of exercise for decreasing the risk of developing serious adverse outcomes still remain unclear in nursing home resident.

Philipe De Souto Barreto *(Gerontopole de Toulouse, France)*

**Objective:** The objectives of this systematic review of RCTs with pre-planned meta-analysis were to investigate the effects of long-term exercise interventions on mortality, number of people hospitalized, number of fallers, number of injurious fallers, and number of people sustaining a fracture with a specific focus on nursing resident. **Methods:** This systematic review and meta-analysis was registered in the PROSPERO database (registrations number: CRD42018090757) and follows the PRISMA guidelines. **Expected results:** Whether exercise benefits occurred without increasing the risk of mortality and hospitalization is an important question in the frail NH resident population. To the best of our knowledge this meta-analysis will be the first to assess the effects of long-term (> 1 year) exercise against mortality in NH residents. This work will also state on the effect of long-term exercise on the risk of falls, injurious falls, and potentially fractures in older adults living in NH. Based on the results, the author will try to make recommendations on the best exercise regimen that should be proposed to NH residents.

### *Communication 3:* Factors predisposing nursing home resident to inappropriate transfer to emergency department. Result of the FINE study.

Yves Rolland *(Gerontopole de Toulouse, France)*

**Background:** Each year, around one out of two nursing home (NH) residents are hospitalized in France, and about half to the emergency department (ED). These transfers are frequently inappropriate. **Objective:** The first aim of the FINE study is to identify the factors associated with inappropriate transfers to ED. **Methods/design:** FINE is a case-control observational study. Sixteen hospitals participate. Inclusion period lasts 7 days per season in each center for a total period of inclusion of one year. All the NH residents admitted in ED during these periods are included. Data are collected in 4 times: before transfer in the NH, at the ED, in hospital wards in case of patient’s hospitalization and at the patient’s return to NH. The appropriateness of ED transfers (i.e. case versus control NH residents) is determined by a multidisciplinary team of experts. **Results:** Our primary objective is to determine the factors predisposing NH residents to inappropriate transfer to ED. Our secondary objectives are to assess the cost of the transfers to ED; study the evolution of NH residents’ functional status and the psychotropic and inappropriate drugs prescription between before and after the transfer; calculate the prevalence of potentially avoidable transfers to ED; and identify the factors predisposing NH residents to potentially avoidable transfer to ED. **Discussion:** A better understanding of the determinant factors of inappropriate transfers to ED of NH residents may lead to proposals of recommendations of better practice in NH and would allow implementing quality improvement programs in the health organization. The final results of the FINE study will be reported in Rome by the authors.

# ORAL COMMUNICATIONS

## OC1- LENGTH OF STAY IN WESTERN CANADIAN NURSING HOMES: TEMPORAL TRENDS AND JURISDICTIONAL DIFFERENCES.

Matthias Hoben *(University of Alberta, Edmonton, Canada)*

**Backgrounds:** Nursing homes (NHs) are the costliest continuing care settings. Health jurisdictions have implemented aging in place policies to shift care from NHs to the community, as a method of cost containment and to align with individuals' desire to remain in their home. In Canada and internationally, there is little research to substantiate whether aging in place policies have affected NH length of stay (LoS). **Objectives:** Objectives of this study were to assess temporal trends (2008–2015) in LoS, and resident and NH characteristics associated with LoS across three Canadian health jurisdictions (Edmonton, Calgary, Winnipeg). **Methods:** This was a retrospective cohort study. We analyzed data from 7,817 residents admitted between 01/2008 and 03/2017 to 18 NHs participatinmg in the Translating Research in Elder Care (TREC) program of research. LoS was defined as time between a resident's first NH admission and final discharge (including death) from the NH sector. We assessed differences in LoS based on resident characteristics (e.g., age, cognitive performance) and controlled for facility characteristics (e.g., care hours per resident day, care aide emotional exhaustion). We used descriptive statistics and Kaplan Meier estimates to assess unadjusted LoS, and Cox proportional hazard regressions to identify resident characteristics (controlling for facility characteristics) associated with LoS. **Results:** LoS trajectories differed among health jurisdictions. Resident characteristics such as higher physical dependency (hazard ratio [HR]=1.195, 95% confidence interval [CI]: 1.124; 1.272) and higher cognitive impairment (HR=1.118, 95% CI: 1.047; 1.194) were associated with lower LoS. In health jurisdictions with increasing resident complexity (Calgary/Edmonton), LoS decreased over time, while in jurisdictions with consistently lower complexity, LoS was higher and constant. Higher total number of care staff hours per resident day was significantly associated with higher LoS (HR=0.857, 95% CI: 0.745; 0.986). **Conclusion:** NH residents' acuity at admission has increased since 2008. Health policies may affect resident complexity and LoS. Our results highlight the importance of rigorous longitudinal resident data analyses to evaluate the impact of health policy changes. Higher staffing resources may facilitate management of more complex residents and hence increase LoS.

## OC2- SHOULD I STAY OR GO?: NURSING HOME ADMINISTRATORS' EXPERIENCES DURING HURRICANE IRMA.

Kathryn Hyer *(University of South Florida, Tampa, USA)*

**Backgrounds:** In September 2017 Hurricane Irma, the strongest storm ever recorded in the Atlantic basin, made landfall in the Florida Keys as a Category 4 hurricane and then landed again along the Southwest Florida coast as a Category 3. Irma affected nearly all of Florida with hurricane force winds and significant storm surge. An estimated 7,700 residents in 81 Florida nursing homes (NH) evacuated their residence. **Objectives:** Report the Hurricane Irma experiences of 311 Fl NHs faced during Irma. Identify predictors of Florida NH evacuation during Hurricane Irma by integrating state quantitative survey and qualitative data. **Methods:** This is a mixed methods study. The Florida licensing and regulatory agency sent 51-item questionnaire to 686 community-based NHs. Of the 311 (45%) facilities that responded to questionnaire, 31 of 81 evacuated facilities (38%) responded with detailed reports. We matched State survey data with CASPER NH reporting data to identify differences in facility characteristics for the evacuated versus sheltered-in-place NHs. Additionally; we conducted interviews with 10 NH administrators to probe evacuation decisions. Using GIS data, we mapped NHs that evacuated versus sheltered-in-place by flood zone. Chi-square and t-tests identified differences in facility characteristics as well as flood zone evacuation status. Administrators' decision to evacuate versus shelter-in-place were compared by theme, facility characteristics, and geographic data. **Results:** Preliminary results identify 12% (n = 81) of NHs in Florida evacuated due to Hurricane Irma, displacing 7,777 residents. Of the 81 NHs, 75% evacuated before Irma hit and 25% evacuated after. Having fewer total residents, being For-Profit status, and having a lower proportion of Medicaid residents were consistent with evacuation. Predictors of evacuation included distance from the projected path, expected winds, distance from shore, and evacuation flood zone designation. Models included prior emergency-preparedness deficiencies (i.e., K-tags and F-tags), payer mix, and organizational characteristics. Interviews provided qualitative experiences of administrators. **Conclusion:** Despite new CMS regulations, improved state emergency preparedness, and detailed reporting systems, NH residents remain vulnerable. Experiences of FL NHs help identify policy and regulatory issues that continue to challenge providers' ability to care for residents during natural disasters.

## OC3- EDUCATION OF HEALTH CARE PROFESSIONALS ON SCREENING AND TREATMENT OF MALNUTRITION IN OLDER ADULTS ACROSS EUROPE.

Doris Eglseer *(Medical University Graz, Graz, Austria)*

**Backgrounds:** Insufficient knowledge of healthcare professionals regarding malnutrition is a main reason for not using malnutrition screening tools or evidence-based interventions. **Objectives:** The aim of this study was to determine to which extent education on screening and treatment of malnutrition in older adults is embedded in the basic education of nurses and physicians across European countries. **Methods:** This study is part of the European project Malnutrition in the Elderly Knowledge Hub (MaNuEL). A cross-sectional design was used and therefore a questionnaire was developed based on a literature search and experts opinions. The questionnaire was distributed among persons responsible for curriculum development in 31 European countries (310 medical universities and 926 nursing universities/schools). **Results:** We received answers from medical universities in 12 countries (response rate 8.4%) and from nursing universities/schools in 26 countries (response rate 14.2%). 77% of the medical universities and 86.3% of the nursing institutions stated that they provided general nutrition education to their students. 65% of the medical and 73% of the nursing institutions provide education about malnutrition in older adults. The most frequently mentioned contents regarding the education of physicians were malnutrition screening (69.2%), assessment (50%) and causes of malnutrition (50%). In nursing education, it was malnutrition screening (70.8%), causes (67.2%) and consequences of malnutrition (68.7%). Rarely reported contents in the education of both professions were the responsibilities of various professions in nutritional care, cooperation within multidisciplinary nutrition support teams, as well as perioperative nutrition and nutrition support in ICUs. Malnutrition is mainly taught by physicians in medical universities and by nurses in nursing universities/schools. **Conclusion:** The topics of malnutrition and malnutrition screening are currently not included in nutrition courses taught at 35% of medical and nearly 30% of the nursing educational institutions in European countries. Responsible persons for curriculum development urgently need to improve curriculum content with respect to the topic of malnutrition in older adults to enable healthcare professionals to provide high-quality nutritional care of older persons.

### OC4- REDUCING PNEUMONIA IN NURSING HOMES THROUGH BETTER ORAL HYGIENE: EVIDENCE FROM A CLUSTER RANDOMIZED TRIAL.

Sheryl Zimmerman *(University of North Carolina at Chapel Hill, Chapel Hill, USA)*

**Backgrounds:** The incidence of pneumonia among nursing home (NH) residents has come under increasing concern. In the U.S., the median incidence of NH pneumonia is as much as 1.2 per 1,000 patient days, virtually identical to the 1.18 rate in Germany. Making the matter even more concerning, the incidence of NH pneumonia has increased over time, including in the Netherlands, which has seen a 60% increase from 2011 to 2014. It is no wonder that there have been efforts to reduce the incidence of pneumonia in NHs. One pathway to lower pneumonia is to reduce the introduction of bacteria into the lungs through better oral hygiene – largely because poor oral hygiene increases both the volume and infectious potential of secretions from the mouth and throat. **Objectives:** Our research team developed an evidence-based program for direct care staff to provide daily mouth to NH residents; the program is called Mouth Care Without a Battle (MCWB; http://www.mouthcarewithoutabattle.org/). MCWB improves staff knowledge, attitudes, and behaviors, as well as residents' oral hygiene. The objective of this project was to evaluate the efficacy of the evidence-based mouth care program in reducing the incidence of pneumonia in 7 intervention NHs compared to 7 control NHs. **Methods:** We conducted a cluster randomized trial of daily mouth care provided by NH assistants to all residents -- including those at comparatively higher risk for pneumonia -- in 7 NHs; the incidence of pneumonia was compared to that in 7 NHs not participating in MCWB. MCWB provides training to remove plaque, treat gingivitis, prevent tooth decay, clean dentures and gums, meet behavioral challenges, and assess and monitor care. **Results:** Compared to control NHs, oral hygiene related to dental plaque, gingivitis, and denture plaque improved in MCWB homes compared to control NHs, especially over one year. Pneumonia incidence in MCWB NHs decreased 32% over one year (p=0.027, pre-specified as a one-sided test). **Conclusion:** Direct care providers in NHs can reduce the incidence of pneumonia by providing daily mouth care overall, and to residents at highest risk of pneumonia. MCWB can be used by NH staff and incorporated into daily practice.

### OC5- NATIONAL QUALITY INDICATORS FOR SWISS NURSING HOMES: A CROSS-SECTIONAL PILOT STUDY.

Franziska Zúñiga *(University of Basel, Basel, Switzerland)*

**Backgrounds:** For the first time, Switzerland will introduce the measurement and public reporting of national quality indicators (QIs) for nursing homes including four measurement themes: physical restraints, pain, polypharmacy, and weight loss. **Objectives:** To explore prevalence of and variability between nursing homes of the new Swiss quality indicators. **Methods:** In this cross-sectional pilot study from 2016-2017, data from 11,412 long-stay residents from 152 Swiss nursing homes were used. Variables were assessed with routine assessments performed on every resident at admittance and at least every 180 days. The three instruments used in Switzerland for routine assessments (RAI-NH, BESA, Plaisir) were adapted before the pilot study to include all relevant variables: Frequency of physical restraint use (fixation of the trunk, seating not allowing to stand up, bedrails), pain frequency and intensity (self-reported and observed), number of active ingredients taken during the last 7 days, and a weight loss of 5% or more during the last 30 days, resp. 10% and more in the last 180 days. Intraclass correlation 1 and 2 (ICC1, ICC2) were calculated and caterpillar plots with empirical bayes estimates were used to explore the variability of the QIs between nursing homes. **Results:** The prevalence of the QIs varied widely: physical restraint (fixation of trunk and seating not allowing to stand up) had an overall mean of 3.6% (range per nursing home: 0-36%), bedrails: 13.5% (0-48%), weight loss: 7.3% (0-46%), polypharmacy (9 or more active ingredients over last 7 days): 43.3% (0-74%), pain self-assessed: 18.4% (0-60%), and pain observed: 12% (0-100%). For all QIs, ICC1 were above the threshold of 0.05 ranging from 0.06 [95% CI 0.04-0.07] for polypharmacy to 0.34 [95% CI 0.24-0.41] for physical restraints. Caterpillar plots showed the QIs' overall ability to differentiate performance of nursing homes except for the observed pain QI. Here, 10% of the nursing homes did not have any data since all residents could self-report pain. **Conclusion:** Five quality indicators can be recommended for measuring quality differences in Swiss nursing homes. The measurement of observed pain was not sufficiently reliable to be useful as QI and needs further exploration.

### OC6- IMPLEMENTATION OF A GOOD MEDICAL PRACTICES BOOKLET AND DRUG CONSUMPTION IN NURSING HOMES: AN ANALYSIS FROM THE NATIONAL LONG-TERM CARE DRUGS DATABASE IN FRANCE.

Stéphane Sanchez *(Pôle Information Médicale Évaluation Performance, Centre Hospitalier de Troyes, France)*

**Backgrounds:** A policy for the safe use of medications and good prescribing practices, summarized in the form a booklet, was introduced in several nursing homes belonging to a single provider of seniors care in France (namely, the Korian group), with a view to improving the quality of prescribing, and the safe use of medications. **Objectives:** We aimed to evaluate the impact of qualitative and organizational policies regarding drug prescriptions on polypharmacy in nursing homes. **Methods:** Design: Multicenter, case-control study. Intervention: We identified nursing homes belonging to a specific seniors' care provider (the intervention groupthat had instigated a policy of proper medication use through the implementation of a good medical practices booklet. The remaining nursing homes in the group were used as controls representative of other French nursing homes. Setting: We used the database derived from electronic pill dispensers used to dispense medications in nursing homes in France. Multilevel regression models were used to assess trends in polypharmacy and the effects of the intervention on polypharmacy. Participants: Overall 517 nursing homes in France totaling 96,216 residents were included between the 1 January 2011 and 31 December 2014. Measurements: The number of doses administered per day and the number of medications (i.e. different presentation identifier codes) per month per resident. **Results:** A significant decrease took place for the intervention group and the control group in terms of the average daily use of medications (-0.05 and -0.06, respectively), in the average daily use of hypnotics (-0.04 and -0.05, respectively), and in the average daily use of psychotropic medications (-0.08 and -0.07, respectively). A lower use of medications was noted for the intervention group, with an RR of 0.98 (95% CI, 0.97 to 0.99). **Conclusion:** Our study shows that there was a decreasing trend in regard to drug use in nursing homes. This decrease was significant for both the intervention group and the control group. These results highlight that it is important for prescribers, medical professionals, and consumers to have continued development of a setting that promotes a general policy of reducing the use of drugs.

## OC7- ASSOCIATION OF POLYPHARMACY WITH ONE-YEAR TRAJECTORIES OF COGNITIVE AND PHYSICAL FUNCTION IN NURSING HOME RESIDENTS: RESULTS FROM A MULTICENTRE EUROPEAN STUDY. Emanuele Rocco Villani *(Department of Geriatrics, Catholic University of Rome, Italy)*

**Backgrounds:** In Western Countries, up to 8% of older adults live in nursing homes (NH) and present clinical complexity with high prevalence of multimorbidity, frailty, disability and the use of multiple drugs, known as polypharmacy. This, with prevalence ranging between 13% and 93%, exposes NH residents to an increased risk of iatrogenic events, unplanned hospitalizations and geriatric syndromes (e.g. delirium, falls). In cross-sectional studies, high pharmacological burden has been associated with cognitive and physical function that are important health indicators in older adults, but relationship between polypharmacy and negative health outcomes may be bidirectional: multimorbidity requires complex pharmacological regimens, but polypharmacy increases the risk of drug interactions and adverse drug events. Therefore, to explore the hypothesis of a relationship between polypharmacy and negative health outcomes, longitudinal studies are needed. **Objectives:** To test the association between polypharmacy and 1-year change in physical and cognitive function among NH residents. **Methods:** A longitudinal multicentre cohort study based on data from the Services and Health for Elderly in Long TERm care (SHELTER) study involving 50 NH in Europe and 7 in Israel gathering 3234 NH older residents. Participants were assessed through the interRAI long-term care facility instrument. Polypharmacy was defined as the concurrent use of 5-9 drugs and excessive polypharmacy as the use of ≥10 drugs. Cognitive function was assessed through the Cognitive Performance Scale (CPS). Functional status was evaluated through the Activities of Daily Living (ADL) Hierarchy scale. Change in CPS and ADL score, based on repeated assessments, was the outcome and their association with polypharmacy was modelled via linear mixed models. Interaction between polypharmacy and time was reported (beta and 95% confidence intervals [95%CI]). **Results:** 1630 (50%) residents were on polypharmacy and 781 (24%) on excessive polypharmacy. After adjusting for potential confounders, residents on polypharmacy (beta 0.10; 95%CI 0.01-0.20) and on excessive polypharmacy (beta 0.13; 95%CI 0.01-0.24) had a significantly higher decline in CPS score compared with those using <5 drugs. No significant change according to polypharmacy status was shown for ADL score. **Conclusion:** Polypharmacy is highly prevalent among older NH residents and, over one year, is associated to worsening cognitive function, but not with functional decline.

## OC8- ADAPTING THE ENVIRONMENT OF ALZHEIMER RESIDENTS: PRINCIPLES AND ISSUES. Philippe Voyer *(Université Laval, Quebec City, Canada)*

**Backgrounds:** Several projects have been created to meet the needs of seniors with major neurocognitive disorders (eg Alzheimer's disease). The most well-known adapted housing projects are Alzheimer villages, Alzheimer farms, Greenhouse projects and Eden alternative projects. **Objectives:** The first objective of this presentation will be to highlight the principles that underlie all of these adaptation projects. The second objective will be to present a "before and after" transformation of the "Maison l'étincelle" that demonstrates how the Alzheimer principles have been applied to this Alzheimer unit (n=10). Finally, preliminary results of a Quebec City experience of transforming a regular nursing home with mixed population (n=96) into a nursing home for Alzheimer residents only will be presented. **Methods:** The first part of this conference is based on a scientific literature review, while the second part is based on two Canadian experiences of transformation in the province of Quebec. These projects were carried out in 2017-18. Principles that were applied in these projects will be presented with supportive qualitative data and pictures showing the changes that took place. **Results:** The literature review allowed the identification of the essential principles for creating a suitable environment for Alzheimer residents. These two Canadian experiences have made it possible to establish the supporting interventions and obstacles of creating an Alzheimer unit and an Alzheimer nursing home. Having a new name for the institution, changing the mission and the philosophy of the organization, training the administrators, staff and family members were among the supporting interventions in the transformation. Regulatory organizations, ill-designed unit and concerns for safety and infection diseases were the most frequent obstacles encountered. **Conclusion:** It is possible to adapt an environment to the needs of Alzheimer residents insofar as it is a priority for all the actors involved.

