



Conference Report

# Abstracts from the 26th Nordic Congress of Gerontology

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**Abstract:** This paper is dedicated to the research presented at the 26th Nordic Congress of Gerontology in Odense, Denmark, in June 2022, which was organized by the Danish Gerontological Society and the Danish Society for Geriatrics. The overall topics of the congress were change and continuity. Participants were invited to explore questions on change and continuity from the perspective of ageing and later life within the following congress themes: digitisation and technology; housing, generations and mobility; lifestyle, engagement and transition; education and competences in ageing societies; morbidity, medical treatment and ageing processes; and a good life and a good death. Life is about change and continuity. We experience ourselves and our surroundings differently throughout our lives. For most people, later life is characterized by major transitions, moving towards frailty and multiple losses. But it may also be a part of life with more time to engage in preferred activities, explore new possibilities, and to cope and come to terms with new challenges. The COVID-19 pandemic proved to be a challenge to the world beyond imagination, particularly for frail and vulnerable people and societies. However, it also provided valuable new insights and reminded us of the values in life. We, therefore, also welcomed presentations and discussions on societal perspectives such as citizen perspective, ethnicity, inequality, sustainability and ecology, the pandemic and lockdown. We thank the organizers, scientific committees and all participants for a great congress with high-quality presentations and discussions.



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**Keywords:** technology; housing; generations; mobility; lifestyle; transition; education; morbidity; medical treatment; quality of life; quality of death; physical health; mental health; loneliness; social networks and isolation; nutrition; physical activity and exercise; gerontology; cultural gerontology; death and dying; lived experience

## 1. Symposia Outlines and Abstracts

### “Aging not so successful. Suicide and depression in old age”

Category: Health Sciences/A good life and a good death

#### *Symposium Outline*

Depression (clinical depression and particularly depressiveness) is rather common in old age, and it predicts long-term care and mortality [1,2]. Obviously, depression reflects low mood and poor quality of life. At its extreme, depression is a predictor of suicide, even if suicide rate among older individuals in the Nordic countries is low. In this symposium, we examine factors associated with depression and suicide and discuss implications of the findings on alleviation and prevention of these problems.

The first presentation compares health and social service use and purchases of psychotropics in a two-year period between three groups of people at the age of 70 years or over: (1) those who died by suicide; (2) those who died by natural causes; and (3) those

who lived at least 2 years longer than their age peers. Service use is studied for the last two years of life for decedents (groups 1 and 2) and a corresponding time for those who lived longer.

As suicides are known to be more frequent among men, the second paper concentrates on gender differences in suicides and service use before suicide, compared to those who died naturally. The two papers use register data including 660,000 persons who died in 1998–2017 and 530,000 persons who lived longer. Of decedents, 2213 (0.3%) died by suicide. The third paper reports how persons with depressed mood were able to engage in physical activity intervention and how depressed mood modified changes in physical activity during the pandemic. Data came from the Finnish Intervention Study to Prevent Cognitive Impairment and Disability (FINGER).

The fourth paper analyses factors associated with depression among the oldest old, using a survey data on all inhabitants at this age group in the area in 2018 ( $n = 1878$ ). Preliminary findings imply that depression is more common among individuals with functional disability, cognitive problems and unmet needs of help, but not with living alone. Finally, the discussant will comment the papers and discuss their implications.

## References

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*Symposium Chair(s)*

**Marja Jylhä**

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## Abstracts

*Service Use Preceding Suicide in Older People in 1998–2017—Comparisons with Natural Death and a Longer Life*

**Leena Forma**<sup>1,2</sup>, **Mari Aaltonen**<sup>2</sup>, **Jani Raitanen**<sup>2,3</sup>, **Marja Jylhä**<sup>1</sup> and **Jutta Pulkki**<sup>1</sup>

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Suicide is rare among older people in Finland, but service use in their end of life probably differs from other older people. We studied changes in hospital and long-term care (LTC) use and purchases of psychotropic medications in 1998–2017 among three groups: (1) those who committed suicide (SG); (2) those who died a natural death (NDG); and (3) those who lived longer (LLG). Study population include all those who died in Finland at the age of 70+ in 1998–2017 and control population who lived at least two years longer. Data were derived from national registers. Service use and medication purchases were studied for the last two years of life for decedents and for corresponding time for the LLG. Binary logistic regression analyses were performed. The explanatory variables were group, age and year. Morbidity was adjusted for. The data include 2213 older people in SG (0.3% of decedents), 662,451 in NDG and 533,773 in LLG. The SG was less likely to use hospital than the NDG but more likely than the LLG. For LTC, there was no difference between SG and LLG. Purchasing of psychotropic medications was most likely in SG. Use of hospital decreased from 1998 to 2017 in other groups but SG women, LTC decreased in other groups but increased in NDG men, medication purchases increased in other groups but SG. Trends in service use differ between the studied groups. Decreasing trends in service use raise worry for sufficient care responding to the needs of older people.

*Formal Care Use before Suicide among Older Finnish Men and Women*

**Mari Aaltonen**<sup>1</sup>, **Leena Forma**<sup>1,2</sup>, **Jani Raitanen**<sup>1,3</sup>, **Marja Jylhä**<sup>1</sup> and **Jutta Pulkki**<sup>1</sup>

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Suicides are significantly more common for older men than women, but it is not well known whether there are sex-related differences in pre-suicide formal care use and background characteristics. We explore these differences among those who committed suicide. Nationwide data from health and population registers consist of those who committed suicide at  $\geq 70$  in 2014–17 in Finland ( $n = 497$ , 77% men). The associations of (1) hospital days; (2) outpatient health care visits; (3) home care visits with sex were analyzed with negative binomial regression models. Explanatory factors included age, 11 diagnostic groups, marital status, living alone, education, residential area urbanity, purchases of medication for depression and psychosis, and income. The sex differences in the background characteristics resembled those in the general older population. Women (mean age 77.5) were widowed or divorced, lived alone, and belonged to the lowest income quartile more often than men (mean age 78). Unlike in the general population, women had higher education more often than men. Women were more often diagnosed with a mental health condition and purchased medication for those conditions than men. For both sexes, the days in hospital and the number of outpatient and home care visits were low but increased slightly in the last three months. None of the sex-related differences in care use were statistically significant. Increased care contacts over the last three months suggest an increase in both sexes' health-related problems. The question remains whether the risk of suicide could have been identified during those few months before suicide.

*Depressive Symptoms as Modifiers of Physical Activity Behaviour in Older People*

**Jenni Kulmala**<sup>1,2,3</sup>, **Elisa Neuvonen**<sup>4</sup>, **Eija Kekkonen**<sup>4</sup>, **Jenni Lehtisalo**<sup>3,4</sup> and **Tiia Ngandu**<sup>2,3</sup>

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4. University of Eastern Finland

Physical activity support health and functioning among older people, but depressed mood may modify the adherence to physical activity and the gained benefits of lifestyle interventions. We investigated whether depressive symptoms impact adherence to a multidomain lifestyle intervention and physical activity behavior among older individuals at-risk for dementia. The data comes from the Finnish Geriatric Intervention Study to Prevent Cognitive Impairment and Disability (FINGER), which is a 2-year randomized controlled trial (baseline  $n = 1259$ ). After the intervention, participants have been followed up for 10 years. Depressive symptoms at baseline were assessed using the Zung scale. Adherence was evaluated as participation in the provided activities (diet, exercise, social/cognitive activity, vascular risk management). Physical activity was self-reported. Associations were assessed using regression modelling. The preliminary results suggest that at baseline, participants with more depressive symptoms were less likely to be physically active. Depressive symptoms were also associated with less improvement in physical activity during the 2-year intervention. Depressive symptoms had only minor effects on physical activity behavior during longer (up to 10 years) follow-up. These preliminary findings from the FINGER trial suggest that depressive symptoms modify physical activity behavior. Therefore, depressive symptoms should be considered when planning interventions and programs that aim to improve health and functioning of older adults.

*Depression among Nonagenarians—Time Trends and Associated Factors*

**Pauliina Halonen and Linda Enroth**

Faculty of Social Sciences, Tampere University, and Gerontology Research Center

Clinical depression is rather rare among older individuals, but depressive mood is more common and known to be associated with several negative outcomes. Yet only few studies have focused on depression among the oldest-old who often suffer from multimorbidity and functional decline. In this study we investigate time trend and associate factors of depression among nonagenarian population. Data came from the Vitality 90+ Study, in Tampere, Finland. Mailed surveys have been conducted with the total population aged 90 or older in 2001, 2003, 2007, 2010, 2014, and 2018. Response rates varied between 77 and 86%. Altogether 31% responded at least in two surveys. The total number of observations was 7589. Depression (clinical depression or depressed mood) was asked as part of the list of nine health conditions. The frequency of depression declined from 24% in 2001 to 17% in 2018. Almost every second of those who reported depression in the first time of participation, reported it also in the second time. Each year, depression was more frequent among individuals with dementia, arthritis, or disability. Depression was also more frequent among those with lower education, but not among those living alone. It was associated with loneliness and feeling tired. Every fourth or fifth nonagenarian suffers from depressive mood, and the condition is often long-lasting and associated with other health problems. Mental well-being should be an important dimension in care of older individuals.

### **“Doing with . . . ” Rather than “Doing for . . . ”. Stimulating Active Engagement of Clients in Daily Activities**

Category: Behavioural and Social Sciences/Lifestyle, engagement and transition

#### *Symposium Outline*

Our aging society asks for sustainable long-term care services for older adults. Previous research has shown that active engagement of older adults in daily activities contributes to successful aging. These activities can range from personal and instrumental activities of daily living such as bathing, dressing, cleaning or cooking to preferred social, leisure, and physical activities at home or in the local community.

With increasing age older adults often need assistance from health and social care professionals with these activities. In the best case, professionals adapt their level of assistance to the capabilities of older adults and stimulate them to do as much as possible by themselves. However, in practice, professionals often provide care *for* clients rather than *with* them. Some clients also expect from professionals that they are taking over tasks. Potential reasons are feeling too old or frail, fear of injury, time constraints, or poor understanding of the long-term benefits. Further functional decline and increasing need for services are often the consequences.

During the last decade, innovative care approaches like reablement or function focused care have been developed and implemented worldwide to change the philosophy of care across professionals and clients from doing things *for* towards doing things *with* clients.

During this symposium, four interventions are presented. The first presentation is about the effectiveness of a reablement training programme for home care staff, which was evaluated in a cluster randomised controlled trial in the Netherlands, involving 264 clients and 313 professionals. The second presenter will talk about the process evaluation that was conducted alongside a multicenter randomised controlled trial. The aim was to evaluate the implementation, mechanisms of impact and contextual factors of an advanced generic function focused care program, which was implemented in 14 Dutch nursing home wards. The third presentation is about the feasibility of a Swedish reablement programme that was tested in a pilot study among 62 clients. The fourth speaker will present a Dutch reablement programme that was developed in co-creation with different stakeholders (e.g., care professionals, policymakers, client representatives). Our discussant from Denmark will wrap-up the session and facilitate a discussion with the audience.

*Symposium Chair(s)***Silke F Metzelthin** <sup>1,2</sup>

1. Maastricht University, Care and Public Health Research Institute, Department of Health Services Research, Maastricht, The Netherlands
2. Living Lab in Ageing and Long-Term Care, Maastricht, The Netherlands

**Abstracts***Effectiveness of a Reablement Training Program on Home Care Clients and Staff. Results of a Cluster Randomised Controlled Trial***Teuni H. Rooijackers, G.A. Rixt Zijlstra, Erik van Rossum, Annemarie Koster, Valéria Lima Passos, Gertrudis I.J.M. Kempen and Silke F. Metzelthin**

Introduction: Training and supporting home care staff in reablement aims to change staff behavior from ‘doing for’ to ‘doing with’ older adults, i.e., supporting client activation. This behavioural change may reduce clients’ sedentary behavior and improve their independence. This study evaluated the effectiveness of the “Stay Active at Home” (SAaH), a reablement training program, in Dutch homecare clients and staff. Materials and methods: A 12-month cluster-RCT was conducted, involving staff (n = 313) and clients (n = 264) from 10 homecare teams, five of which were trained. Effects were evaluated among clients using accelerometer, questionnaire and physical performance data collected at baseline, 6 and 12 months. In staff, questionnaires were assessed at baseline, 6 and 12 months. Results: No beneficial effects in clients were observed for sedentary behavior; daily, physical, and psychological functioning; and falls. A subgroup analysis by working area identified an effect in favor of the intervention group for daily functioning in instrumental activities of daily living in one working area. In staff, no statistically significant differences were for self-efficacy and outcome expectations regarding client activation. A sensitivity analysis that compared staff in the intervention group with >50% compliance to the program meetings showed an effect in favor of the intervention group for self-efficacy between baseline and 12 months but not for outcome expectations. Conclusions: There is insufficient evidence to justify widespread implementation of ‘Stay Active at Home’ in its current form.

*Process Evaluation of an Advanced Generic Function Focused Care Program for Clients and Staff in Long-Term Care***Silke F. Metzelthin, Janneke M. de Man-van Ginkel, Getty Huisman-de Waal, Sandra M.G. Zwakhalen and Stan Vluggen**

Introduction: A significant goal of the WHO and international authorities is to maximize functional activity and independence of older people. Nurses play a key role in optimizing client activity; however, care tasks are often unnecessary taken over. Recently, an advanced generic function focused care program, called ‘SELF-program’ was developed and evaluated in Dutch nursing home care to support nurses to engage clients more actively in activities of daily living. Materials and methods: A mixed approach was applied; qualitative and quantitative data were collected among program participants and trainers. According to the MRC process-evaluation framework implementation, mechanisms of impact and contextual factors were evaluated. Results: SELF was implemented in 14 nursing home wards. 90% of all sessions were completed. Program satisfaction was rated on average with a 7.5/10. The interactive content, mutual discussions and practice-based methods were highly valued. Self-efficacy, attitudes, and intention to perform stimulation behavior significantly improved in intervention group participants. Adjustments were limited to a few shifts in time reserved for elements within training-sessions. Reach and managerial support could be improved. COVID-19 seems to have impacted implementation in terms of attendance, awareness for the training and the planning of the training as a whole. Conclusion: The implementation of the SELF-program can be considered solid. Improvements in self-efficacy, attitudes and intention may predict improvements in the

outcome behavior. Future implementations of SELF could improve managerial support, attendance, and timing of program elements and the program as a whole.

*Feasibility of a Reablement Program in a Swedish Municipality*

**Maya Kylén and Magnus Zingmark**

**Introduction:** While occupational therapists (OT) and physiotherapists (PT) have a central role in reablement, no structured approach for these professional has been described in Sweden. The aim of this study was to pilot the feasibility of a reablement program for OT's and PT's in a Swedish municipality context. **Material and Methods:** In an iterative process together with OT's and PT's a program was developed including (i) actions to enable return to home after discharge; (ii) baseline assessments aiming to identify current status and relevant goals for the client; (iii) coordination and implementation of actions; (iv) involvement of relatives/significant others; (v) collaboration with other professionals; (vi) follow-up assessment, including a discussion if new goals should be set; (vii) end of reablement process. Feasibility was explored over a period of four months including data collection by websurveys from OT's (n = 16) and PT's (n = 15). **Results:** The program was implemented for 62 clients. Baseline assessments were conducted in 97% of all cases and follow-ups in 77%. On average the duration of the program was 8 weeks, included 5 home visits and 3 contacts by phone. In 15 cases a new goal was identified after follow-up. Collaboration was included with other professionals and with relatives in 89% and 35% of the cases respectively. The program was categorized as feasible to some extent in 34 cases and not feasible in 21 cases. **Conclusions:** The program was feasible to some extent. To enhance feasibility, flexibility to tailor assessments according the clients' health status may be considered.

*I-MANAGE: A Reablement Program to Improve Daily Functioning and Well-Being of Patient at Home*

**Hilde Verbeek, Gertrudis I. J. M. Kempen, Jolanda C. M. van Haastregt, Ellen Vlaeyen, Geert Goderis, Silke F. Metzelthin and Ines Mouchaers**

**Introduction:** Patients returning home after geriatric rehabilitation may encounter several challenges related to daily functioning, which only manifest after returned home due to the large difference in environment and amount of support provided in both settings. This can lead to hospital (re)admissions or permanent nursing home placement. Based on the principle of reablement, a primary care program was developed. **Material and methods:** The development of the program was performed according to the MRC-framework. A co-creation design was used, including literature research, observations, interviews, and working group sessions with a variety of stakeholders, such as: care professionals, policymakers of the municipality, patient representatives, and experts in the field of geriatric rehabilitation. **Results:** I-MANAGE is an interdisciplinary primary care program, coordinated by an occupational therapist. The program aims to increase clients' independence and decrease informal caregiving burden leading towards more quality of life. The program lasts 8 weeks and starts with an extensive intake assessment performed by the occupational therapist. The COPM is used to set personal and meaningful goals, which form the basis of the care plan. Afterwards, the interdisciplinary team works with the patient to achieve these goals making optimal use of the social and physical environment. Last, an evaluation will take place, which could lead to an extension of the program or a referral to usual care. **Conclusions:** Starting in January 2022, in a pilot study first experiences with the program in practice are collected from both health care professionals and patients and their informal caregiver in multiple settings.

**Ageing and Care in Indigenous Communities: Photovoice Stories from Sápmi and Tayal**

Category: Social Research, Policy, and Practice/Lifestyle, engagement and transition

### *Symposium Outline*

We live in a world with an ageing population. Too often we are taught to believe that ageing is something negative. Indeed, in economic and demographic research, it has been argued that a “silver tsunami is coming”, implying that older people are a burden on society. Within Indigenous worldviews, however, ageing is conceptualized not as ‘degradation’, but rather as an important part of the circle of life. Aging is more than a loss of physical and cognitive functions. It is also an enrichment. Accordingly, in Indigenous communities, Elders are often viewed as important conveyors of knowledge, wisdom of life, language and culture to the younger generations, e.g., related to farming, fishing, trapping, traditional handicrafts or animal herding. In this symposium, we will present 4 papers and a digital photo exposition from our ongoing research project entitled ‘Coming of age in indigenous communities’. The project is financed by the Norwegian Research Council (January 2019–September 2022).

**Data:** A total of 42 Elders, 24 women and 18 men aged 65–92 at the time of our encounter were interviewed. They lived in different parts of Sápmi (Fennoscandia) and in the northern Tayal region. The participants took pictures from their everyday lives and participated in several interviews. Family carers and migrant live-in carers in Taiwan and healthcare providers in Sápmi were also interviewed, but these findings will not be discussed in the symposium where we will highlight the photos and voices of the older participants.

**Perspectives:** In the papers presented in this symposium, we use insights from culturally safe nursing as well as decolonizing socio-geographical perspectives to understand how cultural and landscape-related aspects, together with family relations, geographical distance, climatic conditions as well as the colonial past and present, shape understandings and practices related to ageing and care among our participants.

4 papers and a digital photo exposition will be presented.

### *Symposium Chair(s)*

**Mai Camilla Munkejord<sup>1</sup>, Tove M. Ness<sup>2</sup> and Wasiq Silan<sup>3</sup>**

1. Western Norway University of Applied Sciences
2. Nord University, Norway
3. University of Helsinki, Finland

### **Abstracts**

*Being Connected to Nature, Reindeer, and Family: Findings from a Photovoice Study on Well-Being among Older South Sámi People*

**Tove M. Ness<sup>1</sup> and Mai Camilla Munkejord<sup>2</sup>**

1. Nord University, Norway
2. Western Norway University of Applied Sciences

In this presentation, we examine the perceptions of well-being among older South Sámi people with various experiences from reindeer herding by use of a method called photovoice. Eleven participants, including six men and five women aged 67–84 years, agreed to take photos of situations, things, or persons that made them feel a sense of well-being. When the researcher collected the photos, the participants were invited to tell their stories related to each photo. In the thematic analysis of the photos, three main themes emerged: (a) well-being through connection to nature; (b) well-being through connection to the reindeer; and (c) well-being through connection to the family. In conclusion, we argue that if healthcare professionals are to enhance the well-being of care receivers—in this case older people with South Sami background from reindeer-herding families—they must consider the care receiver’s life story and what constitutes well-being for the individual person.

*Hmali', Rgyax and Gaga. How Bnkis (Older Tayal Women and Men) Reclaim Their Indigenous Identities*

**Wasiq Silan<sup>1</sup> and Mai Camilla Munkejord<sup>2</sup>**

1. University of Helsinki, Finland
2. Western Norway University College, Norway

This article examines how older Tayal, an Indigenous people in Taiwan, regain, reclaim and renegotiate their identities through reconnecting to hmali' (Tayal language), rgyax (mountain), and Gaga (the Tayal law). A critical qualitative design informed by Tayal hermeneutics was used. In total, fourteen Bnkis (Elders) were interviewed, and the data were thematically analysed. We aim to contribute to the ongoing revitalisation processes in Taiwan. Often such revitalisation processes tend to reinforce the quest of 'authentic Indigenous identities' as if indigeneity were reduced to a pale reproduction of 'how things used to be in the old days.' Our findings show that indigeneity is not about returning to a fixed past. Instead, it is about "writing back" against the colonial framework that was imposed on the Indigenous peoples and, in that way, healing from the trauma. To better understand how such a revitalisation process may take place, it is important to listen to the voice of the Tayal Bnkis.

*Informal Caregiving: A Qualitative Study from Sea-Sami Communities in Northern Norway*

**Grete Mehus<sup>1</sup> and Anne Giæver<sup>2</sup>**

1. UiT the Arctic University of Norway
2. Rural Nurse in Finnmark, Norway

In Norway, the health policy is that everyone shall live at home as long as possible, also when they are in need of healthcare services. Informal care is provided by over 50% of the population and it includes among other things supervision, shopping, house cleaning and transport. The purpose of this study is to shed light of the content of the informal care provided in rural, coastal communities in northern Norway, and reveals ethical dilemmas associated with this care. Eight woman and men between the age of 65–92 were interviewed. Thematic analysis was done and three types of care practices were identified; (a) assisting with informal care; (b) to "keep an eye on" each other; and (c) to share food and what one harvest in nature. In addition, various ethical dilemmas arose about being involved in informal care. During various form of help systems, implemented as informal care, both young and elder is taken care of. The informal care provided by family and community is voluntary, spontaneous and represent a dormant network that represents a safety net when the public healthcare system is prevented to meet the inhabitants need of care. Giving informal care also presents ethical and relational challenges.

*Nature-Human Relationships. A Thematic Analysis of Photo Stories Told by Older North Sámi*

**Jan Erik Henriksen**

UiT the Arctic University of Norway

Indigenous peoples are closely connected to mother Earth. Being in nature, and sustainable harvesting from nature are central dimensions in indigenous lifestyle and cultural practice. This is also the case among the Sámi People where reindeer herding, farming, fishing, hunting, berry picking, and other nature-based activities are important aspects of our arctic everyday life. But what happens when we get old? Which nature-based activities are central in the everyday life of older North Sámi, and how do they relate to nature? These are the questions that will be explored in this paper. I have done a thematic qualitative analysis of in-depth interviews and 432 photos taken by ten North Sámi-speaking Elders. The interviews were done in North Sami. Many of the photos were about meahcci, which means nature, and they illustrate activities in, and relationships to, nature. The participants shared how they related to meahcci with respect and humbleness.

They told how they gave nature a voice and established a relationship between themselves and the spirits of nature. Moreover, places in the landscape were associated with different activities. These activities can be analyzed as weak uniplex relations (only one thread), duplex relations (two threads) or more strongly multiplex relations where the activity requires you to connect you to nature several times. In this presentation, I will give examples of those three different relationships and how they contribute to well-being among older North Sámi.

### **Ageing, Technology and Health in Later Life: Results from the Interdisciplinary National Graduate School in Sweden, SWEAH**

Category: Health Sciences/Digitisation and technology

#### *Symposium Outline*

In this symposium, two PhD students and one post-doctor trained and one senior researcher engaged in the interdisciplinary learning environment of the Swedish National Graduate School for Competitive Science on Ageing and Health (SWEAH) will present their research. Addressing digitalisation and technology, results related to attitudes to everyday technology, the impact of uneven involvement of people in digital health research as well as user-centred design approaches for developing new technology and methods will be presented in the symposium.

The first speaker will present findings from the GenerationTech project where attitudes and adoption of technology for active and healthy ageing in three generations are exposed. Results from a survey study show that across three generations, the participants preferred traditional technologies such as household devices and assistive devices rather than welfare technologies, smart homes or social robots to support them as they age.

The second speaker will describe a study exploring older potential end-users' perceptions of a new digital application, aiming to promote meaningful social activities among older adults in the Bothnia region (Sweden/Finland). The study is based on interview data from an innovation project designing, developing and evaluating a tailored application using a user-centred design approach.

Using video-recordings of people living with dementia as they are using tablet computers as a social activity, the third presenter will report findings from a study where cognitively healthy participants guide the performance of the individuals living with dementia to enable them to perform beyond what they could do in unassisted situations.

The fourth speaker will address whether and how the uneven involvement of older people in digital health intervention studies impact on the outcomes of such studies. Using an intervention study as an example, which evaluated a web-based system for monitoring remotely the postoperative progress of individuals after surgery, i.e., 'Mobile Phone in Recovery after Ambulatory Surgery' (MIRAS), findings revealing biased research outcomes will be presented.

Using these projects as examples, the Coordinator of SWEAH will problematize and sum up the symposium from a learning perspective, addressing the challenges and potentials inherent in moving from multi- to interdisciplinarity in a national graduate school context.

#### *Symposium Chair(s)*

**Charlotte Löfqvist and Susanne Iwarsson**

Lund University, Sweden

#### **Abstracts**

*Attitudes and Adoption of Technologies for Active and Healthy Ageing from a Generational Perspective*

**Sofi Fristedt<sup>1,2</sup>, Jens Offerman<sup>1</sup>, Charlotte Löfqvist<sup>1</sup>, Steven M. Schmidt<sup>1</sup> and Susanne Iwarsson<sup>1</sup>**

1. Lund University, Sweden
2. Jönköping University, Sweden

Although a broad spectrum of technologies is well integrated in people's everyday life and routines, research tends to focus on ICT and neglect the existing diversity of products and services. Few studies have targeted the overall question of ageing and technology with a specific attention to differences and similarities between generations of people and of technology. Research designed to understand the complex interactions between generations and their acceptance of technologies and, how such interactions play a role for active and healthy ageing is warranted to support development of future technologies that successfully promote active and healthy ageing. The purpose of this study was to describe attitudes to and adoption of technology for active and healthy aging in three generations. As part of the GenerationTech project at Lund University, a quantitative, cross-sectional survey was sent to a random sample drawn from the national general population register, representing men and women stratified in three age cohorts (30–39, 50–59 and 70–79 year-old persons). The design allowed us to identify generational differences and similarities, that without generational comparison would have been interpreted as attributed to a single age group. Our findings show for example, that across the three generations the participants preferred traditional technologies such as household devices and assistive devices, rather than more recently introduced technologies such as welfare technologies, smart homes or home and social robots to support their active healthy ageing. More research applying a generational perspective, is needed to guide development and implementation of technologies for active and healthy ageing.

*Very Important, to Whom It May Concern: A Finnish Interview Study Exploring Older Persons' Perceptions of a New Social Application*

**Emilia W. E. Viklund<sup>1</sup>, Susanne Hägglund<sup>1</sup>, Ingeborg Nilsson<sup>2</sup>, Linda Nyholm<sup>1</sup> and Anna K. Forsman<sup>1</sup>**

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**Introduction:** Participation in social and meaningful activities are key components of well-being in later life. In order to meet these needs in an increasingly digitized society there is a need to develop and explore innovative services to support engagement in activities that can promote well-being among older persons. **Aim:** This study aimed to explore older persons' perceptions of a new application for promoting meaningful social activities among older persons involved in a co-creation process. **Material and methods:** A user-centred design approach was applied for developing and designing the new application and 30 potential older end-users were invited to share their experiences and views in semi-structured interviews in the beginning, during and after the project in 2017–2020. The interview data was analysed using thematic analysis. **Results:** The potential end-users perceived that the application could facilitate access to social and leisure activities as well as function as a gateway to the digital world. However, the analysis also generated contradicting views regarding the application's end-users. The older persons involved seemed to perceive that the application had the potential to enrich everyday life for other older persons, but not for themselves. **Conclusion:** Large investments are currently made in the development and implementation of digital technology for older persons. However, more studies and best practice examples are needed on how to work with end-user involvement within gerontechnology. Especially regarding the recruitment of potential end-users and how to go about design and development activities.

*Guiding Novice Tablet Users Living with Dementia in Managing iPads*

**Elias Ingebrand<sup>1</sup>, Christina Samuelsson<sup>1,2</sup> and Lars-Christer Hydén<sup>1</sup>**

1. Linköping University, Sweden
2. Stockholm University, Sweden

Contrary to common beliefs, people living with dementia are capable of novel learning when collaborating with cognitively healthy individuals (Ingebrand, Samuelsson & Hydén, 2020). In this presentation, focus is on an interactional practice that has received little attention in the existing literature on dementia and learning, namely the use of directives. Through directives, cognitively healthy individuals guide the subsequent performance of people living with dementia, enabling them to perform beyond what they could do in unassisted instances (Majlesi, Ekström & Hydén, 2021). The empirical basis comprises 39 video-recordings of 10 people living with dementia who are using tablet computers for the first time with either formal caregivers or their spouses. A collection of 320 directive sequences is included, and the data is analyzed by means of multimodal interaction analysis. The analysis shows that the cognitively healthy participants produce directives in an increasingly explicit fashion based on the publicly displayed capabilities of the person living with dementia. If an initial verbal directive does not get the expected uptake, the directive is reformulated with an adherent embodied clue (e.g., pointing), and if the person living with dementia still does not respond in an adequate fashion, the cognitively healthy individual either physically grabs the hand of the person living with dementia to complete the action or, as a last resort, performs the action him/herself. Our conclusion is that directives are an intrinsic resource in structuring learning activities for people living with dementia.

*Does the Uneven Involvement of Older People in Digital Health Research Bias Research Results?*

**Arianna Poli<sup>1</sup>, Ingemar Kåreholt<sup>2</sup>, Susanne Kelfve<sup>2</sup>, Katarina Berg<sup>1</sup>, Lina Hommana<sup>1</sup> and Andreas Motel-Klingebiel<sup>1</sup>**

1. Linköping University, Sweden
2. Stockholm University, Stockholm, Sweden

The involvement of older people in research on digital technologies is uneven. Some groups of older people, e.g., the older ones, are less likely to participate in research which evaluates new digital technologies, compared to their counterparts. This may bias research results and produce wrong research conclusions. In this work, we aim at understanding whether and how the uneven involvement of older people in research on digital technologies has an impact on the research results. Our example is an intervention study which evaluated a web-based system for monitoring the postoperative progress of individuals after a day surgery, i.e., 'Mobile Phone in Recovery after Ambulatory Surgery' (MIRAS). We considered a sample of 717 individuals of age 50 years and older (mean age: 65) who underwent a day surgery at one of the MIRAS recruitment sites during the recruitment timeframe. This group included both MIRAS participants and those who were not recruited by MIRAS. Based on information on age, gender, recruitment status, and intervention results, we implemented a weighting procedure to adjust the intervention results for the over-representation and the under-representation of groups of older people in the MIRAS sample by age and gender. We found that weighted and unweighted intervention results differed one another. The unweighted intervention results were over-positive with regards to the efficacy of the intervention due to the under-representation of groups of older people who were older and men. Biased results generate inaccurate conclusions which, in turn, can inform inappropriate digitalisation strategies and policies.

### **Artistic Practice and Ethnography—Methodological Considerations on Research in Care Institutions**

Category: Humanities/A good life and a good death

#### *Symposium Outline*

In this symposium we are dealing with similarities and differences between artistic research/arts-based research and ethnography in a care institution context. Artistic prac-

tice and ethnography seem to be quite close in their approaches towards those who are researched.

This proposal embraces both artistic research and arts-based research orientation. Our idea is to tell about our observations when we have conducted our practices. We argue that artistic practice can be a research methodology itself and we would like to know what kind of knowledge/sustainable new insights there is possible to gain via artistic practice.

Our aim is to highlight new methodological possibilities that artistic practice creates and to ask what happens when the researcher is an artist-researcher? What does artistic practice give to the research process? And which parts of the artistic practice are taking part in the knowledge production?

This symposium has three different approaches to artistic research, ethnographic fieldwork and following questions.

Situating arts-based research with people living with dementia, Ann Therese Lotherington and Lilli Mittner, Artful Dementia Research Lab, UiT The Arctic University of Norway.

How to collect arts-based research data that allows us to analyse moments of connectivity?

How to develop novel arts-based research methods?

Employing performing objects to portray and challenge methodological considerations on research in care institutions, Riku Laakkonen, Tampere University, Finland.

How to portray and challenge methodological considerations on artistic ethnography?

Documentary encounter as a methodological possibility in a multidisciplinary research project, Katarina Blomqvist, Aalto University School of Arts, Design and Architecture, Finland.

What in a methodological sense is attained by abandoning the sovereign and active subjectivity in an attitude of attunement and responsiveness to another? What could attentive listening and listening as an artistic practice mean during a documentary encounter?

The idea of this proposal is not to present research results but to tell about our observations when we have conducted our artistic practices in care institution settings and conduct critical discussion about methodologies.

*Symposium Chair(s)*

**Jari Pirhonen**

University of Helsinki

### **Abstracts**

*Situating Arts-Based Research with People Living with Dementia*

**Ann Therese Lotherington**<sup>1,†</sup>, **Lilli Mittner**<sup>1,†</sup>, **Ingrid Tranum Vélasquez**<sup>2,†</sup>, **Elina Plucker**<sup>3,†</sup> and **Rikke Gørgens Gjørnum**<sup>1,†</sup>

1 UiT The Arctic University of Norway

2 NextDoor Project Copenhagen

3 Bergsodden Residential Care Home

† The whole team is member of Artful Dementia Research Lab.

Artful Dementia Research Lab (ADLab) seeks to advance knowledge on how to enact dementia beyond individual human loss and to increase awareness on how to create meaningful reciprocal relations. In this paper we discuss: (1) How to develop novel arts-based research methods; (2) How to collect arts-based research data that allows us to analyse moments of connectivity; (3) How to explore novel understandings of what it could mean to live with dementia; (4) How to document the artistic process and make arts-based research with people living with dementia as open and transparent as possible. In our talk we draw on qualitative and arts-based data collected during a situated art intervention ADLab conducted at a residential care home in Northern Norway in November 2021. During a two-weeks art residency that involved multidisciplinary researchers, artists, residents, and

care staff we collected audio- and video recordings of the sessions and conversations, and logbook writings. In our talk we give insight into our research process, research ethics and research communication when co-creating embodied knowledge through dance together with people living with dementia, artists, and staff within a health care institution. We finally discuss situated art intervention as a novel theory-method package that allows us to unpack complex normativities and to inquire into moments that matter.

*Employing Performing Objects to Portray and Challenge Methodological Considerations on Research in Care Institutions*

**Riku Laakkonen** <sup>1,2</sup>

1. Tampere University
2. The Centre for Practise as Research in Theatre T7

I am a puppeteer and artist-researcher. In my artistic research I explore collaboration with material objects and elderly people with memory disorders who live in a nursing home. I am interested in how they create intra-active performances together. The data is produced through a position from the inside, through a commitment to artistic practice which is performing objects' workshops and performances together with elderly people who are co-actors of my study. In this paper my aim is to highlight some important methodological points of the study. In my artistic research I apply ideas of Ethnotheatre, which also originates from ethnographic data collected from participants and transformed into a written and performed play. In addition, the materiality of the objects connects my study also with the ideas of the ethnography applied in sculpture-as-ethnography. He stresses the importance of the process and the tools of making things 'the agency and material properties of human and non-human actants'. In this paper I am coining a new kind of artistic ethnography, where performing objects together with the elderly have a central role. This kind of emancipatory way to make research can raise questions about research methods, ethics and knowledge production and draws attention to the performing object as information providers. The artistic experiments also demonstrate how elderly people are mending their place in society and how artistic research can collaborate with them and understand them as active becomings.

*Documentary Encounter as a Methodological Possibility in a Multidisciplinary Research Project*

**Katarina Blomqvist**

Aalto University

As an artist-researcher and documentary maker I am conducting artistic research by making an audio documentary piece with residents in an assisted living facility. In a conventional creative audio documentary and documentary film context interviewees are considered as informants and able to give testimonies about their lives [1]. Usually documentary encounter i.e., interview and recording situation for the documentary purposes is happening in the shared, coherent world, with people who are not affected by memory disorder nor other cognitive impairments. However, an elder person with severe memory disorder cannot be informant nor give testimony in a conventional sense. In this paper I am proposing a new conceptualization of the documentary encounter that emphasizes listening as artistic practice, attunement (reactiveness to other person) and transjectivity (transcending the distinction between subjective and objective). This conceptualization allows to explore the idea of participatory knowing in artistic research [2] and how that provides new insights in an ethnography-oriented research project. In addition, the paper draws inspiration from the creative practice of ethnographic filmmaker Jean Rouch and his ideas of ethnofiction and filmmaking as a catalytic act [3].

## References

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2. Borgdorff, H. *The Conflict of the Faculties: Perspectives on Artistic Research and Academia*; Leiden University Press: Amsterdam, The Netherlands, 2012.
3. Brink, J. (Ed.) *Building Bridges—The Cinema of Jean Rouch*; Wallflower Press: London, UK, 2007.

### Cancer Gerontology

Category: Biological and Medical Sciences/Morbidity, medical treatment and ageing processes

#### *Symposium Outline*

This symposium focuses on the effects of cancer in the aging process and the role of frailty in cancer. Cancer is a main cause of morbidity and mortality worldwide and more than half of cancer diagnoses and death occur in older adults. The growing incidence of cancer associated to an aging population represents an epidemiologic issue that requires questioning cancer patterns in older adults with cancer as well as care management and prognosis.

The cancer in the individual and subsequent treatment induces decline differently for instances by male and female differences and familial effects, but several factors in combination may come into consideration for the careful assessment of the individual stages. Proper measures and scales to this end are of importance.

Cancer prognosis in older cancer patients is mainly studied in terms of survival, while other domains are even more relevant in this population. Frailty is known to worsen cancer patients' prognosis and treatment tolerance but the role of frailty as an independent risk factor of incident cancer has not been studied. This symposium presents results in the UK Biobank on frailty and the risk of the most common cancers, providing new evidence that a higher level of frailty increases the risk of lung cancer, independent of other risk factors. Cancer has been identified as factor of functional decline in older adults, but few studies have focused on determinants of functional decline in older adults with cancer and trajectories of functional status before cancer diagnosis is unknown.

Organizers: Assoc. professor, Juulia Jylhava<sup>5,6</sup> and Jacob v.B. Hjelmberg<sup>1</sup>

Discussants and chairs: Jesper Ryg<sup>2-4</sup>; Juulia Jylhava<sup>5,6</sup>; Angeline Galvin<sup>1</sup>; Marianne Ewertz<sup>1-3</sup>

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1. Unit of Epidemiology, Biostatistics and Biodemography, Department of Public Health, University of Southern Denmark
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4. Department of Geriatric Medicine, Odense University Hospital
5. Department of Medical Epidemiology and Biostatistics, Karolinska Institutet, Sweden
6. Faculty of Social Sciences (Health Sciences) and Gerontology Research Center, Tampere University, Tampere, Finland

#### *Symposium Chair(s)*

#### **Jesper Ryg<sup>1</sup> and Juulia Jylhava<sup>2</sup>**

1. University of Southern Denmark, Denmark; Assoc.
2. Karolinska Institutet, Sweden and Tampere University Finland

#### **Abstracts**

*Frailty and Cancer: Can Frailty Scores Predict the Incidence of Cancer?*

**Jonathan Mak<sup>1</sup>, Ralf Kuja-Halkola<sup>1</sup>, Yunzhang Wang<sup>1</sup>, Nancy L. Pedersen<sup>1</sup>, Sara Hägg<sup>1</sup> and Juulia Jylhävä<sup>1,2</sup>**

1. Karolinska Institutet, Sweden

## 2. Tampere University, Finland

**Introduction:** Frailty is known to worsen the prognosis and treatment outcomes in patients with cancer. However, it is unknown whether frailty scores can predict the incidence of cancer in individuals without a history of previous cancer. **Materials and methods:** We analyzed the association between frailty and the incidence of most common cancers, including any cancer, lung cancer, melanoma, gastrointestinal cancer, breast cancer and prostate in the UK Biobank (n = 453,281; mean age at baseline 56.3) and the Screening Across the Lifespan Twin Study (SALT, n = 36,888; mean age at baseline 56.1). Frailty was measured using the frailty index (FI), with risks modelled for a 10% increase in the FI, and frailty phenotype (FP; UK Biobank only) with risks modelled for the “frail” status using “non-frail” as a reference. **Results:** After adjusting for all known cancer risk factors and multiple testing, higher baseline FI and FP scores were associated with an increased risk of developing any cancer in the UK Biobank (hazard ratio [HR] and 95% confidence interval [CI] for the FI 1.07 [1.05–1.08] and FP 1.16 [1.11–1.21]). A similar result for developing any cancer was observed in SALT (FI HR 1.07; 95%CI 1.04–1.11). Associations with the other cancers were not significant or consistent across the cohorts. **Conclusion:** Higher frailty scores are independently associated with the incidence of any cancer, suggesting that individuals living with frailty might be at a higher risk of developing cancer.

### *Sexual Dimorphism in Cancer at Older Ages: A Nordic Twin Study*

**Signe B. Clemmensen**<sup>1</sup>, **Maja Hermansen**<sup>1</sup>, **Juulia Jylvava**<sup>2</sup>, **Jennifer R. Harris**<sup>3</sup>, **Jaakko Kaprio**<sup>4</sup> and **Jacob v.B. Hjelmberg**<sup>1</sup>

1. Univ of Southern Denmark
2. Karolinska Institutet
3. The Norwegian Institute of Public Health
4. Univ of Helsinki

**Introduction:** We aim to study the nature of sexual dimorphism in cancer using an unparalleled resource of Nordic twin data collected over several decades. Our goal is to characterize sexual dimorphism for the non-reproductive cancers across age at a more comprehensive level than has previously been possible due to data limitations. **Materials and Methods:** Using the Nordic Twin Cancer cohort data (n = 316,397 twins with 58,449 independent cancers over median 40+ years of follow-up) we analyze cancer concordance and discordance in like and unlike-sexed pair to model sex-specific genetic influences on non-reproductive cancer predisposition overall and in specific cancers, and how these vary by age. **Results:** For non-reproductive cancers, sexual dimorphism shows a female health advantage in comparison to males that goes beyond the general female advantage in survival. Clear sex differences in the genetic and environmental architecture underlying cancer risk emerge. While female heritability decreases from 60% at 40–50 years of age to 40% at ages 90+ years, male heritability increases from 20% (40–50 years) to 40% (90+ years), the same influence as for females. Sex-differences in unique environmental effects are reverse to genetic and the unlike-sexed pairs qualifies the age-specific modification. **Conclusion:** The genetic risk for specific cancers is modified by sex across the lifespan providing the female advantage. This sexual dimorphism in cancer provides important insights for understanding and learning from the female advantage.

### *How does Cancer Impact on Functional Decline at Old Age?*

**Angéline Galvin**, **Afsaneh Mohammadnejad**, **Marianne Ewertz**, **Jesper Ryg** and **Jacob v. B. Hjelmberg**

University of Southern Denmark

**Background:** Chronic diseases were identified as one of the leading causes of becoming functionally limited and some studies reported that cancer increases the risk of functional decline [1]. The aim of the present study was to examine the effect of cancer on functional

decline in older adults taking familial effects into account. Methods: We used Danish cancer registry and the Longitudinal Study of Aging Danish Twins [2] to include twins regarding two approaches: (1) discordant twin pairs regarding cancer diagnosis; (2) individuals with cancer matched on sex and age with cancer-free individuals. Functional decline was determined as decrease of 5 kg grip strength between two visits corresponding to the individuals pre- and post- cancer diagnosis visits for those with cancer and similar visits for the others. Results: A total of 22 discordant twins (64% male, 36% female) were included. Only three individuals presented functional decline, and they all presented cancer. Adjusted for sex, education and social support, competing risks, twins with cancer presented higher risk of functional decline ( $p$ -value < 0.01). Conclusion: These preliminary results suggest relationship between cancer and functional decline in older adults taking the familial component into account. Results from the second approach will be present in the conference.

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## Challenges of Using Artificial Intelligence in Supporting Care-Depending People—An International Perspective

Category: Health Sciences/Digitisation and technology

### Symposium Outline

Artificial intelligence (AI) holds the promise of supporting tasks of formal and informal caregivers and offering help in decision-making in complex care situations or conducting routine tasks like documentation processes. Research and development of AI applications for health and nursing care have increased during the last years, but still there is a persistent lack of knowledge on promising applications, the potential different applications of AI systems in different care settings offer as well as on findings concerning the effectiveness and application of AI systems in real-world scenarios. Therefore, this symposium will give an overview on existing AI applications and discuss challenges of using AI in supporting care-depending people by the help of different international examples.

The first presentation will provide an overview of existing literature on application scenarios for AI in nursing care settings, as well as highlight adjacent aspects in the ethical, legal, and social discourse surrounding the application of AI in nursing care. The second presentation will present VR applications for nursing and care-depending people. The third presentation will be about assistive robotics for hospital and home care. And the fourth presentation will present the potential of AI to design and deliver personalised prevention programmes. Our discussant, Ercole Vellone, will synthesize the research findings and lead a discussion of future directions for policy and practice.

The aim of the symposium is to gain knowledge to reflect on future research on health care-specific perspectives, objectives, outcomes, and benefits.

### Symposium Chair(s)

**Karin Wolf-Ostermann<sup>1</sup> and Josefiën van Olmen<sup>2</sup>**

1. University of Bremen, Germany
2. University of Antwerp, Belgium

## Abstracts

*Application Scenarios for Artificial Intelligence in Nursing Care: Results of a Rapid Review*

**Dominik Domhoff<sup>1</sup>, Dominik Bruch<sup>2</sup>, Matthias Schulte-Althoff<sup>3</sup>, Daniel Fürstenau<sup>3</sup>, Felix Biessmann<sup>4</sup>, Karin Wolf-Ostermann<sup>1</sup> and Kathrin Seibert<sup>1</sup>**

1. University of Bremen, Germany
2. Auf- und Umbruch im Gesundheitswesen
3. Freie Universität Berlin
4. Berlin University of Applied Sciences

Despite an increase in the research and development (R&D) of artificial intelligence (AI) applications for nursing care, extensive overviews covering the evidence base for promising application scenarios have been published to a limited extent. We conducted a rapid review to synthesize literature on application scenarios, and to map aspects in the ethical, legal, and social discourse surrounding the application of AI in nursing care. PubMed, CINAHL, Association for Computing Machinery Digital Library, Institute of Electrical and Electronics Engineers Xplore, Digital Bibliography & Library Project, Association for Information Systems Library, as well as the libraries of leading AI conferences, were searched in June 2020. Original quantitative and qualitative research, systematic reviews, discussion papers, and essays on the ethical, legal, and social implications published in English were included. In 292 included publications, hospitals are the most prominent study setting, followed by independent living at home while application scenarios targeting nursing homes or home care are less often addressed. Most studies use machine learning algorithms, whereas expert or hybrid systems are entailed in less than every 10th publication. Few studies report the effects of AI applications on clinical or organizational outcomes in daily nursing practice. Analyzed data primarily originate from laboratory settings. Ethical, legal, and social implications reflect the general discourse but are mostly not discussed in detail. Considering the lack of findings on the effectiveness and application of AI systems in real-world scenarios, future research should reflect on a more nursing care-specific perspective toward objectives, outcomes, and benefits.

#### *VR Applications for Nursing and Care-Dependent People*

**Katerina Bourazeri**

University of Essex, UK

The healthcare sector is rapidly changing, and technology contributes to these improvements through Artificial Intelligence, nanotechnology, robotics, etc. Virtual Reality (VR) has recently gained attention among other digital healthcare technologies, as it provides the means to change the lives of both healthcare professionals and people in need. Specifically, in the field of nursing, VR applications are extensively used to transfer the theoretical knowledge into clinical practice; providing hands-on training for skill practising and mastering in a safe environment without putting patients at risk. Immersed in real-life simulations, nurses and nursing students can experiment with different scenarios that can face in their working lives such as taking vitals, treating emergency trauma, injecting IV, placing catheter, interacting and advising patients, and so on. Recent studies have shown that VR can be more effective than traditional teaching methods in improving knowledge and developing collaboration and critical-thinking skills, and therefore it should be particularly used in nursing for optimised teaching and learning. VR technology can also be helpful to care-dependent people through interventions for improving their physical, mental, and psychosocial health and wellbeing. Several studies have focused on rehabilitation, physical function and cognition, emphasising the significant differences post VR intervention in cognitive and physical function of the participants. Within this context, our work focuses on different VR applications, which contribute strongly on both nursing education, and people's empowerment and wellbeing. During the symposium, we will showcase different VR examples that can have an impact on both nurse workforce and care-dependent people's lives.

#### *Assistive Robotics for Hospitals and Home Care*

**Penelope Roberts and Vito De Feo**

University of Essex, UK

The use of assistive robotics presents a way to transform how healthcare is provided to patients in hospital and at home. Globally, an aging population combined with an increase in long term health conditions has created a greater demand on health services to provide care for a diverse range of patients. One of the key benefits of assistive robotics in hospitals is the potential to reduce the demand on healthcare workers, by automating repetitive daily tasks allowing more time to spend engaging with patients. They can also reduce the risk of infection to patients and carers by remotely disinfecting surfaces or providing care and companionship to those in isolation, therefore reducing the risk of exposure. Robots can currently be seen in various roles within the medical field, such as assisting with surgeries, use in rehabilitation and exercise and providing social interaction for patients. For patients outside of a hospital environment, robots in the home could reduce the overall cost of long-term care, while simultaneously helping users to retain independence for longer. Functionality such as health monitoring, medication reminders and social engagement can contribute to patient wellbeing and security within their own homes. These situations however present a challenge for assistive robots, requiring that they function within dynamic, unstructured environments which cannot be fully predicted in advance. Unpredictable user behaviour as well as changing environments mean robots require a degree of social intelligence and autonomy to quickly adapt to new requirements and make decisions independent of human input.

#### *Potential of AI to Design and Deliver Personalised Prevention Programmes*

**Josefien van Olmen<sup>1</sup> and David Beckwée<sup>2</sup>**

1. University of Antwerp, Belgium
2. Vrije Universiteit Brussel, Belgium

Preventive interventions to promote healthy ageing work best if they are tailored to the needs, the personal profile and to the context of the older adult. The development of tailored prevention programmes is a relatively new domain of research, in which artificial intelligence has facilitated a breakthrough because it can accelerate learning from the data that are generated through usage. However, which data need to be collected in order to feed the AI learning model? While a lot of technology uses data-driven learning systems, GDPR regulation and parsimonious ethics also necessitates designers to think about which data provide relevant and useful input into their learning models. This presentation explores which data are needed to optimise a personalised preventive intervention to promote healthy ageing, following the vision of the World Health Organisation on ageing. Also, potential interventions and how they can be tailored to the data acquired from older adult, will be discussed.

#### **Change and Continuity in Quality of Life and Death in Persons with Dementia**

Category: Behavioural and Social Sciences/A good life and a good death

##### *Symposium Outline*

One of the main goals of the care for persons with dementia is the improvement and maintenance of their quality of life (QoL). QoL is defined by the World Health Organization as ‘an individual’s perception of their position in life in the context of the culture and value systems in which they live and in relation to their goals, expectations, standards and concerns’.

In this symposium, we will first give an overview of interventions which may improve QoL in persons with dementia. We will then elaborate on how our Academic Research Network (UNC-ZH), a collaboration between the Leiden University Medical Center and 12 large care organizations in the west of the Netherlands, plays an important role in initiating, facilitating and performing care-related scientific research, which focuses on change and continuity in quality of life and death in persons with dementia.

We will share experiences from interviews with persons with dementia about their perspectives on QoL and meaningful activities after the diagnosis of dementia, and one-year follow-up, and how to maintain these activities in transition from home to a nursing home.

Hereafter, the results of the Q-PID trial, a randomized double-blind placebo-controlled crossover trial including 95 LTCF residents with advanced dementia, researching the effects of scheduled administration of paracetamol on QoL and well-being will be presented. Special emphasis is placed on how care dependency and daily functioning may be improved by enhancing social relationships.

Next, we will present the results of a survey about activities offered and applied in nursing homes by informal caregivers, volunteers and healthcare professionals, and how they choose activities tailored to the person with dementia. We will also discuss how meaningful activities during the corona pandemic have changed.

Finally, we will share knowledge about the last phase of life, when care goals shift towards focus on quality of death, in which symptom control and evaluation of practical and more spiritual subjects are important, as well as the experiences of family caregivers.

*Symposium Chair(s)*

**Monique A.A. Caljouw**

Department of Public Health and Primary Care, Leiden University Medical Center, Leiden, The Netherlands

### **Abstracts**

*Non-Pharmacological Interventions to Improve Quality of Life of Persons with Dementia*

**Abi A. Akintola, Marlon M.P. Smeitink, Jan W. Schoones, Wilco P. Achterberg and Monique A.A. Caljouw**

Leiden University Medical Center, The Netherlands

**Introduction:** One of the goals of our Academic Research Network (UNC-ZH) is to improve quality of life (QoL) of persons with dementia through joint research with 12 care organisations. We want to unravel which interventions may improve QoL. **Material and methods:** A. Cluster RCT which determines which characteristics are associated with QoL and whether QoL in persons with dementia living in nursing homes changes over time. B. Scoping review (July 2021) to give an overview of interventions that can improve QoL. Characteristics of studies were narratively described, interventions thematically categorized into clusters, and overall effect on QoL of each cluster was calculated. **Results:** The first two studies showed that it is possible to detect persons with dementia at risk for a decline in QoL and that QoL changes over time. The scoping review (91 studies; 10,455 participants; 89% moderate to severe dementia) yielded 13 intervention clusters. Five clusters: aromatherapy, live animal assisted therapy, cognitive stimulation therapy, creative expressions, and multicomponent intervention, showed significant positive effect on QoL in >75% of the study participants (n = 2378). Three clusters: music, outdoor sightseeing, and reminiscence demonstrated positive effects between 50–60% (n = 1940), and four clusters (n = 5877) had positive effects in <50% of the study participants (staff-oriented intervention, robotic animal assisted therapy, exercise and art therapy). **Conclusions** Eight of the thirteen intervention clusters demonstrated positive effect of non-pharmacological interventions on QoL in more than half of the study participants. It is possible to improve QoL of persons with dementia in nursing homes using non-pharmacological interventions.

*Does Paracetamol Improve Quality of Life, Discomfort, Functioning, Care Dependency, Pain and Neuropsychiatric Symptoms in Persons with Advanced Dementia?*

**Paulien H. van Dam<sup>1</sup>, Wilco P. Achterberg<sup>1</sup>, Bettina S. Husebo<sup>2</sup> and Monique A. A. Caljouw<sup>1</sup>**

1. Leiden University Medical Center, The Netherlands
2. University of Bergen, Norway

**Introduction:** The Quality of life and Paracetamol In advanced Dementia (Q-PID) study aimed to determine the effects of paracetamol (acetaminophen) on quality of life (QoL), discomfort, daily functioning, care dependency, pain and neuropsychiatric symptoms of persons with dementia living in long-term care facilities. **Material and methods:** A multicentre randomised double-blind placebo-controlled crossover trial (January 2018 to June 2019). Participants (persons with advanced dementia and moderate to low QoL) received study medication (paracetamol and placebo) in two periods of six weeks (wash out period one week). **Primary outcomes:** QoL (QUALIDEM), well-being (DS-DAT). **Secondary outcomes:** care dependency (CDS), daily functioning (Katz-15), pain (MOBID-2), neuropsychiatric symptoms (NPI-NH). **Results:** Ninety-five LTCF residents (mean age 83.9 years [SD 7.6], 57.9% females) were included. Repeated linear mixed models showed no difference in mean differences of QUALIDEM (paracetamol +1.3 [95% CI -1.0-3.5], placebo +1.5 [95% CI -0.7-3.8]), DS-DAT (paracetamol: -0.1 [95% CI -1.4-1.2], placebo +0.6 [95% CI -0.7-1.8]), Katz-15 (paracetamol +0.2 [95% CI -0.2-0.6], placebo +0.1 [-0.3-0.4]), CDS (paracetamol -1.0 [95% CI -2.4-0.3], placebo 0.2 [-1.3-1.6]), MOBID-2 (paracetamol 0.0 [95% CI -0.5-0.5], placebo -0.2 [-0.7-0.3]) and NPI-NH (paracetamol +1.5 [95% CI -2.3-5.4], placebo -2.1 [95% CI -6.0-1.7]) in favour of either paracetamol or placebo. **Conclusion:** Compared to placebo, paracetamol showed no difference on QoL, well-being, daily functioning, care dependency, pain and neuropsychiatric behaviour. However, there are individual cases that clearly gained profit of paracetamol. It is of interest to find out more specifically which persons with advanced dementia could individually benefit from pain treatment with paracetamol.

*Maintaining Meaningful Activities for Persons with Dementia: Experiences of Persons with Dementia after Diagnosis and during Transitions*

**Mari Groenendaal, Hanneke J. A. Smaling, Wilco P. Achterberg, Jacobijn Gussekloo and Monique A. A. Caljouw**

Leiden University Medical Center, The Netherlands

**Introduction:** Meaningful activities are important for the quality of life of persons with dementia. Continuing meaningful activities during the progression of the disease is challenging due to deterioration of cognitive, functional, and social functions. What kind of activities are important for persons with dementia and how can activities be maintained as the disease progresses and inevitable transitions occur? **Materials and Methods:** In-depth interviews with 18 persons with recently diagnosed dementia (8 women, age 70-88 years) about their perspectives on activities in relation to their quality of life and how this perspective changed in 1-year-follow up (n = 11, 4 women). A systematic review of the literature following the PRISMA method, about maintaining meaningful activities during transitions of care between care settings. **Results:** The preliminary qualitative results showed that what persons with dementia regarded as meaningful activities changed over time, but that the experience of quality of life roughly remained the same. The four studies included in the systematic review revealed a decrease in meaningful activities after the transition from home to the nursing home. Facilitators and barriers for maintaining meaningful activities were related to the person with dementia, informal caregivers, healthcare professionals and organization of care, as well as the environment. **Conclusion:** Meaningful activities tend to decline during the progression of dementia and transitions. The perspectives of the person with dementia as well as the facilitators and barriers found provide guidelines for healthcare professionals and organizations to maintain meaningful activities.

*Best Practices of Meaningful Activities for Persons with Dementia in Dutch Nursing Homes***Marlon M. P. Smeitink, Miriam L. Haaksma, Wilco P. Achterberg, Hanneke J. A. Smaling and Monique A. A. Caljouw**

Leiden University Medical Center, The Netherlands

**Introduction:** Meaningful activities are activities that are adapted to the person with dementia, provide a sense of pleasure, and may improve quality of life (QoL). Not all people benefit from the same activities. This study explores which activities are offered to people with dementia in Dutch nursing homes, their expected contribution to QoL, and gives insight in who chooses and performs activities with the residents. Also, the impact of COVID-19 measures on activities are described. **Material and methods:** A cross-sectional online survey was used to collect data (September 2021). Additionally, a content analysis of minutes of Outbreak Teams of 39 Dutch long-term care organizations was used to describe the effect of COVID-19 measures on activities. **Results:** Healthcare professionals (n = 77), informal caregivers (n = 91), and volunteers (n = 14) completed the survey. They reported 88 activities of which live music, listening to music, and walking were the most frequently mentioned. Activities were mostly chosen and performed by nursing staff, informal caregivers, and activity-coordinators. All reported activities had a score of >75% on expected contribution to QoL, except for 'feeling running water' and 'needlework'. During the COVID-pandemic, activities are offered in an adapted way. Despite strict measures, exercise activities, going outside, religious activities, memorial services, and music activities were almost never mentioned as being stopped. **Conclusion:** A broad range of activities were performed in nursing homes. They did not only include complex activities, but also activities that were part of daily routines. Activities were organized during the whole COVID-pandemic with adjustments between waves.

*Trends in Quality of Care and Dying Perceived by Family Caregivers of Nursing Home Residents with Dementia 2005–2019***Maartje S. Klapwijk<sup>1</sup>, Sascha R. Bolt<sup>2</sup>, Jannie A. (Nienke) Boogaard<sup>1</sup>, Maud ten Koppel<sup>3</sup>, Marie-José H.E. Gijsberts<sup>4,5</sup>, Carolien van Leussen<sup>6</sup>, Anne-Mei The<sup>7</sup>, Judith M.M. Meijers<sup>2</sup>, Jos M. G. A. Schols<sup>2</sup>, H. Roeline W. Pasman<sup>3</sup>, Bregje D. Onwuteaka-Philipsen<sup>8</sup>, Luc Deliens<sup>4,5</sup>, Lieve Van den Block<sup>4,5</sup>, Bart Mertens<sup>1</sup>, Henrica C.W. de Vet<sup>8</sup>, Monique A.A. Caljouw<sup>1</sup>, Wilco P. Achterberg<sup>1</sup> and Jenny T. van der Steen<sup>1</sup>**

1. Leiden University Medical Center, The Netherlands
2. Maastricht University, The Netherlands
3. Zorginstituut Nederland, The Netherlands
4. Vrije Universiteit, Brussel
5. Ghent University, Belgium
6. Tao of Care, Amsterdam, The Netherlands
7. Vrije Universiteit, Amsterdam, The Netherlands
8. Amsterdam UMC, The Netherlands

**Introduction:** Dementia palliative care is increasingly subject of research and practice improvement initiatives. This study wants to assess changes over time in the evaluation of quality of care and dying with dementia. **Material and methods:** A combined analysis of eight studies with bereaved family caregivers evaluations from 2005–2019. Family caregivers of nursing home residents with dementia in the Netherlands (n = 1189) completed the End-of-Life in Dementia Satisfaction with Care (EOLD-SWC; quality of care) and Comfort Assessment in Dying (EOLD-CAD, four subscales; quality of dying) instruments. Changes in scores over time were analysed using mixed models with random effects for season and facility and adjustment for demographics, prospective design and urbanized region. **Results:** The mean EOLD-SWC score was 33.4 (Standard Deviation 5.08) and increased by 0.148 points per year (95% Confidence Interval, 0.052 to 0.244; adjusted 0.170 points 95% CI, 0.055 to 0.258). The mean EOLD-CAD score was 30.8 (SD 5.76) and, unadjusted, there was a

trend of decreasing quality of dying over time of  $-0.175$  points (95% CI,  $-0.291$  to  $-0.058$ ) per year increment. With adjustment, the trend was not significant ( $-0.070$  EOLD-CAD total score points, 95% CI,  $-0.205$  to  $0.065$ ) and only the EOLD-CAD subscale 'Well being' decreased. Conclusion: We identified divergent trends over 14 years of increased quality of care, while quality of dying did not increase, well-being in dying decreased. Further research is needed on what well-being in dying means to family. Quality improvement requires continued efforts to treat symptoms in dying with dementia.

### **Changing Times, Same Challenges, New Possibilities? Perspectives on The Role of Social Relations in The Lives of Older Persons**

Category: Behavioural and Social Sciences/Lifestyle, engagement and transition

#### *Symposium Outline*

The COVID-19 pandemic reminded the world of the importance of social relations and has, perhaps for good, changed the way we understand social relations and social spaces. However, the challenges—and possibilities—regarding social relations in old age go beyond the pandemic and exist irrespective of it. This symposium, acknowledging the pandemic situation, but considering other perspectives too, evokes discussion on the role social relations play in older persons' lives in different contexts, life situations and within disability. The contributions of the speakers will finally be highlighted and integrated by a discussant.

Restrictions imposed due to the COVID-19 pandemic have above all affected different social spaces in which social life in all its different forms occurs. In her presentation, the first speaker will take the viewpoint of social space and, by utilizing positioning theory, explore how older persons position themselves in relation to social spaces during the pandemic.

The second speaker will look at the COVID-19 lockdown from the viewpoint of those without any informal caregiver in their lives. These persons have a double risk: they do not receive informal care and do not have anyone to ensure they receive adequate formal services either. How has the time of the pandemic changed their everyday lives, have they received enough help and how have they maintained their wellbeing?