## OC9- PHYSICAL RESTRAINT AND BEDSIDE RAILS: A SUCCESSFUL REDUCTION PROGRAMME IN LOWER SAXONNY. Philippe Zawieja *(ORPEA, Puteaux, France)*

**Backgrounds:** In nursing homes, physical restraint is generally used to prevent multiples falls, behavioural disturbances, or wanderings. When progressively integrated into the ORPEA Group, the Peter Janssen Gruppe benchmarked the use of physical restraint, in particular bedside rails, in 12 of its nursing homes. The frequency was found too high and, surprisingly, 54% of the bedrails were found installed on resident's request. **Objectives:** This 2-year programme was implemented to reduce the use of physical restraint. Intervention was in particular focused on bedside rails on resident's request, which involved the understanding of the reasons of such demands. **Methods:** Caregivers' practices, perceptions and representations about bedside rails were explored in each facility, then discussed and used to build 7 training sessions, including refreshers about physical restraint use and misuse. Referent persons were designated in each facility. Last, a collective, multidisciplinary case discussion methodology was designed to address every request for bedside rails individually, including non-conventional solutions. **Results:** The number of bedside rails decreased by 27% (–16% during the first year, and another – 13% during the second year). The restraint use rate decreased from 18.2% (beginning 2016) to 14.9% (end 2017), much lower than the mean rate in Germany (26%). This decrease is mainly due to improved care practices. On the other hand, bedside rails on resident's request was not as reduced as expected, which is the main limit for this programme. **Conclusion:** The target is to reach a change of perspective, making the absence of bedside rails the standard. Which implies to deepen multidisciplinary reflection and to develop decision-making together with residents and families.

## OC10- THE USE OF TELEDERMATOLOGY FOR EVALUATION AND TREATMENT OF NURSING HOME PATIENTS IN DISTANT, RURAL, AND UNDERSERVED LOCATIONS. Robert Norman *(Dermatology Nova Southeastern University Director - Center for Geriatric Dermatology USA)*

**Background:** Over the last 1.5 years we have been utilizing Teledermatology for Evaluation and Treatment of Nursing Home Patients in Distant, Rural, and Underserved Locations. **Objective:** The hypothesis of our study it that Teledermatology for Evaluation and Treatment of Nursing Home Patients in Distant, Rural, and Underserved Locations would result in improvement in care and fiscal efficiency. The objective of the study was to determine the efficacy, cost savings, and outcomes of using Teledermatology for Evaluation and Treatment of Nursing Home Patients in Distant, Rural, and Underserved Locations. **Methods:** For more than 25 years we have provided services to nursing home patients utilizing an extensive mobile services program. Using newer technologies, we have been able to apply telemedicine techniques to also help our patients. We have a 1.5 year longitudinal 2016-2018 qualitative and quantitative cohort study utilizing 100 older adult patient participants, including surveys and other feedback mechanisms. **Results:** The outcome measurements included extensive cost savings in transportation for both facilities and providers, decreased stress for our patients, and a great increase in disease prevention and improved treatment. Statistics included 95% CI based on survey feedback, especially in comparison to other methods of treatment and costs. Several tables and graphs will illustrate our data. **Conclusions:** The main clinical message is the efficacy and cost savings of tele-dermatology. During my presentation I will show video of actual patient encounters and the ease of use. The need in the future is to expand these services and to increase telemedicine utilization in other specialties.

### OC11- TIMING OF PROVIDER VISITS AND EARLY EMERGENCY DEPARTMENT UTILIZATION IN PATIENTS DISCHARGED TO SKILLED NURSING FACILITIES.

Anupam Chandra *(Mayo Clinic, Rochester, USA)*

**Backgrounds:** Patients discharged to skilled nursing facilities (SNF) for post-acute care following hospitalization are at increased risk emergency department(ED) visits. Early visits by providers, physician or advanced practice nurses, at SNF admission may favorably impact these outcomes by improving transition management and by timely management of acute clinical concerns. **Objectives:** We conducted this study to compare ED utilization within 7 and 14 days of SNF admission among patients discharged for post-acute care to a facility where the care process model included early (typically the first day) provider visits to facilities where provider visits occurred per government regulations usually within 30 days of SNF admission. **Methods:** This is a cohort study of patients discharged from Mayo Clinic, Rochester, MN hospitals to 10 area SNFs served by the Division of Employee and Community Health (ECH) between January 1, 2009 and June 30, 2014. The primary outcomes, 7 and 14-day ED visits following SNF admission, were obtained from the electronic medical record and administrative data. Patient demographics, comorbidities and provider care process at the facilities were obtained from the same sources. We compared the rates of 7 and 14 day ED visits in patients discharged to the facility with early provider visits to those discharged to facilities where provider visits occurred per regulations usually within 30 days. **Results:** 8616 discharges occurred from our institutional hospitals to 10 SNFs served by ECH during the study period. Among these, ED visits occurred in 682(7.9%) within 7 days and in 1056(12.6%) within 14 days. In comparing the two groups both 7-day and 14-day ED utilization rates were higher ( 8.9% and 13.7% respectively) in those with usual care compared to those discharged to the facility with early provider visits ( 6 % and 9.5% respectively, p <0.01). These differences persisted after adjustment for age and comorbidity (OR 0.73 95% CI 0.60-0.87; 0.73 95% CI 0.63-0.85 respectively). **Conclusion:** Patients discharged to the SNF with early provider visits upon admission had lower ED utilization at 7 and 14 days compared to those with usual care. Further studies are needed to confirm these findings in other institutions and geographic areas.

### OC12- UPDATE OF A FALL PREVENTION GUIDELINE USING GRADE.

Daniela Schoberer *(Institute of Nursing Science, Medical University of Graz, Graz, Austria)*

**Backgrounds:** Falls are highly prevalent in the older hospital and nursing home population. Several falls might be avoidable by providing effective nursing care interventions. Numerous studies examined the effectiveness of nursing care interventions. However, the results are often heterogeneous and presented in a way that nursing staff have difficulties to understand and use them. Evidence-based clinical guidelines offer clear and unambiguous recommendations on preventive strategies and/or treatment interventions by incorporating the external evidence, the practicability of interventions, necessary resources and local regulations. As clinical practice guidelines should be based on current recommended methods and reflect the current state of knowledge, they must be updated regularly. **Objectives:** This project aims at updating an evidence-based fall prevention guideline for hospitals and nursing homes by using internationally recommended methods for guideline development. **Methods:** The guideline update included a systematic literature search for each key question, evidence synthesis by means of meta-analysis (if possible) and evidence grading using GRADE. Recommended methods of the GRADE Working Group were used to assign evidence levels in a multidisciplinary team. To facilitate the application of the guideline, pocket cards and algorithms with key recommendations were created. External methodological and clinical experts reviewed the draft guideline. **Results:** The literature search yielded 84 randomized controlled trials, which constituted the basis for the recommendations. Meta-analysis showed some significant results, while the confidence in the evidence according to GRADE was generally low to moderate. Strongly recommended interventions for nursing homes practice are multifactorial interventions based on individual risk factors, resident education and counselling, as well as professionally guided physical exercise for more than 6 months. **Conclusion:** Nurses want to work based on current evidence. This guideline (in the German language) offers clear recommendations on a wide range of fall prevention strategies. It is easy to understand and easily implemented in clinical settings. This guideline contributes to evidence-based nursing practice.

### OC13- A CLUSTER-RANDOMIZED CLINICAL TRIAL OF A DAILY PHYSICAL ACTIVITY COMBINED WITH NUTRITIONAL SUPPLEMENT IN FRAIL OLDER ADULTS – THE OPEN STUDY.

Anne-Marie Boström *(Karolinska Institutet, Stockholm, Sweden)*

**Backgrounds:** Physical function, especially chair rise, is strongly associated with the ability to perform activities of daily living. Protein deficiency seems to play an important role in the development of sarcopenia in older persons leading to decreased physical function and dependency of support. **Objectives:** The objective of the study was to investigate the effects of a 12-week combined intervention consisting of a sit-to-stand exercise (STS) and an oral protein-rich nutritional supplement (ONS) on physical function in nursing home residents. **Methods:** A two-arm cluster-randomized controlled trial was performed in eight Swedish nursing homes. The intervention group (IG; n=60) was supported to conduct the STS exercise four times per day and was offered two ONS daily for 12 weeks. The 30-second Chair Stand Test was used at baseline and at 12-weeks follow-up as primary outcome. Adherence to the combined intervention was divided into "high dose" (defined as >120 occasions of STS and > 60 bottles of ONS for 12 weeks) and "low dose". The control group (CG; n=60) received standard care. Data was analyzed using Student's t-test. A p-value of <0.05 was set as statistical significance. **Results:** 120

residents, (mean (SD) 86±5.4 years), were recruited at baseline, and 102 were available for follow up. There were no statistical differences within or between the IG and CG regarding means of chair rises at baseline or follow-up. Adherence to the intervention was high in 40% of the 50 participants. The mean number of chair rises increased significantly within the "high dose group" vs. the "low dose group". At baseline the mean numbers of chair rises were 6.8 for the high dose (n=21) and 5.7 for the low dose (n=29) (p=0.232). At follow-up the numbers of chair rise were 7.6 for the high dose group compared with 5.4 for the low dose group (p=0.02). **Conclusion:** Residents who adhered to the intervention improved their physical function measured by the capability to perform chair rise. The combined intervention has the potential to increase the independence in activities of daily living for residents and decrease the need of assistance for transfers.

### OC14- THE BEYOND-II STUDY: EFFECTS OF AN INTERVENTION FOR THE MANAGEMENT OF NPS IN YOUNG-ONSET DEMENTIA ON BURN-OUT, JOB SATISFACTION AND JOB DEMANDS OF CARE STAFF.

Jeannette van Duinen-van den IJssel *(Radboud Alzheimer Centre, Radboud University Medical Centre, Nijmegen)*

**Backgrounds:** The intervention 'GRIP on NPS in young-onset dementia (YOD) nursing home residents' is aimed at decreasing NPS and consists of a structured multidisciplinary working method aimed at detection, analysis, treatment and evaluation of NPS accompanied by an educational program. It encompasses improvement of staff knowledge on NPS and provides tools to better manage NPS which might also result in less burnout complaints and improves job satisfaction. **Objectives:** to evaluate the effect of the intervention on staff burnout, job satisfaction and job demands. **Methods:** Randomized controlled trial using a stepped wedge design. The intervention was implemented between 2015 and 2017 on 13 YOD special care units (SCUs) in the Netherlands. The SCUs were divided in three groups, which crossed-over from control to intervention condition during the course of the study. Alongside implementation, four half-yearly assessments took place. All staff received a questionnaire assessing job satisfaction, job demands and burnout, covering emotional exhaustion, depersonalization and personal accomplishment at each assessment point. **Results:** In total, 305 unique nurses participated in the study. 1241 questionnaires were distributed of which 709 (56.8%) were returned. Mean baseline emotional exhaustion was 11 (6.2), personal accomplishment 9.9 (5.9) and depersonalization 2.6 (2.7). Indicating a low risk on burnout. Mean job satisfaction was 21.8 (3.1) and job demands were 14.7 (2.8). Linear mixed models showed no significant changes in the scores on main outcomes when using the intervention. Interaction effects were found, higher educated staff scored higher on emotional exhaustion (Estimate 1.4, p=0.034, 95% CI:0.14 to 3.50) and lower on job satisfaction (Estimate -1.2, p=0.017, 95% CI:-1.8 to -0.18) when using the intervention, whilst no effects were found for lower educated staff. **Conclusion:** This is the first study addressing the effects of an intervention on staff caring for YOD nursing home residents. Staff already scored positive on the outcomes of interest, leaving little opportunity for improvement. Job demand scores did not increase despite the additional time investment. The intervention can be interesting for nursing homes who lack a structured method. Prevention of negative changes in emotional exhaustion and job satisfaction in higher educated staff should be investigated.

### OC15- EFFECTS OF THE OTAGO EXERCISE PROGRAM ON PHYSICAL PERFORMANCE, BALANCE, FALLS, AND FRAILTY IN THE ELDERLY: A RANDOMIZED CONTROLLED TRIAL.

Fatma Özge Kayhan Koçak *(Ege üniversite, department of internal Medicine, division of geriatrics, Bornova, Izmir, Turkey)*

**Backgrounds:** Falls are associated with the most serious injuries and highest risk of death among individuals over 65 years old. However, falling should not be considered a natural consequence of aging, and our focus should shift from treatment to prevention of falls. **Objectives:** To evaluate the effect of Otago exercises on physical performance, balance, falls and frailty in elderly individuals. **Methods:** This randomized controlled trial included 72 subjects over 65 years of age in the Narlıdere Nursing Home Care and Rehabilitation Center in Turkey between September 2016 and June 2017. Those in the Otago group performed 45 minutes of Otago exercises 3 days a week for 12 weeks in groups of 8. On 3 other days of the week, the participants were scheduled to walk at least 30 minutes. The control group was only scheduled to walk a minimum of 30 minutes 3 days a week to exclude the placebo effect and address ethical concerns. Assessment tools used included a Patient Information Form, the Berg Balance Scale, the 30-second Sit to Stand test, the 6-minute walking test, the Falls Behavioural (FaB) Scale for the Older Person and the Edmonton Frail Scale. **Results:** After 3 months of follow-up, the control group showed no significant change in frailty scores, but there was a significant decrease in frailty scale scores in the Otago group (p<0.05). Similarly, Berg Balance Scale results showed no significant change in the control group after 3 months, while there was a statistically significant increase at both 1 and 3 months in the Otago group (p<0.001). There were significant differences in paired comparisons of the groups at 0, 1, and 3 months (p<0.05). In both the Otago group and the control group, there was a significant change in mean Sit to Stand test, Falls Behavioural (FaB) Scale scores (p<0.05). **Conclusion:** The findings of this study indicate that Otago exercises have a positive impact on physical performance, balance, falls and frailty in elderly individuals. We recommend that health workers who work with people over 65 years of age be trained in Otago exercises and that these exercises be implemented with suitable elderly individuals to prevent falls.

### OC16- THE UMDEX STUDY: EFFECTS OF EXERCISE ON FALLS IN OLDER PEOPLE WITH DEMENTIA LIVING IN NURSING HOMES.

Annika Toots *(Umeå University, Umeå, Sweden)*

**Backgrounds:** Older people with dementia have a high risk of falls and related injuries. Physical exercise as a single intervention has been shown to prevent falls in healthy older people, but in people with dementia the evidence is limited. In nursing homes, it has even been suggested that improved balance could increase falls. **Objectives:** The aim of this study was to investigate effects of exercise on falls in people with dementia living in nursing homes. **Methods:** The study was part of the Umeå Dementia and Exercise (UMDEX) study, a cluster-randomized controlled trial, set in 16 nursing homes. One-hundred-and-forty-one women and 45 men, mean age 85 years, and mean Mini-Mental State Examination score of 15 were included. Participants were randomly allocated either to exercise according to the High-Intensity Functional Exercise (HIFE) program (lower limb strength-, balance- and mobility exercise) or to a seated attention control activity. Activities were conducted 2-3 times/week for 4 months. Falls were followed for 12 months (after the end of intervention) by fall incidence reports and review of medical records.

**Results:** During follow-up, 118 (67%) of the participants fell, in total 473 times. After 6-month follow-up the incidence rate was 2.7 and 2.8 falls per person-year in exercise and control group, respectively. At 12-month follow-up it was 3.0 and 3.2 falls per person-year in exercise and control group, respectively. Negative binomial regression analyses indicated no difference in falls rate between groups at 6- or 12-month follow-up (Incidence rate ratio, IRR 0.9, 95% Confidence interval [CI] 0.5-1.7, P = .838 and IRR 0.9, 95%CI 0.5-1.6, P = .782, respectively). **Conclusion:** In this study of older people with dementia living in nursing homes, a high-intensity functional exercise program alone did not prevent nor increase falls in the twelve months following intervention when compared with an attention control group.

### OC17- THE FUTURE OF SEPSIS IN LONG TERM CARE. CHALLENGES IDENTIFYING THE RIGHT CRITERIA IN THE ERA OF ELECTRONIC HEALTH RECORDS. Annika Toots *(Umeå University, Umeå, Sweden)*

**Background:** The human and financial costs of emergency department visits, hospital admissions and readmissions from skilled nursing facilities (SNFs) are substantial, and a significant proportion of them are considered potentially avoidable. The process of aging is associated with important changes in the immune system as well as other physiologic and environmental changes that increase the risk of infections. Nursing facility (NF) residents are particularly susceptible to infections with potential for developing sepsis. The heterogeneity and atypical nature of clinical presentations of infection in the NF population makes the diagnosis of sepsis more challenging. Better strategies for the early identification of sepsis, and especially for distinguishing between patients that should stay in the NF for treatment vs. transfer to a higher level of care, are needed.To account for the atypical presentation of infections and sepsis, Dr. Thomas Yoshikawa, has defined sepsis in the older population as “an infection, regardless of the primary site of the source that manifests with select systemic symptoms, signs and/or functional capacity changes and may be associated with one or more organ dysfunction and/or failure”. Recent data suggest that well stablished criteria to identify septic patients such as QSOFA and SIRS lack both sensitivity and specificity to identify patients at early stages of the disease process. Therefore, using such criteria could lead to delays in the diagnosis of sepsis resulting in suboptimal treatment. Identifying criteria to identify sepsis in NF appears to be an urgent need. The process of creating new criteria should take into consideration the following challenges: 1. Criteria should be designed to be used based on the capabilities of “typical” nursing facilities and the level of training of the providers that care for this population on daily basis. These means that criteria should be built under the premises that changes in functional status are the foundation of each criterion. Such changes in function most likely occur early in the development of an infection. Although, using changes in condition as sole parameter to identify septic patients would be very sensitive, the criteria would lack specificity, leading to overdiagnosis and unnecessary treatment and/or acute transfers. 2. To add specificity to the criteria, variation of physiologic parameters expressed as changes on vital signs should be included. Due to physiologic changes associated with aging in addition to the effect other factors such as medication use, setting specific values for parameters like heart rate, blood pressure and temperature could lack sensitivity in the early stages of developing sepsis. For this reason, variabilityof an individual’s baseline vital signs would be more appropriate. 3. To improve both specificity and sensitivity, ancillary data could be incorporated in the criteria. Laboratory values could improve the accuracy of the diagnosis of sepsis. Nonetheless, adding such criteria comes with inherited challenges. First, results should become available in a short period of time. Second, the interpretation of the results should be performed by a care provider with the adequate level of training. 4. The manifestations of sepsis could be acute or subacute, regardless of what criteria are used, there must be a tool to monitor changes and trigger appropriate workup through a time period that is not predefined (hours or days). These four challenges can be resumed in two key points; the ability to collect relevant information by and for all providers taking care of the patient in daily basis and, the capability of interpretation of such information by the appropriate providers regardless of the fact that such information was collected by different people at different times.