Taking the viewpoint of older persons with vision impairment, the third speaker examines the ways having a partner influences the association between vision impairment and depressive mood. By merging survey data from a survey among people with vision impairment with the Danish Longitudinal Study of Ageing (DLSA), she examines whether the negative link between vision impairment and depressive symptomatology was less severe among partnered than among single older persons.

Being able to move independently and participate in community life is ethically, economically, and socially sustainable. The fourth speaker investigates in her presentation whether physical activity and social activity support well-being among people aged 65–84 years. The main question is: Are physically active people also socially active and how these factors are associated with their well-being?

#### *Symposium Chair(s)*

#### **Katariina Tuominen**

Gerontology Research Center (GEREC), Centre of Excellence in Research on Ageing and Care (CoE AgeCare), Tampere University

#### **Abstracts**

##### *Social Spaces of Older Persons and the COVID-19 Pandemic*

**Katariina Tuominen**<sup>1</sup>, **Jari Pirhonen**<sup>2</sup>, **Kirsi Lumme-Sandt**<sup>1</sup>, **Outi Jolanki**<sup>1,3</sup>, **Päivi Ahosola**<sup>1</sup>, **Ilkka Pietilä**<sup>2</sup>

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2. Centre of Excellence in Research on Ageing and Care (CoE AgeCare), University of Helsinki
3. Gerontology Research Center (GEREC), Centre of Excellence in Research on Ageing and Care (CoE AgeCare), University of Jyväskylä

**Introduction:** Avoiding social contacts and self-isolating at home have been key instructions for older persons during the COVID-19 pandemic. Places of social life, social spaces, have markedly been affected by the pandemic. Certain spaces have become depicted as acceptable and safe for social life whereas some others as lonely and insufficient. The question of how older persons themselves see their position in different social spaces during the pandemic is the interest of this study. **Material and methods:** Data comes from the Ageing and social well-being (SoWell) research project conducted at Tampere University. Phone interviews with 33 older persons aged 64–96 years were analysed using positioning analysis. **Results:** Home appeared as a social space where social life was restricted but also not even longed for. Spaces outside of home enabled a position of a sensible person using one's own reasoning but also offered a position of an irresponsible person. Care facilities offered less opportunities for independence regarding social life, but also independent positions were taken up. Virtual social spaces appeared as spaces for younger persons and position of a sceptical technology user, seeing the limits of technology in social interaction, was taken up. **Conclusions:** Different spaces enable self-positioning in a variety of, even contrary, ways. Positions taken up show how social spaces are constructed and construct social life within changing circumstances. This adds to our understanding of older persons' social life during the pandemic and of the meaning of everyday social spaces in the lives of older persons.

*Older Adults with Care Needs Depending on Formal Care—Situation before and during the COVID-19 Pandemic*

**Päivi Ahosola**

Gerontology Research Center (GEREC), Centre of Excellence in Research on Ageing and Care (CoE AgeCare), Tampere University

**Introduction:** In my dissertation (Ahosola 2018) I examined the position and agency of frail older adults without an informal caregiver amid the rise of welfare mix ideology in Finland. Frail older adults without informal caregiver may not have anyone to ensure they receive adequate formal care either. Nevertheless, they stayed unnoticed in the strategies and in the development projects of elderly care. My presentation will combine the knowledge from my dissertation and from interviews of older adults during the pandemic. I will look at the COVID-19 lockdown from the viewpoint of those older adults without informal care. How has the time of the pandemic changed their everyday lives, have they received enough help and how have they maintained their wellbeing? **Material and Methods:** Data consists of municipal strategies for elderly care, reports of development projects, and interviews (n = 15) with older adults living without an informal caregiver made in 2008, 2012 and 2020. Methods used are institutional ethnography (IE), discourse analysis and content analysis. **Results:** While older adults without informal caregivers lacked agency in the documents analysed, in the interview data they were socially active and maintained their wellbeing in many ways. During the pandemic they had had practical help available, but the lack of close ones caused feelings of loneliness, and that grew in importance during the lockdown. Restrictions for visits did not affect those who did not have visitors in normal times either. **Conclusions:** Social support in lockdown is especially important for those older adults depending on formal care.

*Vision Impairment and Depressive Symptoms in Late Life: Does Having a Partner Matter?*

**Anna Amilon<sup>1</sup> and Anu Siren<sup>2</sup>**

1. The Danish Center for Social Science Research

2. Gerontology Research Center (GEREC), Centre of Excellence in Research on Ageing and Care (CoE AgeCare), Tampere University

**Background:** Visual impairment contributes to poor mental health among older adults by restricting everyday functioning and participation. This study examined whether the negative link between vision impairment and depressive symptomatology was less severe among partnered than among single older adults. **Methods:** We merged data from a survey among people with vision impairment with a reference population from the most recent wave of the Danish Longitudinal Study of Ageing (Total dataset  $n = 5831$ ), investigating whether paths from poor vision via three mediators—functional limitations, emotional support and participation in social activities—to depressive symptomatology differ by partnership status. We used structural equation modeling to analyse the associations. **Findings:** Our analysis suggested that the direct path from vision impairment to depressive symptomatology is more than twice as strong for single than for partnered older adults. Thus being partnered reduces the negative link from vision impairment to depressive symptomatology. However, the path from vision impairment to emotional support is significantly stronger among single than among partnered individuals. Thus negative spillover effects from the visual impairment on the non-impaired partner's mental health may compromise that partner's ability to provide emotional support. **Conclusion:** Considering both partnership status and the mental health of both partners may help professionals to target interventions aimed at reducing the risk of depression in visually impaired older adults.

*Associations between Physical and Social Activity and Well-Being of Older People*

**Kristina Tiainen**<sup>1</sup>, **Jani Raitanen**<sup>2</sup>, **Marja Jylhä**<sup>1</sup>, **Outi Jolanki**<sup>1,3</sup>

1. Gerontology Research Center (GEREC), Centre of Excellence in Research on Ageing and Care (CoE AgeCare), Tampere University
2. UKK Institute for Health Promotion Research, Tampere University
3. Gerontology Research Center (GEREC), Centre of Excellence in Research on Ageing and Care (CoE AgeCare), University of Jyväskylä

**Introduction:** Ageing is often linked to decline in physical and cognitive functions followed by reduced social networks and decline in wellbeing. Ensuring older people's ability to move independently and participate in community life are in line with ethical, economical, and social sustainability goals. This study examines associations of physical and social activity among people aged 65–84. **Materials and methods:** This study is part of the Ageing and Social Well-Being (SoWell) project. A total of 3088 Finnish people aged 65–84 responded to the nation-wide postal survey (response rate 62%). The study analyses the question: Which physical and social activities belong to the participants' ordinary life? The criteria to be physically active was to have indoor, outdoor, or competitive sports as a part of ordinary life. Logistic regression analysis was used to show the associations between physical and other activities. **Results:** 86% of women and 80% of men were physically active. Even after adjusting for background variables, nearly all asked activities were significantly more likely to be a part of physically active people's lives than of inactive people's lives. Five most common activities significantly more likely to be a part of physically active people's life than of inactive people's life were dancing (odds ratio (OR) 2.25,  $p < 0.001$ ), meeting friends (OR 2.10,  $p < 0.001$ ), hunting, fishing, or berry picking (OR 1.96,  $p < 0.001$ ), volunteering (OR 1.91,  $p = 0.001$ ), and board games (OR 1.85,  $p = 0.002$ ). **Conclusions:** Physical activity is an important component of overall functioning and is linked to independence and participation in social activities.

**Contemporary Gerontological Social Work: Changes in Practice and Theory**

Category: Social Research, Policy, and Practice/Lifestyle, engagement and transition

### *Symposium Outline*

Public debates around population ageing have in many countries focused on older adults' increasing needs of long-term care. Such discussions have portrayed older people's service needs mainly in terms of declines in functional ability and physical health and the resultant strains on health care systems and economies. As this perspective has dominated discussions of ageing, the social welfare and wellbeing of older adults has not gained sufficient attention. As the number of older adults grows, so does the number of those older people who have economic difficulties in their lives, face domestic violence or experience substance abuse, which calls for a development of practices of gerontological social work.

Social work has a critical role in promoting the wellbeing and human rights of older adults with care and support needs, which entails upholding the autonomy of older people over decision-making. This can generate complexity in managing the differing—and sometimes conflicting—perspectives of older service users, their family members and other professionals involved in care planning. Older people as clients of social work are also becoming more diverse by, among others, their age, family structures and ethno-cultural backgrounds, which further increases the complexity of social work.

This symposium addresses the future challenges of gerontological social work by highlighting the distinctive changes to contemporary social work with older adults and examining the complexity of practice in supporting older people's rights and wellbeing across three European nations (Finland, Sweden, United Kingdom). It consists of four papers presenting current research in this area:

1. Gerontological social work and precarious lives of older adults: theoretical perspectives;
2. What makes the contribution of social workers in multidisciplinary teams for older people distinctive? Findings from an English study;
3. Family relationships and complex service needs in later life;
4. Making sense of ethnicity, race and migrancy: managing diversity in a client-centered way.

### *Symposium Chair(s)*

**Ilkka Pietilä**

University of Helsinki

### **Abstracts**

*Gerontological Social Work and Precarious Lives of Older Adults: Theoretical Perspectives*

**Marjaana Seppänen<sup>1</sup> and Ilkka Pietilä<sup>2</sup>**

1. Social Work, University of Helsinki
2. Social Gerontology, University of Helsinki

Population ageing is characterized by increased heterogeneity of older adults but also uneven distribution of well-being among them. While in many countries older people are generally healthier and more financially secure than the preceding generations, the lives of particular groups of older people are featured by disadvantages accumulated throughout their life-course. Social and economic inequalities and the cumulative effects of precarity may lead to exclusion in later life. Experiencing needs for care and support in societies, in which universal social policies are increasingly challenged, causes feelings of insecurity and uncertainty for older people. Such structural factors as long-term poverty, insecure housing or living in neighbourhoods with multiple forms of deprivation have often been considered marginal in social work approaches with older people. Consequently, social work has had a limited ability to highlight and influence the societal structures that cause marginalization, exclusion and precarious life situations for older adults. To overtake a pivotal role in challenging and changing entrenched structural constellations and negative ageist practices associated with old age, gerontological social work (GSW) needs to analyse

the ways in which social structures create and reinforce serious threats for older adults' well-being, and how such disadvantages accumulate over the life-course. This presentation addresses some of the key theoretical perspectives enhancing understanding of the societal conditions in which GSW operates.

*Identifying Innovative and Distinctive Social Work Practice with Older Adults: A Study of Social Work in Multi-Professional Teams in England*

**Paul Willis**

Social Work and Social Gerontology, University of Bristol

The current policy emphasis in adult social care in England (UK) is on promoting independence and community-based living and preventing or delaying the need for more intensive support for older people. However there is little evidence available on how social workers identify and meet the complex needs of older service users in everyday practice and the impact of their practice on improving older adults' wellbeing. In this presentation I share qualitative findings from a preliminary study of innovative and promising social work practice with older adults in England (2018–19). I present five case studies of adult social care and integrated services in which social workers are core team members delivering innovative and promising practice with older service users. Twenty-one individuals participated in interviews: 11 service managers and senior practitioners (6 with social work backgrounds), 8 social workers, and 2 other practitioners. Key themes were: (1) the prominence of a strengths-based approach and emphasis on older people's perspectives; (2) promoting older people's rights in the context of multi-disciplinary working; (3) a focus on continuity and the importance of timing; (4) openness to change and interprofessional knowledge exchange. It was the distinctiveness of the social work role and values in all cases that was most promising, particularly in the context of multi-professional teams. These findings reinforce the demand for social work knowledge and skills in multi-professional teams and the value other professionals place on social workers' contributions. I conclude by outlining a new two-year study examining social work practice with older people.

*Family Relationships and Complex Service Needs in Later Life*

**Mia Niemi**

University of Helsinki

The decreasing role of institutional care has increased the participation of family members in the care for older people in Finland. Consequently, the service system has a widespread assumption that all older people have a caring relative. However, this assumption ignores not only the people without a family but also the difficult family relationships that may increase the need for support and services as the adversities experienced during the family life course take new forms in old age. Based on data from Finnish gerontological social work case files (n = 30) I analysed how the family life of older people and the social problems they face are perceived and described. The findings, derived from a discourse analysis, indicated that intergenerational family problems were partly reduced to a question of care, often categorizing family members dichotomously as either a resource or threat. The older parents were also seen as a resource providing residential and financial support to their adult children who had returned to family home. However, the relational needs of older adults towards their family were overlooked. The emergence of care needs often start a new phase in older people's family life, and therefore various ways to maintain family relationships become crucial. The lack of underpinning theories and modes of intervention prevents informed approach in social work practice that would strengthen the emotional bonds within families in later life.

*Making Sense of Ethnicity, Race and Migrancy: Managing Diversity in a Client-Centered Way***Sandra Torres**

Sociology &amp; Chair in Social Gerontology, Uppsala University

Gerontological social work faces numerous challenges as the diversity that characterizes older populations across the world increases. When faced with new challenges it is important that we ask ourselves not only whether the conceptualizations we rely on are serving us well but also whether they may be potentially impeding us from developing client-centered practices that can meet these new challenges. This presentation is therefore inspired by ethnicity and race scholars' call to 'turn the analytical gaze' unto our own practices, and the ways in which these impede us from asking uncomfortable yet pertinent questions about the challenges that some ethnic and racial 'Others' face. These scholars have namely argued that scholarship, policy and practice can be regarded as construction sites in which stories about who ethno-racial minorities are, and what they need, are told and reproduced, and that it is only through interrogating these stories that we can advanced new ways of thinking about the implications of increased diversity for our practices. The presentation relies therefore on a scoping review of the last 23 years of peer-reviewed articles on the intersection of ethnicity/race and aging/old age. The review showed not only that inadequate essentialist conceptualizations of ethnicity, race and migrancy inform this scholarship, but also that we have yet to pursue some lines of inquiry that may be better suited if we want to develop client-centered practices that are in tune with the discrimination that some older ethnic and racial minorities have faced throughout the lifecourse.

**COVID-19 in Europe. Effects on Mental Health and Health-Related Behaviours. Results from the SHARE-COVID-19 Surveys**

Category: Health Sciences/Morbidity, medical treatment and ageing processes

*Symposium Outline*

The Survey of Health, Ageing and Retirement in Europe (SHARE) is a research infrastructure for studying the effects of health, social, economic, and environmental policies over the life-course of European citizens and beyond. SHARE started in 2004 and has since conducted bi-annual face-to-face interviews of people aged 50+ from 28 European countries and Israel. Following the COVID-19 outbreak, SHARE quickly developed two specific SHARE-COVID19 telephone interviews conducted in the summer of 2020 and late spring 2021, respectively.

This symposium will present an initial short overview of the SHARE and SHARE-COVID19 surveys followed by selected results based on the health-related data from the two SHARE-COVID19 surveys.

The Swedish SHARE team will present data on how Europeans adjusted their daily activities to national restrictions during the COVID-19 Pandemic, and whether the policy-induced restriction and voluntary reductions in different levels of daily activities affected mental well-being in 50+ year old Europeans. Our German SHARE colleagues will present results on the underlying reasons for country differences in vaccination rates across Europe. Lastly the Danish SHARE group will report on the development in mental health among SHARE respondents from pre-COVID19 to the first and second SHARE COVID-19 surveys.

At the end of the symposium a discussant will present thoughts on strengths and limitations of the presented results SHARE-COVID19.

*Symposium Chair(s)***Karen Andersen-Ranberg**

## Abstracts

### *Overview of the SHARE and SHARE-COVID19 Surveys*

**Karen Andersen-Ranberg**

University of Southern Denmark

The Survey of Health, Ageing and Retirement in Europe (SHARE) is a research infrastructure for studying the effects of health, social, economic, and environmental policies over the life-course of European citizens and beyond. From 2004 until today, 530,000 in-depth face-to-face interviews with 140,000 people aged 50 or older from 28 European countries and Israel have been conducted bi-annually, i.e., in eight waves. Thus, SHARE is the largest pan-European social science panel study providing internationally comparable longitudinal micro data which allow insights in the fields of public health and socio-economic living conditions of European individuals. The COVID-19 pandemic hit Europe in 2020, just when SHARE wave 8 data collection was almost finished. With its panel structure SHARE is the ideal survey to collect data to understand the non-intended consequences of the COVID-19 pandemic, and the SHARE-COVID19 project launched two data collections by telephone interview in the summer of 2020 (CATI1) and again in late spring 2021 (CATI2). The overarching objective of the SHARE-COVID19 project is to understand how the COVID-19 pandemic hit Europeans in terms of economics, social relationships, and health. The project has several aims, but relevant for the present congress are understanding the lockdown effects on health and health behaviours, and to understand vaccine hesitancy in the population of 50+. Data is free to use for scientific purposes. Access through [www.share-project.org](http://www.share-project.org)

### *Daily Activities, Mental Well-Being and Restrictions among Older People during the COVID-19 Pandemic across European Countries—A Multilevel Analysis*

**Filip Fors Connolly, Jenny Olofsson, Maria Josefsson, Gunnar Malmberg and Mikael Stattin**

University of Umeå

Since the start of the COVID-19 pandemic, countries across Europe have implemented different strategies to curb the spread of the virus and to hamper the negative health consequences. While some countries have applied a strict lockdown, others have relied more on recommendations and voluntary adjustments. Previous studies have shown that the daily life of older people - the group most affected by the pandemic—was substantially restrained due to restrictions and recommendations. A key question is to what extent restrictions has influenced the mental well-being of older people and to what extent this has been mediated by a reduction in daily activities. Our aim is to examine if changes in mental well-being of older people (50+) in Europe has been influenced by policy-induced restrictions and a reduction in different daily activities during the COVID-19 pandemic. We utilise data from SHARE waves 6 and 7 and from the second Corona Survey collected in 2021, and will use multilevel regression analysis to explore the associations between changes in mental well-being, on one hand, and daily activities and policy stringency on the other hand. We consider the daily activities as a possible mediator, influencing the relationship between mental well-being and restriction stringency. Further, we investigate to what extent factors at the individual level (e.g., gender, age, personality traits) moderates the association between activity reduction and mental well-being. Thus, we expect to shed light on WHY policy-induced restrictions may affect older people's mental well-being and for WHOM this effect is most pronounced.

### *Underlying Reasons for Country Differences in Vaccination Rates in the 50+ Population across Europe*

**Michael Bergmann, Arne Bethmann, Tessa-Virginia Hannemann and Alexander Schumacher**

MEA, MPI, Munich, Germany

While rather low SARS-CoV-2 incidence rates during last summer allowed some hope of a return to normal life, rising incidence rates in many European countries due to new variants of the virus give a sense of foreboding that the pandemic is anything but over. This development coincides with substantial differences in vaccination rates across countries, in particular between Western and Eastern European countries. Because low vaccination rates might negatively affect the national health care systems, this observation leads to the question of what might explain these large country differences. Against this background, SHARE is in a unique position to provide insights into the underlying reasons for country differences in vaccination rates, as it recently collected data on vaccination uptake from about 47,000 individuals in the high-risk 50+ age group across Europe and Israel. In this paper, we combine these data with aggregated indicators from different sources, including trust in government and health personnel, stringency and consistency of as well as satisfaction with measures to curb the spread of COVID-19, but also the severity of the pandemic in a certain country to describe the situation many countries are facing. Preliminary results show that especially trust in government and health personnel are highly correlated to the overall vaccination rate in a country, even when controlling for individual respondent characteristics. Our findings shed light on the underlying mechanisms that influence national vaccination rates and hence help better understand both success and failure of vaccination campaigns in different European countries.

*Longitudinal Changes in Mental Health following The COVID-19 Lockdown: Results from The Survey of Health Ageing and Retirement in Europe*

**Christian Tolstrup Wester<sup>1</sup>, Tine Bovil<sup>1</sup>, Lasse Lybecker Scheel-Hincke<sup>1</sup>, Linda Juel Ahrenfeldt<sup>1</sup>, Sören Möller<sup>2</sup> and Karen Andersen-Ranberg<sup>1,3</sup>**

1. University of Southern Denmark
2. Open Patient data Explorative Network, Odense University Hospital
3. Odense University Hospital

**Aims:** To evaluate changes in mental health in the aging European population after the first COVID-19 lockdown as compared to before, and which impact the national restriction level had on mental health. **Methods:** Data was retrieved from 36,478 adults aged 50+ from the Survey of Health, Ageing and Retirement in Europe. Multilevel logistic regressions were used to assess changes in feeling depressed, sleeping problems, and loneliness from before to during the pandemic, considering national restriction levels across 27 countries. **Results:** During the pandemic, participants had lower risks of feeling depressed (−14.4%) and having sleeping problems (−9.9%), while the risk of feeling lonely slightly increased (1.2%). Individuals in countries with high restriction levels, had less declines in depressive symptoms and greater risk of loneliness compared to countries with low restriction levels. **Conclusion:** Older people had fewer depressive symptoms and sleeping problems during the pandemic, while the risk of loneliness increased. Stricter policy measures attenuated the otherwise positive impact on mental health. Future studies are needed to investigate the long-term effects of COVID-19 on mental health.

## **Digital Health in Support of Intersectoral Collaboration in Geriatric Health Care**

Category: Health Sciences/ Digitisation and technology

### *Symposium Outline*

The challenges of ageing populations will markedly confront health care systems, not the least by increasing need for acute health care. Within recent years, many countries have implemented comprehensive national health care reforms resulting in reduced number of hospital beds and more health care services provided in primary health care. However, with advancing age multimorbidity increases and older adults are increasingly complex,

thereby challenging the primary health care sector, which is already under pressure of diminishing supply of health care providers.

Implementation of digital health solutions may alleviate these challenges. Our symposium will present examples of how digital health solutions may support intersectoral collaboration in the treatment and care of older adults.

After a short introduction, we will provide examples of how digital health solutions are tested and used in research projects on intersectoral collaboration to prevent health deterioration in older adults in Denmark and Scotland. We will present the results of a feasibility project, the GERI-Toolbox, which by applying a systematic approach has improved community nurses assessment of acutely ill community-dwelling citizens. In a second project, we will provide insights on the use of point-of-care-technology (ultrasound and blood analyses) in an acute community health care setting. Our third presentation will be on the implementation of an artificial intelligence based decision-support tool developed to alert community nurses of older citizens a risk of acute hospital admission allowing timely intervention. Our last presentation will be on the implementation of the COVID-19 Clinical Assessment Tool Test of Change. An app developed to support health care staff in Scottish care homes allowing improved clinical assessment and communication with the treating physicians. Finally, we will allow time to discuss the presentations, and future perspectives.

*Symposium Chair(s)*

**Karen Andersen-Ranberg**

Odense University Hospital, University of Southern Denmark, Odense, Denmark

#### **Abstracts**

*The GERI-Toolbox—A Single-Intervention Feasibility Study of a Digital Toolbox for Health Assessment in Primary Care*

**Karen Andersen-Ranberg<sup>1</sup> and Anders Fournaise<sup>2</sup>**

1. Odense University Hospital, University of Southern Denmark, Odense, Denmark
2. Cross-Sectoral Collaboration, University of Southern Denmark, The Region of South Denmark

**Background:** The future challenge of ageing populations in combination with fewer health care professionals and less hospital beds underlines the need for using digital health, defined as the use of digital, portable, and wireless technologies to support the achievement of health. **Aim:** To explore the feasibility and usefulness of digital health, the GERI-toolbox, for recognizing older citizens at risk of acute disease and admission. **Methods:** A single-intervention observation study in a primary care setting of four Danish municipalities. Acute community nurses (ACNs) trained in using the GERI-toolbox in older citizens observed with health deterioration. The GERI-toolbox consists of point-of-care-technology (POCT) for biochemistry (CRP, haemoglobin, electrolytes, creatinine), and a tablet for entry of results incl. vital status values, and functional level (Barthel ADL-20). All data, incl. medical history, was uploaded to a generic telemedicine platform (GTP) accessible to community nurses, primary care physicians (PCPs), and the geriatric hospital departments offering subacute geriatric assessment. **Results:** During 1 March 2018–31 August 2019, totally 1559 unique individuals (men: 43%, mean age: 83 y, 10,000 biochemical analyses) were assessed with the GERI-toolbox. In general, PCPs adherence to the GTP, or to referral for subacute assessment was very low. ACNs and PCPs found the tool to improve their decision-making. Older citizens were very satisfied with the in-home assessment. Propensity score matching showed no significant differences in acute admissions, but mortality was significantly lower in the intervention period compared to matched controls prior to the study. **Conclusion:** The GERI-toolbox is a valuable tool but needs further development to improve cross-sectoral communication.

*Point-of-Care-Technology for In-Home Assessment among Older Adults; A pilot and Feasibility Study*

**Siri Aa Smedemark<sup>1</sup>, Christian B. Laursen<sup>1,2</sup>, Dorte Ejg Jarbøl<sup>1</sup>, Flemming Rosenvinge<sup>2</sup> and Karen Andersen-Ranberg<sup>1,2</sup>**

1. University of Southern Denmark
2. Odense University Hospital

**Introduction:** In frail, older, multimorbid citizens, timely recognition of disease symptoms is challenging leading to delays in timely treatment initiation, and increased risk of acute hospital admission. Point-of-Care-Technology (POCT), such as Focused Lung Ultrasound Scan (FLUS) and bedside analysis of biological material (blood, oral swab, urine) carried out in the patients home may give clinical support for acute disease. **Aim:** In a descriptive pilot study, approved by the Scientific Ethical Board, our aim was to see if extended use of POCT in a patient's home is feasible. **Methods:** A FLUS trained physician accompanied an acute community nurse (ACN) when visiting community-dwelling citizens, aged 65+ y, referred to the ACN for an in-home acute health assessment during the study period (September–November 2021). The ACN, independently of the physician, made a clinical assessment and recorded vital parameters and simple POCT. FLUS and bedside biochemical analyses were carried out by the physician. All clinical information was made available to the primary care physician. **Results:** One hundred consecutive citizens of Kolding municipality, referred to an ACN assessment, were included. The average age of participants was  $81.6 \pm 8.4$ , 54% were female, and 77.7% consumed >8 medications daily. More quantitative data analyses will be presented at the congress. **Conclusion and Perspectives:** In-home assessment using extended POCT is feasible. A randomized controlled trial with FLUS trained ACNs as the intervention is under preparation. If the results are positive, it is feasible to up-scale to other health care systems using community nurses for the prevention of acute admissions.

*Prevention of Acute Admission Algorithm (PATINA)—A Structured Decision Support System for Community Nurses*

**Anders Fournaise<sup>1</sup>, Jørgen T. Lauridsen<sup>1</sup>, Mickael Bech<sup>2</sup>, Uffe K. Wiil<sup>1</sup>, Kristian Kidholm<sup>3</sup>, Kurt Espersen<sup>4</sup> and Karen Andersen-Ranberg<sup>1,5</sup>**

1. University of Southern Denmark
2. The Danish Centre for Social Science Research
3. Centre for Innovative Medical Technology
4. Region of Southern Denmark
5. Odense University Hospital

**Introduction:** Acute hospital admission of older adults can be necessary and lifesaving, but also associated with adverse health outcome, e.g., functional loss. With the growing numbers of older adults, the need for acute hospital treatment will increase and is expected to challenge secondary health care providers. Timely identification of emerging disease in older adults may prevent acute admission. The Prevention of Acute Admission Algorithm (PATINA) is designed to alert community nurses about older citizens at risk of acute admission, and the associated decision support tool to guide the community nurses' review and assessment of the older citizens at risk. **Aim** We aimed at investigating the effect of the 'PATINA algorithm and decision support tool'. **Primary outcome:** acute hospital admission. **Secondary outcomes:** readmissions, preventable admissions, death, and costs of health care utilization. **Results:** From 1 June 2020–31 May 2021 (12 months) the PATINA algorithm and the decision support tool was implemented in a stepped-wedge cluster randomized controlled trial in twenty individual areas of home care teams covering three Danish municipalities (Kerteminde, Odense and Svendborg). In total, the algorithm triggered 15,867 alerts (8533 cases and 7499 controls) in 2069 individuals (median age 87 y [65, 106]; female 68.2%). Overall, the community nurses judged the alerts to be relevant in 64% of the

cases. Also, the clinical support tool was assessed to be highly valuable to them in clinical decision-making.

*Digital Tools for Intersectoral Care of Older People in Scottish Care Homes and Care at Home Services*

**Moira Mackenzie<sup>1</sup> and Ann Wales<sup>2</sup>**

1. DHI Director of Innovation
2. DHI Programme Lead, Knowledge and Decision Support

The COVID-19 pandemic highlighted critical gaps in knowledge and communication support for staff in care homes and care at home services. Aims: The Care Home Assessment Tool (CHAT) and the Home Care Decisions Application (App) aim to enable care home and care at home staff to: Detect early signs of deterioration, stratify risk through evidence-based assessment, and action timely, appropriate referral and escalation. Communicate assessment results from care to health colleagues in a structured format and common language. Provide evidence-informed care within the home setting. Findings: CHAT provides guidance on common infection related symptoms to inform local operational decision-making, aiding communication in situations where external NHS clinical support is required for optimum care of residents. It is currently being piloted by 2 NHS Boards. Independent academic evaluation will report in May 2022. User research for the Home Care Decisions app identified priority assessment tools and a critical need for palliative care knowledge support. The HCD app is live on the web and app stores, providing seven quality-assured assessment tools and a palliative care toolkit. Initial evaluation shows strong user engagement, particularly with malnutrition and delirium tools, emotional and spiritual care resources. Perspectives: These developments confirm the potential for digital solutions to support intersectoral collaboration in treatment and person-centred care of older people. Co-development with partners, flexibility in design, and governance compliance are essential to support adoption and deliver consistent digital support across the diverse health and care landscape in this context.

### **Exploring Geographic Context and Genetic Influences on Cognitive and Physical Health Outcomes in Aging**

Category: Behavioural and Social Sciences/Housing, generations and mobility

#### *Symposium Outline*

Studies of environmental influences on health and disease have made important contributions to our understanding of risk- and protective factors. However, as individuals choose their own neighborhoods, such studies are burdened by issues of selection effects and the possibility of reverse causation. Twin research can overcome both of these issues by acknowledging and measuring genetically influenced traits that may impact neighborhood choice [1]; however, few existing twin studies have incorporated geographic information systems (GIS) data or neighborhood-level environmental data, and none of those studies focus on aging. Moreover, studies that have precise measures of the environment often suffer from poor measures of the outcome variables: self-reported health, cognitive measures that test for dementia but are insensitive to normal ranges of functioning, and mailed surveys [2]. Importantly, twin data allow for investigation of gene by environment interaction effects at the neighborhood level. Papers in this symposium will examine geographic context using a variety of metrics: geographic location, urban versus rural contexts, neighborhood deprivation, and geographic mobility. Parkinson will present an investigation of the geographic variation in dementia risk using a spatial modelling approach with the Swedish Twins Studies. Karlsson will present an examination of the association between birth weight and frailty, and whether it differs in relation to sex and urban/rural living. Pearce and colleagues will discuss life course neighborhood deprivation and domain-specific cognitive

decline among older adults. Ojalehto will study how polygenic scores for education and attained education influence geographic and social mobility. Finkel will serve as discussant.

## References

1. Duncan, G.E.; Mills, B.; Strachan, E.; Hurvitz, P.; Huang, R.; Moudon, A.V.; Turkheimer, E. Stepping towards causation in studies of neighborhood and environmental effects: How twin research can overcome problems of selection and reverse causation. *Health Place* **2014**, *27*, 106–111.
2. Besser, L.H.; McDonald, N.C.; Song, Y.; Kukull, W.A.; Rodriguez, D.A. Neighborhood Environment and Cognition in Older Adults: A Systematic Review. *Am. J. Prev. Med.* **2017**, *53*, 241–251.

*Symposium Chair(s)*

**Deborah Finkel**

Indiana University Southeast & Jönköping University

## Abstracts

*Investigating Geographic Variation in Dementia Risk: A Case-Control Study using Spatial Modelling and The Swedish Twin Studies*

**Luisa Parkinson**

Alzheimer Scotland Dementia Research Centre

**Introduction:** There is increasing evidence that the onset of dementia is influenced by a combination of genetic, lifestyle and environmental factors. Exposure to environmental factors often relates to the place where a person lives, so the investigation of geographic variation in dementia cases can begin to provide insight into their influence on dementia. **Methods:** A hospital admissions data set looking at dementia cases in the Swedish Twins studies was used with up to three matched controls. Residential location data at time of admission was available at municipality level alongside covariates such as sex, education and presence of comorbidities. A Bayesian case-control model using Integrated Nested Laplace Approximation methodology in R was used for spatial modelling. **Results:** The spatial effect reveals a higher relative risk of dementia in the north of Sweden as well as around Stockholm and Malmö. There is a 3.2 fold increase (Confidence Interval (CI): 2.0–5.5) in the relative risk of dementia between the lowest and highest municipalities. Having a stroke or diabetes is associated with increased relative risks of dementia of 1.24 (CI: 1.10–1.41) and 1.28 (CI: 1.12–1.47) respectively, whilst having more than seven years of education is associated with a decreased relative risk of dementia of 0.90 (CI: 0.81–0.99). **Conclusion.** The increase in relative risk of dementia seen in the urban areas of Stockholm and Malmö and the north of Sweden is likely to be being driven by different environmental factors. Further work is required to investigate these factors.

*Birth Weight and Frailty: Differences in Relation to Geographic Location*

**Arpita Paul**<sup>1</sup>, **Malin Ericsson**<sup>1,2</sup> and **Ida Karlsson**<sup>1</sup>

1. Karolinska Institutet
2. Stockholm University

**Introduction:** The Fetal origin hypothesis states that low birth weight can bring permanent physiological and metabolic changes in the body that can increase risk of chronic diseases in later life (Barker et al., 1995), including frailty (Haapanen et al., 2018). Geographic area can be an indicator of socioeconomic influences as it may differ with regard to socio-cultural factors, lifestyle, labor market. In this study, we investigated the association between birth weight and frailty in Swedish twins, and to what extent this association is accounted for by differences in urban and rural residential areas. **Methods** Analyses were based on data from the Swedish twin Registry, with data on birth characteristic retrieved from medical birth records for 12,070 twins born between 1926 and 1958. Linear

regression was used to estimate frailty as a function of birth weight, adjusting for age, sex, and gestational age. Models were further stratified by urban vs. rural living at birth. Results Birth weight (adjusted for gestational age) was higher for twins born in rural areas. We observed a weak indication of a higher birth weight being associated to lower levels of frailty. In analyses separated by geographic location this relationship could only be observed in twins born in urban areas. Conclusions Twins born in rural areas had a higher birth weight. However, the possibly protective effect of birthweight on frailty could only be observed for those born in an urban location. Our results may reflect the changing impact of urban vs. rural living over the past century.

*Life Course Neighborhood Deprivation and Domain-Specific Cognitive Decline among Older Adults*

**Gergő Baranyi, Ian J. Deary, Niamh Shortt, Catharine Ward Thompson, Simon R. Cox and Jamie Pearce**

University of Edinburgh

**Introduction:** International evidence suggests neighbourhood features may predict ageing-related outcomes including cognitive decline. However, existing research relies mostly on general cognitive ability and few studies have considered lifetime exposure. This study considers how neighbourhood social deprivation (NSD) across the life course is associated with domain-specific cognitive decline among older adults in Scotland. **Material and methods** Participants (n = 1091) were from the Lothian Birth Cohort 1936 with general domain-specific (i.e., visuospatial ability, processing speed, memory, crystallised ability) cognitive abilities measured at ages 70, 73, 76, 79 and 82 using a comprehensive battery of 13 cognitive tests. Historical measures of NSD in childhood (1936–1955), early adulthood (1956–1975), and mid-to-late adulthood (1976–2014) were linked to participants' residential history, gathered using a "life-grid" questionnaire. We identified best-fit life course models for domain-specific intercepts and slopes using least angle regression; selected models were estimated with latent growth curve models after adjustment for sociodemographic and health covariates. **Results** Our findings indicates that greater NSD in mid-to-late adulthood was associated with lower visuospatial ability in late adulthood ( $\beta = -0.090$ ; SE = 0.046), and with greater decline in general ability ( $\beta = -0.160$ ; SE = 0.070) and processing speed ( $\beta = -0.207$ ; SE = 0.071). Moreover, we found that decreasing NSD between young and mid-to-late adulthood was associated with better verbal memory in late adulthood ( $\beta = 0.121$ ; SE = 0.051). **Conclusion** This study is the first to assess the impact of neighbourhood deprivation on cognitive ageing over the full lifecourse. Recognising the role of place-based factors in cognitive decline, creating age-friendly environment might support healthy cognitive ageing.

*Educational Influences on Geographic Mobility: Exploring Genetic Predisposition and Attained Education*

**Ida K Karlsson<sup>1</sup>, Malin Ericsson<sup>1,2</sup> and Elsa Ojalehto<sup>1</sup>**

1. Karolinska Institutet
2. Stockholm University

**Introduction:** Studies of polygenic scores for educational attainment (PGSEdu) have made important contributions to our understanding of predicted life outcomes. Individuals with genetic predisposition to higher education are suggested to be more geographically mobile in search for occupational opportunities. They also build more successful careers, find partners with higher social status, and build stronger foundations for retirement (Belsky et al., 2016). In this study, the aim was to study how polygenic scores for education and attained education influence and differ by geographic mobility. **Methods:** We retrieved data from the Swedish Twin Registry with twins born 1926–1953 (n = 13,176). We compared how well the PGSEdu predicted attained education in individuals who had been

geographically mobile (had moved to a different county in adulthood) compared to those who had not, using linear regression. Logistic regression models were then performed to test if the PGSEdu and attained education predicted geographic mobility. Results: The predictive power of the PGSEdu on attained education was stronger in those who had been geographically mobile than in those who had not. We found that both the PGSEdu and attained education predicted geographic mobility, in both independent and joint models, with higher education indicating a higher mobility. Conclusions: To conclude, those with genetic predisposition to higher education were more likely to achieve a higher education if they were geographically mobile. Moreover, genetic predisposition to higher education influences geographic mobility over and above attained education.

### **Future Horizons in Late Life**

Category: Behavioural and Social Sciences/Lifestyle, engagement and transition

#### *Symposium Outline*

Long life is becoming reality for an increasing number of people; they can expect to live through newly emerging phases of later life. On an individual level, this realization may play out as new patterns in intergenerational relations, economic activities, and work life. Societies, in turn, must find a societal purpose for long life to unlock the potentials of this longevity. Thus far, the main societal response to longer lives has been extension of working life, but it can be questioned, whether such priorities have personal importance for people in late life. This symposium provides presentations that discuss the ways longer lives may induce new preferences in people's lives, how these preferences may fit with the policies of longevity, and how the expanding future horizons manifest in people's actions.

The first presentation investigates the association between subjective life expectancy and people's intention to retire. Using data from the Danish Longitudinal Study of Ageing, the presentation asks whether the increasing individualization in retirement planning and decision making has made people to increasingly factor the expected time left into the decision about retirement.

The second presentation explores how people on the verge of retirement or recently retired see their future. Using data from the T60 study of 60–69 years old people living in Tampere, Finland, the presentation shows that for majority of respondents, the future offers many opportunities. Many set new goals and make plans for the future. However, in the upper social classes, and for those retiring healthy, the future looks brighter and more diverse.

The third presentation analyses older adults' provision of informal help to their adult children during 1997–2017. Using data from the Danish Longitudinal Study of Ageing, the presentation shows that while older adults provide more help to their adult children than 20 years ago, the provision of help has decreased among those in their late fifties and early sixties. The paper asks whether lengthening work life crowds out informal care, causes decreases in intergenerational help and influences the relations across generations.

The fourth presentation will be discussant's reflections over the three presentations.

#### *Symposium Chair(s)*

**Anu Siren**

Tampere University

#### **Abstracts**

*Increasing Commodification of Life's Time? The Association between Subjective Life Expectancy and Intention to Retire*

**Mona Larsen and Anu Siren**

VIVE, The Danish Center for Social Science Research

**Introduction:** Both life expectancies and retirement ages are increasing. In many countries, retirement age is directly linked to the increase in average life expectancy. In turn, the subjective expected time left has been demonstrated to be connected to people's retirement decisions. **Materials and methods:** Using data from the Danish Longitudinal Study of Ageing (DLSA), this study investigated the association between subjective life expectancy (SLE) and people's intention to retire (ITR) over time. It asks whether the increasing individualization in retirement planning and decision making has made people to increasingly factor the expected time left into their decision about retirement. The study included DLSA respondents who were 52 years in 2012 and 2017. **Findings:** The findings show that between 2012 and 2017, the association between SLE and ITR has become stronger for women but not for men. The possibility to collect early retirement benefit (phased gradually out in the Danish system) affected the association between SLE and ITR. **Conclusion:** Retirement norms guide people strongly in culturally homogeneous societies like Denmark. Changes in policy, norms and behaviour are likely to cause a change in the association between subjective life expectancy and retirement plans, but more research is needed to entangle their effects.

*Life in Retirement, Opportunities and Boundaries*

**Anu Siren, Marja Jylhä and Kirsi Lumme-Sandt**

Tampere University

**Introduction:** In the Nordic countries, most people retire at the age of 60+. Quite many of them have more than 20 years of life ahead in retirement. Most also have a good ability to function, which allows for a wide range of activities in retirement. In this study we explored how people on the verge of retirement or recently retired see their future and possibilities in retirement. **Material and methods:** The data come from a survey with 60–69 years old in the city of Tampere, Finland. Response rate was 68% (n = 1495). Social class was described by occupational status, and social relations by partners, family relations, friends, feelings of loneliness, and the person to whom they tell joys and sorrows. Statistical methods included cross-tabulations and chi-square test. **Results:** For 70% of respondents, the future offers many opportunities and they felt that they can set new goals and make new plans for the future. One third of the respondents answered that big part of their life is still ahead. However, in the upper social classes, the future looked more diverse and brighter than for those with lower social class. For those retiring healthy, there are more opportunities to realize themselves. **Conclusions:** In retirement, there is a good life for years to come, but it is affected by socio-economic conditions.

*Does Lengthening Work Life Crowd out Informal Care Older Adults Provide to Their Adult Children?*

**Anu Siren and Anna Amilon**

1. Tampere University
2. VIVE, The Danish Center for Social Science Research

**Introduction:** While older adults provide more help to their adult children than 20 years ago, the provision of help has decreased among those in their late fifties and early sixties. At the same time, the labour market participation of these age groups has increased due to increasing retirement age. This paper asks whether lengthening work life crowds out informal care, causes decreases in intergenerational help and influences the relations across generations. **Materials and methods:** Using longitudinal data from the Danish Longitudinal Study on Ageing (DLSA), this study investigated the change in practical help provided by older adults to their adult children in 1997 and 2017. We used Blinder-Oaxaca-decomposition technique to determine, to what extent the observed differences between 1997 and 2017 are due to changes in the characteristics (e.g., gender, health status) and to changes in the behavior of older adults (i.e., the association between a

characteristic and probability to provide help). Results: Our analysis show that the decrease in provision of help among those in their late midlife (52–62 years olds) cannot be attributed to increasing work life participation, but a more likely explanation is the decreased share of people with grandchildren in this age group. Conclusion: Changing late life has various implications on many areas of life. It is important to identify these mechanisms.

### **Gene-Environment Interplay in Late-Life Health and Function: Studies from the IGEMS Consortium**

Category: Biological and Medical Sciences/Morbidity, medical treatment and ageing processes

#### *Symposium Outline*

The Interplay of Genes and Environment across Multiple Studies (IGEMS) consortium was established to explore the role of gene-environment interplay in late-life health and disease. It now includes 18 twin studies, most of which are longitudinal, from 5 different countries (Sweden, Denmark, Finland, United States, and Australia) resulting in more than 76,000 individuals (14–103 years at intake) [1]. Data in IGEMS have been harmonized over time and across studies, and includes a broad range of phenotypes as well as socioeconomic measures and genetic data. In this symposium, results from IGEMS will be presented, covering a range of topics. Analytic methods will cover both epidemiological designs and novel genetic methods, to target the complexity of late-life health.

We will present estimated age differences in genetic and environmental influences on episodic memory performance, and to what extent observed patterns are explained by educational attainment. Next, we will demonstrate how twin data can be applied to determine shared genetic variance among physical, cognitive, emotional health and self-rated health (SRH) to deepen understanding of mechanisms of SRH. Further, we will present results on genetic influences and interplay in late-life health using measured genetic predispositions for educational attainment. We will present results on derivation and validation of polygenic score for hand grip strength, as well as results from association analyses between polygenic score for hand grip strength and proximal and distal measures of functional capacity. Lastly, we will show how twin data can help characterize the nature of the association of health and well-being with intellectual, social and physical activities in late life.

This symposium will provide a selection of the ongoing studies from the IGEMS consortium, representing the rich data sets and different countries, all aiming to promote a better understanding of risk- and protective factors influencing late-life health and function.

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#### *Symposium Chair(s)*

**Malin Ericsson**<sup>1,2</sup>

1. Karolinska Institutet
2. Stockholm University

#### **Abstracts**

*Age Differences in Heritability of Harmonized Measures of Episodic Memory in IGEMS*

**Christopher R. Beam**<sup>1</sup>, **Susan E. Luczak**<sup>1</sup>, **Shandell Pahlen**<sup>2</sup> and **Margaret Gatz**<sup>1</sup>

1. University of Southern California
2. University of California-Riverside

**Introduction:** Episodic memory is commonly assessed by how well a person can remember a list of words (word list) or a short story (prose recall). In this study, we examined heritability of these two measures in the IGEMS consortium (Pedersen et al., 2013; 2019) comprised of twins from middle to older age. **Material and methods:** Using cross-sectional data from 10 IGEMS studies, we created harmonized scores for word list ( $n = 26,538$ ) and prose recall ( $n = 3194$ ) immediate recall tests. In pooled analyses, we examined phenotypic relationships of episodic memory to age (age = 50–89), then tested whether genetic and environmental variance differed with age, controlling for attained education. **Results:** Phenotypic analyses showed both word list and prose recall scores were lower among older than middle-aged participants, with age differences not explained by educational attainment. Intrapair correlations for word list were 0.29 for monozygotic (MZ) twins and 0.18 for dizygotic (DZ) twins, with heritability of ( $h^2$ ) 0.22; for prose recall, 0.50 for MZ twins and 0.30 for DZ twins, with  $h^2 = 0.40$ . Model estimation with age as a moderator, controlling for educational attainment, indicated that for word list, heritability increased quadratically over age; for both measures there was significant decline in the role of non-shared environmental influences across the age range (see Figure). **Conclusion:** Twin results demonstrated that, with increasing age, episodic memory performance is increasingly driven by genetic selection rather than nonshared environmental influences. Greater heritability of prose versus word list recall is consistent with existing literature. (Image Attached).

*Genetic Architecture of Subjective Health: Relationships with Physical, Cognitive, and Emotional Health*

**Deborah Finkel**<sup>1,2</sup>

1. Indiana University Southeast
2. Jönköping University

**Introduction:** The fact that self-rated health (SH) predicts mortality and a variety of other health outcomes independent of objective health measures generates questions about mechanisms and etiologies. SH can be considered an indicator of physical health, per se, resulting from active cognitive processing of explicit information about one's own health and intuitive knowledge of symptoms and physical sensations. Some approaches emphasize that culturally-influenced concepts of health in general play a role in SH (Jylhä, 2009). The extent to which SH taps shared cultural ideas about health should be reflected in estimates of the shared environmental component of variance (C). SH has also been associated with emotional health measures, such as neuroticism and depression. Leinonen and colleagues (2005) used a Cholesky model including disease severity, gait speed, and depression, and found no genetic variance specific to SH. Their analysis was limited by gender (only women), age (range = 63–76), and measures of SH. **Materials and Method:** The current analysis uses data from adults ranging in age from 20 to 100 from the international Interplay of Genes and Environment Across Multiple Studies (IGEMS) consortium to investigate the genetic architecture of SH. Three measures of SH are investigated in the context of objective health (grip strength, illness summary), cognitive functioning (MMSE), and emotional health (depression, loneliness). **Results:** Cholesky modeling indicated significant shared genetic variance among SH and objective health, cognitive functioning, and emotional health. **Conclusion:** Genetic architecture of SH differs for different measures of SH and across age.

*Educational Influences on Late-Life Health: Genetic Propensity and Attained Education*

**Malin Ericsson**<sup>1,2</sup>, **Nancy L. Pedersen**<sup>1</sup>, **Brian Finch**<sup>3</sup>, **Ida K. Karlsson**<sup>1,4</sup>, **Chandra A. Reynolds**<sup>5</sup>, **Margaret Gatz**<sup>3</sup> and **Miriam Mosing**<sup>1,6</sup>

1. Karolinska Institutet
2. Stockholm University
3. University of Southern California
4. Jönköping University

5. University of California—Riverside
6. The Max Planck Institute for Empirical Aesthetics

**Introduction:** The educational gradient in late-life health is well established. Despite this, there are still ambiguities around the role of underlying confounding in terms of genetic influences and gene-environment interplay. In this study, we investigated the role of educational factors (genetic and attained) on late-life health and mortality using genetic propensity for educational attainment and attained education. **Material and methods:** Analyses were based on twin data from the Swedish Twin Registry ( $n = 14,570$ ). Using different regression models we investigated the influence of educational factors (genetic and attained), familial confounding as well as the possible presence of passive gene-environment correlation on frailty, multimorbidity, self-rated health, cardiovascular disease, and all-cause mortality. **Results:** We found that educational propensities and attained education both independently predicted late-life health and mortality. Between-within models of educational propensities on the health outcomes in dizygotic twins, showed weak evidence for passive gene-environment correlation in the education-health relationship. **Conclusion:** To conclude, both genetic propensities and phenotypic education are associated with health in late life, with higher genetic propensities and higher level of education predicting better health and lower mortality. These results lend further support for a causal education-health relationship but also raise the importance of independent genetic contributions and gene-environment interplay.

*A Polygenic Risk Score for Hand Grip Strength Predicts Muscle Strength and Proximal and Distal Functional Outcomes among Older Women*

**Päivi Herranen**<sup>1</sup>, **Teemu Palviainen**<sup>2</sup>, **Taina Rantanen**<sup>1</sup>, **Kristiina Tianen**<sup>3</sup>, **Anne Viljanen**<sup>1</sup>, **Jaakko Kaprio**<sup>2</sup> and **Elina Sillanpää**<sup>1</sup>

1. University of Jyväskylä
2. Institute for Molecular Medicine, Finland
3. University of Tampere

**Introduction:** Hand grip strength (HGS) is a widely used indicator of overall muscle strength and general health. We computed a polygenic risk score (PRS) for HGS and studied, whether the PRS HGS predicted muscle strength, functional capacity and disability outcomes. **Material and methods:** Genome-wide association study summary statistics for HGS from the Pan-UK Biobank was utilized. PRSs were calculated in The Finnish Twin Study on Ageing ( $n = 429$  women, 63–76 years). Strength tests included HGS, isometric knee extension and angle plantar flexion strength. Functional capacity was examined with the Timed Up and Go, 6-min and 10-m walk and dual task tests. Basic and instrumental activities (ADL/IADL) disabilities were investigated with questionnaires. Proportion of variation in outcomes accounted by the PRS HGS was studied using linear mixed models and extended logistic regression. **Results:** Measured HGS increased linearly over increasing PRS deciles ( $\beta 4.8$ , SE 0.93,  $p < 0.001$ ). PRS HGS accounted 6.1% of the variation in the measured HGS ( $\beta 14.2$ , SE 3.1,  $p < 0.001$ ), 5.4% of the variation in the knee extension strength ( $\beta 19.6$ , SE 4.7,  $p < 0.001$ ), 1.2% in the ankle plantar flexion strength ( $\beta 9.4$ , SE 4.2,  $p = 0.027$ ), and 1.1–1.5% of the variation in functional capacity tests ( $P 0.055$ – $0.016$ ). Participants with higher PRS HGS were less likely to have ADL/IADL disabilities (OR 0.74–0.76). **Conclusions:** Individuals with genetic risk for low muscle strength were significantly weaker compared to those with genetic risk for high muscle strength. PRS HGS associates systematically with overall muscle strength and proximal and distal functional outcomes that require muscle strength.

*Leisure-Time Activities and Successful Aging: Insights from IGEMS Twin Studies*

**Matt McGue**<sup>1,2</sup>

1. University of Minnesota

## 2. University of Southern Denmark

**Introduction:** In 1987, Rowe and Khan introduced a new perspective into gerontology. They argued that rather than focus singularly on age-related losses and death, it was essential we also identify the factors that contribute to successful aging. One of the enduring questions within the successful aging paradigm has been in determining the degree to which an active lifestyle promotes the maintenance of physical and cognitive function as well as psychological well-being. The challenge in addressing this question, at least within observational epidemiology, is that maintaining an active lifestyle is not entirely exogenous—individuals who are physically and intellectually active and socially engaged are not a random subset of the adult population. **Method:** Twin studies can help characterize the nature of an association between a lifestyle factor and health outcome. Leisure-time activities were assessed by self-report in ten of the individual IGEMS twin studies. **Results:** The nature of study assessments of intellectual, social and physical engagement will be described as well as approaches to the harmonization of the assessments across studies. Biometric analysis of the physical, social and intellectual scales is used to help characterize the origins of individual differences in late-life activity, while cotwin-control analysis can help to characterize the nature of their associations with late-life-health and well-being. **Conclusion:** Twin studies can help us understand the contribution of lifestyle factors to successful aging.

### **Health and Retirement**

Category: Health Sciences/Lifestyle, engagement and transition

#### *Symposium Outline*

**Introduction:** Retirement is a major life event and transition for older workers. It is essential to understand how, why and when individuals retire and what the effects of retirement are, on both a micro and macro level [1]. How do people cope with the transition? What contributes to continuity and change in psychological health over the retirement transition? However, it is equally important to understand why certain individuals continue in the workforce after retirement age [2].

**Methods and material:** The papers presented at the symposium all use survey data. Data for the individual papers are collected from the Danish Longitudinal Study of Ageing, Copenhagen Aging and Midlife Biobank (CAMB), Finnish Retirement and Aging study (FIREA) and Health Aging and Retirement Transitions in Sweden (HEARTS). Methods employed are linear regression models and descriptive statistics.

**Results:** Changes in the institutional framework and changing norms and perceptions regarding late-life labor force participation seem to have contributed to increasing retirement ages in Denmark. In addition, older workers who continue in the workforce are more educated, have better health, higher quality of life, and find life more meaningful than individuals who choose to retire at or before retirement age. In regards to Finland, the total life satisfaction score improved among the study population during the retirement transition and remained stable thereafter. The improvement was greater among women compared to men, among those with suboptimal health before retirement compared to those who had good and those who had no spouse compared to those who had.

**Conclusion:** Changing norms and perceptions on workforce participation in older ages has been shown to affect average retirement age in Denmark. Further, individuals who continue work after retirement age are likely to be more educated, healthier and find life more meaningful compared to those that choose to retire at, or before, retirement age. In addition, life satisfaction seems to improve during the retirement transition and to remain stable. The content of the symposium will cover these aspects as well as results from studies using data from HEARTS.

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*Symposium Chair(s)*

**Laura Pirhonen**

University of Copenhagen

### Abstracts

*Who Continues to Work after Retirement Age?*

**Karsten Vrangbæk and Laura Pirhonen**

University of Copenhagen

To achieve the goal of extending working lives for older workers it is essential to investigate who continues to work after retirement age. Thus, the aim of this paper was to examine who continues in the workforce after retirement age. More specifically, the likelihood of continuing in the workforce was investigated while controlling for individual characteristics and socio-economic variables. The study population consisted of respondents to the Copenhagen Aging and Midlife Biobank (CAMB) 2021 survey. Survey data was linked to register data to provide a rich data set of self-reported and objective outcomes. Logistic regression was employed in order to answer the aim of the study. Preliminary results showed that healthier individuals with a higher education and quality of life are more likely to continue in the workforce after retirement age compared to individuals that have worse health, less quality of life and lower education. Thus, individuals who are more equipped to work longer due to better health and better quality of life are also the ones that are more likely to continue work after retirement. Further, individuals with a higher education are more likely to participate in the workforce after retirement compared to individuals with less education. While these results do not appear to be surprising there is a value in providing updated information about such biases as a background for developing policy interventions.

*Changes in Life Satisfaction during The Transition to Retirement: Findings from the FIREA Cohort Study*

**Marianna Virtanen<sup>1,2,3</sup>, Soili Törmälehto<sup>1</sup>, Saana Myllyntausta<sup>3</sup>, Jaana Pentti<sup>3,4</sup>, Jussi Vahtera<sup>3</sup>, Sari Stenholm<sup>3</sup> and Prakash KC<sup>3</sup>**

1. University of Eastern Finland
2. Karolinska Institutet
3. University of Turku
4. University of Helsinki

**Introduction:** This study aimed to examine changes in total and domain specific life satisfaction (LS) during the retirement transition and additionally examine whether those changes differ by gender, occupation, health and spousal working status. **Materials and Methods:** Aging public sector employees (n = 3543) from the Finnish Retirement and Aging Study cohort study (FIREA), were followed up annually before and after retirement. Total LS score was computed by summing up the responses in four domains (interesting, happiness, easiness and togetherness). The mean and mean change estimates and their 95% CI were calculated by using the linear regression models with generalized estimating equations adjusted for age, gender, occupation, health and marital status. **Results:** Total LS score improved among the study population during the retirement transition and remained stable thereafter. The improvement was greater among women vs. men (gender × time

interaction  $p = 0.004$ ), among those with suboptimal health before retirement vs. those who had good (health  $\times$  time  $p < 0.0001$ ) and those who had no spouse vs. those who had (spousal working status  $\times$  time  $p = 0.0002$ ). In case of domain specific LS scores, the greatest improvement was observed in the easiness domain and the improvements were higher among women, those with suboptimal self-rated health and those who had no spouse. Conclusions: Life satisfaction improves during the retirement transition period, especially among women, those with suboptimal health and those living without a spouse. The improvement was considerably greater in the easiness domain than any other domains. Life satisfaction remained improved and stable during the postretirement period.

*Increasing Retirement Ages in Denmark: Do Changes in Workforce Composition Matter?*

**Mona Larsen and Anna Amilon**

VIVE, The Danish Center for Social Science Research

Recent studies report significant increases in retirement ages over the past two to three decades in most countries in the Organisation for Economic Co-operation and Development—increases that research has mainly attributed to changes in the institutional framework. Using unique data from the Danish Longitudinal study of ageing, this study investigates whether and to what extent compositional changes to the workforce also contribute to explaining changes in retirement ages for the cohorts born in 1935, 1940, 1945 and 1955. These cohorts' retirement window stretches from the early 1990s to the late 2010s—a period characterised by substantial changes to the workforce composition as regards gender, health, education and occupational status (employed or self-employed). On average, retirement ages increased by two years from the 1935 cohort to the 1950 cohort. However, due to changes in compositional factors having offsetting effects, the net effect of such changes on retirement ages was minor. Thus, while higher levels of education and better health contributed to increasing retirement ages, more female and fewer self-employed workers had the opposite effect. In absolute terms, the influence of changes in occupational status ( $-0.22$  years) was of the same magnitude as changes in level of education ( $0.21$  years). We therefore conclude that future studies aiming to explain long-term changes in retirement ages would benefit from including occupational status (changes in the share of self-employed) as an explanatory factor.

*Who Benefits from a Prolonged Working Life? Findings in the HEalth, Aging and Retirement Transitions in Sweden (HEARTS) Study*

**Marie Kivi<sup>1</sup>, Boo Johansson<sup>1</sup> and Isabelle Hansson<sup>1,2</sup>**

1. University of Gothenburg
2. Netherlands Interdisciplinary Demographic Institute (NIDI)

This paper examines motives for and experiences of continued labor force participation after age 65 and the extent to which it influences health and well-being. We analyzed seven waves of annual assessment data (2015–2021) from the Health, Aging and Retirement Transitions in Sweden (HEARTS) study ( $n = 5913$ ; age 60–66 at baseline). Individuals who continued to work after age 65 reported higher life satisfaction, higher quality of life, fewer depressive symptoms, better self-rated health, and higher cognitive ability at age 65 than those who retired. Results also showed an increase in quality of life after age 65 among individuals who continued to work while those retiring experienced a slight decrease. For individuals working after age 65, higher job demands was associated with poorer health and well-being, but also smaller increases in quality of life over time. Working for financial reasons was associated with poorer health and well-being, as well as declines in cognitive ability. Motives related to worry about work-related loss was associated with poorer health and well-being, and less favorable changes in life satisfaction over time. Working for pleasure and sense of meaning, on the other hand, was associated with better health and well-being, and more positive changes in life satisfaction and cognitive ability. The findings

demonstrate systematic differences between individuals who retire at age 65 and those who continue to work into older ages. Individual differences in work characteristics and motives for continuing working further suggest a risk for increased health inequalities in later life.

### **Implementation of Advance Care Planning in Dementia with Nursing Home Staff and Family Caregivers during COVID-19**

Category: Health Sciences/A good life and a good death

#### *Symposium Outline*

Advance care planning (ACP) aims to support care in line with a person's wishes about their end of life. It entails discussions between the person concerned, family and healthcare professionals and may be challenging in case of dementia, in particular in the advanced stages of disease when capacity may be limited. Families may have various preferences regarding their role in decision-making, ranging from acting as their relative's representative to deferring decisions to the attending physician. As nursing home staff have regular contact with family and spend more time with the resident compared with a physician, they are well positioned to start conversations about future care with family.

In the UK, the Family Carer Decision Support (FCDS) intervention was developed to support nursing home staff in conducting advance care planning conversations with family caregivers of nursing home residents with dementia. This educational intervention was composed of three core elements: the provision of a Comfort Care Booklet to family carers, training of nursing home staff, and delivery of a Family Care Conference. The FCDS intervention was subsequently further adopted and implemented in 6 countries with a train-the-trainer model in the mySupport study, involving Canada, UK, Ireland, The Netherlands, Italy, and Czech Republic. mySupport study is funded by the EU Joint Programme—Neurodegenerative Disease Research (JPND) and was scheduled for implementation shortly after the COVID-19 pandemic.

The landscape and experiences of advance care planning in long term care facilities changed significantly during the COVID-19 pandemic. Nursing homes were impacted substantially during the COVID-19 and there were significant pressures and scrutiny as mortality rates were rapidly increasing. This symposium speaks to ACP and experiences of staff and families during the COVID-19 pandemic. Also, this symposium highlights strategies used to engage staff and families in the process and lessons learnt by researchers during a global pandemic. An overview of the mySupport study and preliminary findings from experiences of introducing ACP implementation projects during a global pandemic in nursing homes will be delivered for this symposium; including papers on: the local adaptation of mySupport; the educational booklet and the KTE strategies employed by the study respectively; and two papers on the experience of ACP during COVID-19.

#### *Symposium Chair(s)*

**Jenny T. van der Steen**

Leiden University, The Netherlands

#### **Abstracts**

*Implementation of Advance Care Planning in Dementia with Nursing Home Staff and Family Caregivers during COVID-19: The Six-Country mySupport Study*

*Strategies to tailor the mySupport intervention to local characteristics and needs*

**Nicola Cornally, Silvia Gonella, Marianna Angarano and Paola Di Giulio<sup>2</sup>**

1. University of Turin, Italy

Introduction: Quality improvement (QI) research projects such as mySupport study are promising means for enhancing the nursing home (NH) care quality. However, their

implementation often fail and may be further challenged at time of crisis such as COVID-19 pandemic. Challenges to successfully implement mySupport study in one Italian NH during COVID-19 pandemic and potential strategies for their overcoming were explored. Material and methods: Three data collection strategies were employed: (1) Six semi-structured, open-ended interviews involving the NH manager, NH staff, and family caregivers of people with advanced dementia at the end of life; (2) research diary; and (3) in-the-field-notes. Inductive content analysis was performed. Results: Three themes emerged: (1) Setting the stage. Preliminary assessments were needed to ascertain participants' willingness to adhere. All stakeholders were involved, and partnerships established at multiple levels. Also, openness to change both at the unit- and organizational/system-level and training provision were pivotal. (2) Adjusting the implementation plan to the context. This meant constant confrontation among all stakeholders to select participants, tailoring modalities to approach participants and deliver the intervention, and managing both anticipated and unanticipated difficulties. (3) Being open to ongoing changes. Confront with contrasting emotions both supportive and challenging was frequent and ongoing reflection at multiple level was required, thus resulting in ongoing learning and changes. Conclusions: A multi-level approach is essential throughout every stage of the implementation process, including exploration of willingness to participate, establishment of partnerships, adjustment of the implementation plan to the context and during the ongoing, reflective practice.