### OC18- QUALITY OF LIFE IN COGNITIVELY INTACT NURSING HOME PATIENTS. Gørill Haugan *(NTNU Department of public health and nursing, Trondheim, Norway)*

**Backgrounds:** The aim of the present study was to investigate if hope, meaning, self-transcendence, and perceived nurse-patient interaction would affect cognitively intact nursing-home patients’ quality of life. **Objectives:** Spirituality has been found to have significant impact in nursing-home patients’ quality of life. As vital aspects of spirituality, meaning, hope, and self-transcendence are found to nurture older patients’ physical, social, emotional, functional, and spiritual wellbeing. Patients’ perceived nurse-patient-interaction has occurred to be a powerful influence on patient’s meaning in life, hope, self-transcendence, anxiety, and depression. **Methods:** A cross-sectional design was applied, and the data collection was carried out during 2008 and 2009. A sample of 202 cognitively well-functioning nursing-home patients in Mid Norway was selected to respond to the Herth Hope Index, the Purpose-in-Life test, the Self-Transcendence scale, and the Nurse-Patient-Interaction scale. A previous documented two-factor construct of self-transcendence was used. Linear regression analyses were carried out using SPSS, version 18. **Results:** Controlled for gender, age, and residential time intrapersonal self-transcendence, perceived nurse-patient-interaction, and meaning-in-life showed significant associations with quality-of-life, where meaning-in-life was the strongest predictor. The other variables were non-significant in association with quality-of-life. In sum, the variables explained 20% of the variance in quality-of-life for cognitively intact nursing-home patients. **Conclusion:** Nurse-patient-interaction has been shown to be a vital resource for nursing-home patients’ perceived meaning-in-life and intrapersonal self-transcendence; both of which occurred to be the strongest predictors for nursing-home patients’ quality-of-life in this study. In general, staff members are poorly trained in nurse-patient-interaction. Pedagogical approaches for advancing caregivers’ presence and confidence in health-promotion interaction should be upgraded and matured. Proper educational programs for developing interacting skills, including assessing and providing meaning, and intrapersonal self-transcendence should be utilized and their effectiveness evaluated.

## POSTERS

### P2- RADAR: RAPID DETECTION TOOL FOR SIGNS OF DELIRIUM IN NURSING HOMES. Philippe Voyer *(Université Laval, Quebec City, Canada)*

**Backgrounds:** Detecting delirium is a challenge for healthcare providers. Given RADAR’s quick seven-second administration time and ease of use, we tested its validity and reliability as a brief screening tool to measure signs of delirium in nursing homes. **Objectives:** To test the validity and reliability of RADAR tool in nursing home residents with and without dementia. **Methods:** RADAR was tested in two different studies. In the first study, RADAR was validated with residents with and without cognitive impairment in nursing homes (n=51). In this study, RADAR was administered by licensed practical nurses (LPN) for one day. In the second study, RADAR was administered by LPN among residents with cognitive impairment exclusively, but this time for 7 days in a row (n=45). The Confusion Assessment Method (CAM) was the gold standard and was carried out twice daily to determine the presence or not of signs of delirium. Delirium was considered present when meeting criteria for DSM-5 delirium. **Results:** In the first study, RADAR's sensitivity and specificity for delirium were 100% and 44% respectively. In the second study, RADAR's sensitivity and specificity for delirium were 100% and 72% respectively. Among all participants from the two studies with a positive RADAR, 100% of them had at least one symptom of delirium. Inter rater reliability by items showed a kappa varying from 0.34 to 0,79 in these studies. **Conclusion:** Results of this study support the use of RADAR as a rapid and reliable screening tool for delirium among nursing home residents with or without cognitive impairment. It also suggests that RADAR should be used for several days to increase its validity.

### P3- IMPROVING ASSESSMENT OF PAIN IN NURSING HOME RESIDENTS WITH MODERATE TO SEVERE ALZHEIMER'S DISEASE AND RELATED DEMENTIAS. Jennifer Knopp-Sihota *(Athabasca University, Edmonton, Alberta, Canada)*

**Backgrounds:** Many nursing home residents with moderate to severe Alzheimer's disease and related dementias (ADRD) have pain, but the pain is often not recognized and not treated. For these residents, observing for behaviours linked with pain is a valid approach. **Objectives:** The purpose of this study was to identify theoretically based observable constructs in the Resident Assessment Instrument-Minimum Data Set, version 2.0 (RAI-MDS) that are linked with pain as a first step in developing a pain assessment scale for these residents. **Methods:** We identified categories of potentially relevant, observable indictors of pain in residents with moderate to severe ADRD. We then identified and compiled a list of RAI-MDS items that aligned with the observable indicators. To refine and validate the list of indicators, using Delphi techniques, we recruited panel members with reputations as experts in the nursing home sector and expertise in assessing pain. Twenty-nine behaviours were rated (5-point Likert scale) on the likelihood that the behaviours are associated with pain in these residents. **Results:** Eighty-one respondents (35 nurses, 20 care managers, 9 physicians, 9 allied health practitioners, 8 researchers) completed round 1 (May 9–30, 2017) and 22 (6 nurses, 1 care manager, 8 physicians, 7 researchers) completed round 2 (June 15–29, 2017). Overall, panel scores within raters did not change between rounds (no change in mean score across panel members of >1 scale point for any individual item). With low response rates for round 2 and no significant change in scores between rounds, we stopped the panel after two rounds. We identified 20 agreed-on RAI-MDS items to form our initial pain assessment scale for residents with moderate to severe ADRD. **Conclusions:** Successful pain management depends first on accurate pain assessment. Current pain assessment with the two-item RAI-MDS 2.0 pain scale greatly underestimates pain in cognitively impaired residents. This study is an important first step toward developing a valid scale for assessing pain in these residents using routinely collected RAI-MDS data. Next steps are to use these RAI-MDS items to develop, test and validate a pain assessment scale, for nursing home residents with moderate to severe ADRD.

### P4- NUTRITION ANALYSIS IN HOME-DWELLING ELDERLY PERSONS TO DETECT GROUPS AT RISK OF MALNUTRITION USING FACTORIAL ANALYSIS. Marc-Antoine Sanchez *(Institut du Bien vieillir Korian, Paris, Paris)*

**Backgrounds:** Malnutrition in elderly persons is associated with increased morbidity, and therefore, preventing malnutrition and its potential consequences is a major public health priority. Tools exist for early detection of malnutrition, but identifying the eating profile of home-dwelling elderly persons could prevent malnutrition before onset. **Objectives:** We aimed to describe eating patterns among home-dwelling elderly subjects to establish typologies of eaters at higher or lower risk of malnutrition. **Methods:** Cross-sectional study between June and September 2015 using a standardized questionnaire. Multiple factor analysis (MFA) was used to understand the different modes of food consumption and establish eating profiles. Hierarchical classification was performed to construct eating profiles corresponding to the dietary habits of the respondents. **Results:** A total of 605 elderly home-dwelling persons were randomly selected among customers served by a home meal delivery company. Average age was 85.3 years; 73.6% were women. Overall, 57% of participants reported that they ate out of habit, while 35% said they ate for pleasure. We identified 4 different groups of eaters, at varying levels of risk for malnutrition. Individuals in Group 4 had the highest food intake in terms of quantity; and were less dependent than individuals in Group 1 (p=0.05); Group 1 was at highest risk of malnutrition. **Conclusion:** The group at highest risk of malnutrition had protein-based foods present in their refrigerator, but did not eat them. The social welfare allocation for autonomy distinguishes different levels of dependence, with higher level of dependence being associated with higher risk of malnutrition. Greater uptake of prevention programmes among elderly persons and their caregivers could help to reduce the incidence and prevalence of nutritional disorders in this context.

### P5- NURSING HOMES CHARACTERISTICS ACCORDING TO THE RATE OF EMERGENCY DEPARTMENT TRANSFER: A RETROSPECTIVE STUDY. Kamal Hel Haddad *(Gérontopôle, Department of Internal Medicine and Geriatrics, Toulouse University Hospital, Toulouse France)*

**Background:** Despite comparable clinical characteristics of nursing home residents, the rate of emergency department transfer is highly variable from one nursing home to another, suggesting that structural characteristic and organizational factors may influence the rate of nursing home resident's transfer to the emergency department. **Objectives:** To identify structural characteristics and medical care organization of nursing homes according to the rate of emergency department transfers of nursing home residents. **Methods:** We conducted a cross-sectional analysis of 5926 nursing home residents using the baseline data of the IQUARE study (Impact of a QUAlity improvement initiative on nursing practices and functional decline in NH REsidents), a non-randomized controlled multicenter trial with 175 nursing homes in south-western, France. Data on nursing home structural characteristics and medical care organization were collected by questionnaires between May and July 2011. Data concerning hospital admissions and emergency department transfers during the past year were retrieved from the residents' medical files. **Results:** The rate of emergency department transfer in the last 12 months was 18.9% (±11.5): 7.4%, 18.4% and 31.4% for the low, medium and high tertile groups, respectively. Compared to the low transfer group, the high transfer group had less special care unit (RRR: 0.31, 95%CI 0.19-0.83, P: 0.018). The location of the high transfer group tends to be more urban than rural when compared to the low transfer group (RRR:

0.37, 95%CI 0.14-0.99, P: 0.047). Compared to the low transfer group, the high transfer group has less pharmacy for internal use (RRR: 0.10, 95%CI 0.03-0.38, P < 0.001). **Conclusion:** Our results suggest that implementing special care unit and pharmacy for internal use in nursing homes may reduce the rate of nursing home residents' transfer to the emergency department. Geographic location seems to dissuade or encourage nursing home to transfer residents to the emergency department. Long-term interventions are needed to reduce the risk of inappropriate emergency department transfers, thus the risk and cost associated with hospitalization.

### P6- NEUROLOGICAL "AWAKENING" IN OLD AGE: VIBRATIONAL THER. Marina Di Marco *(ORPEA Italia S.P.A, San Maurizio Canavese, Italy)*

**Backgrounds:** Population ageing raised new health issues driving medical sciences to seek novel complementary therapies. In the elderly, a cognitive stimulation that counteracts neurological ageing could improve both reaction time (decreased fall risk) and life quality (chronic pain improvement). **Objectives:** The principal aim of the present study was to evaluate vibrational treatment efficacy in reaction time improvement in subjects with aging-related diseases. **Methods:** A Discovery and a Validation cohort of 28 and 38 subjects, with aging-related disease were prospectively enrolled at the ORPEA's Richelmy facility in Turin (Italy). An additional cohort of 10 age- and gender-matched subjects were included as control group. Both intervention and control group underwent vibrational treatment, and its efficacy was assessed by measuring reaction time to external stimuli before and after each single treatment session. **Results:** Compared to controls, a significant improvement in reaction time was already observed after the first vibrational treatment session in subjects that underwent vibrational therapy (0.74 ? 0.46 vs. 0.57 ? 0.24 s, p=0.134 and 0.69 ? 0.43 vs. 0.54 ? 0.24 s, p<0.001, respectively). Treated subjects showed an overtime cumulative improvement of reaction time until end-of-treatment (treatment response rate: 79%). In addition, the improvement in the reaction speed obtained at the first vibrational therapy was able to predict response at end of treatment (OR=10.83, 95% CI 1.83-64.03; p=0.009). Finally, responsive subjectsshowed, between the first and last sessions, a progressive decline in absorbed energy compared to non-responders in whomthe energy absorption was a continuum. **Conclusion:** Subjects with aging-related disease may benefit from vibrational treatment showing a significant improvement in reaction time after therapy administration. Further, the possibility to promptly identify responsive subjects, may allow a cost-effective personalized therapy.

### P7- NI - NUTRITIONAL INTELLIGENCE. INNOVATION, RESEARCH AND HAUTE CUISINE AT THE SERVICE OF FOOD SCIENCE FOR HEALTH AND WELL-BEING OF HOSPITALIZED PATIENTS. Lorenzo Donini *(Sapienza University Roma, Italy)*

**Backgrounds:** Hospitalized and institutionalized patients show high prevalence of malnutrition with high risk of clinical/functional complications and impairment of quality of life. Moreover malnutrition can negatively affect length of stay in hospital and medical costs. Hospital food service plays a key role since it has the responsibility to provide a tasty meal and a nutritional adequate amount of energy and nutrients. NI-Nutrition Intelligence project, thanks to a complete reorganization and standardization of methods and processes, has the objective to improve nutritional-organoleptic quality of meals and to introduce the haute cuisine in hospital environment. **Objectives:** The aim of study is to verify the efficacy of NI project in the improvement of nutritional and sensorial quality of hospital meals. **Methods:** Subjective evaluations (customers' satisfaction) and objective evaluations (portions size, foodstuffs temperature, waste) were assessed. In laboratory, ANTI-oxidant (total phenolic compounds, total carotenoids and vitamin C levels) and PRO-oxidant potentials (Kreiss assay and number of peroxides) were measured comparing two different preparation and cooking techniques: Traditional Technologies (TT) versus Mild Technologies (MT). **Results:** Laboratory data: ANTI-oxidant and PRO-oxidant potential of meals is significantly different between the two cooking techniques (TT vs. MT), in favor of the latter. Phenolic compounds decreased during TT cooking procedures while remained stable with MT cooking methods. Moreover, the TT cooking technique determined an increase of peroxides detected by Kreiss assay, as opposed to what was found with MT technique. Objective and subjective evaluations of quality: the meals prepared with MT techniques were more appreciated by patients as highlighted by the reduction in waste and through the higher satisfaction level of customers. **Conclusion:** Modifying the technological procedures of the catering service in hospital may positively affect the nutritional quality of meals and by this way the nutritional status of patients.

### P8- LESSONS FROM THE CREATION OF AN INTERNATIONAL SCIENTIFIC AND ETHICS COUNCIL IN A FAST-GROWING EUROPEAN NURSING HOME GROUP: A THREE-YEAR EXPERIENCE. Philippe Zawieja *(ORPEA, Puteaux France)*

**Backgrounds:** The ORPEA Group (818 facilities in 12 countries, 86,650 beds) is the European leader in global dependency, long- and medium-term physical and psychiatric care (as to mid-2018). In January 2015, an International Scientific and Ethics Council (ISEC) was created to analyze the opportunities for research and innovation, training needs and ethical questions submitted by all organizational levels, from the executive management to staff in facilities. **Objectives:** To learn and share lessons from the creation and deployment of the ISEC, and to open up avenues for improving the dissemination of a clinical-ethical culture, and the response to the referrals from the Group Management on ethics issues concerning strategic and tactical choices. **Methods:** We use the conceptual framework, classical in management science, of organizational learning, defined as the process of creating, retaining and transferring knowledge (here, ethical), and a reflective approach to learn from our own experience, successes, mistakes and errors. **Results:** A common theoretical, ethical background was developed. Initial train-the-trainers courses were organized, and national/regional ethical referrers were appointed. A few limitations were found, e.g. the constant effort needed to sustain the centre-periphery continuum, i.e. the consistency, homogeneity and adjustment between the headquarters' and the local facilities' expectations and ways of thinking and practicing clinical ethics, especially in a rapidly-internationalizing context.

### P9- SURVEYING CLINICAL ETHICAL ACTIVITY AND NEEDS IN FRENCH NURSING HOMES: STUDY PROTOCOL AND PRELIMINARY RESULTS. Philippe Zawieja *(ORPEA, Puteaux, France)*

**Backgrounds:** Long-term care raises unique ethical issues, involving both residents' quality of care, and the caregivers' occupational quality of life. Yet, little data are still available on how ethical questioning is experienced in nursing homes. **Objectives:** To map ethical-reflection bodies, stakeholders and topics in nursing homes, and in particular to identify what arenas for deliberation are used, depending on the kind of ethical questions the nursing homes face. **Methods:** In this descriptive, observational, multicentric survey, a 14-item questionnaire was sent to about 250 French nursing homes, all part of the European group ORPEA (820 facilities in 12 countries). In each facility, responses were sought from 4 key respondents (medical director, coordinating nurse, facility manager, and psychologist). The questionnaire mainly inquired about the existence of an ethics committee or other ethics bodies, and on what topics are considered as ethically challenging, depending on their frequency and severity. **Results:** Preliminary results help detect a few trends: i) the ethical discussion is most often implemented through multidisciplinary bodies working as non-formal ethics committees; ii) respondents frequently express a need for awareness-raising and raining in clinical ethics. Alltogether, these results may advocate for the professionalization of the clinical-ethical approach in nursing homes. **Conclusion:** The findings of this survey will help adjust the reflection and action of the ORPEA International Scientific & Ethics Council to the ethical questionings and circumstances the facilities experience. These findings will also be submitted to a peer-reviewed journal and disseminated at national and international conférences.

## P10- BURNOUT IN ALZHEIMER CARE: A STUDY IN 185 FRENCH FACILITIES. Philippe Zawieja *(ORPEA, Puteaux, France)*

**Backgrounds:** Alzheimer care is considered a demanding job, but it is not clear if burnout prevalence is higher in geriatric wards than in other care units, or to what extent Alzheimer's behavioral symptoms and organizational peculiarities are involved in caregivers' occupational exhaustion. **Objectives:** The aim of this study was to elucidate the prevalence of burnout in Alzheimer staff and to identify individual and organizational risk or protection factors on caregivers' burnout, in various French care settings that inherently (nursing homes) or occasionally (rehabilitation units) receive demented older adults. **Methods:** A 42-item questionnaire, including the Maslach Burnout Inventory, was administered to professionals working in 185 nursing homes or rehabilitation units in France– all being part of the private health group ORPEA. Analyses were conducted using quadratic and logistic regression analysis. **Results:** 2,602 professional caregivers from 185 different care settings completed the questionnaire. Prevalence of burnout reached 8.4%. Significant differences emerged for occupation and work experience, when number of children, religion and information about Alzheimer's disease showed slight connections to burnout. No significant differences were found for sex, marital status, type of setting or type of employment contract. Nevertheless, the dimension Emotional Exhaustion of burnout showed, when considered separately, significant risk factors: being a female staff, singlehood, declared religious faifth, having only 1 child, seniority, working in geriatric rehabilitation unit, open-ended full-time job contract, and lack of information about Alzheimer. **Conclusion:** Compared to general population, burnout in Alzheimer staff is quite frequent (8.4%). The experienced feelings of exhaustion are probably expressed better through the Emotional Exhaustion dimension, but even more frequent (16.55%). Cutbacks in health and care expenditures, the growing epidemiology of dementia, and difficulties in recruiting and retaining staff advocate for future research focusing on informing and training caregivers working with demented clients, in an increasing cultural diversity on both sides.