*Using an Educational Booklet to Empower Nurses in Advance Care Planning Conversations with Family of Nursing Home Residents with Dementia*

**Laura Bavelaar, Jenny T. van der Steen and Mandy Visser**

Leiden University, The Netherlands

Introduction: As part of the mySupport study, an advance care planning intervention was implemented in two Dutch nursing homes. This intervention involved nursing staff training to conduct end-of-life care conversations with family caregivers of people with dementia, to complement the conversations conducted by the specialized elderly care physicians on the staff. An educational booklet for family caregivers about dementia and comfort care informed the conversations. The use of the educational booklet was evaluated. Material and methods: Interviews were conducted with family caregivers and nursing staff regarding their experience of the intervention and transcribed verbatim. Field notes were taken during the nursing staff training. Interview transcripts and fieldnotes were coded using a hybrid deductive and inductive approach. Results: The educational booklet was welcomed by family caregivers and nursing staff. While the booklet was intended for family caregivers, staff experienced the booklet as informative and helpful educational material for their practice. Some staff anticipated the length of the booklet to be a barrier. The booklet facilitated end-of-life care conversations because family caregivers were prepared, asked questions and the physical presence of the booklet provided an anchor point. The information in the booklet reassured nursing staff of their practice. Conclusions: Providing family caregivers with information about dementia and comfort care can aid both family caregivers and nursing staff in having end-of-life care conversations. The information provides validation for nursing staff with regard to what is good end-of-life care practice and empowers them to discuss this with family caregivers.

*Remote Knowledge Translation and Exchange (KTE) Strategies: Engaging Staff and Families in the mySupport Study during COVID-19*

**Irene Hartigan<sup>1</sup>, Alan Connolly<sup>1</sup>, Nicola Cornally<sup>1</sup>, Serena FitzGerald<sup>1</sup>, Catherine Buckley<sup>2</sup> and Marie Mckeon<sup>3</sup>**

1. University College Cork, Ireland
2. Northridge House Education and Research Centre, St. Lukes Home, Cork, Ireland
3. All Ireland Institute of Hospice and Palliative Care, Ireland

**Introduction:** Knowledge Transfer and Exchange (KTE) is an essential product of research (Kernohan et al., 2018). Strategies to transfer key messages to stakeholders as part of the mySupport study took many forms, and were focussed on information being meaningful and relevant. Accordingly, methods and resources were designed across partner sites in the context of COVID-19 public health guidance. **Material and methods:** An international PPI panel—the Strategic Guidance Council (SGC)—was established with membership across five countries. Multiple strategies to engage family caregivers recognised the emotional difficulties of restricted visits. The EMTReK model (Payne et al., 2019) communicated by KTE champions, enabled identification of stakeholders and their specific needs. Data collection included reflective diaries, web analytics, and staff and family caregiver interviews. **Results:** Consortium and SGC members were involved in embedding KTE and translating key messages in the study. The impact of COVID-19 was mainly witnessed with regard to participant recruitment, given restricted access and staff reductions. The skills acquired and knowledge exchanged during the implementation phase reflected that staff had the opportunity to engage in collaborative training to support end-of-life discussions with family caregivers. Resources for families were reported as beneficial, particularly in the context of COVID-19. **Conclusions:** Broadly, barriers to collaboration across partner countries related to differences in culture and language; though these barriers are not insurmountable. The EMTReK model supported members to identify target stakeholders and timely dissemination opportunities. However, further development of this model will effect even more successful collaboration within and across countries.

*Facilitators, Barriers and Lessons from Undertaking Two Advance Care Planning Implementation Studies Remotely & Online during a Global Pandemic*

**Andrew Harding**<sup>1</sup>, **Kevin Brazil**<sup>2</sup>, **Emily Cousins**<sup>3</sup>, **Kay De Vries**<sup>3</sup>, **Julie Doherty**<sup>2</sup>, **Karen Harrison Dening**<sup>3</sup>, **Adrienne McCann**<sup>2</sup>, **Nancy Preston**<sup>1</sup> and **Sandra Varey**<sup>1,†</sup>

1 Lancaster University, UK

2 Queens University Belfast, UK

3 De Montfort University, UK

† mySupport Group; Necessary Discussions Group.

**Introduction:** Nursing and care homes in the UK have been clusters in their communities for the worst clinical manifestations of COVID-19. In the UK, homes had a place in the national COVID-19 narrative—one of being under pressure and scrutiny as mortality rates were rapidly increasing. Now two years or more into the pandemic, it is important to reflect on the process of undertaking research in order to identify lessons for future practice. **Material and methods:** This presentation draws on data from two advance care planning implementation projects across 14 homes in the UK (with 6 sites a subset of data from an international study). Both projects were undertaken remotely with researchers having minimal or no in-person contact. We draw on researcher reflections and an analysis of 184 interviews with home staff (n = 113) and family carers (n = 71). **Results:** Six overlapping themes are discussed. (1) All aspects of study design need to be accessible; (2) Each home environment presented different implementation challenges. (3) When working remotely homes need to have appropriate and functioning technology. Building relationships (4) is critical, and is challenging when engaging remotely. Recruiting and establishing meaningful relationships with (5) staff; and family carers (6) was critical and challenging in the context of buy-in and willingness to participate. **Conclusions:** While difficult, it is possible to conduct research in homes during a pandemic. Being responsive to fluid circumstances, managing expectations and the implementation of various strategies could facilitate beneficial and meaningful participation and impact for staff, residents and families.

*Experiences of Advance Care Planning during the COVID-19 Pandemic in Long Term Care Facilities*

Nancy Preston<sup>1</sup>, Kevin Brazil<sup>2</sup>, Gillian Carter<sup>2</sup>, Zoe Cockshott<sup>1</sup>, Emily Cousins<sup>3</sup>, Julie Doherty<sup>2</sup>, Anne Finucane<sup>4</sup>, Barbara Hanratty<sup>5</sup>, Andrew Harding<sup>1</sup>, Karen Harrison Dening<sup>3</sup>, Adrienne McCann<sup>2</sup>, Gary Mitchell<sup>2</sup>, Sian Russell<sup>5</sup>, Rachel Stocker<sup>5</sup> and Sandra Varey<sup>1</sup>

1. Lancaster University, UK
2. Queens University Belfast, UK
3. De Montfort University, UK
4. Marie Curie Hospice Edinburgh, UK
5. University of Newcastle, UK

**Introduction:** Staff and the public have limited access to information about advance care planning (Selman et al., 2020). Yet, during the pandemic there was an urgency to complete advance care plans (ACP) in long term care facilities (LTCFs) or ‘Emergency care plans’ which focussed upon future care choices relating to hospital admission and resuscitation status. **Materials and Methods:** Two studies were conducted. (1) Evaluating experiences of LTCFs during the pandemic including their experiences of ACP. Semi-structured interviews with staff (16), community staff (11), residents (3) and families (5) from 11 LTCFs analysed using thematic analysis (Braun & Clarke, 2019). (2) Online training about ACP was developed for staff and families. Semi-structured interviews conducted with families (37) and staff (35) from eight LTCFs. **Results:** (1) Staff were concerned about the initiation of ACPs from external agencies and why they were implemented. Staff felt abandoned thinking ACPs meant they were going to be left to manage on their own, adding to their emotional distress. (2) Staff found training accessible and easier to engage with compared to information from other agencies. It gave them permission to engage in these conversations, recognise when a resident gave them cues to have an ACP discussion, when they needed input from senior staff. Staff revised their ACP procedures. Similarly, families felt emboldened to challenge decisions. They shared training with other family members, increasing dissemination. A section on supporting yourself was well evaluated. **Conclusions:** Whilst advance planning had initially raised concerns for staff, the training helped staff and families’ understanding of ACP.

**Involving Family Caregivers in Delivering Namaste Care for Persons with Dementia to Improve Quality of Life: Experiences from Three Countries**

Category: Behavioural and Social Sciences/A good life and a good death

*Symposium Outline*

A substantial part of the care for people with dementia is provided by family caregivers. Family caregivers however receive little education and support in connecting with people with dementia and engaging them in meaningful activities. There are very few tested psychosocial interventions specifically designed for caregivers of persons with more advanced forms of dementia, both in the community and long-term care setting.

The daily Namaste Care program was developed in the US to provide personalized care for nursing home residents with advanced dementia based on palliative care principles. Namaste Care aims to meet physical and social needs of people with advanced dementia through a combination of activities such as music, massages, socialization, and aromatherapy. English and non-English speaking countries have adopted and also adapted the program for use in nursing homes and other settings, such as the community.

This symposium will present data from Canada, the UK and the Netherlands. The data are from various designs, covering a mixed-methods study and two qualitative studies. The first study explored adaptations made to the Namaste Care program for delivery by caregivers of community-dwelling older persons with moderate to advanced dementia as well as implementation experiences and preliminary effects of the adapted

program. The second study investigated the experiences of Dutch and British family caregivers and volunteers with delivering Namaste Care to community-dwelling persons with dementia and the perceived effects on the persons with dementia. The third study examined facilitators of and barriers to family participation in the Namaste Care program in Dutch nursing homes.

The studies inspire optimizing family caregivers' involvement in the Namaste Care program and extend its implementation to the growing number of community-dwelling people with dementia worldwide. Experiences of family caregivers and volunteers in delivering Namaste Care were positive, and the program is feasible for community-dwelling people with dementia. Namaste Care can be enriching for family caregivers, volunteers, and persons with dementia. The program has been found to ensure that persons with dementia are being provided with a supportive structure reflecting their preferences and needs to improve their quality of life.

*Symposium Chair(s)*

**Wilco Achterberg**

Department Public Health and Primary Care, Leiden University Medical Center

### **Abstracts**

*Adapting and Evaluating Namaste Care Delivered by Caregivers of Community-Dwelling Older Persons with Dementia in Canada: A Mixed-Methods Study*

**Jenny Ploeg<sup>1</sup>, Sharon Kaasalainen<sup>2</sup>, Carrie McAiney<sup>3</sup> and Marie-Lee Yous<sup>2</sup>**

1. School of Nursing, Aging, Community and Health Research Unit, Faculty of Health Sciences, McMaster University
2. School of Nursing, McMaster University
3. School of Public Health and Health Systems, University of Waterloo

**Introduction:** As persons with dementia progress, caregivers provide them with more care. However, they receive little training in this role. Namaste Care is a person-centred program offering a structured routine, a slow pace of care, and sensorial activities for persons with advanced dementia. The program has not yet been adapted or evaluated for use by caregivers of community-dwelling older persons with moderate to advanced dementia. The purpose of this study is to determine the feasibility, acceptability and preliminary effectiveness of an adapted Namaste Care program. **Methods:** A multiphase mixed methods design was used. Six caregivers attended workshops to adapt Namaste Care. Afterwards 12 caregivers of community-dwelling older persons with moderate to advanced dementia received training to use the adapted program. Caregivers completed questionnaires on quality of life, positive perceptions of caregiving, self-efficacy, and burden at baseline and 3-month follow-up. Qualitative interviews at 3-month follow-up were also completed to assess acceptability of the program. **Results:** All caregivers used the program at least twice a week as intended. The retention rate was 83% and a variety of activities were provided consistently. Caregivers perceived that the program was practical and improved relationships with persons with dementia. Implementation facilitators were receiving a Namaste Care Toolbox and having written resources at hand. There were no statistically significant effects of the program on above outcome measures. **Conclusions:** The adapted Namaste Care program was feasible and acceptable for use by caregivers. There is a need to conduct a larger trial to determine the extent of its effects.

*Family Caregivers' and Volunteers' Experiences with Namaste Care for Community-Dwelling People with Dementia in The United Kingdom and The Netherlands*

**Miriam Haaksma<sup>1</sup>, Colette O'Driscoll<sup>2</sup>, Karlijn Joling<sup>3</sup>, Wilco Achterberg<sup>1</sup>, Jenny van der Steen<sup>1</sup> and Hanneke Smaling<sup>1</sup>**

1. Department of Public Health and Primary Care, Leiden University Medical Center
2. Namaste Care, St Joseph's Hospice

3. Department of Medicine for Older People, Amsterdam Public Health research Institute, Amsterdam UMC, location VU, University Medical Center

**Introduction:** With more people living with dementia staying at home longer, there is a need to better support family caregivers to mitigate the negative health consequences of caregiving, and to better meet the needs of people with dementia living in their home. This study examines the experiences of Dutch and British family caregivers and volunteers using the Namaste Care program for persons with dementia living at home. **Methods:** Namaste Care has been developed as a multi-component care program for nursing home residents with advanced dementia to improve quality of life. The program was adapted for people with dementia living at home; meaningful activities are offered to persons with dementia by family caregivers and volunteers during 10 sessions. We conducted interviews with 11 family caregivers and 13 volunteers. Data was analysed using content analysis. **Results:** Experiences of family caregivers and volunteers involved with Namaste Care were positive in both countries. Perceived effects of the program on people living with dementia included improved mood and increased interaction. Namaste Care appeared enriching for both family caregivers and volunteers, providing joy, respite from care and insights for coping with challenging behaviour. Facilitators for delivering Namaste Care include providers having similar interests and personality traits as the person living with dementia. Barriers include high caregiver burden and the person with dementia being unaccustomed to touch. **Conclusions:** Namaste Care has the potential to improve quality of life of people with dementia living at home. Family involvement could be encouraged and adapted according to caregiver burden.

*Experiences with Family Caregiver Involvement in the Namaste Care Family Program for Nursing Home Residents with Dementia: A Qualitative Study*

**Hanneke Smaling, Wilco Achterberg, Jenny van der Steen and Petra Tasseron**

Department Public Health and Primary Care, Leiden University Medical Center

**Introduction:** Family caregivers may face difficulties in maintaining meaningful contact with their relative with advanced dementia, making visits potentially frustrating. In general, family caregivers remain involved in the care of their relative after admission to a nursing home. This study explores the experiences including facilitators and barriers of participation of family caregivers, staff and volunteers in the Namaste Care Family program, a psychosocial intervention for nursing home residents with advanced dementia. **Methods:** In this interview study, 10 family caregivers, 31 staff members and 2 volunteers from 10 Dutch nursing homes participated. A thematic analysis with an inductive approach including open and axial coding was performed. **Results:** In general, family caregivers experienced their involvement in the program as positive, especially the meaningful connections with their relative. Three themes of facilitators and barriers for involvement were identified (1) Preferences of family caregivers for activities (e.g., match with personal interests, practical, positive effect on relative); (2) Communication between family caregivers, staff and volunteers (e.g., clear and timely, good relationships, attitude of staff); and (3) Personal circumstances of family caregivers (e.g., experiencing appreciation, age, having a family of their own, a job and complex family relations). **Conclusions:** To optimize family involvement in the Namaste Care Family program, adopting a family-centered approach and providing family caregivers with training and guidance are important to help them overcome uncertainty around their involvement. Training staff to improve communication with family caregivers is also recommended.

**Late Adulthood Transition around Age 60: Findings from the Jyväskylä Longitudinal Study of Personality and Social Development**

Category: Behavioural and Social Sciences/Lifestyle, engagement and transition

### *Symposium Outline*

The main aim of the symposium is two-fold: First, to describe who continue to participate in the longitudinal study over the decades and, second, to show new results on the general life situation and specific life areas in late adulthood transition at around age 60. The analyses of these aims are based on the ongoing Jyväskylä Longitudinal Study of Personality and Social Development (JYLS), where the same participants (initial  $n = 369$ ; 53% males) have been followed from age 8 (1968) to age 61 (2021). In the first presentation, it is shown that of the initial sample of 369 randomly selected participants, 301 formed an available sample (28 participants had died, 37 refused to participate, and 3 had unknown addresses). Of them, 206 took part in the data collection. The participants and non-participants are compared in child, adolescent, and adult variables. Furthermore, the effective sample at age 61 is compared to the respective Finnish age-cohort born in 1959 in socio-demographic characteristics. The life situation, mental well-being, health, and leisure activities of the participants are further analysed. In the second presentation, predictors of two areas of leisure activities, namely, physical activity and sedentary behavior are further investigated. The predictors include socioemotional behavior at age 8 and temperamental characteristics at age 42; accelerometer-based physical activity is measured at age 61. The third presentation focuses specifically on middle and late adulthood and investigates the average and individual development of generativity, defined as a concern for guiding and ensuring the well-being of the next generation, from age 42 to 50 to 61. The fourth presentation provides information about how people at age 61 prepare for the future, specifically, aging. It highlights the relevance of social resources and future orientation as antecedents of preparation. The symposium concludes with a discussion on the characteristics of the longitudinal sample and late adulthood as a phase of life.

### *Symposium Chair(s)*

#### **Katja Kokko**

Gerontology Research Center and Faculty of Sport and Health Sciences, University of Jyväskylä

#### **Abstracts**

*(Non-)Participants of the Jyväskylä Longitudinal Study of Personality (JYLS) and Social Development around Age 60*

#### **Katja Kokko, Milla Saajanaho, Johanna Ahola, Emmi Reinilä and Tiia Kekäläinen**

Gerontology Research Center, Faculty of Sport and Health Sciences, University of Jyväskylä

**Introduction:** Sample attrition is a common phenomenon in longitudinal studies. It is important to obtain an understanding of who remain in the study. This presentation describes the representativeness of the participants of a longitudinal study which covers more than 50 years. **Material and methods:** The analyses are based on the JYLS where the initially randomly selected 8-year-olds ( $n = 369$ , initial attrition 0%) have by now been followed until age 61. By then, 28 participants had died, 37 refused to participate, and 3 had unknown addresses; the available sample at age 61 consisted of 301 individuals. Of them, 206 took part in the data collection. The participants and non-participants ( $n = 163$ ) are compared in child and adult variables. Furthermore, the participants are compared to the respective Finnish age-cohort born in 1959 in socio-demographic variables. **Results:** Compared to the initial sample, at age, 61 women were over-represented. The participating women had a better school success and men lower social activity at age 8 than the non-participants. Earlier in adulthood, the participants had higher occupational status and healthier life habits, but the differences attenuated when those participants who had died were excluded. Compared to the age-cohort, the participating men had more often two children and were married and women were more highly educated. Otherwise, the participants represented well the age-cohort. **Conclusions:** Individuals with a favorable

developmental background and life situation are more likely to retain in the longitudinal study. Different ways of maintaining a high participation rate are discussed.

*Do Child Socioemotional Behavior and Adult Temperament Predict Physical Activity and Sedentary Time in Late Adulthood?*

**Johanna Ahola<sup>1</sup>, Katja Kokko<sup>1</sup>, Lea Pulkkinen<sup>2</sup> and Tiia Kekäläinen<sup>1</sup>**

1. Gerontology Research Center, Faculty of Sport and Health Sciences, University of Jyväskylä
2. Department of Psychology, University of Jyväskylä

**Introduction:** Previous studies suggest that temperament is associated with physical activity and sedentary behavior. However, most studies have examined children in early childhood, had relatively short follow-ups and used self-report measures of physical activity and sedentary behavior. The aim of this longitudinal study was to investigate whether child socioemotional behavior and adult temperament predict accelerometer-measured moderate-to-vigorous physical activity (MVPA) and sedentary time (ST) in late adulthood. **Material and methods:** This study was based on the Jyväskylä Longitudinal Study of Personality and Social Development that has remained ongoing since the participants were 8 years old (in 1968, initial n = 369). Socioemotional behavior was assessed at age 8 using teacher-rating, temperament at age 42 using Adult Temperament Questionnaire, and MVPA and ST at age 61 using a triaxial accelerometer (n = 142). Linear regression analyses were adjusted for accelerometer wear-time, perceived health, and either father's or one's own occupation. **Results:** Among the socioemotional dimensions, social activity predicted more daily ST among women. Among the temperament dimensions, negative affectivity predicted less daily MVPA among women, particularly on leisure time. No statistically significant results were observed among men. **Conclusions:** The findings suggest that socioemotional behavior and temperament have predictive value for physical activity and sedentary behavior over decades. They help to identify individuals that run a higher risk of engaging in higher levels of ST and lower levels of MVPA. The results can be utilized in personalized health counselling and planning effective health promotion interventions that take individual characteristics better into account.

*Longitudinal Development of Generativity from Age 42 to 61*

**Emmi Reinilä<sup>1</sup>, Milla Saajanaho<sup>1</sup>, Päivi Fadjukoff<sup>2</sup>, Timo Törmäkangas<sup>1,†</sup> and Katja Kokko<sup>1,†</sup>**

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**Introduction:** Generativity, a concern to guide and ensure the well-being of the next generation, is a central psychosocial developmental stage in adulthood. However, mixed results about the development of generativity during adulthood have been obtained in the previous studies. We aimed to study the average and individual development of generativity between the ages of 42 and 61 with longitudinal data. **Material and methods:** The data were drawn from the Jyväskylä Longitudinal Study of Personality and Social Development (initial n = 369). The present study included 291 women and men, who provided generativity data, measured using the Generativity Scale, at age 42, 50, and/or 61. Bland-Altman-plots and Latent Change Score Model were used to analyze the data. **Results:** There was a decreasing trend in generativity between the ages of 42 and 61 in women and men. However, individual variability in the development of generativity was observed. The baseline level and previous change in generativity predicted the magnitude and the direction of the future change. More closely, the higher the generativity at age

42 or the more generativity increased between the ages of 42 and 50, the more it decreased in later stages. Conclusions: Although a mean-level change in generativity with age was observed, individual variability in the development of generativity was evident. Investigating only average generativity trajectories may oversimplify the phenomenon of generativity development. Factors explaining these individual differences should be investigated in future studies.

*Future Orientation as a Mediator in the Relationship between Life Resources and Preparation for Aging among Finnish 61-Year-Olds*

**Milla Saajanaho, Emmi Reinilä, Tiia Kekäläinen and Katja Kokko**

Gerontology Research Center, Faculty of Sport and Health Sciences, University of Jyväskylä

**Introduction:** By preparing for aging, people may plan for social and leisure activities as well as maintaining health and fitness, but also prepare for possible future adversities. Many personal characteristics and life situations, called life resources, reflect on preparation for aging. Positive future orientation has been shown to be a key asset for planning and preparing for the future. Therefore, we studied the mediating effect of future orientation in the relationship between life resources and preparation for aging. **Material and methods:** The data were derived from the Jyväskylä Longitudinal Study of Personality and Social Development. At age 61, the latest data collection phase, 206 men and women participated in the study. Those who filled in the Preparation for Old Age in Different Life Domains Brief scale and the Future Orientation scale were included in the current analysis ( $n = 174$ ). The data were analyzed using mediation models with bootstrap method (5000 samples; PROCESS macro for SPSS). **Results:** Better self-rated health, and higher perceived social support, life satisfaction, primary control, and positive appraisals of secondary control had a direct association with more preparation for aging. The direct association of perceived social support was remained in the mediation analysis, while all other associations were fully mediated by future orientation. **Conclusions:** The results highlight the relevance of social support and positive future orientation for preparation for aging. Interventions utilizing peer support aimed at increasing positive outlook on one's own future might help people in late adulthood to plan and prepare for the future.

### **Lessons Learned from the COVID-19-Pandemic in Long-Term Care—An International Perspective**

Category: Health Sciences/A good life and a good death

#### *Symposium Outline*

The outbreak of COVID-19 pandemic was and still is a major challenge for health care systems all over the world. Older residents of long-term-care facilities (LTCF) such as nursing homes (NH) are among those at highest risk for COVID-19 and comprise a population with dramatically higher rates of morbidity and mortality than the general community. NH staff are also affected by the pandemic as they are challenged by increased workloads, emotional burden caused by the loss of resident life, and the fear of becoming infecting themselves or infecting family members. Finally, the pandemic places emotional and practical demands upon informal carers who are involved in the life of the NH resident. Therefore, research should investigate different perspectives on LTCF during the pandemic and discuss major challenges and possible support structures and strategies. Such an understanding is necessary to optimize care, support post-pandemic recovery, and prepare for future public health challenges. This international symposium will therefore provide four presentations to address these issues. The first presentation will describe the effects of the pandemic upon NH staff in Poland. The second presentation reports on the situation in German NHs addressing the complex situation of morbidity, care dependency, and social isolation. The third presentation will discuss the role of technology to promote social participation for care recipients with dementia in German NHs. The fourth presentation

examines the impact and guidelines of allowing visitors in NHs in the Netherlands for residents, family caregivers and staff. A discussant will synthesize the research findings and lead a discussion of future directions for policy and practice.

The aim of the symposium is to gain an understanding of typical challenges for long-term care facilities as care organizations and included stakeholders as well as an understanding of possible challenges in research addressing different target groups in long-term care facilities during the COVID-19 pandemic.

*Symposium Chair(s)*

**Karin Wolf-Ostermann and Ramona Backhaus**

1. University of Bremen, Germany
2. Maastricht University, The Netherlands

**Abstracts**

*Consequences of the SARS-CoV-2 on Social and Medical Services in Poland*

**Maria Maćkowiak<sup>1</sup>, Dorota Szcześniak<sup>1</sup>, Adrianna Senczyszyn<sup>1</sup>, Marta Ciułkiewicz<sup>1</sup>, Monika Małecka<sup>1</sup>, Katarzyna Lion<sup>2</sup> and Joanna Rymaszewska<sup>1</sup>**

1. Department of Psychiatry, Wrocław Medical University, Poland
2. Menzies Health Institute Queensland, Griffith University, Australia

The ongoing pandemic is substantially affecting the system of medical and social care, especially aimed at the most vulnerable members of the society, that is older people in various physical and mental conditions, including those with dementia. In our studies we aimed to provide a window on various consequences of the SARS-CoV-2 on social and medical services both from the perspective of professional health and social care providers and recipients of this care. In the first study we investigated psychopathological consequences (somatic symptoms, anxiety and insomnia, social dysfunction, and depression) associated with the exposure of LTCF employees to the risk of the SARS-CoV-2 contagion. Moreover, we investigated if institutional factors (personal protection equipment availability, safety guidelines or access to psychiatric and psychological support at the workplace) contribute to the decrease of psychological distress of the LTCF personnel. The second study looked at the experiences of people with dementia and informal carers related to the closure of social and medical services. Both studies were conducted in Poland during the SARS-CoV-2 pandemic. The results can serve as ready-made guidelines for mitigating the SARS-CoV-2 impact on dementia care and constitute the basis for further analysis of long-term consequences of this precedential situation.

*The Impact of the COVID-19-Pandemic on German Nursing Homes—Results of Two Online-Surveys*

**Karin Wolf-Ostermann, Kathrin Seibert, Dominik Domhoff, Franziska Heinze, Benedikt Preuß and Heinz Rothgang**

University of Bremen, Germany

Older care-dependent people living in nursing homes are a highly vulnerable group and recommended measures to face the challenges of the pandemic like reduced social contacts are particularly harmful itself. In order to describe the extent to which German nursing homes were affected during the first and second wave of the pandemic more than 7000 nursing homes were invited to participate in the online surveys with quantitative and qualitative elements. Data were obtained by a self-designed online survey in April/May 2020 and January/February 2021. During the first wave four in five nursing homes had neither at least one confirmed case of COVID-19 among its residents and/or employees, during the second wave only one in four nursing homes. Local incidence rates are important predictors for the rate of infections in nursing homes. During the first wave the lack of

protective equipment was striking, later this changed to a shortage of rapid tests and vaccines. In addition to that, facilities had to cope with additional corona-related care needs, additional expenditures of time due to hygiene measures and reduced staff availability. Contacts between residents and relatives have been banned to a great extent during the first wave, later on this changed to incidence-dependent visiting concepts. As about half of all COVID-19 deceased people lived in nursing homes, the support of nursing homes in their attempt to restrict the pandemic requires highest attention. Strategies for protecting nursing home residents can only be successful if the pandemic is overcome in the whole population.

*Social Health in Nursing Home Residents with Dementia during COVID-19, and the Role of Technology to Promote Social Participation*

**Viktorija Hoel, Kathrin Seibert, Dominik Domhoff, Franziska Heinze, Heinz Rothgang and Karin Wolf-Ostermann**

University of Bremen, Germany

The sudden halt of psychosocial strategies to engage nursing home residents with dementia in social activities during the COVID-19 pandemic might have severely impacted the social health of this population due to social isolation. Behavioural and Psychological Symptoms in Dementia (BPSD) have been found to be a reaction to unmet psychosocial needs, implying that BPSD might have increased during the era of social distancing and lockdowns. To safeguard the social health of nursing home residents with dementia, technological solutions might be a viable nonpharmaceutical strategy. This study investigates the impacts of the COVID-19 pandemic on clinical outcomes, the availability of social activities and technology to promote social participation in nursing home residents with dementia during the second pandemic wave. The study analysed cross-sectional data from a follow-up questionnaire nested in a larger national survey of care facilities in Germany. A mixed-methods approach was used integrating statistical analyses of closed-ended responses, and thematic analysis of free-text responses. An overall increase in observed BPSD was reported—*anxiety and depression most frequently occurring*. Many nursing homes cancelled all social activities for residents with dementia, with few having established procedures to facilitate social participation using technology. Conditions to promote social participation in this population using technology were identified at the micro-, meso-, and macro levels, with requirements of the technology itself permeating all three levels. During and beyond the COVID-19 pandemic, technology-driven alternatives to promote social health among nursing home residents with dementia should be integrated into caregiving procedures.

*The Impact of COVID-19 Vaccinations in Dutch Nursing Homes*

**Ramona Backhaus<sup>1</sup>, Judith H. J. Urlings<sup>1</sup>, Hilde Verbeek<sup>1</sup>, Bram S. de Boer<sup>1</sup>, Debby L. Gerritsen<sup>2</sup>, Raymond T. C. M. Koopmans<sup>2</sup> and Jan P. H. Hamers<sup>1</sup>**

1. Maastricht University, The Netherlands
2. Radboud University Medical Center

In the Netherlands, nursing home residents and staff were among the first to be vaccinated against COVID-19. The aim of this study was to assess the impact of these vaccinations on daily life and family visitation in Dutch nursing homes. Data were collected in March/April (in 59 nursing homes) and December 2021 (in 57 nursing homes) by means of online questionnaires. March/April data showed that vaccination levels among residents were high. Staff vaccination levels were lower. Although in many nursing homes (70%) protective measures and visiting policies had been adjusted after vaccinations, many protective rules still were in place. For example, hugging visitors was not allowed. In many homes, the number of volunteers was still lower than before the pandemic. In December, nursing homes indicated that they experienced high workload and high rates of sick leave.

While nine out of 10 homes reported that they did no longer apply full visiting bans in case of infections, homes differed in how strict their rules were. Even in the absence of infections, one out of four homes reported that, within their nursing home, rules were stricter than in society. About 20% still had visiting hours and, in some homes, kids were temporally not allowed to enter. Compared to 2020, they felt less support from government and society. Moreover, nursing homes mentioned that they were not making plans or protocols on how to further ease protective measures and policies, but were waiting for national plans on how to ‘normalize’.

### **Life Course Transitions in Later Life: A Focus on Linked Lives and Linked Transitions**

Category: Social Research, Policy, and Practice/Lifestyle, engagement and transition

#### *Symposium Outline*

The life course is characterized by both phases of continuity and change. Such changes can take the shape of transformations, turning points, or transitions, and often correspond to important events (that can be expected or unexpected) that reorient trajectories in a lasting manner. Such transitional phases are characterized by the need to redefine ones’ roles and develop new ways of thinking and acting, new ways of relating to others and the world. These phases may themselves be institutionalized, and thus normatively anticipated elements of the life course that most people pass through—for example, the transition from work to retirement, or they can be non-normative transitions that occur in parallel to the institutionalized, like the onset of an illness or the forming or breaking of relationships (e.g., divorce, bereavement).

Whereas transition research often focuses on single transitions in individual life courses, more recent studies have shown that transitions are linked—both within one individual life course (e.g., a relocation can be linked to the onset of ill health) and between different people’s life courses (e.g., partners in the retiring process). In this symposium, we hence take a closer look at the linkages and relations between and within transition processes in later life.