## P11- EXCRETORY CARE FOR RESIDENTS WITH DEMENTIA IN NURSING HOMES IN JAPAN. Hisayuki Shimoyama *(Nakumura-Ward Natoya-City, Aichi-Prefecture, Japan)*

**Backgrounds:** Aichi health and welfare department elderly welfare section (Aichi HWDEWS) reported over 50% of elderly people who live in nursing home in Aichi prefecture used diapers. And only 3.4% of them were seeing urologist. The residents of nursing home in Japan have low visiting rates for urologist than the elderly people in other countries. It is known that the use of diapers deprives opportunities for the elderly people in nursing homes to see urologists. Now over 80% of residents live in Japanese nursing homes have dementia. **Objectives:** The purpose of this study was to explore the background of this situation. **Methods:** Two nursing homes in Aichi prefecture were investigated. The states of excretory care for all residents of the facilities were examined. The excretion check sheet developed by Aichi HWDEWS is known to clarify the types of incontinence of elderly people, although it is not an accurate diagnosis. This sheet is composed of 22 question items. Using this sheet, the types of incontinence of the residents were grasped. **Results:** Both of the two nursing homes, as reported by Aichi prefecture, more than 50% of residents were using diapers. It was not disclosed when residents who used diapers started using diapers since. If elderly people used diapers temporarily at hospitals before entering the nursing homes, they may continue using diapers at the nursing homes. Over half of them have a high possibility of functional urinary incontinence. The diapers exchange for those people was a fixed system. Most of them have dementia and it is difficult for them to appeal urinating themselves. Some of the male residents showed a high likelihood of overflow incontinence, but they did not see urologist. Among diaper users, these were some person who frequently wanted to go to the bathroom, however, in fact, no urination were seen even when going to the toilet. As a result, care workers ignored their complaints. Some of the residents may be confused with urinary and itching intake due to urinary tract infection. **Conclusion:** It can be seen that lack of excretion assessment for residents with dementia is the primary reason for using diapers.

## P12- NO ASSOCIATION BETWEEN SUBNORMAL SERUM VITAMIN B12 AND ANEMIA IN AN OBSERVATIONAL STUDY OF 1774 LONG-TERM NURSING HOME RESIDENTS. Jenny Foss, Abrahamsen *(Department of Nursing Home Medicine, Municipality of Bergen and Kavli Research Centre, Haraldsplass Deaconess Hospital, Bergen, Norway)*

**Backgrounds:** Evidence of an association between subnormal serum vitamin B12 (cobalamin) and anemia is limited and inconclusive in older patients. **Objectives:** To investigate the association between cobalamin and anemia, and to evaluate the use of cobalamin supplements in old long-term nursing home (LTNH) residents. **Methods:** LTNH residents in the Municipality of Bergen Norway, have regular blood samples taken every 6 months, as part of the regular drug assessment control. In 2017, data was collected from electronic patients record of 1774 patients (93% of all longterm residents). Hemoglobin (Hb), serum vitamin B12, iron- saturation, CRP, eGFR, and the use of cobalamin supplemts was recorded. Anemia was defined as Hb <12g/dL in women and <13g/dL in men. Patients were categorized according to cobalamin status: subnormal < 250 pmol/L, normal 250-650pmol/L and high > 650pmol/L cobalamin. Logistic regression analysis was used to estimate the odds ratio (OR) for anemia. **Results:** Mean age of the patients was 85 years and 29% were males. Altogether 307 (17%), 1225 (69%) and 242 (14%) of the patients had subnormal, normal and high cobalamin, respectively. Only

11 patients (0.6%) had cobalamin < 150 pmol/l. Among the patients with high cobalamin, 120 (50%) received cobalamin supplements, compared to only 61 (20%) patients with subnormal cobalamin. Anemia was seen in 699 (37%) patients, (49% /35% of males/females). In a multiple linear regression model eGFR (OR=0.98 CI 0,98-0.99), iron-saturation ( OR=0.96 CI 0.95-0.98), CRP (OR=1,01, CI 1.01-1.02), and male sex (OR=2.30, CI 1.70-3.11) were significantly associated with anemia (p<0.001), while no significant association was demonstrated between cobalamin and anemia. Surprisingly, the patients with high cobalamin had lower Hb (12.3 ±1.6) as compared to the patients with normal cobalamin (Hb 12.7±1.6, p=0.001) or low cobalamin (Hb 12.6±1.4, p=0.01). **Conclusions:** Subnormal cobalamin was not associated with anemia in old LTNH residents. Caution should be taken to give cobalamin supplements to correct anemia in old patients, as these supplements may only increase the serum cobalamin, without relieving the anemia. Future studies will aim to explore the association between high cobalamin and survival in these LTNH patients.

### P13- USE OF OZONOTHERAPY IN URINARY TRACT INFECTION IN NURSING HOMES: A SERIES OF CASES.

Cristina Jiménez *(Fundación San Diego y San Nicolás, Madrid, Spain)*

**Background:** Urinary tract infection in nursing homes is the most prevalent microbial pathology. Particularities of its manifestation in elderly and the inappropriate use of antibiotics in recurrences is a challenge in the search for new germicidal strategies against multi-resistant bacteria. **Objectives:** Use of ozonotherapy in urinary tract infections based on its germicidal properties subjecting multi-resistant bacterias that do not posess antioxidant enzymes to oxidative stress and the stimulation of the host immune system to promote endogenous defense against infection. **Methods:** We present a series of four clinical cases of urinary tract infection involving a gram-negative Enterobacterium (Escherichia coli) producing beta-lactamases in three of the cases. All of them are patients over 80 years old institutionalized in a nursing home in Spain. To the use of conventional antibiotics according to the reading of the antibiogram with a low degree of evidence of cure (nitrofurantoine), the use of ozone therapy through bladder irrigations with ozonized bidistilled water and gas insufflation have been added during at least 10 sessions according to Declaration of Madrid from October to December of 2017. **Results:** We got urine culture of all cases where Escherichia coli (ESBL in three of them) was evidenced before starting our study. We obtained in all four cases the remission of clinical symptoms, when they existed, from the second cycle of treatment of bladder irrigation and insufflation of ozone in women and from the fifth cycle onwards in the case of the only man in the study. In three of them we obtained a negative urine culture two weeks after finishing ozonotherapy. **Conclusion:** This adjuvant therapy has in no case presented adverse effects on any patient, having avoided the complication of the disease or the transfer of the patients to the hospital for the use of the typical antibiotics for this purposes with the consequent possibility of generating new resistance to the pathogens. To support these results, further systematic research is needed on the germicidal properties shown by the local application of ozone in the treatment of urinary tract infections in nursing homes, as well as on its systemic administration due to its immunomodulatory effect against infection.

### P14- THE PLACE OF ELDERLY DISABLED PEOPLE IN NURSING HOMES: FRENCH EXPERIENCE.

Florence Delamarre-Damier *(CHU Nantes and agree nursing home research organization - Pays de Loire, France)*

**Backgrounds:** The life expectancy of people in France continues to increase and old people with disabilities and physical dependence too. French Nursing home are not enough trained to welcome old people with disabilities. In our nursing home we welcome 120 elderly disabled people (out of 310 hosted) in two specialized departments with dedicated staff. **Objectives:** The aim: of this study is to share our care model in order to help other nursing home to take care of disabled old people. **Methods:** Retrospective data and experience in the field to create a care model. **Results:** Older people with disabilities come from: home for 30.2% psychiatric hospitals 27% , social homes 9%, mixed 18.3%. The profile of the person entering in the nursing home is a disabled person whose physical dependence increases at the average age of 63 years old;(versus 84 years old for a regular nursing home ), requiring special care and qualified caregivers. Our model is: 1) Prepare the entrance; 2) Personalize the daily support (disabled people will stay 10 years in the NH); 3) Create a reassuring framework, with qualified caregiver for psychological support, to ensure clothing needs, hygiene, outings (birthdays, social life) in order to supply the lack of family presence; 4) Adapt activities to the age and disability with a rehabilitation team (ccupational therapist, psychomotor therapist, psychologist); 5) Evaluate the environment and equipment with the occupational therapist during all the stay; 6) Network is important in order to help the care access. 7) Use tutelary representation for all. Limits: taking care of disabled elderly is more costly 130 euros per day versus 56 euros per day for elderly people in French Nursing homes. **Conclusion:** The nursing home must be a place to live for the elderly disabled people. But the institution must be adapted to the specific needs of these people (quality of life, emotional dependence, social life). This care is poorly valued by current pricing and: requires specific budget recognition. This represents a major public health issue today.

### P15- FACTOR ANALYSIS FOR THE DEVELOPMENT OF EVALUATION INDEX FOR QUALITY OF HOME MEDICAL CARE.

*Seungwon Jeong (National Center for Geriatrics and Gerontology, Obu, Japan)*

**Backgrounds:** The Japanese government is promoting home medical care and is also working to set up a system to provide convenient and suitable home medical care services in the community. This is called a comprehensive community care service system. However, scientific evidence concerning the effectiveness of home medical care has not been established adequately. **Objectives:** In this research, we aim to obtain empirical evidence for the development of indicators that can evaluate the quality of home medical care. **Methods:** From August 1, 2017 to October 31, 2017 a survey was sent to 901 clinics nationwide which were registered in the HCN (Home Cares Net) of Japan. Survey of postings by the self-report questionnaire method for factors considered to be particularly important in evaluating the quality of home medical care. **Results:** Of the 901 clinics, 394 (43.7%) clinics responded. Items considered to be particularly important at home medical care are: the establishment of reliability with patients and families; collaboration of teams by multi-occupation; open communication among patients, families and service providers; grasp of family care fatigue; collaboration with local hospitals. The outcomes of the factor analysis showed the following indicators are important to quality of home medical care. (1) satisfaction with service providers, (2) support / understanding of patients and families, (3) understanding and management of patients' living conditions, (4) maintenance and improvement of patient's physical functions, (5) personnel allocation / education / collaboration, (6) skills of a treatment of service providers, (7) collaboration between organizations, (8) patient outcome, (9) patient / family satisfaction.: **Conclusion:** When assessing the quality of home medical care, it is important to not only focus on outcomes that are emphasized in conventional hospital care but also on understanding the living conditions of patients, supporting and understanding patients and families.

### P16- FRENCH NURSING HOMES: FOLLOW UP FOR THE STUDY : IS THERE A PLACE FOR AGING HIV POPULATION? Florence Delamarre-Damier *(CHU Nantes and agree nursing home research organization - Pays de Loire, France)*

**Backgrounds:** Since availability of potent antiretroviral therapy, number of people ageing with HIV is increasing. They are expected to have close to normal lifespans and about half of these subjects are over 50 in 2015. **Objectives:** The first objective aim this study was to determine if French nursing homes have planned to receive this emergent HIV population and have adequate informations on HIV infection. The second objective of the study (follow up) was to create an information paper for the nursing home team in order to answer their questions. **Methods:** A survey focusing on reasons of acceptance/ non acceptance of HIV patients and level of knowledge of HIV infection management and treatment was sent to nursing homes located in the Pays de La Loire area. With the survey answers we created a folder teaching hiv care for nursing home staff (with the help of hiv specialists :COREVIH CHU Nantes), This folder will be translated and presented at the workshop in order to be used by nursing home staff. **Results:** Among the 25 participating nursing homes, only 1 center (4%) was prepared for HIV resident admission. The main reasons to refuse admission were the risk of contamination, a poor knowledge of the HIV infection, its management and its treatment and costs of antiretrovirals. **Conclusion:** In France nursing homes are not yet prepared to welcome the rising aging HIV population. Nursing home staff as well as nursing home physicians must be quickly informed and trained on care, management of specific medical conditions and antiretroviral treatments. The information paper is a tool that may help to train the nursing home team in order to increase the acceptance of hiv population in nursing home.

### P17- CO-RESIDING WITH CARE RECIPIENTS: IS IT ENDOGENOUS WITH PROVIDING INFORMAL HEALTHCARE? Younsook Yeo *(St. Cloud State University, St. Cloud, USA)*

**Backgrounds:** The venue of medical care (e.g., nursing care, infusion of antibiotics and parenteral nutrition) is becoming patients' homes because it improves access to treatments for those who lack transportation resources, decreases complications from confinement in hospitals, and costs less. Economic literature (Byrne et al., 2009) finds that people try to maximize their utilities from available resources by exhausting public support for care without supplementing such care from the informal sector. Meanwhile, gerontology literature (Strough et al., 2015) shows that age-graded changes exist in their decision-making processes due to age-related factors (e.g., underlying biological mechanisms, developmentally relevant life goals, perspectives for remaining future time), suggesting potential moderating effects between caregivers' relationship statuses with care recipients (=spouses, adult children) and public support for home health. However, a gap exists in the literature as Carstensen (2006) claim that "almost no research examining the implications of such changes for decision making" (p. 59). **Objectives:** Examined to what extent receiving home health services differed depending on the potential caregivers' relationship statuses, conditional to the same living arrangements and public support beneficiary status; these effects are similar/dissimilar with the effects of living alone; and these interactions are affected by personal financial resources. **Methods:** Analyzed data representing U.S. elderly population and used hierarchical logistic regression and simple slope analyses. **Results:** Significant interaction effects existed between single elders living with children and public support (p=0.02) and elders living with spouses and public support (p=0.05). Post-hoc probing of these effects revealed that service use increased in all three groups when they became beneficiaries. Specifically, elders living with children used the most, followed by living-alone elders, and elders living with spouses when they became beneficiaries. When personal financial resources were not taken into account, however, the usage by beneficiaries living with children became smaller than that of living-alone beneficiaries while beneficiaries living with spouses used the least services. **Conclusion:** Although they are living with their ailing elders, potential informal caregivers' decisions related to providing care differs depending on their relationship statuses with their elders. Co-residing may not be endogenous with providing informal healthcare. Particularly, children's caregiving behaviors may be greatly affected by financial resources.

### P18- FOCUSSING AS AN APPROACH TO TREAT DISINHIBITION IN PEOPLE WITH THE BEHAVIORAL VARIANT OF FRONTOTEMPORAL DEMENTIA: A PILOT-STUDY. Raymond Koopmans *(Radboud University Medical Center, Joachim en Anna, Center for specialized geriatric care, Nijmegen, the Netherlands)*

**Backgrounds:** Frontotemporal dementia (FTD) is a neurodegenerative disease that results in a progressive decline of behaviour and language. FTD is distinguished in a behavioural (BvFTD) and a language variant. Apathy (84%) is the most common symptom in bvFTD patients. Besides apathy, disinhibition (76%) is one of the most challenging symptoms in bvFTD patients, that is highly burdensome for the person with FTD and his/her (in)formal caregivers. To date no specific approaches are available to control disinhibition. Joachim en Anna, center for specialized geriatric care, has developed a treatment approach called 'focussing' that is aimed at adaptation of the environment because persons with FTD have difficulties with reacting on and discriminating properly environmental stimuli. The approach consists of five elements that are tailored to the specific behaviour expressed by the person with FTD. **Objectives:** To assess the effect of 'focussing' on the disinhibited behavior and work-related distress of professional caregivers in three residents with BvFTD. **Methods:** This is a pilot-study, with a multicase, single blinded design. Three residents will enter the pilot-study in which at baseline, one resident will be offered the 'focussing' approach and two 'care as usual'. After two weeks, two residents receive the intervention and one 'care as usual' and after three weeks all residents receive the intervention. Behavior will be assessed with Dementia Care Mapping by an certificated observer that is blinded for the intervention condition. Furthermore, cognitive functioning will be assessed with the severe impairment battery short version and neuropsychiatric symptoms, especially disinhibition, will be assessed with the Neuropsychiatric Inventory Nursing Home version. **Results:** The key-elements and the theoretical basis of 'focussing' will be presented. Videos of residents with disinhibited behavior and examples of the intervention will be shown. Furthermore, results of the pilot-study will be presented. **Conclusion:** There is a need for innovative, psychosocial, approaches to treat disinhibited behavior in residents with the BvFTD. Focussing seems a promising approach, but lacks a solid evidence base. This pilot-study offers a good start for further enriching and develop this complex intervention.

## P19- POLICY MAKERS', CAREGIVERS' AND CLIENT REPRESENTATIVES' VIEWS ON HOW QUALITY OF CARE IN NURSING HOMES SHOULD BE MEASURED FROM THE RESIDENT'S PERSPECTIVE: A QUALITATIVE NEEDS ASSESSMENT.

Katya Sion *(Care and Public Health Research Institute (CAPHRI), Maastricht University, Maastricht, the Netherlands)*

**Background:** The culture shift in nursing homes from task-oriented to person-centered care has created a need to measure if current care delivery corresponds with what actually matters most to residents, thus focusing on experienced quality of care (QoC). **Objectives:** To gain insight into how QoC in nursing homes should be measured from the resident's perspective according to policy makers, caregivers and client representatives. **Methods:** A cross-sectional qualitative study was performed consisting of two focus groups and a world café with client representatives, policy makers, informal and formal caregivers recruited from the Living Lab in Ageing & Long-Term Care (n=38). Semi-structured questions, photo elicitation and creative writing were used to support data collection. Three questions about measuring QoC from the resident's perspective were central: 1) what should be measured? 2) how should this be measured? and, 3) who should be involved in the measurement? **Results:** Results showed discrepancies between stakeholders' perspectives regarding their viewpoints on how QoC should be measured. Policy makers aimed at measuring for organizational quality improvement, benchmarking and accountability. They focused on measuring standardized indicators with a feasible approach. Client representatives were more concerned with improving the resident's individual care experience. They considered experienced QoC to be more related to concepts such as quality of life and emotions. Despite these differences, all participants recognized the importance of caring relationships. What this means, is that interactions between residents, informal and formal caregivers are considered informative elements in the care experience, making caring relationships an essential element to consider when measuring experienced QoC. Therefore, it is beneficial to include the resident's, informal and formal caregiver's perspectives when measuring experienced QoC. **Conclusion:** When measuring QoC from the resident's perspective, the purpose to measure should be clear. Incorporating multiple perspectives can benefit the quality measurement to identify all relevant information. Further research should be performed in close collaboration with residents, relatives and professionals in nursing homes in order to develop a feasible, reliable and valid method that measures QoC from the resident's perspective.

## P20- THE PREVALENCE AND INCIDENCE OF PSYCHOTROPIC DRUG USE THE FIRST SIX MONTHS AFTER NURSING HOME ADMISSION, AND ASSOCIATIONS WITH BASELINE CHARACTERISTICS: AN OBSERVATIONAL LONGITUDINAL STUDY.

Enrico Callegari *(Østfold Hospital Trust, Graalum, Norway)*

**Backgrounds:** One third of the elderly Norwegian population is exposed to potentially inappropriate medication. Psychotropic drug (PTD) use is prevalent and persistent in nursing homes (NH) patients, but few studies have explored the course of drug prescription from admission to a NH until death. **Objectives:** To examine how clinical variables, such as neuropsychiatric symptoms (NPS), cognition, physical health, and NH characteristics at admission to NH are associated with prescription rates at 6 months follow-up in Norwegian long-term care facilities. **Methods:** We used data from the Resource use and Disease course in dementia – nursing home (REDIC-NH) study, an observational longitudinal study following NH patients from admission until death and focused on changes in drug prescription rates during the first 6 months. This study included 484 patients with medication registered both at baseline (BL) and at 6 months follow up (6m). Demographic and clinical characteristics at both points are presented. Dementia severity was assessed by the Clinical Dementia Rating scale and the Functional Assessment Staging of Alzheimer Disease scale. Final diagnosis was made by two of the authors (G.S. and S.B.) according to ICD-10 criteria. Ordinal logistic regression will be used to identify possible predictors for the course of PTD prescription from BL to 6m. **Results:** The prevalence of PTD was high at BL and at 6m for both patients with and without dementia, and we found a significant increase in the use of antidepressants (BL: 30,4%, 6m: 39.5%; $p < 0.001$) and sedatives (BL: 25.4%, 6m: 33.1%; $p < 0.001$). Compared to patients without dementia (nD), patients with dementia (D) had a higher prevalence for antipsychotic use at 6m (D: 19.0%, nD: 8.8%; $p < 0.05$) and a lower prevalence for sedatives use (D: 30.3%, nD: 50.0%; $p < 0.05$). Between BL and 6m we found the highest incidence for antidepressants (19.3%) and sedatives (17.7%). Persistency of use of PTD groups varied between 68.3% for anxiolytics and 85.7% for antidepressants. Results from the regression analysis will be presented at the conference. **Conclusion:** PTD use in Norwegian NH is high, and prescription rates are increasing from admission to NH and over the first 6 months.