Consequently, this symposium (1) focuses on the linkages between transitions and between life courses; (2) showcases projects across different jurisdictions that analyse life course transitions in later life; (3) advances scientific insights into relational life course perspectives in ageing research.

#### *Symposium Chair(s)*

**Anna Urbaniak**

University of Vienna

#### **Abstracts**

*Linked Lives and Social Exclusion: Effects of Illness in Close Relationships on Older People’s Social Lives over the Life Course*

**Franziska Rothe**

NOVA Norwegian Social Research, Oslo Metropolitan University, 0170 Oslo, Norway

**Introduction:** Older people face an increased risk of social exclusion due to the high probability of experiencing transitions like bereavement, onset of ill-health, and retirement over the life course. Few studies have examined how illness in close relationships may impact older people’s experience of social exclusion. Material Data come from qualitative interviews conducted in Norway in 2021 as part of the GenPATH project, an international European research project which focuses on social exclusion in later life. Methods 30 qualitative interviews with older people (65+) were conducted. Loneliness was measured using the De Jong Gierveld loneliness scale, assessing both general, social, and emotional loneliness. The social convoy model was used for mapping the participants’ social network. Results One woman talked about her husband’s increasing dependency due to illness and

how this prevented her from having a social life. A second woman, who was emotionally lonely, told how her husband's Alzheimer diagnosis put an end to their social life and resulted in a loss of close contacts. The third woman, who was both emotionally and socially lonely and had a relatively small network, reflected on the social and emotional consequences of growing up with a mentally ill mother. Conclusion Illness in close relationships may lead to later life loneliness even when this was experienced in childhood. This is partly the result of the care recipient posing limitations to the caregiver's maintenance of social ties, as well as by own feelings of responsibility to provide care that is otherwise not available.

*Linked Lives and the Gendered Impact of Transitions on the Social Relations of Men and Women in Later Life*

**Celia Sheridan**

Irish Centre for Social Gerontology, National University of Ireland, H91 TK33 Galway, Ireland

While there is a recognition in established literature to investigate life course transitions in the gendered construction of exclusion from social relations, the impact of transitions on the lives of others is not sufficiently explored. Further still, there is also a lack of evidence on the intersectional nature of transitions, linked lives and gender in understanding this form of exclusion over the life course. This paper aims to explore linked lives and the gendered impact of transitions on the social relations of men and women in later life. The analysis will draw on thirty in-depth semi-structured interviews with men and women aged sixty-five and over in Ireland, as part of a wider GENPATH study into exclusion from social relations. Transitions identified within the data include migration, relational disruption, bereavement, and ill-health. Typically, these transitions are not experienced in isolation but can often influence a life course trajectory or lead to transitions in the lives of others. For example, often women's experience of relocation was linked to their husband's work-life trajectory and the impact of this transition was shaped by gender power relations. Findings from the study suggest that people who experience these life course transitions can be at greater risk of exclusion from social relations in later life, with evidence also pointing to the impact on the lives of others. With a life course perspective, this paper will discuss the intersection of linked lives and gender in the construction of exclusion from social relations in later life.

*Diachronic and Normative Linkages of Life Course Transitions in Non-Institutionalised Relationship Courses*

**Luisa Bischoff**

Research Training Group "Doing Transitions", Goethe University, 60629 Frankfurt, Germany

This contribution analyses the linking of non-institutionalised relationship transitions in later life, for example leaving a relationship. Understanding life course transitions as alternating "participational changes" (Krüger & Levy 2001), the question in focus is, how relationship transitions are narratively being linked to each other in retrospect. The contribution draws on in-depth interviews with never-married individuals over the age of 50 years, conducted in the PhD project "Becoming Single in Older Age", and analyses practices of meaning-making using Grounded Theory Methodology. Results suggest a differentiation between diachronic linkages of relationship transitions and normative linkages relating to life course regimes. With diachronic linkages the same transitions—entering a new relationship or leaving another one—are being linked to one another within individual life courses. This linkage emerges when various meanings and emphases are being ascribed to the same recurring participational change, e.g., valuing one ex-partner as 'the one' and thereby de-valuing the following relationships. Normative linkages appear

between life courses, when individual non-institutionalised transitions are being set in relation to (chrono-)normative life courses enclosing the milestone of marriage. When one does not reach this milestone, either aimlessness is being described or other transitions are being made relevant. The contribution illustrates how analysing narrative practices of meaning making in later life enables us to understand processes of meaning making in non-normative living arrangements in older age and to grasp relationship transitions in their temporal normativity as well as relational reciprocity.

*(Un)Linked Lives in Linked Transitions: Relational Perspectives on Life Course Transitions and Social In- and Exclusion*

**Anna Urbaniak**

University of Vienna, 1010 Wien, Austria

This contribution explores how life course transitions link and unlink older adults' lives, and how they thereby facilitate social embeddedness as well as social exclusion in later life. The perspective from which we approach this topic is relational, implying to shift the focus from the individual to the 'transitional assemblages' that comprise different people, discourses, materialities (bodies, things, and spaces), and the relationships between. Empirically, the contribution draws on 30 qualitative interviews conducted in Austria from July until November 2020 with adults aged 66 to 88 years. Interviews contained semi-structure part and graphical reconstruction of social convoy model and were fully transcribed and coded. The analysis was based on the constructivist approach in grounded theory and case study approach. In the results we see that one transition seldom happens alone, and it nearly always affects more than one person. We focus on those transitions that appear most often in the Austrian sample: relocation, bereavement and divorce, retirement, as well as onset of ill health. These transitions might temporally coincide—for example, when a person relocates directly after they divorce -, or be causally linked—for example, when a person needs to relocate due to care-dependency. In these linkages, they link and unlink different people's lives—e.g, those of old and new neighbours after relocation. We conclude with a systematic framework of those un/linkages between transitions and older adults' social embeddedness, and discuss implications for future relational transition research.

### **Omic Studies of Aging**

Category: Biological and Medical Sciences/Morbidity, medical treatment and ageing processes

#### *Symposium Outline*

Most aging traits are extremely complex and influenced by variation in multiple biological layers. The advent of omics methods, such as genome-wide genetics, epigenetics, proteomics and metabolomics, provide us a unique opportunity to analyze aging traits in an unprecedented manner. We can now uncover biological variation in our genes (genetics), gene expression regulatory mechanisms (epigenetics), proteins produced from the genes (proteomics) and biochemical processes (metabolomics) that act upon the human system (Figure 1). Genetic factors underlying aging traits, such as longevity and certain age-related diseases have already been identified, yet for most of the traits, we have only scratched the surface. Understanding how the various omics factors associate with aging traits and how biological aging measured using omics data could be influenced for example by drug treatment is of utmost importance in our endeavors to support healthy aging and mitigate age-associated diseases.

This symposium covers topics on genetic and epigenetic risk scores for physical functioning, proteomic analysis in myocardial infarction (MI), metabolomics profiling of frailty and an analysis on the effects of common medications on the biological aging process. The results are based on Finnish, Swedish and Danish Twin registry samples as well as the UK Biobank. Dr. Elina Sillanpää will present results on genome-wide genetic and

epigenetic composite (risk) scores on physical functioning. She will present association studies about epigenetic aging scores and physical function and mortality as well as recent results on studies that have utilized polygenic scores for physical activity and muscle strength. Dr. Mette Sørensen will present results on mass spectrometry-based proteomic profiling of twin pairs discordant for MI. The findings of MSc Jonathan Mak demonstrate a crucial role of fatty acids and optimal lipoprotein metabolism in mitigating the risk of frailty. Lastly, MSc Bowen Tang will show how antihypertensive, anti-diabetic, and lipid-lowering medications associate with biological aging measures, such as the epigenetic clocks and frailty in a longitudinal setting. Together these findings highlight the involvement of various biological factors and drug treatment in aging outcomes, paving way towards better understanding on the determinants of healthy aging.

*Symposium Chair(s)*

**Juulia Jylhävä<sup>1,2</sup> and Sara Hägg<sup>1</sup>**

1. Department of Medical Epidemiology and Biostatistics, Karolinska Institutet Sweden and Health Sciences
2. Tampere University, Finland

### **Abstracts**

*Genetic and Epigenetic Scoring in Physical Functioning*

**Elina Sillanpää<sup>1</sup>, Anna Kankaanpää<sup>1</sup>, Tiina Föhr<sup>1</sup>, Päivi Herranen<sup>1</sup>, Teemu Palviainen<sup>2</sup>, Urho Kujala<sup>1</sup>, Asko Tolvanen<sup>1</sup>, Timo Törmäkangas<sup>1</sup>, Taina Rantanen<sup>1</sup>, Miina Ollikainen<sup>2</sup> and Jaakko Kaprio<sup>2</sup>**

1. University of Jyväskylä
2. Institute for Molecular Medicine, Finland

**Introduction:** The biological aging process results in declining functional capacity and further increasing morbidity and disability. The underlying mechanisms behind these physiological changes remain poorly characterized but are affected by interactions with genetic susceptibility and environmental and lifestyle factors. **Methods:** The genetic variation in multifactorial traits can be summarized into a polygenic risk score (PRS) based on variation of hundreds or thousands of genetic variants and their associated effect size weights. We have recently derived PRSs for physical activity and muscle strength. As an interface between genome and external factors, epigenetic mechanisms such as DNA methylation forms a fundamental link between genotype and environment/lifestyle. Epigenetic clocks are based on statistical models in which ageing phenotypes are predicted using genome-wide DNA methylation data, and optimal CpG sites are selected for the age predictor by the algorithm. Epigenetic clocks are able to predict both time-to-death and time-to-disease, making them fascinating tools to estimate effects of physical activity and other lifestyle habits on biological aging. **Results:** Using both a biobank study FinnGen and the Finnish twin cohort data, we have observed associations between PRS scores for physical activity and muscle strength and future cardiometabolic diseases, functional capacity outcomes, disabilities and mortality. Findings from our twin studies suggest that epigenetic clocks reflect cumulative burden of different, and often clustering, lifestyle factors. **Conclusion:** This presentation will summarize recent studies that investigated associations between PRSs for physical activity and muscle strength and epigenetic scores for biological aging in association to physical activity/function-related phenotypes.

*Metabolomics of Frailty*

**Jonathan Mak, Laura Kananen, Ralf Kuja-Halkola, Yunzhang Wang, Sara Hägg and Juulia Jylhävä**

Department of Medical Epidemiology and Biostatistics, Karolinska Institutet, Sweden

**Introduction:** Frailty is a complex syndrome associated with multisystem dysfunction, and its molecular mechanisms remain poorly understood. We sought to identify metabolic biomarkers associated with the risk of frailty. **Material and methods:** This analysis included 103,282 UK Biobank participants (mean age 56.7 years) who provided blood samples at baseline during 2006–2010. 249 metabolic biomarkers were profiled by nuclear magnetic resonance spectroscopy. Frailty was measured by a 49-item frailty index (FI) and a modified frailty phenotype (FP) based on self-reported items at baseline. Least absolute shrinkage and selection operator (LASSO) regression with 10-fold cross-validation was used to select frailty-associated biomarkers in a randomly selected training set (70%,  $n = 72,299$ ). We then performed linear regression between the identified biomarkers and frailty scores in a testing set (30%,  $n = 30,983$ ), adjusted for age, sex, assessment center, body mass index, waist-to-hip ratio, smoking, alcohol, education, and deprivation. **Results:** 34 biomarkers associated with both the FI and FP were identified from LASSO regression. In linear regression models, we observed direct associations with inflammatory markers, various amino acids, and glycolysis-related metabolites, and inverse associations with several fatty acids and lipoprotein subclasses, for the FI and FP scores. These associations were largely consistent in younger (<60 years) and older (>60 years) adults. **Conclusions:** We identified novel biomarkers that may underlie the pathogenesis of frailty. As the next step, we will replicate our results in external cohorts and assess casual relationships by Mendelian randomization to determine whether these metabolites could be used as a potential target for frailty prevention.

*Proteome Studies of Aging—Analysis of Myocardial Infarction*

**Mette Sørensen Thinggaard**<sup>1</sup>, **Jonas Mengel-From**<sup>1</sup>, **Jacob Hjelmberg**<sup>1</sup>, **Lars Melholt**<sup>2</sup> and **Hans Christian Beck**<sup>2</sup>

1. The Danish Twin Registry and Epidemiology, Biostatistics and Biodemography, Department of Public Health, University of Southern Denmark, Denmark
2. Department of Clinical Biochemistry and Pharmacology, Odense University Hospital, Odense, Denmark

**Introduction:** Proteins are the products of the genetic code and consequently of tremendous importance for biological function. Variation in the human proteome and its relation to aging is, however, largely unexplored. In recent years remarkable technological advances have, however, enabled such studies, either by panel-based methods like SomaScan and Olink, or by whole-proteom analysis by mass spectrometry. We will here introduce proteome studies of human aging, as well as the advantages of twins for such studies. **Materials and Methods:** As an example of an age-related disease, we will present a mass spectrometry-based proteome analysis of 726 proteins measured in the blood plasma samples from 39 twin pairs (age: 48–79 years), who were discordant for acute myocardial infarction (AMI) within the first three years after blood sampling, i.e., one co-twin had a diagnosis, while the co-twin did not. Diagnosis of AMI was obtained from the Danish National Patient Registry. Statistical analyses were performed as regression analyses of diagnosis status and time to diagnosis of all individuals, and as intra pair analysis of differences in protein levels within the discordant twin pairs. **Results:** Pathway analyses revealed biological pathways of potential relevance for AMI ( $FDR < 0.05$ ): among other related to coagulation cascades, extra cellular matrix biology and the immune system, potentially reflecting emerging damage to the cardiovascular system. This was especially pronounced for the intra pair analyses. **Conclusion:** Proteome studies of aging are promising, and twin studies might add value by controlling the potential confounding effect introduced by genetic variation and early life environment.

*Antihypertensive, Anti-Diabetic, and Lipid-Lowering Medication Use and Biological Ages: A Longitudinal Study*

**Bowen Tang, Xia Li, Yunzhang Wang, Arvid Sjölander, Kristina Johnell, Nancy Pedersen and Sara Hägg**

Department of Medical Epidemiology and Biostatistics, Karolinska Institutet, Stockholm, Sweden

**Introduction:** Aging is the major risk factor for many chronic diseases, and interventions targeting aging have long been proposed as possible approaches to mitigate age-related functional decline and delay the onset of chronic diseases. **Objective:** To investigate anti-diabetic, antihypertensive, and lipid-lowering medication for their effect on biological aging using a longitudinal study design. **Methods:** We included 655 participants and 2452 repeated measurements from the Swedish Adoption/Twin Study of Aging (SATSA). Medicine use was self-reported and categorized into anti-diabetic, antihypertensive, and lipid-lowering drugs. A total of 11 markers of biological age (BAs), incorporating measures from the molecular (e.g., telomere length, epigenetic clocks) to functional level (e.g., frailty index, cognition), were included as outcomes. A conditional generalized estimating equation (cGEE) model was applied with each individual as a cluster to control for bias from unmeasured time-constant factors. Measured time-varying factors, including chronological age, body mass index, smoking status, polypharmacy, blood glucose, blood pressure, and apoB/apoA ratio, were controlled in the model. **Results:** Antihypertensive medication use was associated with reduced epigenetic clocks (beta estimates for five epigenetic clocks ranging from  $-1.20$  to  $-0.45$ ), reaching statistical significance in PhenoAge (beta =  $-1.10$ , 95% CI =  $-2.20$  to  $-0.029$ ) and in GrimAge (beta =  $-1.20$ , 95% CI =  $-2.00$  to  $-0.35$ ). Lipid-lowering medicine use was associated with a lower frailty index (beta =  $-0.021$ , 95% CI =  $-0.034$  to  $-0.0082$ ), while no apparent association between antidiabetic medication use and any of the eleven BAs was observed. **Conclusion:** Our results suggest antihypertensive and lipid-lowering drugs as possible candidates to be further examined for slowing biological aging processes and preventing age-related diseases.

### **Participatory Approaches with Older Adults**

Category: Social Research, Policy, and Practice/Education and competences in ageing societies

#### *Symposium Outline*

The participation of older adults in research is a relatively new concept comprising a number of approaches like “inclusive research”, “user-led research”, “community research”, “participatory action research” (PAR), “collaborative research” or “co-research”. Participatory approaches are getting attention also in ageing research focusing on health and care across the fields of gerontology, nursing studies, and disability studies, and we observe a growing interest in public patient involvement (PPI) in health and care research. Co-production in these fields is essential to ensure that the priorities of participants are identified, expressed and communicated effectively. We highlight the potential of participatory approaches not only for improving policy and research designs but also to address the particularly pronounced power imbalance in the research and policy-making processes (between researchers and older adults and policy-makers and older adults respectively).

Therefore, in this symposium, we want to discuss how we can gain insights into older adults’ experiences, facilitate their voices, and thus reorient research and policy towards more inclusive and adequate designs that caters for the diverse needs of different groups of older adults. The symposium hence aims to initiate an interdisciplinary debate in international gerontology on the significance of participatory approaches in ageing research and policy-making. Consequently, this symposium (1) examines the research process through the lens of known and emerging benefits and challenges resulting from involving

older adults as co-creators in research; (2) showcases projects across different jurisdictions that use participatory approaches in ageing research; (3) advances scientific insights into participatory approaches in ageing research focussing on competencies needed in ageing societies.

*Symposium Chair(s)*

**Anna Urbaniak**

University of Vienna

### **Abstracts**

*Methods and Approaches in Co-Creation of Research Processes with Older Adults*

**Anna Wanka<sup>1</sup> and Anna Urbaniak<sup>2</sup>**

1. Research Training Group 'Doing Transitions', Goethe University, Frankfurt am Main
2. University of Vienna

Participatory approaches have a long-standing history and many successful applications across multiple domains in social sciences. At the same time, there is a growing interest in involving older people in citizen science approaches in environmental studies or Public and Patient involvement approaches in health research. In this contribution, we aim to bring together participatory approaches and ageing research by asking the following questions: what participatory research means in the context of ageing research? How older adults are being involved in participatory approaches? How ageing research can benefit from involving older adults as co-creators of the research process? In this contribution we present preliminary results of the scoping review and provide examples of how older adults can be involved in developing research questions together with researchers, collecting and analysing the data, validating and disseminating study results.

*Making The Voices of People Living in Nursing Homes Heard by Means of Participant Photography*

**Qarin Lood<sup>1</sup>, Roar Hermansen Østby<sup>1</sup>, Sara Hultqvist<sup>2</sup>, David Edvardsson<sup>3</sup> and Synneve Dahlin-Ivanoff<sup>1</sup>**

1. University of Gothenburg, Gothenburg, Sweden
2. Linnaeus University
3. La Trobe University, Melbourne, Australia

**Introduction:** Previous research has visualised the importance of giving people living in nursing homes a fair chance to participate in research on their own terms. Therefore, we aimed to investigate the utilisation of participant photography as a tool for participatory research in nursing homes. **Material and methods:** Participant photography and in-depth interviews were used to explore: (1) how people living in nursing homes use photographs to mediate their perspectives; and (2) whether participant photography contributes to a sense of participation in the research process. **Results:** Preliminary analyses of the participants' descriptions of their photographs indicate a lack of person-centred dialogues between them and the people working in the nursing home. Care and services were described as directed by the people working in the nursing home, with little means for the participants to influence their everyday lives. In terms of participation in the research process, the findings visualised physical barriers related to frailty and cognitive impairment, as well as the institutional setting of the nursing home. Facilitators identified mainly related to the participants' previous experiences of using photographs to share their memories, and their willingness to learn new things. **Conclusion:** The participants' photographs illustrated a need for a person-centred approach to become the axiom of nursing home care and services, allowing people working in nursing homes to attend to the unique needs of each person living there. Moreover, participant photography seemed to be both a facilitator and barrier

for participatory research, influenced by the participants' frailty, cognitive impairment, habituation, and volition.

*How can Participatory Action Research Contribute to a More Respectful Praxis at Nursing Homes?*

**Annette Bilfeldt<sup>1</sup> and Marianne Mahler<sup>2</sup>**

1. Ilisimatusarfik, University of Greenland
2. Democratic Ageing, Copenhagen, Denmark

The Context: Residents at a public nursing home in Copenhagen in Denmark reported being treated without respect towards their individual needs and perspectives. Relatives reported that they were not listened to and that they have conflicts with the staff. Employees reported feeling trapped in a negative spiral of stress due to the administrative focus on cost efficiency and standardized measurements in public care service. The project goal was to develop a democratic and inclusive praxis for more autonomy and quality of life for the residents and better working life for the employees. The methods were participatory action research with group interviews, future creating workshops, network conferences and task force groups with residents, relatives and staff. The results: The initiation of learning processes, enabling employees to respectfully engage in dialogue with residents and relatives; the involvement of residents and their relatives in decision making at all levels of nursing home life. The project led to the empowerment of residents. The project played an important role in the development of democratic knowledge building based on the perspectives of residents, relatives and employees. Thus, the contours of an alternative strategy to counter the New Public Management agenda of standardized care service has been made visible. In spite of power inequities between employees and residents/relatives, the project contributed to the development of a more ethically reflective praxis focused on the empowering of primary 'stakeholders' in nursing home daily life. Furthermore, it led to higher job satisfaction for the staff.

*Reflexivity in Co-Creation Processes: Doing Research on Exclusion from Social Relations with Older Adults and Stakeholders*

**Anna Urbaniak<sup>1</sup> and Anna Wanka<sup>2</sup>**

1. University of Vienna
2. Research Training Group 'Doing Transitions', Goethe University Frankfurt am Main

A growing body of evidence highlights that contributions provided by older people when designing, implementing and disseminating research may make studies more effective, credible and brings studies closer to the lifeworlds of their research subjects. Additionally, there is growing acknowledgement of a moral imperative to involve individuals who are the focus of research about them. However, beyond many benefits, participatory approaches also imply numerous challenges. In this presentation, we reflect on what it means to co-create research with a group of older adults and stakeholders considering challenges and opportunities that emerge in the co-creation process. Empirically, the contribution draws on initial findings of the Austrian research project "SEVEN—Socially Excluded Older Adults: Voices and Experiences". Data stem from one consultative forum conducted in Austria in February 2022 with eight adults aged 60 and more and five stakeholders representing organisations dedicated to supporting older adults. Findings highlight the potentials and challenges arising when researchers, stakeholders and older adults do research together—ranging from power imbalances (e.g., whose voices are heard) to field-specific knowledge and, not least, resources like time. These benefits and challenges are systematized in a SWOT matrix, based on which we discuss implications for future participatory approaches in ageing research that aim at including older adults and stakeholders in the process of co-creation.

## Patient Perspectives on Everyday Use of Digital Health Technologies in Later Life

Category: Humanities/Digitisation and technology

### *Symposium Outline*

This symposium focuses on the everyday use of digital health technologies in later life and presents research into patient perspectives on three different technologies: email consultations, video consultations and health applications (apps) for physical health management. The symposium addresses some of the ways in which the introduction of new digital solutions such as digital consultations and health apps are influencing and changing health practices in later life. The COVID-19 pandemic has caused further rapid changes to the healthcare system, wherein digital health solutions have become more relevant than ever.

Drawing on in-depth qualitative interviews, we present results from three research studies on email, video and apps and offer qualitative insights into the older patients' management and perception of health and help seeking through digital technology. The studies presented are carried out in Denmark, which in 2020 led the 193 United Nations member states in terms of digital government [1], making the Danish context an important case to investigate. Moreover, Denmark has the highest number of email consultations sent and received in Europe [2] and in later life, these digital consultations are used with the highest frequency. In general practice, email consultations and video consultations now supplement the consultations that are conducted by telephone, physical consultations in a clinic or during a home visit hereby providing patients with the opportunity to receive medical expertise without having to visit the general practitioner's clinic. Furthermore, the Danish health authorities aim to integrate digital health applications in their repertoire of services, permitting citizens to initiate health management efforts outside the context of general practice. Questions addressed by the symposium include: How are digital health technologies (email, video and apps) used and perceived in later life? Which forms and understandings of care do the digital technologies in question afford and hamper? And which potentials and pitfalls are in a patient perspective emerging as older patients self-optimize and self-govern through the use of digital health technology?

The email study is carried out as part of the VELUX funded project *Digital consultation and ageing. Perception, mediation and ethics* (2018–2022).

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### *Symposium Chair(s)*

**Anette Grønning**

University of Southern Denmark

### **Abstracts**

*Struggling with and Mastering Email Consultations*

**Anette Grønning**

University of Southern Denmark

This presentation focuses on the use and perception of primary care email consultations from the perspective of the patient through two studies. The first study is based on qualitative interviews with 20 patients and guided by the following research question:

How do patients struggle with and master digital participation during email consultations? The study demonstrates that email consultations are more than a digital access point to the healthcare system: patients often struggle to maintain contact with their general practitioner, and email consultations can help them navigate the healthcare system. Indeed, those who master this form of communication are appreciative of it and perceive it as 'screen care'. The second study illustrates examples of the multiple ways in which bodies present themselves in email consultations from a data collection consisting of 66 email consultations with one or several exchanges. Our analysis departs from a sociotechnical perspective by considering the introduction of technology in question as creating new challenges and opportunities for participation in and the exchange of communication within this relationship. The analysis leads to a six-category typology of bodies in affective discourse in email consultations: sensations, emotions, countings, medication, visuals and movements. The analysis brings together a theoretical perspective, the mutual shapings of the social and technological, with an affective practice-based approach. The email consultation produces what we call an 'unruly data vitality', as the data are accessed and recombined in the larger ecosystem of the Danish primary care sector.

#### *Digital Caring Masculinity amongst 65+ Male Patients*

**Maja Klausen**

University of Southern Denmark

This presentation follows the call for a many-faceted and holistic approach to how media and digital technologies in various ways form part of different stages of the life course. It presents a qualitative study of older (65+) Danish men's everyday use of and experiences with digital technologies in relation to health and self-care. Statistics show that Danish men between 64–79 use email consultation as much or more frequent than women in the same age group. This is a help seeking pattern we do not find in any other consultation form (telephone, physical consultation), in which women take the lead. This presentation sheds light on qualitative insights into how email consultation as well as other digital health technologies assist and enable practices of self- and healthcare for the older man. Through narrative vignettes it is illustrated how email consultation, a digital, asynchronous form of communication, affords different practices of care for self (and others) for the older male patient. Moreover, the presentation focuses on how the digital technologies used by the men in their everyday life weave traditional forms of masculinity with practices of care into, what health anthropologist Nina Nissen calls, 'caring masculinities'. In exploring intersections of age, digital technology and masculinity the presentation points to some of the complex ways through which caring masculinities are assembled in relation to digital technologies.

#### *Domesticating Video Consultations: Optimistic Trial and Error*

**Elle C. Lüchau**

University of Southern Denmark

This presentation focuses on older patients' use of video consultations with their general practitioner. Danish health authorities present digital communication technologies as a solution to the challenging growth rate of ageing populations, and older Danish citizens are already the most digitally active in the EU. Due to the COVID-19 pandemic, video consultations were rapidly implemented in Danish general practice and the Danish health authorities aim to continue the use of video consultations as an integrated part of the consultation repertoire in general practice. Based on qualitative in-depth interviews with six older (65+) patients, we present results from our investigation of how patients integrate video consultations into their daily lives. We discuss how video consultations influence the patients' health practices and how the doctor-patient relationship impacts the patients' experience of the video consultation and vice versa. In continuation hereof,

we present insights from 25 qualitative in-depth interviews with general practitioners and discuss how they articulate perceptions of their older patients' use of video consultations, including reflections on potentials and barriers relating to the older patients' technological competencies and the patients' opportunities to keep up with the digital development in general practice.

*The Role of Mobile Applications in Older People's Health Practices*

**Martin Vinther Bavngaard**

University of Southern Denmark

This presentation centers around older people's use of mobile applications (apps) for health management purposes. The Danish health services face pressure due to a rise in the population of older people at risk of chronic noncommunicable diseases. Concurrently, Danish health authorities increasingly count on apps to encourage citizens' self-management of their health. Based on in-depth qualitative interviews with ten older (65+) Danes, all using apps for physical health management, this study enquires into how and why older people use apps in the management of their physical health. While existing research on older people's use of apps focuses mainly on the effects and usability of the latter, this study instead centers around individuals and their sociotechnical practices. Through abductive reasoning, an interpretative anchorage in Foucault's (1988) concepts of self-governance is established. The findings show that the informants' self-governing initiatives are informed by normative assessments, corresponding with values promoted by the concept of successful ageing. In this context, apps are situated within bounded exercise aimed at controlling, initiating, and pushing the informants' efforts regarding physical activity. Apps are also incorporated in unbounded everyday settings to impose structures in day-to-day life, render daily tasks more efficient, and monitor sleep habits. The informants utilize apps to facilitate and optimize the beforementioned practices relating to their physical health management, thus enhancing their efforts towards ageing successfully. Simultaneously, app usage constitutes a practice which in itself plays a decisive role in the informants' feelings of adherence to the rationales of successful ageing.

**Performative Perspectives on Citizenship in Active Ageing Societies**

Category: Humanities/Education and competences in ageing societies

*Symposium Outline*

In February 2018, a group of employees from the Danish Museum of Modern Art ARKEN, Ishøj Library and Ishøj Municipality Centre for Culture and Leisure launched a pilot project under Ishøj municipality's cultural effort, with the title: "Forglem mig ej" (Forget me not). The common starting point was the idea that cultural experiences play an essential role in improving the quality of life of older adults. The project yielded import for everyone involved: groups of older adults, project teams and Ishøj municipality, working across the fields of culture, design processes, social innovation, mental health, and health promotion. Thus, the project group approached the *lives* of older adults and not only their *diseases*.

In this symposium, we depart from the pilot project and engender a critical discussion among the participants in the symposium, through three presentations on (1) The Purpose of Arts in Active Ageing Societies; (2) The Role of Critical Design in Active Ageing Societies; (3) Performative Pedagogy in Active Ageing Societies.

We want to facilitate a critical discussion on how to approach education, competencies, participation and everyday life in active ageing societies. With an emphasis on connecting people from different disciplines and with different perspectives on ageing, we want to foster performative approaches to change and continuity in the ways we embrace the *lives* of older adults in active ageing societies—without forgetting that all of us become active ageing citizens in active ageing societies.

In this symposium, we explore the potential implications of ‘active citizenship’ in active ageing societies from a humanistic point of view. What kind of demands and needs for change does this (gradual) ‘transition’ entail? Who is to change, and how are they/we supposed to change? What is an active ageing society on a more fundamental level, and what does it require from, e.g., policy, institutions, other actors and individuals? What kind of lives are made (im)possible and (il)legitimate within the frame of ‘active citizenship’ in an active ageing society, and how does this transition encompass continuity? How can we contribute to a critical investigation into change and continuity in active ageing societies?

*Symposium Chair(s)*

**Tine Fristrup**

School of Education, Aarhus University, Denmark

**Abstracts**

*The Purpose of Arts in Active Ageing Societies*

**Gunnar Munksgaard**

Outreach & Community Building, ARKEN Museum of Modern Art, Denmark

The pilot project “Forglem mig ej” unfolded during 2018 and is the story of something both complex and straightforward, as experiences with and for elderly people and people diagnosed with dementia. It is a collaborative endeavour between four institutions: ARKEN Learning, Center for Culture & Leisure, Ishøj Municipality, and Ishøj Library. They are all based in Ishøj municipality in Denmark. They have engaged in the project with respect, courage and a joint effort in breaking with habitual thinking and instead embraced provisions, unfamiliar communication patterns and interdisciplinarity. The pilot project started with a desire to make a positive difference for lonely older people and people with dementia. At the same time, they set out to explore what happens when you set an informal framework where the target group can get in touch with their memories via art, community and sensory-based experiences. Questions like: Can it increase the quality of life? Can we as professionals learn anything about our working and disseminating methods? As the project progressed, however, other fruitful results and perspectives on collaboration across disciplines and institutions in the municipality emerged. The pilot project created value for everyone involved, i.e., groups of older people, the project teams and the municipality. It, therefore, felt right to write down the different experiences and share them with other cultural and health institutions, municipalities and people working at the intersections between culture, design processes, social innovation, mental health and health promotion.