## P21- CONTRIBUTING FACTORS TO AUTONOMY FOR NURSING HOME RESIDENTS: A QUALITATIVE STUDY TO EXPLORE THE PERCEPTION OF FAMILY CAREGIVERS OF RELATIVES WITH DEMENTIA.

*Linda Hoek (Maastricht, thr Netherlands)*

**Backgrounds:** Nursing home residents with dementia often become dependent on others in achieving autonomy. However, little is known about how factors, such as environment, family and nursing staff, contribute to this and the extent to whether residents are currently able to live the life they want to live in nursing homes. **Objectives:** The purpose of this study is to gain insight in factors that contribute to achieving autonomy for nursing home residents with dementia, from the perspective of family caregivers. **Methods:** Data for this qualitative study were collected through in-depth, semi-structured interviews with 30 primary family caregivers of nursing home residents with dementia. Data was collected from four different care organizations in the Netherlands, between March and September 2017. A qualitative thematic approach was used to analyze the data. **Results:** Data analysis revealed differences in perceptions of resident autonomy. Most family caregivers viewed autonomy as being able to actively and verbally express wishes and needs. Cognitive decline caused loss of previous interests and the inability to express these. Consequently, residents were cognitively, as well as physically, dependent on family caregivers and nursing staff in achieving autonomy as much as possible. Accordingly, a variety of factors that contribute to resident autonomy have been reported by family caregivers. Family caregivers indicated that it was important that residents were still able to be involved in meaningful activities, to uphold social connections, to bring personal belongings and staff providing personal attention getting to know the resident. Moreover, frequent changes in care staff, organization of care, the lack of person-centered activities, being part of a group and having to adapt to the needs of other residents were factors that impede resident autonomy. **Conclusion:** Various factors regarding environment, staff and organization of care have been found to influence the autonomy of nursing home residents. These findings indicate that the development of new approaches to improve nursing home care should focus on staff training and adjusting the physical environment, in order to achieve resident autonomy as much as possible.

### P22- SOCIAL ROBOTS IN NURSING CARE SETTINGS - ATTITUDES, EXPERIENCES AND EXPECTATIONS OF PEOPLE WITH DEMENTIA AND RELATIVES: A QUALITATIVE STUDY.

Julia Zuschnegg *(University of Graz, Institute of Nursing Science, Graz, Austria)*

**Backgrounds:** The increasing worldwide prevalence of dementia presents a major challenge for health care systems on multiple levels. On the opposite side, an observable decline of caregivers raises concern regarding an adequate provision of high-quality long-term care. Accordingly, the research on innovative assistive technologies, such as social robots, is on the increase. The potential of social robots in assisting caregivers and people with dementia to fulfil physical and psychosocial human needs may contribute to the reduction of personnel workload and to a mutually beneficial improvement in the quality of care. **Objectives:** This study explores the attitudes, experiences and expectations of psychosocial human needs regarding people with dementia and relatives, focusing on the use of social robots. **Methods:** This qualitative study (2018) constitutes the first part of the project AMIGO to refine a humanoid social robot for health care support. 10 interviews with people with dementia living at home/ in a nursing home or visiting day centers and two focus groups with a total of 12 relatives of a person with dementia in the same settings were carried out. Qualitative content analysis using a concept- and data-driven coding frame was performed to analyze the data. **Results:** First results show that nearly half of the interviewed people with dementia and relatives harbour positive attitudes towards social robots and furthermore agree to their use. Only a few of the people with dementia have experiences with (social) robots. Most relatives do not know social robots but know e.g. vacuuming- and lawnmower robots. Both persons with dementia and relatives recognize a need for support by a robot in all 15 categories of human needs, particularly in avoiding danger (e.g. recognizing danger and organizing help), eating/drinking (e.g. helping with shopping lists and shopping), communication/contact with others (e.g. supporting telephone calls, keeping company and conducting conversations) and recreational activities (e.g. reading aloud and playing games together). The interviewees especially mentioned the abilities to remind, motivate and instruct in the categories of human needs. **Conclusion:** This research can considerably contribute to designing social robots according to the needs and requests of people with dementia and their relatives.

### P23- DEVELOPMENT OF A BLOOD GLUCOSE MONITORING ALGORITHM (DIASCOD™) FOR INSULIN-TREATED DIABETIC OLDER PEOPLE IN LONG-TERM CARE HOME.

Quentin Alitta *(Silvermed Institute, State Geriatric Center, Marseille, France)*

**Backgrounds:** Diabetes control is difficult in insulin-treated older people in long-term care home, with an increased risk of severe hypoglycemia and chronic hyperglycemic excursions. Medical staff training in diabetes management is often lacking and residents with diabetes have limited access to specialists. HbA1c, which can be affected by anemia or renal insufficiency, is of limited interest since hypoglycemia is not significantly associated with HbA1c value in older residents. Continuous glucose monitoring does not seem to be adapted in such population. **Objectives**: Since insulin-treated older persons are checked for capillary blood glucose (BG) at least 2-3 times/day, we developed an algorithm (DIabetes Algorithm SCore risk in Older Dependent, DIASCOD™), specific for BG target recommended in such population, which allowed to classify the risk of hypoglycemia and hyperglycemic excursions. **Method**s: Older dependent low BG score (OD-LBGS), which refers to risk for hypoglycemia and older dependent high BG score (OD-HBGS), which refers to risk for chronic hyperglycemic excursions, were calculated according to the method of Box and Cox (J R Stat Soc. Series-B. 1964;26(2):211-252). 48,339 BG collected from 396 multiple injections insulin-treated diabetic residents were used. OD-LBGS and OD-HBGS are non-negative numbers, the sum of which ranges from 0 to 100. The scores are based on a nonlinear transformation of the BG scale, applying symmetry to the distribution of BG readings for a subject. Target BG was fixed at 100-200 mg/dL according to the American Diabetes Association guideline. For symmetrization, the clinical critical center was fixed at 140-150 mg/dL and the system of nonlinear equations was resolved by the nleqslv R package (https://CRAN.R-project.org/package=nleqslv). Risk thresholds (low, moderate or severe) were calculated using a decision tree classification (CART) for ordinal variables. **Results:** DIASCOD™ diagnosis was reproducible at 1 month interval in 5 fairly-controlled residents. BG was monitored with DIASCOD™ in 19 residents with poor glycemic control and subsequent therapeutic changes. One month treatment modifications improved hypoglycemic episodes ($P = 0.0169$) in 6/7 and hyperglycemic excursions ($P < 0.0001$) in 9/12 with moderate hypoglycemia risk increase in 2 of them. **Conclusion:** DIASCOD™ offers an appropriate tool for routine monitoring of diabetes control and treatment improvement in older dependent persons.

### P24- SERUM KLOTHO AND MORTALITY RISK IN NURSING HOME RESIDENTS: RESULTS FROM THE SENIOR COHORT.

Fanny Buckinx *(Department of Public Health, Epidemiology and Health Economics, University of Liège, Belgium)*

**Backgrounds:** Several studies suggest that circulating Klotho, a single-pass tansmembrane protein, could be associated with longevity. **Objectives:** This study aimed to test the relationship between the level of serum Klotho and mortality among a specific population of nursing home residents. **Methods:** We followed subjects of the SENIOR study, a cohort of nursing home residents in Liège, Belgium, during 24 months, for the occurrence of death. In this population, α Klotho was measured at baseline to assess the relationship between the level of serum Klotho and survival. The IBL ELISA kit was used to measure soluble α Klotho protein in blood. The subjects were categorized in 3 groups according to the lower, middle and upper tertiles of serum Klotho. **Results:** Among residents followed for 2 years, α klotho dosages was available for 415 subjects. The mean age of these subjects was 82.9 ± 9.24 years and 332 (74.8%) of them were women. Deceased subjects had a baseline serum klotho level of 487.6 (385.9-599.4) pg/mL and still alive subjects had a level of 510.2 (394.7-622.7) pg/mL ($p=0.32$). The number of deaths observed during the follow-up wasn't significantly different according to the tertiles ($p=0.72$). At last, after adjustment on age and sex, the survival time wasn't different according to the tertiles ($p=0.38$). **Conclusion:** An isolated measurement of serum Klotho, at baseline does not seem to be a predictor of mortality at 24 months.

## P25- EVALUATION OF SOCIOTHERAPEUTIC LIVING ENVIRONMENTS FOR INDIVIDUALS WITH DEMENTIA LIVING IN A NURSING HOME.

Hanneke Noordam *(Department of Primary and Community care, Radboudumc Alzheimer Center, the Netherlands)*

**Backgrounds:** In a Sociotherapeutic Living Environment (SLE), the supply of care, therapeutic guidance, daily activities and housing are methodically coordinated, in order to achieve the best possible quality of life. Within one care-organization different living groups can be organized, based on residents' social, psychological and physical care needs. Over the last decade, several Dutch nursing homes introduced SLE's. **Objectives:** The objective of the 'LIVE-study' is the evaluation and scientific underpinning of SLE's for individuals with dementia living in a nursing home. **Methods:** A literature study, a process evaluation and a feasibility study were carried out using an action research approach, based on an action research cycle with the phases 'observe-reflect-plan-act'. The process evaluation has been carried out between March 2017 and March 2018 in two nursing homes that work with SLE's. 8 SLE's and 33 residents diagnosed with dementia have been recruited. Residents, relatives and professionals contributed actively to each phase. The literature search focused on scientific papers and practice documents. For the process evaluation of current daily practice in SLE's, we conducted observations, in-depth interviews and focus groups. Using qualitative content analysis, SLE components and relevant implementation issues were identified. The feasibility study (not reported here), will further explore relevant process and outcome measures. **Results:** Literature study identified different components of SLE's and their interactions: individual care needs define therapeutic goals, which are consequently translated into needs for the physical and social environment and relevant organizational characteristics. In the process evaluation, stakeholders reported several advantages of clustering residents on care needs, e.g. more continuity in care, less agitation of residents. Further, potential improvements were suggested regarding activity range, family participation, placement issues, communication, expertise. **Conclusion:** The study revealed positive aspects and potential improvement points in existing SLEs. Moreover, after combining the SLE literature with quality-of-life literature, we concluded that when matching living groups based on care needs of persons with dementia, as is the case in current SLEs, the resident's need for individuality and social inclusion might be overlooked. First results of the study suggest a need for a more explicit focus on these needs in studied SLE's.

## P26- QUALITY OF LIFE AND PARACETAMOL IN ADVANCED DEMENTIA (Q-PID): PROTOCOL OF A RANDOMISED DOUBLE BLIND PLACEBO-CONTROLLED CROSSOVER TRIAL.

Paulien H. van Dam *(Leiden University Medical Center, Leiden, the Netherlands)*

**Backgrounds:** No proven effective interventions on quality of life (QoL) are available for persons with dementia living in a long-term care facility (LTCF). However, several interventions are effective in diminishing mediators of QoL (i.e. challenging behaviour, depressed mood, sleeping disorders), including pain treatment. Un(der)diagnosed and un(der)treated pain is a serious and frequent problem in persons with dementia. Also, although pain is difficult to assess in this group, the impact on QoL is probably considerable. There is evidence that pain has a negative impact on behaviour, mood, functioning and social participation, and benefit may be derived from use of paracetamol. **Objectives:** To evaluate the effect of scheduled pain treatment with paracetamol on QoL, neuropsychiatric symptoms, ADL function, pain, care dependency, and (change in) use of psychotropic – and pain medication in LTCF residents with moderate to severe dementia. **Methods:** This randomised, double-blind, placebo-controlled crossover trial will include 95 residents with: 1) age ≥ 65 years, 2) moderate to severe dementia (Reisberg Global Deterioration Scale 5-7), and 3) QUALIDEM score ≤ 70. Exclusion criteria are the regular use of pain treatment, allergies to the study drugs, severe liver insufficiency or disease, use of > 4 units of alcohol/day, weight < 50 kg, and/or concomitant use of flucloxacillin. The two treatment periods of six weeks each (paracetamol and corresponding placebo) will be separated by a washout period of seven days. Primary outcome is effect on QoL (QUALIDEM and DS-DAT) and secondary outcome is effect on neuropsychiatric symptoms, ADL function, pain, care dependency, and (change in) use of psychotropic - and pain medication (all compared to baseline). **Conclusion:** If regular treatment with paracetamol proves to be beneficial for QoL, this could have major implications for daily practice in long-term care. Information from this study may help professionals in their decision making regarding the prescription of pain medication to improve the QoL of patients with dementia and low QoL. Trial registration: Netherlands Trial Register (NTR): NTR6766

## P27- QUALITY OF LIFE AND PAIN MEDICATION USE IN PERSONS WITH ADVANCED DEMENTIA: A CROSS-SECTIONAL ANALYSIS OF THE COSMOS TRIAL.

Paulien H. van Dam *(Department of Public Health and Primary Care, Leiden University Medical Center, Leiden, Netherlands)*

**Backgrounds:** Un(der)treated pain may trigger behavioural disturbances and mood syndromes, and may cause deterioration of physical functioning and self-maintenance in long-term care facility (LTCF) residents with dementia. These factors can have considerable effect on the quality of life (QoL) of these persons. **Objectives:** To compare demographic characteristics, QoL, pain, mood, neuropsychiatric symptoms and ADL function of groups of LTCF residents with moderate to severe dementia with different pain treatments (paracetamol, opioids, no pain medication), and to explore the association between the use of paracetamol and QoL. **Methods:** This is a cross-sectional analysis of baseline data from the COmmunication, Systematic assessment and treatment of pain, Medication review, Occupational therapy, Safety (COSMOS) study; a multicentre, cluster randomized effectiveness-implementation clinical hybrid trial in 67 Norwegian LTCF clusters. The primary outcome, QoL, is assessed using the six QUALIDEM domains that are applicable to persons with moderate to severe dementia. The association between QoL and paracetamol was estimated by linear mixed effect models, using restricted maximum likelihood estimation. **Results:** For this study, 407 LTCF residents with moderate to severe dementia were eligible for analysis. Mean age was 86.5 (SD 7.2) years, 72.6% was female and 62% used pain medication (paracetamol, opioids or both). QoL was lower in the pain medication group, compared to the group that did not use any pain medication (mean QUALIDEM score 68.8 [SD 17.4] vs. 75.5 [SD 14.6] respectively, p <.001). A multilevel analysis showed that paracetamol use was not associated with QoL. **Conclusion:** Persons with dementia living in LTCF have lower QoL when using pain medication, compared to persons with dementia who do not use any pain medication. Using paracetamol is not associated with QoL, when measured cross-sectionally. More research is needed to explore the effects of the use of paracetamol on QoL over time.

### P28- AIMS OF SPECIALIZED DEMENTIA CARE IN GERMAN NURSING HOMES - A QUALITATIVE STUDY OF PERSPECTIVES FROM DIFFERENT STAKEHOLDERS.

Rebecca Palm *(German center for neurodegenerative diseases, Site Witten, Germany)*

**Backgrounds:** Many nursing homes implemented Dementia Special Care Units (DSCU) despite missing evidence of their benefits for people with dementia. It is questionable, what the aims of different stakeholders regarding DSCUS are, if these match with the resident's needs and if stakeholders are able to reach their aim given the conditions of nursing home care. **Objectives:** To relate the aim of DSCUs with the needs of the residents from the perspective of nursing home providers, representatives of the cost bearers and the municipalities. **Methods:** Qualitative study based on face-to-face interviews (performed between 10/2016 and 01/2017) with 12 representatives from nursing homes (facility manager or nursing manager), 3 representatives of the municipalities (supervising authorities) and 1 representative of the statutory care insurance. Data were analyzed using structured content analysis techniques. **Results:** DSCUs vary regarding their aim with respect to the disease-related behavior of their target group. Whereas some representatives of nursing homes stated that their aim was to create a living environment where people with dementia "can stay as they are" others considered the reduction of challenging behavior as the main aim; others safety and security. It became apparent that units with strict admission criteria and a homogenous target group narrowed their aim towards their clientele (e.g. people with frontotemporale dementia). Dependent the aim the unit wanted to reach they differed regarding their attributes. Nursing home care providers were consistently reassured that DSCUs fit the needs of people with dementia better than traditional care units. Representatives of the authorities were aware of the difficulties in the regulation of DSCUs, the financial interests associated with the concept of DSCUs and quality problems. **Conclusion:** Fitting the needs of the residents, care providers and cost bearers may require flexibility regarding the concept of DSCUs to respect the different needs of the residents but also a regulation to guarantee quality of care.

### P29- EVALUATING TRAINING FOR IDENTIFICATION OF ELDER ABUSE IN LTC SETTINGS.

Barbara Lang *(Ministry of Health, Jerusalem, Israë)*

**Backgrounds:** Elder mistreatment has been recognized as a health and social problem occurring in both community and Long term care (LTC) settings. Over the years, a variety of intervention programs have been developed to deal with the problem in LTC settings, some of which have been found to be evidence-based. However, elder abuse is still under identified and under reported by care professionals. In Israel, guidelines and regulations were issued by the General Director of the Ministry of Health in 2003. Since then, professionals in LTC settings have undergone training in order to increase their abilities in identifying elder abuse and neglect. In 2017, a Training Manual for use within LTC settings was produced. **Objectives:** Increased knowledge and improvement of skills in the field of elder abuse thereby increasing identification of cases of elder abuse in LTC settings. **Methods:** One hundred and fifty professionals from LTC settings attended country wide training programs. The training programs were designed to teach use of the training manual. Questionnaires were submitted at the end of the training day. The process was accompanied by a quantative evaluation study with a control group of professionals from LTC settings, who did not take part in the training program, also filling out questionnaires. A year later, questionnaires were submitted again in order to asses and measure the extent of change in the LTC settings in regards to in-house training and identification of elder abuse. **Results:** 1. Increased in-house training programs. 2. Increased awareness of elder abuse among multidisciplinary professionals. 3. Improvement of elder abuse assessment skills. 4. Increased rates of identified cases and reports. **Conclusion:** Assimilation of regulations and development of training tools should be accompanied by training in order to understand the benefits of it and its use.

### P30- DEVELOPMENT OF PHYSICAL ACTIVITY PROGRAMS FOR THE PREVENTION OF FALLS IN NURSING HOMES: A RANDOMIZED CONTROLLED TRIAL PROTOCOL.

Flavien Quijoux *(Cognition and Action Group, CNRS-SSA UMR 8257, Paris, France; ORPEA Group, Puteaux, France)*

**Backgrounds:** Estimating the risk of falling could prevent repeated falls (15% of the elderly over 65 and even 25% of those over 80) and their consequences through the deployment of targeted physical activity programs in nursing home. **Objectives:** Our objectives are (1) to develop biomechanical markers of risk of falling from quiet standing and gait tests in institutionalized elderly people and (2) to study their evolution correlated with the physical exercises and the number of falls during a 6-month longitudinal follow-up. **Methods:** The study is a 6-month multicenter randomized controlled trial. It is set up in 16 nursing homes in the Parisian area between 2018 and 2020. Based on previous studies, 40% of elderlies fell at least once over the past 6 months. With a 30% reduction in the number of falls due to the exercises and a 20% drop-out rate, we aim at including 600 participants. The main outcomes are: the total number of falls, the number of falls per participant, the severity of the falls, the sensitivity and specificity of our classifying model via a ROC curve. We will apply a non-linear scoring approach for the classification of participants as fallers or non-fallers. **Results:** We designed 4 different physical activity programs to propose specific exercises taking into account the variability of the population institutionalized in nursing homes: (1) People with low risk of falling, (2) People with high risk of falling, (3) People with cardiovascular risk, (4) People with cognitive disorders. The physical activity programs are delivered in group session, twice a week for 1 hour during 4 months for each participant. For each participant, balance will be evaluated monthly, starting the month before entering the program and ending the month after finishing it. Balance will be evaluated using force plates and inertial measurement units'. In addition, participants will undergo clinical tests (Berg Balance Scale, MMSE and pain evaluation). **Conclusion:** Due to the lack of data regarding the efficiency of physical training for the reduction of falls in nursing homes, we expect to provide cues for the evaluation of exercises programs and help for the elaboration of recommendations.

### P31- CENTER OF PRESSURE FEATURES FROM QUIET STANDING MEASURES TO PREDICT RISK OF FALLING IN ELDERLY PEOPLE: A SYSTEMATIC REVIEW – PRELIMINARY RESULTS.

Flavien Quijoux *(Cognition and Action Group, CNRS-SSA UMR 8257, Paris, France; ORPEA Group, Puteaux, France)*

**Backgrounds:** Clinical tests usually lack precision for detecting risk of falling in elderly people. Computerized posturography overcomes these limitations by providing quantitative measures as long as right predictors are used. **Objectives:** Our objectives are (1) to extract the best biomarkers in the COP displacement to quantify the risk of falling and (2) to evaluate the accuracy of the fall risk classification models using these markers. **Methods:** The literature search and analysis was designed according to the PRISMA and MOOSE guidelines. An electronic database search of titles and abstracts was performed to identify articles published between March

2017 and June 2018 and which study the risk of falling in older people based on COP recordings. A quality assessment was performed using an over 32-score checklist. We extracted the study and population characteristics, the quiet standing test parameters, the COP predictors used and the characteristics of the classification model when it could be applied. **Results:** From 3 of the 5 databases (Pubmed, ScienceDirect and Cochrane Central) and 1 grey literature source (Google Scholar), 491 records were identified after duplicate removal. Thirty-nine studies were reviewed and their data extracted. A total of 4,864 elderly participants (41.3% of fallers) were included. Among them, 73.7% lived independently. The mean age of the participants was 74 ± 4.7 (non-fallers: 75.3 ± 4.8; single-fallers: 76.1 ± 5.2; recurrent fallers: 70.5 ± 4.0). In average, authors used 5 ± 3 COP features to distinguish fallers from non-fallers. The quality of the studies is highly variable going from 4/32 to 26/32 (25 studies have been assessed at 16/32 or above). Only 29 studies were sufficiently detailed for a quantitative analysis (16 retrospective and 13 prospective). 'Mean velocity' (14 studies), 'Sway area' (13), 'Range' (11), 'RMS distance' (10) and 'Total excursion' (7) are the five most used features in the literature. The distinction between non-fallers and fallers seemed more pronounced for COP recordings in eyes-open as compared to eyes-closed conditions. **Conclusion:** Despite heterogeneity, computerized posturography remains a promising tool to target those who need the most of specific rehabilitation programs and, hence, to prevent the falls-generated deconditioning process.

**P32- ACTIVE AND PASSIVE COPING STRATEGIES OF OLDER ADULTS WITH A RECENT HIP FRACTURE PARTICIPATING IN AN INPATIENT MULTIDISCIPLINARY GERIATRIC REHABILITATION PROGRAMME.** Manju Sharma-Virk *(Leiden University Medical Centre, Department of Public Health and Primary Care, Leiden, the Netherlands)*

**Backgrounds:** Functional recovery after hip fracture in older adults remains a challenge with only limited modifiable factors influencing this process. Coping strategies of older adults with hip fracture may play an important role, however, evidence in support of this concept is lacking. **Objectives:** To explore the active and passive coping strategies of older adults with hip fracture participating in an inpatient multidisciplinary geriatric rehabilitation (GR) programme and their association with depression, anxiety, pain and perceived quality of life. **Methods:** We conducted a secondary data analysis of FIT-HIP trial. Hip fracture patients aged 65+ years admitted to 11 post-acute GR units in the Netherlands were included from 2016-2107. Coping was assessed using active and passive subscale of Utrecht Coping List (UCL). All 72 participants with completed baseline data on UCL were included in this study. Depression, anxiety, pain and quality of life were assessed using GDS-15, HADS-A, NPRS and EQ-5DVAS respectively. Patients with (extremely)high active- or passive coping strategies were dichotomized in predominantly active (PAC) respectively predominantly passive (PPC) coping strategy group and their corresponding residual groups using the existing UCL norm tables. **Results:** Participants preferably used active coping strategies, with 33.3% included in PAC group vs 23.6% in PPC group. None of the patients used extremely high passive coping strategies. Thinking of possibilities to solve a problem was the most frequently used active coping strategy. Patients in PPC group scored higher on GDS-15 ( p= 0,04) and HADS-A (p=0,00) than the residual group. No association was found between coping strategies and pain and quality of life. **Conclusion:** In this study, older adults with hip fracture preferably used active coping strategies . Passive coping strategies were associated with higher levels of depression and anxiety. We advocate screening of coping strategies and neuropsychiatric symptoms at admission to GR program. Active coping strategies should be promoted and psychological assistance including cognitive behavioral therapy and treatment of depression and anxiety should be provided to older adults with passive coping strategies, to help them learn effective coping skills resulting in a more efficient rehabilitation.

**P33- A TYPOLOGY OF SOCIAL WORKERS IN LONG-TERM CARE FACILITIES IN ISRAEL.** Sagit Lev *(School of Socail Work, Bar Ilan University, Ramat Gan, Israël)*

**Backgrounds:** The primary obligation of social workers is to their clients. Yet, there might be occasions in which this primary obligation is challenged by conflicting needs and demands of the organization in which they are employed. This difficulty could intensify in long term care facilities (LTCF) for the older adults due to the total characteristics of these institutions. Moral distress is a theoretical and empirical concept, which is taken from the nursing literature and relates to the professionals' difficulty to act in accordance with professional morals due to institutional constraints and restrictions. Despite the significance of ethical issues faced by social workers, research on moral distress among social workers has been extremely limited. **Objectives:** To identify whether variants of LTCFs social workers exist and whether these variants are differentially associated with moral distress. **Methods:** Overall, 216 LTCF social workers took part in the study. A two-step cluster analysis was conducted to identify a typology of LTCF social workers based on environmental features (ethical environment and support in workplace) and personal features (mastery and resilience). The variance of the identified clusters and their associations with moral distress were examined. **Results:** Four clusters of LTCF social workers were identified. The clusters varied from each other in relation to their personal and environmental features and in relation to their experience of moral distress. The environmental rich cluster, was characterized by high environmental resources and low personal resources. The resourceless cluster, was characterized by low environmental and personal resources. The personal rich cluster, was characterized by low environmental resources and high personal resources. Finally, the resourceful cluster was characterized by high environmental and personal resources. The clusters varied significantly from each other in relation to their experience of moral distress, as the clusters with low environmental resources were characterized by significantly higher levels of moral distress than the clusters with high environmental resources. **Conclusion:** Although both kinds of resources have shown to be associated with moral distress, the present study has emphasized the relative importance of environmental resources of the LTCF social worker over personal resources.

**P34- DEVELOPMENT AND VALIDATION OF A QUESTIONNAIRE TO ASSESS MORAL DISTRESS AMONG SOCIAL WORKERS IN LONG TERM CARE FACILITIES.**Sagit Lev *(School of Social Work, Bar Ilan University, Ramat Gan, Israël)*

**Backgrounds:** The primary obligation of social workers is to their clients. Yet, there might be occasions in which this primary obligation is challenged by conflicting needs and demands of the organization in which they are employed. This difficulty could intensify in long term care facilities (LTCF) for the older adults due to the total characteristics of these institutions. Moral distress is a theoretical and empirical concept, which is taken from the nursing literature and relates to the professionals' difficulty to act in accordance with professional morals due to institutional constraints and restrictions. Despite the significance of ethical issues faced by social workers, research on moral distress among social workers has been extremely limited. **Objectives:** Development and validation of a unique questionnaire to measure moral distress among social workers in LTCF in Israel. **Methods:** The construction of the questionnaire was based on a secondary analysis of a qualitative study that addressed the moral dilemma of social workers in nursing homes in Israel. A content validation included review and evaluation of two experts and three focus groups of experts and the target population. The psychometric evaluation and construct validation of the questionnaire were conducted using a pilot study, which included 216 LTCFs social workers. The psychometric evaluation included internal reliability, descriptive statistics and exploratory factor analysis. Finally, the construct validity of the questionnaire was established by examining the potential correlation of the scales with variables that theoretically predicted to be related or less related with moral distress. **Results:** Two items with high floor effect were removed. The internal reliability of each of the three moral distress scales was 0.92. An exploratory factor analysis suggested a single factor solution. The construct validity was approved, and, in its final version, the questionnaire consisted of 15 items. The frequency and the intensity of distress that followed these moral dilemmas were queried. **Conclusion:** We believe that the questionnaire can contribute by broadening and deepening the ethics discourse and research, with regard to social workers' obligation dilemmas and conflicts.

## P35- USING POINT-OF-CARE C-REACTIVE PROTEIN TO GUIDE ANTIBIOTIC PRESCRIBING FOR RESPIRATORY TRACT INFECTIONS IN ELDERLY NURSING HOME RESIDENTS (UPCARE): A CLUSTER RANDOMIZED CONTROLLED TRIAL.

Tjarda Boere *(VU University Medical Center, Amsterdam, the Netherlands)*

**Backgrounds:** Antibiotics are over-prescribed for lower respiratory tract infection (LRTI) in nursing home (NH) residents due to diagnostic uncertainty. Inappropriate antibiotic use is undesirable both on patient level, considering their exposure to side-effects and drug interactions, and on societal level, given the potential development of antibiotic resistance. The diagnosis of LRTI is challenging in NHs, as NH residents often lack typical symptoms, and because cognitive disabilities can impede communication of experienced complaints. ln addition, diagnostic tools are often not well-applicable or not directly available in the NH setting. C-reactive protein (CRP) point-of-care testing (POCT) may be a promising diagnostic tool to reduce unnecessary antibiotic use for LRTI in NHs. **Objectives:** The overarching aim of the UPCARE study is to achieve better antibiotic stewardship by introducing a cheap, quick and easy-to-use diagnostic tool for the evaluation of LRTI in NHs: CRP POCT. **Methods:** Study design: A cluster Randomized Controlled Trial (cRCT) will be conducted in twelve NHs in the Netherlands, with the NH as the unit of randomization. NHs in the intervention group will use CRP POCT, and NHs in the control group will provide care as usual for NH residents with (suspected) LRTI. Study population: NH residents with a new diagnosis 'suspected LRTI' can participate in the cRCT. Patients are excluded if they reside at hospice/palliative wards, if they have a different type of infection, if they do not wish to be treated with antibiotics, or if they are already taking antibiotics. Main outcomes: 1. Antibiotic prescribing for suspected LRTl at index consultation (yes/no); 2. Associations between CRP POCT values and:1. signs and symptoms in NH patients with suspected LRTI; 2. antibiotic treatment; 3. Cost-effectiveness and cost-benefit of the use of CRP POCT. Data collection: Between September 2018 and March 2020. **Results/conclusions:** Expected in 2020

## P36- ANTIBIOTIC PRESCRIBING AND NON-PRESCRIBING IN NURSING HOME RESIDENTS WITH SIGNS AND SYMPTOMS ASCRIBED TO URINARY TRACT INFECTION (ANNA): A PRETEST-POSTTEST CRCT.

Jeanine Rutten *(Amsterdam, the Netherlands)*

**Backgrounds:** Almost 60% of antibiotic (AB) prescriptions in Dutch nursing homes (NHs) are for treatment of suspected urinary tract infections (UTI). A third of these AB prescriptions for UTI are not (yet) required. Clinicians frequently base their diagnosis and subsequent AB prescriptions on nonspecific signs and symptoms (S&S), i.e. S&S that are not related to the urinary tract . However, there is increasing evidence that AB are often not required for patients only experiencing non-specific S&S. Inadequate AB use is associated with an increased risk of exposure to side-effects, and plays an important role in the development of AB resistance. Recently, a UTI treatment decision tool for frail older persons was developed to support clinical decision making on S&S that justify AB prescription and S&S that justify a 'watchful waiting' approach. **Objectives:** 1) to evaluate whether the use of the UTI treatment decision tool results in an increase in appropriate AB prescriptions for NH residents with suspected UTI; 2) to investigate the degree, quality, facilitators and barriers of the use and implementation of the UTI treatment decision tool (process evaluation). **Methods:** Study design: A pretest-posttest cluster randomized controlled trial (cRCT) with NHs as the unit of randomization will be conducted to evaluate whether the use of a UTI treatment decision tool results in more appropriate AB prescribing. Quantitative (cRCT data) and qualitative approaches (semi structured interviews and focus groups) will be combined to evaluate the use and implementation of the UTI treatment decision tool. Setting: 16 NHs in the Netherlands. Study population: Residents with a new diagnosis 'suspected UTI' from participating NHs. Exclusion criteria: - Recent antibiotic use (past 7 days) for a different type of infection; - A treatment policy indicating that the resident wishes not to be treated with AB in case of a UTI. Intervention: use of the UTI treatment decision tool. Control: care as usual. Main outcomes: 1) Inadequate AB prescribing for suspected UTI at index consultation (yes/no); 2) Potential facilitators and barriers for implementing and using the UTI treatment decision tool. Data collection:; September 2018 - March 2020. **Results**: Expected in 2020. **Conclusion**: Expected in 2020

## P37- THE USE OF MOBILE SUPERFICIAL RADIATION FOR TREATMENT OF SKIN CANCERS IN NURSING HOME.

Robert Norman Nova *(Southeastern University Geriatric Dermatology, USA)*

**Background:** Over the last 7 years we have been utilizing Mobile Superficial Radiation for Treatment of Skin Cancers in Nursing Home Patients. **Objective:** The hypothesis of our study it that Mobile Superficial Radiation for Treatment of Nonmelanoma Skin Cancers (NMSC's) in Nursing Home Patients would result in improvement in care and fiscal efficiency. The objective of the study was to determine the efficacy, cost savings, and outcomes of using Mobile Superficial Radiation for Treatment of Skin Cancers in Nursing Home Patients. **Methods:** For more than 25 years we have provided services to nursing home patients utilizing an extensive mobile services program. Using newer technologies, we have been able to apply superficial radiation (SRT) techniques to also help our patients. We have three Sprinter vans, each equipped with a SRT machine, and we cover three routes and approximately 35-40 patients in Florida each day. We have a 7 year longitudinal 2011-2018 qualitative and quantitative cohort study utilizing 300 older adult patient participants, including surveys, cancer recurrence statistics, and other feedback mechanisms. **Results:** The outcome measurements included extensive cost savings in transportation by both facilities and providers and improved treatment. Statistics included 95% CI based on survey feedback in comparison to other methods of treatment and costs. The data showed 95% effectiveness in eliminating NMSC's. Several tables and graphs will illustrate our data. **Conclusions:** The main clinical message is the efficacy and cost savings of Mobile Superficial Radiation for Treatment of NMSC's. During my presentation I will show video of actual patient encounters and the ease of use. The need in the future is to expand these types of services and to increase mobile device utilization in other specialties.

### P38- AN IN-DEPTH STUDY OF PEOPLE WITH DEMENTIA LIVING IN NURSING HOMES WITH A HOME-LIKE MODEL OF CARE IN AUSTRALIA.

Maria Crotty *(Flinders University, Adelaide, South Australia, Australia)*

**Backgrounds:** Traditionally, models of care for nursing homes were designed around a medicalised model, but there has been increasing interest to improve this model to provide greater independence for the residents with person-centred care in an environment that looks and feels more like a domestic home. **Objectives:** To determine if home-like models of care associate with better outcomes for residents of nursing homes with dementia compared to those living in a standard model of care. **Methods:** The Investigating Services Provided In the Residential care Environment for Dementia (INSPIRED) Study is a cross-sectional study of 541 residents from 17 nursing homes in four different states in Australia. Comprehensive data on the residents and their nursing homes were collected between 2015 and 2016. We linked the information gained from interviews with residents with information regarding their medication use and hospitalisations. Quality of life was measured using a validated tool: the EQ-5D-5L. We also examined the financial costs of providing care. The study specifically included nursing homes with different models of care and the study was designed to allow the inclusion of people with cognitive impairment and dementia. Where a resident could not complete an interview due to more severe cognitive impairment a close family member completed on their behalf. **Results:** The study found that residents living in a home-like model of care had a higher quality of life compared to those in a more standard model (adjusted mean EQ-5D-5L score difference (95%CI) 0.107 (0.028, 0.186), p=0.008); they also had lower hospitalisation rates (adjusted rate ratio (95%CI) 0.32 (0.13, 0.79), p=0.010) and lower emergency department presentation rates (0.27 ( 0.14, 0.53) p<0.001). Potentially inappropriate medication (PIM) use was high overall for the residents (81% exposed to a PIM in twelve months), but residents living in a home-like model care of care had lower PIM exposure (adjusted odds ratio (95%CI) 0.48 (0.28, 0.83) p=0.008). The costs of providing care in a home-like model were similar to a standard model. **Conclusion:** Home-like models of care may be more favourable to the residents and improve their health outcomes for a similar cost to more standard models.