*The Role of Critical Design in Active Ageing Societies*

**Jon Dag Rasmussen**

Department of the Built Environment, Aalborg University, Denmark

Following the vista towards significant changes in demography, i.e., an increasing number of elderly and older people in our societies on a global scale, we need novel paths to think about, organise, design and re-design the built environment. Many elderly and older people in our societies call for new approaches to architecture and design in material and socio-material understanding of these notions. Furthermore, the processes known as climate change and ecological crisis are currently at the heart of any action. For this reason, the active ageing and inclusive society of tomorrow must be measured by its ability to promote and secure both social and environmental sustainability. Design plays a crucial role in these intertwined and pertinent transitions as broadly informed design-action can first grasp and understand the manifold needs inherent to individuals, groups, actors and institutions in complex societies. Secondly, react to this knowledge with appropriate initiatives and solutions. Realising an inclusive and ‘active ageing’ society demands a

series of answers to the fundamental questions “what is active citizenship?” and “what is ageing?”. Furthermore, it requires deep insights into human lifeworlds because bodily and socio-psychological functions, as well as cultural experiences and aesthetic preferences (and the intricate connections between these domains), can both promote and obstruct societal participation. This calls for close co-operation between the social sciences, the humanities and the world of design. The presentation is based on a work in progress that explores emancipatory design (Rasmussen & Torkildsby, forthcoming).

*Performative Pedagogy in Active Ageing Societies*

**Tine Fristrup**

Danish School of Education, Aarhus University, Denmark

In understanding the social processes in an ageing society, it is necessary to begin with “us” as ourselves and not with “them”—those we expose to a particular gaze that objectifies “them” through the division between “us and them”. The “us and them” divide can be seen as a separation or a social division between groups. However, when approaching it through an Eliasian figurational perspective, the groups are not separated but works separately through social or figurational dividing practices. The figurational interdependencies between people change in time, place and situation, as the power balances change between societal groups. When approaching “ageing” and “active ageing” as different figurations, which is not static but unfolds in continuously dynamic processes, we can engender “ageing” as “practices of ageing” or “ageing practices” concerning the actual processes, where “we” engage in “ageing”. “Ageing” becomes a social process, a practice that unfolds in specific settings where people engage in “ageing” differently and through levels of involvement and detachment. The relationships between people must be the starting point in a performative pedagogy, where “we” engage in relationships with people of different ages, with an emphasis on how the “I” engage in the performances of the “we”. A performative pedagogy enrolls balancing the power relations in figurations of ageing. When “I” talk about “my ageing”, it is permanently embedded in a “we” and understandings of “our ageing”, which might follow the political agenda on “active ageing”, but not necessarily.

### **Prolonged Working Lives between Participation Chances, Inequality and Risks of Exclusion**

Category: Behavioural and Social Sciences/Education and competences in ageing societies

#### *Symposium Outline*

Background: Policies aim to extend working lives via investing in the workability of older workers, changing legal frameworks, promoting innovative life-course policies, and advancing life-long learning processes. With company and branch policies partly holding opposing views, promoting early exits and continuing ageist training and recruitment practices, there is a risk for increased exclusion and new inequalities connected to these shifts, as prolonged working lives might not be equally achievable and beneficial for all workers.

Concept: This symposium presents research from projects on exclusion and inequality in late working life which aim at providing evidence for policy innovation towards inclusive extended work and sustainable working conditions in Sweden and Europe in the EIWO research programme ([www.eiwoproject.org](http://www.eiwoproject.org), funded by the Swedish Research Council for Health, Working Life and Welfare, Dnr 2019-01245). It compiles comparative multi-level research on Sweden, Poland, Germany and the UK from various methodological perspectives—national and European comparative analyses based on register- and survey data as well as on qualitative interview information. Papers contribute to ongoing policy debates on late work in ageing societies by addressing chances and limits of the equal and

inclusive prolongation of working lives. The role of individual exclusion experiences, life courses, company structures and national policies are at the core of the analyses.

Contributions: The presentations include (a) an introduction to the research and policy field of social exclusion in late working life; (b) a register-data based analysis on the impact of companies and branches on late work exclusion in Sweden; (c) survey-based analyses on the impact of early-life conditions on late work outcomes; (d) an interview-based qualitative examination of older workers experience of exclusion risks; (e) an assessment of the role of national policies and welfare systems for later work participation as well as (f) a Polish analysis on levers for late work prolongation within a framework of policy and age-management practices.

(Co-)authors represent a blend of early-career, mid-career and senior scientists with interdisciplinary backgrounds. The symposium is framed by a commentator's statement and the audience is invited for discussing concepts, analyses and conclusions with the presenters.

*Symposium Chair(s)*

**Andreas Motel-Klingebiel**

Linköping University

#### **Abstracts**

*The Problem or The Solution: Contribution of Companies and Branches to Inequality and Exclusion from Late Work in Sweden*

**Gülin Öylü, Susanne Kelfve and Andreas Motel-Klingebiel**

Linköping University, Sweden

Although there is rich literature on factors that affect participation and exit patterns of individuals in late working life, the emphasis on individual decision making rather than employer behavior. However, the employer's decision to hire or terminate the contracts play important role in unemployment and exit of the older workers in late working life. This paper aims to understand the link between the organizational structure and the sector of the companies in the companies' employing behavior of the older employees. Using Swedish registry data that involves all companies in Sweden that have at least one gainful employee between the years 1990–2018, this study investigates how do age, gender, education composition, sector and the scale of the company affect its likelihood of hiring and terminating employment of older employees by age, gender, and education. This paper shows that the likelihood of entry and exit of older employees differ among the companies in different sectors as well as with different age and education composition. This contributes to the inequality among the groups that are structurally distributed in different sectors or type of companies in late working life.

*Gendered Late Working Life Trajectories. Family Risks and Country Contexts: Evidence from Share*

**Wiebke Schmitz, Laura Naegele, Frerich Frerichs and Lea Ellwardt**

University of Vechta, Germany

Background: Late working life (LWL) differs heavily by gender. Women's employment is usually disrupted by care responsibilities. Family risks in earlier life influence LWL over a life course mechanism—especially in welfare regimes encouraging the breadwinner-caretaker division. Methods: Using life history data from SHARE, LWL is analyzed with gender-separate sequence-analyses. Multinomial regressions are used to explain LWL by earlier family risks and its moderation by welfare regimes. Results: Men's LWL is shaped by full-time, women's LWL is characterized by part-time and domestic work. Among women, family risks are linked to domestic and part-time work—especially in liberal regimes. Among men family risks are linked to full-time work. Discussion: Overall our findings suggest that policy makers need gender-specific strategies to integrate workers

into LWL. New policies should aim to prevent these social inequalities in early life, as gender specific family risks have the tendency to cumulate over the life-course.

*Gendered Inequalities and Exclusion Risks in Late Work from the Perspective of Older Workers: Germany, Sweden, Poland and the UK*

**Nehle Penning and Monika Reichert**

Technical University Dortmund, Germany

**Background:** Extending working lives (EWL) is an important issue for many ageing societies. In order to understand the integration of older persons in the labour force, it is important to take the individual perspective of older workers into account. This offers a deeper understanding of how older workers experience inequalities in course of their working life, of their coping strategies, and what can be learned from it on a broader level to avoid exclusion from EWL. **Method:** The thematic content analysis (Kuckartz, 2018)—is based on 100 problem-centred interviews (with topics such as the work history) that were carried out in Germany, Sweden, Poland and the UK (25 interviews in each country) between May 2021 to February 2022. The sample consists of women and men aged in their late 50s and older who are either employed or self-employed, unemployed or working in retirement. **Preliminary results:** We find different experiences of inequalities during working life by older workers, which can be reconstructed as so-called risk chains from a life course perspective. Particularly noticeable are differences between the gender groups, which could be identified across the four countries. The interviews gave us an insight into gender-specific coping strategies to deal with life events that influence employment. **Discussion:** Our results from various employment biographies show how external framework conditions can help or hinder the workforce in overcoming challenges in working life. That can be used to address the question how to reduce inequalities and exclusion in late working life.

*Levers of Extending Working Life in Poland: The Policy Framework and Age-Management Practices*

**Jolanta Perek-Białas, Maria Varlamova and Katarzyna Saczuk**

Jagiellonian University Krakow, Poland

**Introduction:** Extending working life has not been a key or major policy goal of the Polish governments for many years (Ruzik et al., 2013). Despite low retirement age and employment rates of near-retirement population groups (especially for women), the undertaken policy responses are fragmented and lack a holistic approach and succession of implementation, which is partly attributed to the country's socio-economic history and the consequences of a welfare regime change. **Materials and Methods:** The study investigated data from the EU Labour Force Survey (Polish sample) by socio-economic characteristics to show development of the extension of working life in country over longer period of time. Secondly, it also traces the change in the management practices of middle and large-sized companies, using the representative survey of the ASPA employers (Activating Senior Potential in Ageing Europe) and an additional wave conducted in 2020 that formed the longitudinal framework. **Results:** The analyses confirmed the lack of coherent, well-designed, tailored and effective policy frameworks for extending working life on both national and regional level. The meso-level also shows low (although rising) awareness of the HR management, scarcity of resources for developed age-management strategies and the considerable prevalence of ageism. Polish companies increasingly use separate age management tools, but their variety is largely limited. **Conclusions:** Poland demonstrates a lack of willingness and ability to manage the older workforce at the macro and meso levels. Despite a positive shift in the area, the existing methods appear to be rather scattered and inadequate to extend working life.

## Reflections on Vulnerability of The Older Persons

Category: Health Sciences/Education and competences in ageing societies

### *Symposium Outline*

The purpose of the symposium is to address vulnerability, and to enforce approaches towards vulnerability. Serious illness and poor health can lead to increased experience of vulnerability, and inequality. The concept of vulnerability in this symposium is understood from both an emic perspective, where the individual's self-perceived vulnerability is in focus, and from an ethic perspective where the various risk factors are involved, identified, and considered.

Thus, with this symposium determinants for vulnerability will be presented. The focus will be on culture and families, loneliness, participation and autonomy, cognitive impairment and medication. We expect the presentations to be transferable and relevant to all care settings involving older patients and their relatives.

Tahir Masud, MD Professor, Nottingham University Hospitals, UK. Loneliness is now a significant public health risk and has been shown to increase the experience of vulnerability, care home admission and mortality. There are opportunities for professionals in primary care, community health, mental health and hospital settings to make a difference to the risk and impact of loneliness.

Grethe Eilertsen, RN Professor, University of South-Eastern Norway. Participation is a fundamental value embedded in human autonomy and freedom. Serious illness and poor health among older people challenge health personnel's ability to ensure and facilitate balanced participation. Balanced participation deals with an approach where the older is not put to shame/guilt because of vulnerability.

Dorthe S. Nielsen, RN Professor, University of Southern Denmark. Culture and traditions influence how illness and vulnerability is understood and handled, and on how the family becomes involved in caring for the older geriatric patient. This presentation will focus on the importance of cultural competencies to understand vulnerability and to avoid inequality and marginalization of older patients with minority backgrounds.

### *Symposium Chair(s)*

**Dorthe Susanne Nielsen** <sup>1,2</sup>

1. University of Southern Denmark
2. Odense University Hospital

### **Abstracts**

*Loneliness in Older Citizens—A Major Societal Issue*

**Tahir Masud**

Nottingham University Hospitals. UK

Over 30 million older people are socially isolated in Europe. Loneliness differs from isolation in that it represents a subjective and painful experience with a mismatch between the number and quality of social connections that a person has and those that he/she would like. Psychological consequences of loneliness include depression, cognitive impairment and suicide. Physical health effects include increased stroke and cardiovascular disease risk. The resulting increased mortality has been compared to the more traditionally known risk factors of smoking and obesity. Loneliness also leads to increased health service use and institutionalization. Interventions to address loneliness can be delivered either in groups e.g., support groups, reminiscence therapy or on a one-to-one basis e.g., training in computer use, animal companionship, and befriending schemes, delivered in community settings or within supported living facilities. Assessment of loneliness should be a vital part of the Comprehensive Geriatric Assessment and various screening tools have been developed to objectively ascertain the presence and severity of the condition. Once identi-

fied, appropriate interventions include training people in social skills, such as providing education on developing friendships or other social behaviours, and enhancing social support networks, which include befriending programs and specialist support groups for those with specific health conditions. Increasing opportunity for social interaction, perhaps by provision of transport to allow people to attend events and groups in the community or by using technology for communication or interactive games and activities are important. Social cognitive training is another useful intervention which can effectively reverse “maladaptive social cognition”.

*Balanced Participation—Reflections on Participation among Vulnerable Older Recipients of Home Care*

**Grethe Eilertsen**

University of South-Eastern Norway

Participation is a fundamental value embedded in human autonomy and freedom and is a fundamental democratic value. Serious illness and poor health can lead to an increased experience of vulnerability, especially among older people, partly as a result of reduced opportunities for participation. Such situations challenge health personnel’s capacity to ensure a balanced participation. Balanced participation deals with an approach where the older are not put to shame and/or feeling guilt as a result of reduced strength, ability and will. Living at home is important for older peoples’ experience of freedom, belonging, identity, autonomy and independence. Becoming dependent on homecare services entails new structures and routines threatening the experience of freedom and autonomy. When freedom is restricted due to changed routines, it can be perceived as alienating, leaving the olds as spectators in their own lives and homes. Participation often includes being actively in domestic activities, in co-determination and in maintaining roles. How participation is understood and what is perceived as important is a subjective matter. How health professionals understand participation may be different from what the older’ understanding. Expectations of participation in areas the older person consider to be of minor importance or outside what is felt to be achievable can be perceived as stressful and evoke feelings of shame. A health-promoting collaboration seems to require clarification and focus on what promotes an experience of a balanced participation. It can be about participation in rationing and prioritizing limited resources to what is considered significant by the old.

*In the Footstep of the Frail Old Patient*

**Sanne Have Beck**<sup>1</sup>, **Karen Andersen-Ranberg**<sup>1,2</sup>, **Astrid Janssens**<sup>3,4</sup>, **Grethe Eilertsen**<sup>5,6</sup> and **Dorthe Susanne Nielsen**<sup>1,7</sup>

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7. University of Southern Denmark

Introduction: Caregiving for older adults involves interacting with numerous care providers. The transition between healthcare services is a vulnerable process, where frail, older multimorbid adults are at the greatest risks of health deterioration. Frequent and clear communication between the patient, family and healthcare providers can improve adherence to the discharge plan.

This study aims to explore how frail older persons react in the transition between home and hospital and vice versa.

**Methods and Materials:** Qualitative field observations will be guided by an observational tool, inspired by Spradley's nine domains. The focus will be on the older person's reactions to the healthcare service delivered, including the older person's reactions to the care, their mental state, physical health status, and social network.

We will invite 10 to 12 participants of different ages, gender, social and cultural backgrounds using a purposive approach. Only cognitively capable patients, aged 65+ years old, discharged from the Dept. of Geriatric Medicine, Odense University Hospital to homecare in the municipality or vice versa, will be invited.

The analysis will be conducted using meaning condensation inspired by Georgi.

**Results:** We expect the results to provide significant insights into the interaction between the patient and the healthcare professionals in charge of the transition, both within the hospital and the municipality. These perspectives will be presented at the conference.

**Conclusions:** This project expects to contribute with new knowledge aiming to improve the quality of care for frail old patients in the transition between hospital and home.

#### *How do We Address and Understand Vulnerability*

**Dorthe S. Nielsen**

University of Southern Denmark

Defining people as vulnerable can have consequences for the individual older person, for care and treatment, and the research being conducted. There is a risk of stigmatization when groups of patients are categorized as vulnerable. The clinician or researcher becomes the one who determines what vulnerability is and thus risks excluding some patient groups and designing a distortion of the research and production of knowledge. The concept of vulnerability in this symposium is understood from both an emic perspective, where the individual's self-perceived vulnerability is in focus, and from an ethic perspective where the various risk factors are involved, identified, and considered. In a health science context, it is therefore important to have a broad theoretical perspective on vulnerability to be able to uncover people's living conditions. A broad perspective on the concept of vulnerability will not in itself ensure that all groups in society are automatically included in the research. Similarly, there may be challenges associated with exploring difficult living conditions in older patients' everyday life. The concept of vulnerability covers both the stakeholders' subjective views and experiences, as well as the more objective risk factors, in which both physical, psychological, and social factors are included. Vulnerability as a concept will at the last talk in the current symposium be presented and further discussed, with a focus on the individual consequences of illness, social inequality, and inequality in health. To ensure that the patients are in focus, the various presentations will involve the patient's perspectives in different ways.

#### **SEE ME: Social Inclusion by Meaningful Ageing**

Category: Behavioural and Social Sciences/Education and competences in ageing societies

#### *Symposium Outline*

In this symposium, we report on the European SEE ME project (2020–2023, Erasmus+ funding) that aims to develop an educational model and an international training toolkit for different groups of caregivers. The project's goal is to accommodate better the needs of older people receiving care by developing a broader view of what it means to grow older. The project starts from a comprehensive view of ageing that acknowledges the potentials of older people, encompasses social and meaning dimensions of the ageing experience, and envisions old age as a life stage in which autonomy and wellbeing are accessible for individuals with and without care needs. The innovative toolkit emphasises

the competences of caregivers to SEE the older person behind the patient, SEE care as something more than physical and medical care, SEE social and meaning needs, and SEE the positive talents and dreams of older adults. Attention to the potentials of older people for maintaining (and restoring) social connectedness and meaningfulness, is a fundamental goal of caregiving, with significant expected gains in the overall health and wellbeing of older people. By “seeing” older people, the project contributes to the social inclusion of older adults.

The presentations in this symposium are based on extensive literature reviews, complemented by empirical results of qualitative interviews with older adults and (informal, volunteer, and formal) caregivers in 5 European countries (Belgium, Germany, Italy, The Netherlands, Spain).

1. Prof. dr. Machielse presents a comprehensive perspective on ageing that takes into account the potentials of older people, their social and meaning needs, and its implications for the provision of care to older adults.
2. Dr. van der Vaart presents results on innovative approaches in ‘good’ ‘practice’ care projects and the skills and competencies that caregivers need to “see” and respond to the needs of older adults.
3. Prof. dr. De Donder presents the educational model and accompanying training toolkit with a specific focus on the evaluation of the first test of the training toolkit.
4. Dr. Dury presents the interim results of the six learning areas that are applying the training toolkit in their organisations.

*Symposium Chair(s)*

**Anja Machielse**

University of Humanistic Studies

#### **Abstracts**

*A Comprehensive Perspective on Ageing: A Focus on the Potentials, and the Social and Meaning Needs of Older Adults*

**Anja Machielse**

University of Humanistic Studies

**Introduction:** Dominant understandings of ageing depart from the assumption that old age is characterised by inevitable processes of decline and deterioration, both in physical and mental health and in social contacts and position in society. This bleak view of later life is not helpful to experience later life as a life stage with meaning and leads to the social exclusion of older people. Therefore, a paradigm shift towards a more comprehensive perspective on ageing is necessary. **Material and methods:** We conducted an extensive literature review and an empirical study in Italy, Spain, Germany, Belgium, and the Netherlands. The empirical research consisted of interviews with older adults and (formal and informal) caregivers and case studies concerning six ‘best practices’ in the SEE ME project. **Results:** A comprehensive perspective on ageing considers the potentials of older people and their social and meaning needs. With age, social and meaning needs are changing. Older adults become more selective and prefer relationships and activities that are the most fulfilling. Having valuable social relations is also vital for the experience of meaning in life. In later life, adverse life events may cause a loss of purpose, less experienced possibilities for personal growth, or a diminished sense of coherence. Concepts that help think about older people’s potentials are generativity, ego-integrity, and gerotranscendence. **Conclusion:** A comprehensive perspective on later life requires person-centred care, which considers the older population’s diversity and heterogeneity, recognises the older adults’ desires, abilities, and supports them in developing and using their strengths and talents.

*Innovative Approaches in 'Good Practice' Care-Projects: Competencies Caregivers Need to 'See' and Respond to the Needs of Older Adults*

**Wander van der Vaart**

University of Humanistic Studies

**Introduction:** The shift in Europe towards a more participative and person-centred vision of health care emphasises the importance of self-management, empowerment, and inclusion in care projects. 'Good 'practice' care projects in the participating countries of the SEE ME project provide insight into some inspiring care approaches and caregivers' required competences of caregivers. **Material and methods:** Six 'good 'practices' were selected by the European SEE ME partners (BE, DE, IT, NL and SP), involving three intramural and three extramural care projects. Data were derived from document study and in-depth interviews with purposefully selected volunteers (7), informal (4) and professional (6) caregivers and participating older adults (16). **Results:** The SEE ME 'good 'practices' displayed a dozen inspiring tactics and principles that aimed to facilitate 'seeing and responding 'to' the needs of older adults. They concern relational and/or substantive aspects of care, ranging from tactics that induce reciprocity to shape daily care based on a biographical approach. The results on competences of caregivers focused on skills to attune to the clients' individual needs, the broad range of tasks performed and the multiple facets of care that the competences comprise. **Conclusion:** The SEE ME study presents inspiring, effective approaches to optimising caregiving to contribute to 'social inclusion through meaningful 'ageing'. The study displayed coherent outcomes across the six European care projects, indicating that the approaches in these 'good 'practices' touch generic care issues.

*The 'SEE ME' Educational Model and Accompanying Training Toolkit*

**Liesbeth De Donder and Sarah Dury**

Vrije Universiteit, Brussel

**Introduction:** To achieve an increased quality of care, the SEE ME project developed a training toolkit to train care-volunteers, informal and formal caregivers. The goal is to increase the competences of caregivers to SEE the older person behind the patient, SEE care as something more than physical and medical care, SEE social and meaning needs, and SEE the talents and dreams of older adults. This presentation describes the training toolkit, the educational model behind and the evaluation of the first test phase of the training toolkit. **Material and methods:** The educational model is co-created with the 6 European SEE ME partners. Input for the training toolkit is provided by an online survey, collecting training needs, among 154 caregivers in Italy, Spain, Germany, Belgium, and The Netherlands. The training toolkit is piloted in a European 3-day-training in Campobasso, Italy, among 12 participants from 6 care organisations (IT, SP, DE, BE, NL) in May 2022. At the end of the 3-day-training, participants engaged in a qualitative evaluation interview. **Results:** The educational model describes the educational foundation for the training: strengths-based education (focused on competences and application); transformative learning (critical, experiential, situational learning); a pick-and-mix approach (i.e., adaptation and context-specific modification impulses). The training toolkit consists of 5 modules focussing on vision development, critical reflection on meaning and social needs, care-competences, and how these reflections can be used for personal and organisational change. **Conclusion:** The presentation gives insights into the educational model and the training toolkit and how it is developed and piloted.

*Interim Results of Six SEE ME Learning Areas*

**Sarah Dury**

Vrije Universiteit, Brussel (VUB)

**Introduction:** After the pilot training in Campobasso, the training toolkit is tested in 6 learning areas: 6 care organisations implemented and evaluated the SEE ME training toolkit in their own (residential or community) care organisation in IT, SP, DE, BE, NL. This presentation will give insights into how these learning areas experienced this testing phase. **Material and methods:** All learning areas used and tested a (self-)evaluation tool. The (self-)evaluation tool is developed based on a logic model that measures the impact (related to the overall SEE ME project) on the participants and organisation. Qualitative interviews are done with two key figures in each care organisation to evaluate the self-evaluation tool and guidelines. Additionally, extra interviews are performed with the learning areas on their experiences of working in co-creation. **Results:** Interim results of the six learning areas that are applying the training toolkit in their organisation will be presented on user experience, user-testing and user-friendliness of the training model and toolkit. Moreover, the results show that a training toolkit should be self-explanatory. Care institutions or other organisations can use it independently, even after completing the SEE ME project. **Conclusion:** The presentation will reveal how to use and assess a (self-)evaluation tool to measure the impact and the usage of a training toolkit to achieve an increased quality of care, quality of life and social inclusion of caregivers and older adults.

### **Social Exclusion and Loneliness—Meanings, Risk Factors and Consequences in Four Nordic Countries**

Category: Health Sciences/Lifestyle, engagement and transition

#### *Symposium Outline*

Exclusion from social relations and loneliness in older age are unwanted situations with potential negative consequences for health and wellbeing. This symposium brings together four studies from four Nordic countries in which we present and discuss understandings and risk factors of social exclusion and loneliness and health-related consequences. The first presentation addresses the issue that in Finland, older home care clients are at risk of social exclusion due to care policies, low resources of care, and the client's increased disadvantages and care needs. In the SOLDEX-project, using a mixed-methods approach, we examine the prevalence, risk factors, and meanings of social exclusion in formal home care. We focus on loneliness, social networks and social support in everyday life. The second presentation addresses risk factors for loneliness and social isolation, and discuss associations between loneliness/social isolation and self-reported memory problems, hearing limitations and fear of falling, using data from Copenhagen Aging and Midlife Biobank on 9500 Danes around retirement-age. Age, gender, education, health and function are well-described predictors of loneliness and social isolation. Barriers related to cognition, hearing and environment are less well studied. The third presentation elaborates the finding, that shortcomings in older persons' social milieu is associated with increased loneliness and depressive symptoms, particularly among women. We present findings from a study on a sample of 60,918 older persons participating in the Survey on Health, Aging and Retirement in Europe. We examined whether the subjective perception of solitude is associated with loneliness and depressive symptoms among "network-less" older persons, whether network satisfaction is associated with loneliness and depressive symptoms among older persons with a social network, and the comparative disadvantages among those groups. The fourth presentation deals with increased risk of early mortality due to loneliness. It is observed that not the subjective feeling of loneliness, but the objective state of living alone or social exclusion are more relevant to mortality. Whether an objective state of exclusion without feeling lonely increases mortality is less clear. We discuss the effects of different combinations of objective exclusion and subjective evaluation of exclusion on mortality in older Norwegians.

Discussant: Carin Lennartson, Karolinska Institutet

*Symposium Chair(s)*

**Charlotte Juul Nilsson**

Section of Social Medicine, Department of Public Health, University of Copenhagen

**Abstracts**

*Old-Age Social Exclusion in Home Care: Prevalence, Meanings and Intervention*

**Elisa Tiilikainen and Hanna Ristolainen**

University of Eastern Finland

**Introduction:** In Finland, older home care clients are at risk of social exclusion due to current care policies, low resources of care, and the increased disadvantages and care needs of community-dwelling older people. This multidisciplinary project aims at providing novel understanding of old-age exclusion in the context of formal home care where social wellbeing is often challenged. In terms of exclusion from social relations, we focus on loneliness, social networks and social support in the everyday lives of older home care clients. **Material and methods:** The project is divided into three Work Packages that examine social exclusion in home care from different perspectives and using different types of new data sets collected in Eastern Finland. First, a survey study (sample:  $n = 2800$ ) is collected to examine the prevalence and risk factors of social exclusion in home care clients. Secondly, qualitative interviews ( $n = 25$ ) and ethnographic observation are conducted to gain more in-depth understanding of the individual meanings and experiences of exclusion and the ways how home care practices and policies impact older people's social exclusion. Thirdly, a mixed-method pragmatic quasi-experimental trial ( $n = 100 + 100$ ) is carried out to investigate the outcomes, cost-effectiveness, and implementation process of an existing home care intervention. In addition, different types of register data are used. **Conclusions:** The project provides multifaceted understanding of the experiences and everyday life circumstances of home care clients and the effectiveness of current home care practices, and offers new research approaches for studying multidimensional old-age social exclusion in care settings.

*Are Memory Decline, Hearing Limitations and Fear of Falling Associated with Loneliness and Social Isolation in Danes around Retirement Age?*

**Anna Munk Sigsgaard, Charlotte Juul Nilsson and Rikke Lund**

Section of Social Medicine, Department of Public Health, University of Copenhagen

**Introduction:** Age, gender, education, health and function are well-described predictors of loneliness and social isolation in old age. Barriers related to cognition, hearing and environment are less well studied. **Materials and Methods:** In preliminary logistic regression models we assessed associations between self-reported memory problems, hearing limitations and fear of falling respectively and loneliness and social isolation, adjusted for gender and year of birth. We used data on 9657 men and women around retirement age from the 2021-survey of Copenhagen Aging and Midlife Biobank. **Results:** Self-reported decline in memory function (OR 2.08, 95% CI 1.88–2.29), hearing limitations (with and without hearing aid) (OR 1.74, 95% CI 1.54–1.97) and fear of falling (OR 2.81, 95% CI 2.5–3.14) were associated with significantly higher odds of being in the highest quartile of loneliness (UCLA 3-item loneliness scale). Self-reported decline in memory function (OR 1.21, 95% CI 1.10–1.33), hearing limitations (OR 1.30, 95% CI 1.15–1.48) and fear of falling (OR 1.48, 95% CI 1.31–1.66) were associated with significantly higher odds of being in the highest quartile of social isolation (index encompassing having partner, children, and contact frequency with grandchildren, parents, relatives, friends, colleagues). **Conclusions:** Self-reported indicators of cognitive-, physical- and sensory-function are significantly associated with social isolation and loneliness around retirement age. The associations tended to be stronger for the subjective state of loneliness than for the objective state of social isolation.

*The Gendered Associations of Exclusion from Late-Life Social Relations with Loneliness and Mental Wellbeing: Comparison between Nordic and European Countries*

**George Pavlidis**

Linköping University

**Objectives:** Exclusion from social relations (ESR) in older age is an unwanted situation associated with increased loneliness and depressive symptoms. Gender differences in the perception of solitude (i.e., solitude satisfaction) and the evaluation of existing networks (i.e., network satisfaction) may account for the increased susceptibility of older women, especially in the Nordic countries epitomized for the increased proportion of older persons living in single households. **Method:** Secondary analyses was conducted in a sample of 60,918 participants in the Survey on Health, Aging and Retirement in Europe (SHARE). Solitude satisfaction (SoS), network satisfaction (NeS), and other ESR indicators (i.e., living alone, widowhood) were examined in gender-stratified regression models predicting loneliness and depressive symptomatology in the Nordic (i.e., Denmark and Sweden) and other European countries. **Results:** Low SoS and low NeS were independently associated with more depressive symptoms and an increased probability of depression, especially among older women. These vulnerabilities could not be attributed to increased loneliness and were independent from states of solitary living and widowhood. Older women in the Nordic countries with either low SoS or low NeS had an increased probability of depression compared to their counterparts in other European regions. **Conclusions:** The perception of solitude and the evaluation of social relations are associated with gendered risks of depression among older persons who are challenged by objective and subjective ESR states, especially in Nordic countries.

*Are Social Isolation and Loneliness Risk Factors for Mortality over 15 Years of Follow-Up in Older Norwegian Men and Women?*

**Marja Aartsen<sup>1</sup> and Thomas Hansen<sup>1,2</sup>**

1. NOVA Norwegian Social Research, Oslo Metropolitan University
2. Norwegian Institute of Public Health

**Introduction:** Exclusion from social relations is associated with increased mortality, but it is unclear whether it is the objective state of being excluded, or the subjective evaluation that exerts the greatest risk. Material Data come from the Norwegian Life Course, Ageing, and Generation study (NorLAG), a population-based longitudinal survey carried out in 2002, 2007 and 2017. Yearly information on mortality was derived from public registers and was available up till February 2017. **Methods:** Cox regression models with time dependent covariates were conducted for 1513 women and 1395 men. There was a stepwise inclusion of loneliness, living alone, contact with children and civic participation. All models were controlled for age and the last model was fully adjusted for other known risk factors for mortality. **Results:** Of the study sample, 97 (6.4%) women and 158 (11.3%) men died during follow-up. Loneliness was initially related to mortality risk for men, but this effect became insignificant after adjusting for objective social exclusion. In the fully adjusted models, there was a 36% lower risk of mortality for men living with a partner (HR = 0.64, 95% CI = 0.44–0.93), and 9% lower risk of mortality for men who have regular contact with their children (HR = 0.91, 95% CI = 0.83–0.99). Mortality risk for women was lowest for those living with a partner (HR = 0.47, 95% CI = 0.29–0.76) and those who volunteered (HR = 0.42, 95% CI = 0.23–0.74). **Conclusion:** Objective aspects of exclusion from social relations, but not the subjective evaluation of being excluded, increase the risk of mortality.