### P39- PHYSICAL ACTIVITY PATTERN IN FRAIL OLDER ADULTS AND END OF LIFE TRAJECTORIES.

Susanna Del Signore *(Bluecompanion ltd, London, United Kingdom)*

**Backgrounds:** Reduced level of spontaneous or physical activity may accelerate mobility disability in dependent older adults and influence end of life trajectories. **Objectives:** We planned to deploy a long-term, low intensity, non-intrusive data collection system able to capture the daily pattern of spontaneous physical activity and patient reported outcomes specifically related to motor abilities. **Methods:** Physically frail, non-demented older adults (women or men aged ≥80 years) recently admitted to long term residential care will be eligible on a voluntary basis after signing an informed consent allowing continuous data collection and their secondary use for clinical research. Minimal clinical data set will be fed over two years, in order to record major health outcomes including loss of mobility, injurious falls, hospitalisations for acute illnesses, cardio-vascular major events, cerebrovascular events, onset of dementia or death. An observational protocol will be implemented in at least two European Countries on sequential new admissions in public or private nursing homes partnering the project. The participant will be instructed to complete self-assessment based on standardized questionnaires (SF-36 for all participants, and TS-Doc only in obese older adults) administered on paper or electronically both at baseline and after 3 months. Daily physical activity will be recorded continuously over three months via wearable devices. **Results:** All captured data will be recorded in an Information&Communication Technology (ICT) platform by BLUECOMPANION, integrating on quasi real-time different source data (clinical, PROs, and physical activity). This kind of high volume data, directly generated by the patient during several months, fulfils the definition "Big data in health", encompassing "high volume, high diversity biological, clinical, environmental, and lifestyle information collected from single individuals to large cohorts, in relation to their health and wellness status, at one or several time points" (Auffray C. et al, 2016). **Conclusion:** A machine learning system will be developed to identify critical patterns that could discriminate end of life trajectories and help to assess the effectiveness of given therapeutic interventions.

### P40- TIME TO REDUCE AGITATION IN PERSONS WITH DEMENTIA IN NURSING HOMES. A PROCESS EVALUATION OF A COMPLEX INTERVENTION.

Bjørn Lichtwarck *(Centre for Old Age Psychiatric Research, Innlandet Hospital Trust, Ottestad, Norway and Institute of Health and Society, Faculty of Medicine, University of Oslo, Norway)*

**Backgrounds:** The Targeted Intervention Interdisciplinary Model for Evaluation and Treatment of Neuropsychiatric Symptoms (TIME) has recently been shown to reduce agitation in nursing home residents with dementia. We report from a process evaluation of this intervention based on the RE-AIM framework (Reach, Effectiveness, Adoption, Implementation, Maintenance). **Methods:** An exploratory and a quasi-experimental design with mixed methods were used. The RE-AIM dimensions were explored by questionnaires to 807 staff members and 46 leaders in both the intervention nursing homes (INH) and the control nursing homes (CNH), distributed before the start of the intervention (baseline), and 6 and 12 months later. To assess implementation, we used a checklist for performance of the main components in TIME and analysed the minutes from 84 case conferences in the INH. To explore adoption and maintenance, five focus group interviews with 32 participants from the staff in the INH were conducted three to six months after the intervention. **Results:** On average 61% of the staff in each ward in the INH attended the training sessions. There were no between-group differences throughout the study period in general knowledge and attitudes towards dementia. 16 of the 17 INH completed the intervention. 80% or more of the components in TIME were performed for 89% of the included patients. Most nursing homes used TIME three to six months after the end of the intervention. An easy to grasp model and an engaged and present leadership facilitated the implementation and its sustainability. **Conclusions:** A high degree of reach, adoption, implementation and maintenance might have contributed to the effectiveness of TIME at resident level. One other causal assumption of the effectiveness of TIME is the development in the staff of a new, shared and situated knowledge about each individual resident, which is not reflected by measurements in general knowledge and attitudes.

### P41- EVALUATION OF DEMENTIA-SPECIFIC CASE CONFERENCES FOCUSING ON CHALLENGING BEHAVIOR IN NURSING HOMES (WELCOME-IDA) IN GERMANY: PROCESS EVALUATION OF IMPLEMENTATION ASPECTS.

Daniela Holle *(German Center for Neurodegenerative Diseases (DZNE), Witten/Faculty of Health, Witten/Herdecke University, Witten, Germany)*

**Background:** An analysis into the effectiveness of the dementia-specific case conference (DSCC) concept entitled WELCOME-IdA into 6 nursing homes (12 teams) has shown no effects on the prevalence of challenging behaviour (CB) of nursing home (NH) residents. A process evaluation was conducted to explore the deviations between the expected and observed outcome based on the framework of Grant et al. for cluster randomized controlled trials. **Methods:** The process evaluation uses a mixed method design, for which quantitative and qualitative data were gathered. The context, the delivery of the intervention and the recruitment and reach of the target populations (residents/nursing staff) were analysed using semi-structured interviews, standardized questionnaires, attendance lists and protocols. Quantitative data were analysed by calculating descriptive statistics, qualitative interviews by using deductive content analysis. **Results:** None of the teams had prior experiences in case conferences, that rely on a specific concept related to CB. 75% of the in-service trainings, 67% of the on the job trainings (ToJ), and 39% of the DSCC without support were performed. 71% of residents directly received the intervention during ToJ, 42% during DSCC without support. Some cases were discussed twice or not included in the study sample. Process structure of DSCC was mostly adhered, whereas deviations were analysed for the group size of participants in DSCC. 5 teams dropped out during the implementation of DSCC due to personal changes in the management and underestimated implementation resources. **Conclusions:** The loss of teams and thus the lower delivery of the DSCC and the lower reach of residents in DSCC might explain the missing effectiveness of WELCOME-IdA at resident level. Deviations in the group size of participants in DSCC might have had an impact on the reflection of the cases. Support of the management and the availability of resources are essential for a successful implementation of DSCC.

### P42- GRIP ON CHALLENGING BEHAVIOR IN NURSING HOME RESIDENTS WITH DEMENTIA: PROCESS EVALUATION OF THE IMPLEMENTATION OF A CARE PROGRAM IN DUTCH NURSING HOMES.

Martin Smalbrugge, *(Department of General Practice and Elderly Care Medicine/ Amsterdam Public Health research institute, VU University Medical Center, Amsterdam the Netherlands)*

**Background:** Several care programs have been developed to improve the management of challenging behavior in dementia, using a analysis-focused approach. Such interventions tend to be complex and multicomponent. In comparing these interventions, lessons can be drawn about content and implementation. The Grip on Challenging Behavior care program (GRIP) was developed in The Netherlands. The aim of GRIP is to reduce challenging behavior in dementia and the use of psychoactive medication. GRIP was based on the (inter)national guidelines on the management of challenging behavior. **Objectives:** To evaluate the implementation process of GRIP and to draw lessons for future implementation of complex interventions for challenging behavior in dementia. **Methods:** GRIP was implemented on 17 nursing home units in the Netherlands, using the stepped wedge design. For evaluation of the implementation a process evaluation was carried out. The implementation was monitored using semi-structured interviews and two questionnaires. The template for intervention description and replication (TIDieR) was used to describe the characteristics of the intervention and the implementation process. **Results:** GRIP contains training sessions on working methodically on the management of challenging behavior. Multidisciplinary collaboration is an essential part of the intervention. GRIP has a fixed process and role structure, which clearly describes who does what at each point in time. Barriers and facilitators that were found could be divided in organizational factors, culture of the DSCU and aspects of the care program. In a next version of GRIP, adaptations were made based on the findings of the process evaluation. **Conclusions:** Working methodologically and interdisciplinary is central for an analysis-focused approach to challenging behavior in nursing home residents with dementia. Comparing GRIP, TIME and WELCOME-IdA revealed lessons for future implementation about sufficient funding, required theory and skills, interdisciplinary working, feasibility and development.

### P43- ADVANCE CARE PLANNING AND PHYSICIAN TREATMENT ORDERS IN DUTCH NURSING HOMES.

Martin Smalbrugge *(Department of General Practice and Elderly Care Medicine/Amsterdam Public Health research institute, VU University Medical Center, Amsterdam, the Netherlands)*

**Background:** A cornerstone of palliative care is advance care planning and within advance care planning the discussion about physician treatment orders (PTOs), including 'negative' treatment orders, such as DNR (do not resuscitate) - orders. PTOs prevent burdensome unnecessary medical treatment of frail nursing home patients. **Objectives:** The aim was to determine the prevalence of PTOs and time duration between nursing home admittance and PTO completion. **Methods:** Population-based, retrospective cohort study in nursing homes across the Netherlands. Digital medical records of patients who subsequently were submitted to 14 Dutch nursing homes across the Netherlands were studied between 2010 and 2013. The prevalence's of do-resuscitate, do-not-resuscitate, life-sustaining, and palliative care PTOs and the time intervals between nursing home admittance and documentation of PTOs were measured. Information regarding demographic patient characteristics, type of nursing home ward, and mention of a discussion of PTOs with the patient or caregivers was obtained. **Results:** Eighty-two percent of the nursing home patients received a PTO regarding resuscitation, life-sustaining, or palliative care treatment. Twentyfour percent of the patients received a do-resuscitation PTO, 55% received a do-not-resuscitate PTO, 44% a life-sustaining PTO, and 16% a palliative care PTO. The median duration between nursing home admittance and documentation of the first PTO was 1 day. Most nursing home patients had PTOs within 1 week after admittance. **Conclusion:** A minority (18%) of Dutch nursing home patients has no documented PTOs during their nursing home stay, which could have negative effects on end-of-life care of nursing home residents.

### P44- ADMINISTERING CONTINUOUS PALLIATIVE SEDATION TO NURSING HOME RESIDENTS WITH DEMENTIA AND EXTREME NEUROPSYCHIATRIC SYMPTOMS.

Annelies E. Veldwijk-Rouwenhorst *(Radboud University Medical Center, Radboud Alzheimer Center, Nijmegen, The Netherlands)*

**Background:** When using conventional treatments for extreme NPS proves to be ineffective or when they are considered disproportionate, sometimes continuous palliative sedation (CPS) is administered. The decision to administer CPS to nursing home (NH) residents with advanced dementia and extreme neuropsychiatric symptoms is however an undiscovered area. **Objectives:** The objective of this study is was to explore the process of decision-making leading to CPS in this group of NH residents with extreme NPS. **Methods:** In this qualitative study, Face-to-face and semi-structured in-depth interviews were held with involved relatives, physicians and other caregivers of 3 NH residents with advanced dementia and extreme NPS who were administered CPS. These were audio-recorded and transcribed. . Also medical files of the NH residents were studied. Transcriptions were analyzed using Atlas.ti, the used method was based on thematic analysis extended with content analysis. **Results:** In total, 9 interviews with 14 participants were held. In all 3cases, the NPS were described as unpredictable and very severe. Many interventions failed in reducing the NPS. Analysis resulted in 3 emerging and consecutive themes: (1) hope and powerlessness, (2) the process of decision-making leading to CPS, and (3) the trajectory of CPS. Stakeholders mentioned to have tried everything to reduce the NPS and the resident's unbearable suffering and hope seemed to be lost. Feelings of powerlessness and failure were experienced. Among others life expectancy, unbearable suffering and refractory NPS influenced the process of decision-making leading to CPS. Feelings of relief and relaxation were described after starting administering CPS. **Conclusions:** This study offered important insights into the CPS trajectory and process of decision-making leading to CPS and the CPS trajectory in NH residents with advanced dementia and extreme NPS. It shows that deciding to administer CPS to NH residents with advanced dementia and very frequent NPS is difficult and complex.

### P45- ADVANCE DIRECTIVES FOR EUTHANASIA: EXPERIENCE OF ELDERLY CARE PHYSICIANS. Eefje M Sizoo *(Dutch association of elderly care physicians) and Department of General Practice and Elderly Care Medicine, VU University Medical Center, Amsterdam, the Netherlands)*

**Background:** In the Netherlands, physicians are allowed to perform euthanasia under strictly specified care criteria. The law provides a window of opportunity for euthanasia in patients with dementia and an advance euthanasia directive. A study in 2007 did not identify cases of actual life termination in incompetent patients with dementia and an advance euthanasia directive. Three cases of life termination in patients with advanced dementia and an advance euthanasia directive were reported in 2016. Elderly care physicians (ECP) may be confronted with an euthanasia request from a patient with Dementia through an advance euthanasia directive. **Objective:** To obtain insight into the current experience of ECPs with advance euthanasia directives in incompetent patients with dementia, how many ECPs ever conducted euthanasia in these patients and to explore the needs of ECPs to handle these requests. **Methods:** An online questionnaire was completed by 605 members of the Dutch Association for Elderly Care Physicians (Verenso). **Results:** Most ECPs treated one or more patients with dementia and a written advance euthanasia directive. A third of ECPs was requested to conduct euthanasia, most often by relatives of the patient. In most cases, legally specified care criteria were not met. For example, there was no unbearable suffering, or suffering could be relieved by palliative treatment. Only one percent of responding ECPs ever conducted euthanasia in an incompetent patient with dementia and a written advance euthanasia directive. Most ECPs expressed the need for discussing cases with colleagues or specific consultants. **Conclusions:** In practice, it is complex to meet due care criteria for euthanasia in incompetent dementia patients with an advance euthanasia directive. Euthanasia is still rare in these patients. The Association for Elderly Care Physicians will collaborate in projects to provide professional standards for ECPs.

### P46- MY LIFE STORY. Emilija Borizovski *(Ehpad Frederic Mistral, Vaison La Romaine, France)*

**Backgrounds:** «My life story « is a a concept which involves making a book of one 's life, which allows seniors in nursing homes to reapropriate and revisit their hystory and memories. **Objectives:** This booklet contains the life course of the resident and has for purpose a long term study of behavioral and moods disorders in the practical application of non-drug treatements. **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 and psychiatric. They are analised in three different conditions: -with booklet and an hour a week personal accompaniment; -with booklet and without accompaniement; -without booklet and without accompaniement. **Results:** The qualitative results, verbalised ou observed data, will allow working on the resident's representations and interpretations on some aspects of their live, but also how they lived lived them. The quantitative resuls , which study the decrease in medical prescriptions, as well as mood and behavioral disorders will demonstrate the positive effect or not of this booklet. **Conclusion:** 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.

### P47- JOY OF LIFE IN NURSING HOMES: A QUALITATIVE STUDY OF WHAT CONSTITUTES THE ESSENCE OF JOY OF LIFE IN ELDERLY INDIVIDUALS LIVING IN NORWEGIAN NURSING HOMES. Eva Rinnan *(NTNU Department of public health and nursing, Trondheim, Norway)*

**Backgrounds:** Finding new approaches to increase positive health and wellbeing of elderly individuals living in nursing homes (NH) is highly warranted. Several Norwegian municipalities have implemented the certification scheme framed 'Joy of Life Nursing Home' (JOLNH). JOLNH is based in a health-promoting perspective directing elderly individuals' resources. Through health promotion, preventive and social activities across generations, NH care promotes respect, well-being, health and cultural experiences among elderly individuals. **Objectives:** The aims of this study were to explore the phenomenon of Joy of life (JOL) among elderly individuals living in NHs and to provide a deeper understanding of which dimensions constitute JOL in this population. **Methods:** The present study explored the JOL phenomenon using qualitative methodology. Data were collected between December 2015 and May 2016 by individual qualitative research interviews of 29 elderly individuals who met the inclusion criteria. The informants were living in ten different NHs in two large municipalities in Norway. Prior approval was obtained from all regulatory institutions dealing with research issues and the management in both municipalities. **Results:** The results showed that (1) positive relations, (2) a sense of belonging, (3) sources of meaning, (4) moments of feeling well, and (5) acceptance constituted the conceptualization of the JOL phenomenon. **Conclusion:** The dimensions constituting the JOL concept corresponds to the concepts of wellbeing and flourishing. Knowledge of the JOL phenomenon may help professionals to target elderly individuals` health and wellbeing more precisely and thereby increase flourishing, JOL and wellbeing among thems.

### P48- A VALIDATION OF THE JOY-OF-LIFE SCALE (JOLS).
Gørill Haugan *(NTNU Department of public health and nursing, Trondheim, Norway)*

**Backgrounds:** In a health promoting perspective, to examine nursing home (NH) patients' strengths and resources in relation to coping with losses, illness, death and adaption to the new life situation in the NH is important. Finding new and alternative approaches to increase well-being in this population is highly warranted. In this light, the approach framed 'Joy-of-Life-Nursing-Homes' (JOL) was developed in Norway. **Objectives:** The aim was to test the psychometric properties of the Joy-of-Life Scale (JOLS) among cognitively intact NH patients. **Methods:** Based in theory, evidence and the 29 in-depth qualitative interviews we developed the JOLS scale measuring NH patients' perceived JOL. The intention was to identify essential characteristics of NH patients' experiences of JOL in this particular life situation. The JOLS covers domains that identify fundamental qualities stressed in wellbeing theory and nursing care literature. In a cross-sectional design, data were collected in 2017-2018 in 30 NHs representing two large urban municipalities in Norway, resided in Middle Norway and West Norway, respectively. The total sample comprised 189 cognitively well-functioning NH patients. Exploratory and confirmatory factor analyses are to be carried out using Stata 14.2. **Results:** The dimensionality, reliability and concept validity of the JOLS are to be investigated by means of explorative and confirmative factor analysis. Two hypotheses (H1 and H2) are tested: H1: JOLS correlates negatively with anxiety and depression. H2: JOLS correlates positively with nurse-patient interaction SOC, QoL, meaning-in-life and self-transcendence. **Conclusion:** The psychometric properties of the JOLS will be presented. NH patients' experiences of joy-of-life are vital to patients' thriving, wellbeing and quality of life. Therefore, access to reliable questionnaires measuring NH patients' experience of joy-of-life is fundamental.

### P49- «EVERYTHING IS BETTER THEN WHAT WE HAVE TODAY». EMPLOYEES EXPERIENCE WITH THE INTRODUCTION OF AN INTERVENTION PLAN AT A MUNICIPAL HEALTH CENTER, A PILOT PROJECT.
Beate André *(Department of Public Health and Nursing, Norwegian University of Science and Technology (NTNU), Trondheim, Norway, NTNU, Center for Health Promotion Research, Trondheim, Norway)*

**Backgrounds:** A pilot and collaborative project between a university and the municipality. The purpose is to investigate how employees experience documentation in an intervention plan, electronic patient record (EPR). The implementation areas emphasized are intervention plans as work tools, training and facilitation with the follow-up of the patient's health condition and needs. **Objectives:** The purpose of the project is to investigate how employees at a community care hospital in Trondheim municipality experience implementation of a new intervention plan in the EPR. To investigate how employees experience the use of the intervention plan as work tools, training and facilitation, but also in relation to patient follow-up. **Methods:** The project's design is action research with open non-participatory observation as a tool. Action research is a method where the researcher observes the field systematically to make changes and field notes were used. Analyses were done with a qualitative approach. **Results:** The themes emerging from the material were; - intervention plan as a work tool, -organizational structure, - professional assessments, - learning and - patient perspective. In the intervention plan as a work tool them there were stated; "documenting more throughout the whole day". Learning theme had the following statement; «thinking another way when we document» and in the theme patient perspective one stated; «We have become more aware of identifying patient problems.» **Conclusions:** The role of documentation may also be understood in the light of the different department's culture and norms. The implementation were perceived as representing a greater degree of standardization of nursing documentation.

### P50- USING ZORA IN DUTCH NURSING HOMES: AN OBSERVATIONAL STUDY.
Chantal Huisman *(Utrecht University of Applied Sciences, Utrecht, the Netherlands)*

**Backgrounds:** Nursing homes are in transition. The nursing homes' population differ from twenty years ago because clients have more severe health problems and live longer. Residing in a nursing home is not only taking care of one's health but it is also about person's wellbeing and enjoyment of life. In the Netherlands 14 nursing homes have taken the initiative to explore the use of care robot Zora. These organizations formulated the ambition to use Zora in daily care. Zora is designed as a social robot and used for pleasure and entertainment or to stimulate physical activities. **Objectives:** The objectives of the study was to examine whether Zora is incorporated in daily practice for entertainment in group sessions. To examine for which target group Zora is used and whether clients accepted a technology like Zora and what effect Zora has on these clients. In addition, the perspective of the care professionals is investigated. **Methods:** An observation method is applied in accordance with Groenewoud et al.. For each observation two trained students were assigned so each could observe half of the group. During observations, clients' moods and their involvement with Zora were scored on a fixed-format form. Observations were scored prior to, during and after the activity. The scale for mood ranged from -5 (very negative emotions) to + 5 (happy and joyful). The involvement scale ranged from -1 (turning inwards) to +5 (highly involved). The analysis was done by using simple descriptive statistics in Microsoft Office Excel. **Results:** During all Zora (N=37) activities, a response of at least one of the clients can be seen. However, the reaction differ from very positive to negative and it is not always clear if it caused by Zora. It seems that clients with somatic problems want to see Zora once. They indicated that they do not need to see Zora every week, for example. Clients with severe dementia experience an activity with Zora differently; some of them are very enthusiastic others are afraid of Zora. **Conclusion:** During an activity, Zora provokes a reaction from the clients. Activities can be done in a group but also individually.

### P51- HEALTH INFORMATION TECHNOLOGY A CHANGE AGENT TO PREVENT AVOIDABLE HOSPITALIZATIONS IN A NURSING HOME NETWORK: A QUALITATIVE GROUP PROCESS STUDY.
Gregory Alexander *(University of Missouri, Sinclair School of Nursing, Columbia, USA)*

**Backgrounds:** To test a nursing home (NH) intervention called Missouri Quality Initiative (MOQI) that incorporated Advanced Practice Registered Nurses (APRNs), Interact tools, advanced care planning, and health information technology (HIT) in care processes to reduce avoidable hospitalizations. **Objectives**: The specific aim of the study is to explore perceptions of the value of HIT among clinical stakeholders using technology to share clinical data securely via a health information exchange (HIE) network. **Methods**: This qualitative study used iterative group process. Subjects included 49 interdisciplinary clinical stakeholders participating in MOQI. Clinical stakeholders were from hospital and NH facilities including administrators, nursing staff, social workers, patients, caregivers, and technology vendors. Stakeholders were part of a healthcare network, using HIT/HIE to reduce avoidable hospitalizations in 16 Missouri

NH implemented from 2013-2017. Group process methods included (1) forming 6 groups with 6-8 clinical stakeholders per group, 2) identifying process change that HIT/HIE contribute toward reducing avoidable hospitalizations, 3) separating identified process change by stakeholder type, and, 4) ranking identified process change for each stakeholder type by high, medium, low impact. An iterative consensus building process was used for ranking impact of process changes. **Results**: Stakeholders identified eight high impact areas of process change from HIT/HIE perceived to contribute to reducing avoidable hospitalizations in MOQI: Access, Safety, Workflow, Partnerships, Quality of Information, Patient/Family Satisfaction, Legal, and Improved Healthcare Systems. Within the high impact areas, clinical stakeholders most affected by process change were Directors of Nursing, Administrators, IT/Vendors, Charge Nurses, Admissions Coordinators, Physicians, Social Services, APRNs, and Care Consultants. Stakeholders experienced high impact process change in their ability to perform work using HIT/HIE to reduce avoidable hospitalizations including: "deep dive into admissions,"; "get true picture of admission"; "Faster feedback, clarification, authorization"; "Reviewing orders for correctness"; "Provide immediate care"; "inputs orders ahead of time"; "communicate with family and hospital"; "document accurate resident evaluations"; "fact finding"; "assure information transfer"; "Disperse information to correct areas"; "First hospital/family contacts"; "Conducting consultations". **Conclusion**: High impact process change contributed to the effectiveness of the MOQI multidimensional interventions by improving communication and responsiveness to resident clinical care needs and overall communication about resident needs.

### P52- THREE-YEAR NATIONAL SURVEY TRENDS IN NURSING HOME INFORMATION TECHNOLOGY AND RELATIONSHIPS TO QUALITY IN THE UNITED STATES.

Gregory Alexander *(University of Missouri, Sinclair School of Nursing, Columbia, USA)*

**Backgrounds:** Information Technology Sophistication (ITS) is emerging as an important part of healthcare delivery in every sector. ITS has three dimensions (IT Capabilities, Extent of IT Use, Degree of IT Integration) in three domains (Resident Care, Clinical Support, Administrative Activities). In nursing homes (NHs), ITS trends are not linked with quality measures (QMs) to understand ITS's impact on care. **Objectives**: (1): Describe pattern of changes in ITS over three years and examine links between ITS change and NH attributes. (2): Investigate relationships between ITS types (dimensions/domains), NH attributes, and NH Quality Measures (QMs). **Methods**: A longitudinal, annual survey of ITS reported by 815 NH IT leaders in the United States between 2013-2017. Researchers estimated ITS score change in each dimension and domain among combinations of different NH attributes and Time, after adjusting for the effect of NH attributes. Researchers examined associations between NH ITS, NH attributes, and national Nursing Home Compare QMs. **Results:** In Year 1, researchers contacted 1799 administrators; 815 completed surveys (response rate 48%). Response rates of 815 NH in Years 2-3 was 56-55%. Researchers estimated effect of NH attributes on Total_ITS change from Year 1 to Year 3. Location was not significant (p=0.07). NH in Small Towns (mean difference 80.2) improved more than Rural (mean difference 18.3). Larger homes increased (73.9) more than smaller homes (34.7), but not significantly (p=0.16). For ownership, For-Profit had a mean increase of 61.1, Non-Profits increased by 45.3, which is not significant (p=0.23). Facilities that were Chain members increased by 49.8 while non-Chain members increased by 58.1, which was not significant (p=0.67). ITS increased by statistically significant amounts in all dimensions/domains except IT capabilities in administrative activities. 19 correlations > 0.15 in magnitude were significant (p>.01). The most common ITS variable of 19 was extent of IT use in resident care, which showed significant positive and negative correlations with five different QMs. The QM Percent of Low Risk Long Stay Residents with Bowel or Bladder Incontinence, showed positive correlation with five different ITS scales. **Conclusion:** NH ITS is increasing in the US with weak to moderate positive and negative correlations to QMs.

### P53- EXPLORING PROFESSIONAL ADVICE SEEKING NETWORK RELATIONSHIPS IN THE CANADIAN LONG-TERM CARE SECTOR: A MIXED METHODS STUDY.

Lisa Cranley *(University of Toronto, Toronto, Canada)*

**Backgrounds:** The care needs of nursing home residents are becoming increasingly complex and facility leaders are challenged to find innovative ways to respond to these needs and sustain acceptable levels of care quality. **Objectives:** To understand interpersonal relations and interactional processes of a pan-Canadian advice seeking network of professionals in the long-term care (LTC) sector who provide and seek advice about resident care improvement innovations. **Methods:** In phase one of our mixed methods study, an online survey was sent to senior leaders in 958 LTC facilities in 11 Canadian provinces and territories in Atlantic, Western, and Northern Canada. Participants were asked to name up to three individuals whose advice they most value about care improvement and innovation. Sociometric analysis revealed the structure of advice networks and how they were linked. This presentation reports findings from our phase two- qualitative results. Between Fall 2015 and Spring 2016, we purposively interviewed 39 key network actors to explore the nature of advice relationships. Network actors comprised 27 participants in a senior leadership role in a nursing home (i.e., advice seekers, boundary spanners- those who connect others in the network) and 10 participants in government positions (i.e., opinion leaders who were sources of advice). Data were analyzed thematically. **Results:** We identified four themes: (1) opinion leader and boundary spanner characteristics; (2) characterizing advice seeking relationships; (3) motivations for providing and seeking advice; and (4) the nature of advice given or sought. Opinion leaders and boundary spanners have long tenures in the sector, a broad knowledge of the network, and are dedicated to advancing the sector. Boundary spanners have a unique role in connecting others in the network. Advice seeking relationships began as one-way exchanges between advice seekers and opinion leaders that over time evolved into reciprocal sharing of information and co-learning. Advice seekers primarily sought information about care practices, operations management and human resources. Outcomes of advice seeking relationships included: problem resolution, application of new practice, co-learning and knowledge exchange, and broadened/ strengthened networks. **Conclusion:** Knowledge about advice seeking network relationships and roles can assist healthcare providers, researchers, decision-makers and policy-makers with innovation implementation and dissemination efforts.

### P54- COMPARING METHODS OF ASSESSING NEEDS WITHIN COMPREHENSIVE GERIATRIC ASSESSMENT IN CARE HOMES; A REALIST REVIEW AS PART OF PROACTIVE HEALTHCARE OF OLDER PEOPLE IN CARE HOMES (PEACH) STUDY.

Neil Chadborn *(University of Nottingham, Nottingham, United Kingdom)*

**Backgrounds:** Care home residents have complex needs and are high users of healthcare. Comprehensive Geriatric Assessment (CGA) may benefit residents and improve efficiency of healthcare. **Objectives** Realist review was applied to explore how CGA can work to benefit care home residents. **Methods:** Scoping comprised scanning abstracts and interviews with expert stakeholders. This established an initial programme theory which informed the review. Articles were retrieved from database searches, citation tracking and grey literature. Initial theories from the scoping were developed into Context-Mechanism-Outcome configurations. **Results:** We interviewed 9 health and care professionals. From the literature, we retrieved 134 documents, of which 19 contributed to theory-building. The conventional multi-domain assessment uses clinical consultation with three professionals to gather information about the resident. CGA gives a framework to ensure that needs across multiple domains are captured. Domain-specific assessment instruments may be applied within the consultation approach. The alternative approach employs systematised assessment as the basis of CGA; the best-known example being the international Resident Assessment Instrument (interRAI). InterRAI provides a standardised approach, aiming to improve quality by reducing variation. Whilst methods of data collection differ, both approaches were reported to lead to a reframing of the complex needs of the resident in a way that is comprehensive, rather than syndrome-specific. They can be reasonably described as differing approaches to CGA. A focus on systematic instruments ensures comprehensiveness but can be seen by staff as excessively prescriptive. A clinical consultation approach allows professionals more control but lacks the same level of standardisation. By drawing on institutional theory, these differences may be interpreted as trade-offs between standardisation and customisation. Despite our selection of literature focused on the care home setting, relatively little was said about specific adaptation of CGA – a technology primarily developed in the hospital setting – to long-term care facilities. **Conclusion:** There is limited detail in the published literature about implementing CGA in care homes. There is evidence that systematic instruments and multiprofessional clinical consultation trigger similar mechanisms of multidisciplinary working but further research is required to elaborate which contextual factors enable these mechanisms to fire, to generate the outcome of high quality resident care.

## P55- A QUALITY IMPROVEMENT COLLABORATIVE AIMING FOR PROACTIVE HEALTHCARE IN CARE HOMES (PEACH): A REALIST EVALUATION.

Adeela Usman *(Division of Medical Sciences and Graduate Entry Medicine, School of Medicine, University of Nottingham, Nottingham, United Kingdom)*

**Backgrounds:** We used a Quality Improvement Collaborative (QIC) intervention to implement evidence-based practice around Comprehensive Geriatric Assessment (CGA). **Objectives:** Use a realist approach to develop a programme theory to evaluate the use of a QIC intervention in this setting. **Methods:** Study design: participatory observations, realist interviews/focus groups are the methods of data collection. Setting, and time frame: a 24-month study (September 2016 – August 2018) taking place across four localities within the East Midlands region of England, UK. Study population: Four multi-professional groups were recruited, participants took part in the QIC intervention, and the data collection. QIC intervention: the intervention comprises four facilitated all-day shared learning events, and facilitated smaller group meetings. The all-day shared learning events included activities to help build relationships between participants, training on CGA and quality improvement methodology (Plan-Do-Study-Act cycles, setting SMART objectives), opportunities to reflect on local needs/priorities, brainstorm and develop quality improvement plans, update on progress, share learning with each other and cross check ideas. **Results:** Of the four groups: Two worked on implementing multidisciplinary meetings for care home residents. One introduced a standardised medication review checklist when conducting medication reviews. One group worked on improving diet and nutrition in care home residents. Qualitative data collection is revealing important insights, such as: General practitioners have a strong influence within multi-professional groups; throughout designing, planning and delivering quality improvement to care homes. Care home staff need to be involved in designing, planning and delivering quality improvement interventions in care homes. When implementing CGA in care homes it is good to start with and build on established relationships between healthcare professional and care home staff. The CGA model was viewed as complex and difficult to implement, feedback indicates that groups would have preferred direct instructions. More progress is likely when the quality improvement plan fits within healthcare professional current job role, responsibilities and priorities. **Conclusion:** By September 2018, we will present a validated programme theory, describing the important contextual and mechanistic factors when using a QIC intervention to improve care in the care home setting.

## P56- WHAT ARE THE OBSTACLES FOR RESEARCHERS TO ENGAGE WITH RESIDENTS WHO RESIDE IN CARE HOME SETTINGS AND HOW MIGHT WE ADDRESS THIS IN PRE-AWARD HEALTHCARE PROGRAMMES?

Adeela Usman *(Division of Medical Sciences and Graduate Entry Medicine, School of Medicine, University of Nottingham, Nottingham, United Kingdom)*

**Backgrounds:** Around 450,000 people live in UK care homes. Most residents are over 80, three quarters have cognitive impairment and almost all have multiple co-morbidities. The organisational structure of care homes, and the functional and cognitive impairment amongst residents, raise specific challenges for researchers working in this field. **Objectives:** To capture the methodological expertise accumulated through conduct of a large stepped-wedge cluster-randomised implementation study in a Care Home Setting. **Methods:** We collated and reviewed field-notes from our team of six researchers involved in conducting a study which recruited 224 residents from 24 care homes over 18 months. Our team comprised a mixture of experienced and neophyte care home researchers. **Results:** There are important augmentations to routine research practice enabling effective recruitment and retention when working in care homes. Research should be designed taking account of the need to identify and recruit care homes before recruiting individual participants. Sufficient time should be allowed to recruit owners and managers. Specific research information materials should be produced with these audiences in mind. A research champion should be identified within each care home, who can enlist the support of staff, and ensure that researchers approach staff at a time, and in a way, that accommodates care home schedules. Care home staff are experts in their own residents and can help identify the best opportunities for successful recruitment. Understanding the archiving policies of care homes is important at the outset of research to ensure that important information in the care records is not lost to research. **Conclusion:** Neophyte researchers starting work in care homes need to harness existing expertise when conducting research in this setting. A care home research network, enabling interaction between academics, care home staff and clinicians is an important mechanism to share such experience.

## P57- MEASURING HEALTH RELATED QUALITY OF LIFE OF CARE HOME RESIDENTS, COMPARISON OF SELF-REPORT WITH STAFF PROXY RESPONSES FOR EQ-5D-5L AND HOWRU: AN AGREEMENT STUDY.

Adeela Usman *(Division of Medical Sciences and Graduate Entry Medicine, School of Medicine, University of Nottingham, Nottingham, United Kingdom)*

**Backgrounds:** Quality of life (QOL) is used to assess quality of care provided in care homes. Significant levels of cognitive impairment in this population require the use of staff proxies. However, the reliability of using staff proxies has not been well established for available QOL indices. **Objectives:** We aimed to examine agreement between resident and staff-proxy responses for each of the EQ-5D-5L and HowRu. **Methods:** This study included residents participating in the Proactive Health Care in Care Homes (PEACH) study; an open cohort study across 24 care homes in the East Midlands of England. Eligible residents were aged ≥ 60 years and not receiving short stay or end of life care. 3 consecutive paired resident and proxy responses were recorded over three months in 2017. Agreement was assessed using weighted kappa for categorical variables and intra-class correlation (ICC) for continuous variables computed using a two-way mixed model. To adjust for clustering we used a variance formula for kappa and a multilevel mixed-effect model for the ICC. **Results:** 160 residents were eligible (mean age=87; 68.4% females; and 43.6% with dementia/cognitive impairment). Average response rate was 70.3%. 76% of staff were care home assistants with 73.5% delivering care to residents frequently. Overall, at all-time points, a weaker agreement was observed for HowRu compared to EQ-5D-5L at domain levels. Unadjusted kappa 0.08 (-0.03, 0.21) to 0.56 (0.44, 0.65) and 0.09 (-0.02, 0.21) to 0.25(0.14, 0.25) for EQ-5D-5L and HowRu respectively. Resident-proxy agreement for the EQ-5D-VAS, EQ-5D index scores and QALYs was slight-fair, moderate-substantial, and substantial respectively. Unadjusted ICC at first time point for each of these indices was: 0.31 (0.10-0.44), 0.58 (0.43-0.70) and 0.73 (0.58-0.83) respectively. For the HowRu, there was a fair agreement across all time points. ICC at first time point: 0.28 (0.11-0.43). **Conclusion:** Findings suggest a better agreement for EQ-5D-5L compared to HowRu. However, this agreement seem to fall below the recommended levels. Both of these tools represent a compromise when proxy measures are used to quantify QOL in care home populations. More research is required to develop measures with better proxy reliability.

## P58- RELATIONS BETWEEN "INTER-PROFESSIONAL COMMUNICATION" AND PERCEIVED QUALITY OF CARE OF CARE WORKERS IN JAPANESE CARE FACILITIES FOR THE ELDERLY: A CROSS-SECTIONAL QUANTITATIVE STUDY.

Ikushi Yamaguchi *(Meiji University, Chiyoda-ku, Tokyo, Japan)*

**Backgrounds:** The social role care facilities play for the elderly is crucial in Japan whose population is aging, and providing good quality care services for residents and users is an urgent issue. **Objectives:** This study aims to elucidate the relationship between perceived quality of care of care workers and their information exchange with social workers and nurses in Japanese care facilities for the elderly. **Methods:** A cross-sectional survey was conducted through internet in May 2016. Out of the 377 respondents (collection rate: 29.5%), there were 265 care workers: 170, 63, and 32 care workers at nursing homes, day care facilities, and other types of facilities, respectively; 98 male and 167 female workers; and average age was 40.87 years old (SD=9.54). Regarding question items of information exchange, the respondents (i.e. care workers) were asked to what degree they can send information (five items) to and receive them from social workers and nurses (five-point Likert-type scale). The score of the gap between sending and receiving each of the five items was put into regression models as independent variables. Regarding questions on perceived quality of care, there were 16 items (five-point Likert-type scale). As a result of EFA, two factors were extracted: the first factor was labeled as "Care Quality for QOL" (nine items: Cronbach's $\alpha$=0.95); and the second factor "Care Quality for Safe/Security" (seven items: $\alpha$=0.94). Multiple regression analyses were conducted. **Results:** As a result of multiple regression analyses, controlling for the demographic data, the gap in the scores between sending information on "residents' and users' health conditions" to and receiving them from nurses negatively influenced Care Quality for QOL (R2 =0.022, $p<0.05$; $\beta$= 0.14, $p<0.05$). There was also a marginally significant, negative relationship between that on "changes of contents of tasks" and Care Quality for QOL (R2 =0.0015, $p<0.10$; $\beta$=0.11, $p<.10$). **Conclusion:** The results suggest the importance of proper information exchange between care workers and nurses to improve QOL of theresidents and users in Japanese care facilities for the elderly. Communication between different types of professions (i.e. "Inter-professional Communication") can be the key factor in improving the quality.