**Social Isolation and Loneliness during the COVID-19 Pandemic—The Nordic Experience**

Category: Social Research, Policy, and Practice/Lifestyle, engagement and transition

### *Symposium Outline*

Along with the COVID-19 pandemic, severe social distancing strategies have been implemented by the governments in the Nordic countries and worldwide to limit the spread of the virus. Older adults have been subjected to greater social distancing restrictions than younger age groups due to their higher risk of poor health outcomes if infected. One could therefore expect that the pandemic has substantially increased loneliness due to social isolation, especially in vulnerable groups. It has been reported that loneliness levels, at least before the pandemic, were lower in the Nordic countries than in other European countries. Also, it has been suggested that loneliness is very much a transient experience and people move in and out of loneliness and it is those suffering from severe or chronic loneliness that should be of a special public health concern. In before pandemic longitudinal studies chronic loneliness varied from 2 to 22 per cent suggesting that more research is needed about changes in loneliness. The aim of the symposium is, therefore, to present research findings based on data collected in the Nordic countries during the pandemic with special attention on changes in loneliness on a cohort as well as individual level. We highlight vulnerable groups and address inequalities in social isolation and loneliness in older age groups. We will also present intervention strategies implemented aimed at reducing social isolation and loneliness during the pandemic.

### *Symposium Chair(s)*

**Fredrica Nyqvist**

Social Policy, Åbo Akademi University

### **Abstracts**

*Befriending in Mother Tongue—Difficulties Reaching Lonely and Isolated Older Refugees and Migrants during Corona Lockdown*

**Christine E. Swane and Pernille Bülow Pedersen**

Social Inclusion of Older Adults, EGV Foundation

Shortly before the first comprehensive lockdown in Denmark on 13 March 2020, a new initiative emerged in the organisation, The World's Women in Denmark. The project was named Befriending in Mother Tongue (BMT) (Danish: Besøg på Modersmål). The aim of BMT was to identify older refugees and migrants who feel lonely and live an isolated life, and to match each person with a volunteer from their country of origin who speaks their mother tongue and share their cultural background. A qualitative research project followed BMT from the beginning in October 2019 till April 2021 (Pedersen & Swane, 2021). Data include minutes from 36 meetings, registration and other project material, semi-structured interviews with six older persons, 22 volunteers (four interviewed twice), one family member and seven professional keypersons. Seven interviews took place in summer 2020, a second round in early spring 2021, when meeting in person was once more restricted due to COVID-19. Hence, all interviews were virtual, by phone or screen, interpretation was impossible. Before March 2020, 35 older persons mainly in nursing homes in Copenhagen Municipality had been matched with a befriender. During lockdown visits were not allowed, and virtual communication proved impossible as the residents were too frail. By April 2021, in total 146 volunteers had registered including 43 nationalities, and 96 older migrants and refugees in nursing homes and their own home from 36 countries. 2019–2021 BMT and the research project were funded by the EGV Foundation (Social Inclusion of Older Adults), from 2022 by Copenhagen Municipality.

*Emerging Costs in a 'Hidden' Workforce: The Longitudinal Psychosocial Effects of Caregiving during COVID-19 among Norwegian Adults*

**Thomas Hansen**

Department of Mental Health and Suicide, Norwegian Institute of Public Health, Oslo Metropolitan University

While caregiver intensity and time use have increased, access to informal and formal support systems and other coping resources have decreased during the ongoing pandemic. Little is known about the psychosocial costs of these changes for informal caregivers—an essential yet vulnerable and “hidden” frontline workforce. This study explores and compares changes in loneliness and psychosocial well-being from before to during up to three stages of the COVID-19 pandemic among caregivers and non-caregivers. We also examine subgroup moderators (gender, age, education, marital status, and subjective health), and we distinguish groups of caregivers by whether they live with the care recipient and based on their experiences regarding increased caregiver load due to suspended formal services. We use longitudinal data collected online in the Norwegian Counties Public Health Survey (age 18–92), in four counties and in up to four data points (n = 23,000). Preliminary descriptive analyses show that about 20% classify as caregivers, of which one-third provide care to someone in the household and about half provide care weekly or more often. About 30% of caregivers report increased caregiving load during the pandemic due to decreased formal services, and one-third of them say this situation was challenging. We will proceed by using linear mixed models to examine the nature and distribution of the psychosocial impacts of caregiving. Lessons learned about the nature and distribution of the psychosocial impacts of

*Well-Being and Experienced Loneliness among Older Adults in Iceland*

**Halldór S. Guðmundsson and Sigurveig H. Sigurðardóttir**

Faculty of Social Work, University of Iceland

Loneliness among the elderly is a growing problem as the proportion of older people increases worldwide. The aim of the presentation is to shed light on the prevalence of loneliness among older adults in Iceland based on age and social status. It is important to look at different factors in relation to well-being of the elderly in Iceland, such as social relations, cohabitation, and gender. It is important to support and nurture the well-being of older people, both those who live at home and those who live in a nursing home. The results of the repeated survey “The well-being of the elderly”, carried out since 1999, and surveys of the attitudes and well-being of residents in one nursing home in Iceland will be presented. The results indicate that about 65–70% of the elderly rarely or never experience loneliness, about 25% rather rarely or sometimes and about 4–5% very often or always. The prevalence of loneliness among residents in a nursing home is higher or around 33%. Loneliness is more common among women than men and among widows and widowers and increases with higher age. These results will be compared with prevalence of loneliness in other research, self-reported loneliness and assessment done by relatives, as well as with data obtained during the first year of COVID-19.

*Engagement in Leisure Activities and Loneliness during the COVID-19 Pandemic—A Later Life Perspective*

**Fredrica Nyqvist<sup>1</sup>, Ingeborg Nilsson<sup>2</sup>, Marina Näsman<sup>1</sup> and Birgitta Olofsson<sup>3</sup>**

1. Social Policy, Åbo Akademi University
2. Occupational Therapy, Department of Community Medicine and Rehabilitation, Umeå University
3. Department of Nursing, Umeå University

There is a broad spectrum of leisure and recreational activities in which older adults can engage, including social, creative, cognitive, spiritual and physical. The practice of social distancing during the COVID-19 pandemic has significantly changed the way older people engage in leisure activities and there is evidence showing that when the pandemic

affected leisure engagement negatively, there were also consequences for older adults' experiences of loneliness. However, other research suggest that especially more resourceful older adults adapted to the pandemic after the initial outbreak and found new ways to engage in leisure activities to maintain their well-being. The pandemic has indeed added a layer of complexity to our understanding of engagement in leisure activities and loneliness for older adults, which calls for more research on leisure activities in challenging times. Therefore, in this study, we aim to assess engagement in leisure activities—including performance and motivational aspects—in relation to loneliness during the pandemic. We analyse GERDA survey data collected in late autumn 2021 in western Finland and northern Sweden and we compare the results with GERDA survey data collected in 2016 to highlight disparities in older adults' leisure experiences before and during the pandemic. The results provide insights into the associations between various leisure activities and loneliness among older people living in two Nordic regions. The findings will build upon and further develop the understanding of engagement in leisure activities and loneliness in stressful times.

### **Socioeconomic Inequalities in Ageing and Transitions in Later Life**

Category: Behavioural and Social Sciences/Lifestyle, engagement and transition

#### *Symposium Outline*

Longevity increases and larger parts of the population, in particular those with higher socioeconomic status, survive to more advanced ages. The resulting diverging trends of longer lives and increased inequalities in age-at-death have prompted calls for more research on how processes of social stratification continue to operate into later life. This symposium is a joint effort by researchers from major research groups on ageing in four European countries (Norway, Germany, Sweden and The Netherlands) and will address core aspects of social inequalities in ageing. In old age, individuals face major life transitions that typically constitute moments of vulnerability, such as work exit, declining mobility, onset of health problems and the loss of close family members. Yet, the timing and consequences of such transitions differ between socioeconomic groups and may therefore contribute to inequalities in ageing well. We start the symposium with mapping potentially vulnerable transitions in later life and showing how patterns of transitions vary across gender and socioeconomic position. The Norwegian Life course, Ageing and Generation study (NorLAG) provides the empirical basis for this analysis. Next, we provide a discussion of work exits as a core transition requiring complex adjustment processes and investment of resources that are unequally distributed in society. One of the questions we ask is to what extent does retirement increase pre-existing socio-economic differences? We then present long-term trajectories of self-rated health and physical working capacity during the retirement transition, and their association with work-related factors and social class. Here, the analyses are based on data from the Swedish Longitudinal Occupational Survey of Health (SLOSH). Finally, we look at the unequal distribution of the onset or worsening of mental health disorders in old age across socioeconomic position. Based on data from four clinical and two population-based prospective cohort studies in the Netherlands, we present evidence on the importance of low income as a risk factor for late life mental health problems, including anxiety, depression, and longstanding conditions such as bipolar disorder or schizophrenia. The four presentations jointly discuss implications of transitions for social inequalities in ageing well and provide directions for future research within the field.

#### *Symposium Chair(s)*

**Marijke Veenstra**

Health Services Research Unit (HØKH), Akerhus University Hospital, Norway

**Abstracts***Transitions in Later Life—The Importance of Gender and Socio-Economic Position***Katharina Herlofson**<sup>1</sup> and **Marijke Veenstra**<sup>1,2</sup>

1. NOVA, OsloMet, Norway
2. HØKH, Akershus University Hospital, Norway

**Introduction:** Later life is typically a time of multiple transitions. Unlike younger age, transitions happening in older age are often about loss of roles, and hence may result in altered identities and behavioural patterns and increased risks of vulnerability. Although older people face similar transitions, the number and timing may vary across structural characteristics. In this paper, we ask: How many experiences specific transitions in later life, and when? And do patterns of later life transitions vary across gender and socio-economic status? **Material and method:** To map transitions typical for later life, we use longitudinal survey and register data from the Norwegian Life-course, Ageing and Generation Study. We follow the same individuals over time from aged 60–74 in 2007 to 70–84 years in 2017 and investigate how many, and which, transitions they experience during the 10-year period. We also identify transitions that occurred before the observation period. Descriptive statistics are used to explore if the patterns vary across gender, level of education and wealth quartiles. **Results:** Sixty percent of our sample experienced at least one transition during the ten-year-period. Findings also suggest that a considerable share experienced transitions associated with later life before turning sixty. The transitions tended to take place earlier among women than among men, and earlier among the low-educated and among those in the lowest wealth quartile. **Conclusion:** The timing of later-life transitions varies across gender and SES. We will discuss implications of our findings for future research and for equal possibilities for ageing well.

*Social Inequality in the Adjustment to Retirement***Oliver Huxhold**<sup>1</sup>, **Georg Henning**<sup>1</sup> and **Martin Wetzel**<sup>2</sup>

1. German Centre of Gerontology, Berlin, Germany
2. Institute of Sociology and Social Psychology, University of Cologne, Germany

Retirement is critical life event that requires complex adjustment processes on part of the individual in order to successfully cope with altered life circumstances. Current perspectives on retirement assume that the adjustment process involves the investment of resources that are unequally distributed in society. Consequently, retirement has been understood as a trigger event that increases preexisting socio-economic differences. In this talk we will provide a number of empirical examples that support this claim. Specifically, we will discuss how social inequality may affect different phases of the retirement process differently and demonstrate how different resources differentially change with retirement. In addition, we will present some evidence that groups of low socio-economic status may face other limitations in their ability to adjust to retirement beyond socio-economic differences in resources. Finally, we will discuss whether or not social inequality in retirement as increased in recent years. We will conclude the presentation raising open questions to be addressed in future research.

*Are Trajectories of Self-Rated Health and Physical Working Capacity during the Retirement Transition Predicted by Work-Related Factors and Social Class?***Eyjólfsdóttir, HS.**<sup>1</sup>, **Peristera, P.**<sup>2</sup>, **Agahi, N.**<sup>1</sup>, **Fritzell, J.**<sup>1</sup>, **Westerlund, H.**<sup>2</sup> and **Lennartsson, C.**<sup>1,3</sup>

1. Aging Research Centre, Karolinska, Sweden
2. Department of Psychology, Stress Research Institute, Stockholm University, Sweden
3. Swedish Institute for Social Research, Stockholm University

**Objectives:** Previous findings on health changes during the retirement transition are conflicting. We aimed to identify trajectories of self-rated health (SRH) and physical working capacity during the retirement transition, and investigate whether work-related factors and social class predict membership to these trajectories. **Methods:** We used a representative sample of the Swedish working population from the Swedish Longitudinal Occupational Survey of Health (SLOSH) 2006–2018, with a follow-up of up to 11 years before and after retirement. We applied group-based trajectory modelling with B-spline smoothers to model trajectories of SRH (n = 2183) and physical working capacity (n = 2152). Multinomial logistic regression analyses were conducted to investigate trajectory membership. **Results:** We found four trajectories of SRH and five of physical working capacity. The large majority sustained excellent or good SRH and physical working capacity throughout the entire study period. Almost 6% had fairly poor SRH and physical working capacity starting from years before retirement, which remained consistent throughout the study period. For both outcomes, membership to the poor and deteriorating groups was predicted by high job demands, low job control, adverse physical working conditions, and lower social. **Conclusions:** Our findings suggest that health status is already established some years' pre-retirement for the large majority of people, and most people maintain their pre-retirement level of health during the transition to retirement. Poor working environment and low social class predict membership to trajectories characterised by poor health. Interventions focusing on working environment should also be aimed at younger and midlife employees as well as older workers.

*Socioeconomic Inequalities in Late-Life Mental Disorders: Analysis of Six Clinical and Population-Based Cohorts in The Netherlands*

**Almar Kok**<sup>1</sup>, **Maya Bachet**<sup>2</sup>, **Annemiek Dols**<sup>1</sup>, **Paul David Meesters**<sup>3</sup>, **Margreet ten Have**<sup>4</sup>, **Ron de Graaf**<sup>4</sup>, **Brenda Penninx**<sup>1</sup>, **Didi Rhebergen**<sup>5</sup>

1. VU Amsterdam & Geestelijke gezondheidszorg (GGZ), InGeest Specialized Mental Health Care, Amsterdam, The Netherlands
2. Department of Mental Health and Substance Use, World Health Organization
3. Department of Research and Education, Friesland Mental Health Services, Leeuwarden, The Netherlands
4. Department of Epidemiology, Netherlands Institute of Mental Health and Addiction, Utrecht, The Netherlands
5. Mental Health Care Institute GGZ Centraal, Amersfoort, The Netherlands

We examined socioeconomic inequalities in late life anxiety, depressive, and bipolar disorders and schizophrenia according to three indicators of socioeconomic position (SEP): education, occupation and income. We used data from n = 6956 participants aged 55+ from four clinical and two population-based prospective cohort studies in the Netherlands; n = 1619 with 1-year diagnoses and n = 5337 controls without lifetime disorders. Diagnoses were either first occurrences or recurrences. We harmonized SEP measures across cohorts but analysed each cohort separately. Lower income was the strongest socioeconomic risk indicator of late-life mental disorders, even after adjustment for education and occupation. Adjusted Odds Ratio's (OR) for high versus low income ranged between OR = 0.34 and OR = 0.45 among cohorts for major depressive disorder (MDD); between OR = 0.32 and OR = 0.50 for anxiety disorders, and between OR = 0.25 and OR = 0.36 for comorbid depression/anxiety disorders. These estimates were OR = 0.33 for bipolar disorder and OR = 0.001 for schizophrenia. Educational inequalities were found in only part of the cohorts, and they were partly explained by income. Inequalities based on occupational skill level were virtually absent. Analyses of MDD and anxiety disorders stratifying for early versus late onset did not provide evidence for reverse causation (i.e., early onset disorders leading to lower SEP). Socioeconomic inequalities in relatively severe and burdensome mental health problems persist into old age. Income seems a crucial risk indicator for old age

mental disorders, suggesting that low income and its consequences in the lives of older adults should be a focal point for preventive efforts, and an important marker for clinicians.

### **The Complex Relationships Between Perceived Housing and Life Transitions: Towards a Better Understanding of Good Aging in Place**

Category: Behavioural and Social Sciences/Housing, generations and mobility

#### *Symposium Outline*

Housing is a central context for health and well-being. Housing needs change as people grow older and experience different transitions across their life courses, and the home can provide a place of continuity during the process of ageing. While many countries have implemented ageing in place policies and provided services focused on improving the physical environment, less notice has been given to psychosocial aspects of the home important for ageing in place. Studies have demonstrated relationships between housing and health and well-being in later life on the one hand and life transitions and health and well-being in later life on the other hand. However, research on life transitions in combination with perceived housing in relation to indicators of good ageing is virtually nonexistent. Co-chaired by Oswald and Schmidt, this symposium aims to address the complexity of the relationships between perceived housing and life transitions and how they are related to health, well-being, functioning, and social/neighborhood participation as people age. The first contribution by Slaug and colleagues, "Impact of meaning of home on symptoms in a cohort of younger old people: A follow-up study", examines how the meaning of home is related to symptoms of illness over time utilizing data from a longitudinal study in southern Sweden. Second, Yadav and colleagues present qualitative results exploring strategies to manage financial challenges related to housing following the transition to retirement in their study, "Older women living with low pension in Sweden: Strategies to age in place and thoughts about future housing." Third, in Wanka and colleagues presentation, "Relocating together: A case study on the relationality of retirement, changes in couple relationships, and relocation from Sweden and Germany", they explore different trajectories of perceived housing following relocation with or without a partner. In the fourth contribution, "Reasoning about Life Transitions in Relation to Perceived Housing: In-Depth Data from Germany and Sweden on "Linked Transitions" and "Linked Lives", Wazinski, Eriksson and colleagues explore the complexity of how multiple life transitions are linked to each other, to aspects of perceived housing and to other people in their lives. Finally, Melanie Lovatt will serve as the discussant.

#### *Symposium Chair(s)*

**Steven M. Schmidt<sup>1</sup>, Frank Oswald<sup>2</sup> and Melanie Lovatt<sup>3</sup>**

1. Lund University
2. Goethe University Frankfurt
3. Discussant, University of Stirling

#### **Abstracts**

*Impact of Meaning of Home on Symptoms in a Cohort of Younger Old People: A Follow-Up Study*

**Björn Slaug, Steven M. Schmidt, Maya Kylén and Susanne Iwarsson**

Lund University

Background: The home environment becomes more important as we age. Meaning of the home signifies the strength of personal meaning and experiences linked to the physical space and place of the home. An earlier cross-sectional study showed that perceiving more meaning in the home was associated with less symptoms of illness. There is a lack of studies that explore this finding over time. The aim of this study was to examine if perceptions of meaning of home had a sustainable impact on symptoms of illness over

time. Method: We utilized data from the Swedish SNAC-GÅS study,  $n = 371$  at baseline (mean age = 68; 43% men) and  $n = 329$  at 4-year follow-up (mean = 72.5; 43% men). The Meaning of Home (MOH) instrument includes four subscales: physical, behavioural, cognitive/emotional and social, with ratings 0–10. Symptom severity was measured by summing a 37-item checklist. MOH subscales at baseline were regressed on total symptom severity score at follow-up using linear regression, adjusting for age, sex, and marital status. Results: The overall adjusted model was significant ( $F = 9.8, p < 0.001$ ),  $R^2 = 0.18$ . The behavioural ( $B = -2.1$ ), cognitive/emotional ( $B = 1.8$ ) and social ( $B = -1.9$ ) subscales were all significant ( $p < 0.01$ ), and the physical subscale was not a significant predictor. Conclusion: The results suggest that strong perceptions of behavioural and social meaning of home may have a sustainable softening impact on symptom severity over time, while strong cognitive/emotional meaning may instead be related to more symptom severity. This study contributes with new insights on the relationships between perceptions of the home and aspects of health over time.

*Older Women Living with Low Pension in Sweden: Strategies to Age in Place and Thoughts about Future Housing*

**Agata Yadav, Marianne Granbom and Susanne Iwarsson**

Lund University

In Sweden, the risk of poverty and financial insecurity after transitioning into retirement has increased, especially for women. Financial security influences good quality housing, health, and longevity, but studies of the financial aspects of ageing in place are lacking. We explored strategies used to age in place and thoughts about future housing among women aged 65 and older living with a low pension. We conducted semi-structured qualitative interviews with 13 women aged 65 and older with a low pension and used Clarke and Braun's thematic analysis to analyse the data. Three themes emerged in the findings. "Adjusting to a low pension" shows that most participants needed to supplement their low pension with savings or earnings to afford housing and living costs post-retirement. "The home as a home—and an asset" shows that relocating or renting out the property could generate money to supplement a low pension. "Thoughts about the future (home)" shows that most participants preferred to age in place. However, pragmatic considerations about potential housing costs, housing type, housing locality, safety and security were expressed. Several participants expressed an interest in collaborative housing. The study has implications for further research in housing and personal finances in retirement on societal and political levels in Sweden.

*Relocating Together: A Case Study on The Relationality of Retirement, Changes in Couple Relationships, and Relocation from Sweden and Germany*

**Anna Wanka<sup>1</sup>, Maya Kylén<sup>2</sup>, Frank Oswald<sup>1</sup> and Steven M. Schmidt<sup>2</sup>**

1. Goethe University Frankfurt
2. Lund University

This contribution explores the different trajectories of perceived housing following a relocation, focusing on the under-researched group of couples who have formerly been living-apart-together (LAT), and have only moved in together after retirement. The perspective from which we approach this topic is that of relational becoming, implying to shift the focus from the individual to the 'transitional assemblages' or networks of transitioning as a practice, including the different people, discourses, materialities, as well as other transitions. Empirically, the contribution draws on eight qualitative case studies of adults aged 60 to 75 years in Germany or Sweden that have relocated together with a partner after retirement. Interviews were thematically coded and mapped using situational analysis. First, we discuss the attribution of agency between partners, as well as discursive (e.g., fears of becoming care-dependent) and material elements (e.g., downsizing) in the decision to

relocate before the move. second, we portray the negotiations of (spatial) privacy, autonomy and togetherness in couple relationships and the respective material changes made to the new home during the move. Third, we discuss the changes in perceived housing unfolding in older adult's lives and their subjective wellbeing after relocation. Results outline the processual entanglement of the three transitions, and the linked lives of both partners, in becoming someone new in a new social and spatial context, and highlight the importance of taking the wider transitional assemblage older adults are a part of into account when researching place relationships in later life.

*Reasoning about Transitions in Relation to Perceived Housing: In-Depth Data from Germany and Sweden on "Linked Transitions" and "Linked Lives"*

**Karla Wazinski<sup>1</sup>, Erik Eriksson<sup>2</sup> and Anna Wanka<sup>1</sup>**

1. Goethe University Frankfurt
2. Lund University

This paper analyses the relationships between perceived housing and life transitions among community-dwelling older adults in Germany and Sweden. Based on 26 qualitative interviews with persons aged 62–75 years, using a situational analysis approach, the contribution focuses on relocation as a life transition in relation to retirement, and its interrelations in three levels: (1) interrelations between relocation, retirement, and other transitions within older adults' own life courses; and (2) interrelations between relocation, retirement, and different transitions of other people; and (3) interrelations between these constellations of linked transitions and perceived housing. First findings indicate an accumulation of different transitions around the retirement age (e.g., illnesses, changes in partnerships, relocations) and a temporal as well as causal relationship between individual life transitions and those of other persons (e.g., spouses, children). These varying entanglements of life transitions, in turn, shape the person-place-relationships and perceived housing in different ways, depending on the sequence of transitions, and the lives 'linked' to them.

### **The Impact of the COVID-19 Pandemic on Older Adults: Results from the Longitudinal Aging Study Amsterdam**

Category: Health Sciences/Morbidity, medical treatment and ageing processes

#### *Symposium Outline*

The COVID-19 pandemic and the public health measures related to COVID-19 have affected the lives of many older adults. It is hypothesized that older adults are more susceptible to the negative impact of the COVID-19 pandemic on, for example, lifestyle behavior, mental health and social functioning compared to younger adults. To measure the extent of this impact, a postal questionnaire was sent to participants of the Longitudinal Aging Study Amsterdam (LASA, an ongoing cohort study among older adults in the Netherlands) in June 2020, when the first wave of the pandemic had just ended. A second questionnaire was sent in March 2021, after the second and third wave (n~1000 for both questionnaires). The questionnaires included a broad range of measures to assess the impact of the COVID-19 situation. From these measures we have created a 35-item COVID-19 exposure index (score from 0 to 1), including information on COVID-19 infection of respondents and their close relatives (including COVID-19-related hospitalization and death), as well as items that assess the extent to which the COVID-19 situation affected healthcare use and access, providing and receiving personal care/homecare, the work situation, grocery shopping, lifestyle (e.g., physical activity and alcohol use), social functioning, and various life events or situations, such as financial problems and leisure activities.

In this symposium we will share our latest findings from the LASA COVID-19 study and show how the COVID-19 exposure index is associated with physical, mental and social functioning. Second, we will demonstrate how the COVID-19 pandemic impacted nutrition

and physical activity behavior (e.g., difficulty obtaining groceries, skipping warm meals, and snacking more, being less physically active and performing less exercise) and how this changed between the first and second/third wave of the pandemic. Third, we will show results of our study regarding the impact on depressive and anxiety symptoms and sense of mastery and show which factors seem to be protective against the negative mental health impact. Fourth, we will show data on the impact of the pandemic on emotional and social loneliness prevalence, and we will discuss which risk factors are protective against an increase in loneliness.

*Symposium Chair(s)*

**Laura A. Schaap<sup>1</sup> and Emiel O. Hoogendijk<sup>2</sup>**

1. Vrije Universiteit Amsterdam
2. Amsterdam UMC, University Medical Center, Location VU

### Abstracts

*The Longitudinal Aging Study Amsterdam COVID-19 Exposure Index: Impact of The Pandemic on Daily Functioning of Older Adults*

**Emiel O. Hoogendijk<sup>1</sup>, Theo G. van Tilburg<sup>2</sup>, Noah A. Schuster<sup>1</sup>, Laura A. Schaap<sup>2</sup>, Bianca Suanet<sup>2</sup>, Sascha de Breij<sup>1</sup>, Almar A.L. Kok<sup>1</sup>, Natasja M. van Schoor<sup>1</sup>, Erik J. Timmermans<sup>1</sup>, Renate T. de Jongh<sup>1</sup>, Marjolein Visser<sup>2</sup> and Martijn Huisman<sup>1</sup>**

1. Amsterdam UMC, University Medical Center, Location VU, Amsterdam, The Netherlands
2. Vrije Universiteit, Amsterdam

**Objectives:** The aim of this study was to develop an index to measure older adults' exposure to the COVID-19 pandemic, and to study its association with multiple domains of functioning. **Methods:** Cross-sectional data was used from older adults aged 62–102 years participating in the Longitudinal Aging Study Amsterdam COVID-19 study, just after the first wave of the pandemic in 2020. A 35-item COVID-19 exposure index (score range 0–1) was developed, including items that assess the extent to which the COVID-19 situation affected daily lives of older adults. Logistic regression analyses were performed to study associations between the exposure index and several indicators of functioning (functional limitations, anxiety, depression, and loneliness). **Results:** The mean COVID-19 exposure index score was 0.20 (SD 0.10). Scores were relatively high among women and in the southern region of the Netherlands. In fully adjusted models, those with scores in the highest tertile of the exposure index were more likely to report functional limitations (OR: 3.15; 95% CI: 2.23–4.43), anxiety symptoms (OR: 3.84; 95% CI: 2.25–6.55), depressive symptoms (OR: 3.27; 95% CI: 2.14–5.00) and loneliness (OR: 2.64; 95% CI: 1.93–3.60) than those in the lowest tertile. Additionally adjusting for pre-pandemic functioning (2018–2019) did not change the results. **Conclusions:** Older adults with higher scores on a COVID-19 exposure index reported worse functioning in the physical, mental and social domain. The index may be used to identify persons for whom targeted interventions are needed to maintain or improve functioning during the pandemic or post-pandemic.

*The Impact of The COVID-19 pandemic on Nutrition and Physical Activity Behaviour in Older Adults*

**Laura A. Schaap<sup>1</sup>, Hanneke A.H. Wijnhoven<sup>2</sup> and Marjolein Visser<sup>2</sup>**

1. Vrije Universiteit, Amsterdam
2. Vrije Universiteit, Amsterdam

Older adults might be more susceptible to a negative impact of the COVID-19 pandemic on lifestyle compared to younger adults. The aim of the study was therefore to investigate the self-reported impact of the COVID-19 pandemic on nutrition and physical

activity behaviour in independently living older participants of the Longitudinal Aging Study Amsterdam (LASA) (n = 958, aged 62–96, 52% women). An impact on nutritional behaviour predisposing to overnutrition (e.g., snacking more) was reported by 14.0–33.4% after the initial six months. In contrast, 5.9–15.2% reported an impact on behaviour predisposing to undernutrition (e.g., skipping warm meals) after six months. One year later, participants reported a slightly higher impact of the COVID-19 pandemic on nutrition behaviour. About half of the sample (49.7–54.9%) reported a decrease in physical activity and exercise due to the pandemic after the initial six months of the pandemic. Similar percentages were found one year later. Those who had been in quarantine (11.8% after initial 6 months and 12% one year later) more often reported a negative impact. Several subgroups with a higher risk of impact could be identified. This study shows a negative impact on nutrition and physical activity behaviour of many older adults after the initial six months as well as a year after the start of the COVID-19 pandemic, which may increase their risk on adverse health outcomes such as malnutrition, frailty and disability.

*The Impact of the COVID-19 Pandemic on Mental Health of Older Adults and the Role of Protective Factors*

**Almar A. L. Kok, Eva Jaarsma, Lisa van Zutphen, Emiel Hoogendijk, Tjalling Holwerda, Najada Stringa, Kuan-Yu Pan, Aartjan Beekman, Cees Hertogh, Judith van den Besselaar and Janet MacNeil Vroomen**

Amsterdam UMC, University Medical Center, Location VU, Amsterdam, the Netherlands

Few studies on the impact of the COVID-19 pandemic on the mental health of older adults have extensive pre-pandemic data. Furthermore, the cumulative impact of pandemic-related exposures on mental health in the longer term, and whether this impact can be buffered by pre-existing individual and social resources is largely unknown. We examined these issues in two analyses of data from the Longitudinal Aging Study Amsterdam. In the initial six months of the pandemic, we found that average depressive symptoms and anxiety symptoms somewhat increased compared to pre-pandemic levels, yet sense of mastery also increased. The latter increase was smaller for participants with more functional limitations and frailty. Concerning changes beyond the first six months, we found that depressive and anxiety symptoms remained stable until the summer of 2021, but loneliness further increased. Increases were stronger for participants with better pre-pandemic mental health. Adjusted for pre-pandemic mental health, more cumulative COVID-19 exposures were related to worsening of all three outcomes. Main effects showed that lower neuroticism, higher mastery and internet use were associated less increase in depressive symptoms. Lower neuroticism and larger network size were associated with less increase in anxiety symptoms. And lower age, female sex, praying, lower neuroticism, and larger network size were associated with less increase in loneliness. Interaction effects showed that being vaccinated buffered the effect of COVID-19 exposures on anxiety symptoms. However, no substantial buffering effects of COVID-19 exposures on mental health were found for psychosocial and socioeconomic resources.

*The Increase of Emotional and Social Loneliness during The Pandemic: A Longitudinal Study (2015–2021)*

**Theo G. van Tilburg**

Vrije Universiteit Amsterdam, Amsterdam, the Netherlands

The COVID-19 pandemic, with its accompanying isolation measures, has led to increasing loneliness among older adults. We examine whether the elevated level of loneliness observed in the Netherlands persisted during the COVID-19 pandemic, whether there were differences in emotional and social loneliness, and whether the presence of known risk factors for loneliness also led to a further increase in loneliness during the pandemic. Data were drawn from Longitudinal Aging Study Amsterdam (LASA) with observations

of 520 community-dwelling older adults (aged 75–98 years during the pandemic; 54% female). We selected 2–5 observations from 4.4 years before the pandemic outbreak and had 1–3 observations during the pandemic, with the last one in July 2021. Loneliness increased with age, but increased more after the pandemic outbreak. This increase was especially high for emotional loneliness. Having a partner, a large network, high mastery, and good physical functioning before the pandemic offered protection against loneliness, but only a partner and a large network were meaningful against the increase in loneliness. Targeted policies should focus on socially isolated older adults and their loneliness-related feelings such as emptiness, missing people around them, and feeling rejected.

### **The Many Faces of Post-Retirement Work**

Category: Behavioural and Social Sciences/Lifestyle, engagement and transition

#### *Symposium Outline*

Many countries are stimulating prolonged employment by tightening early exit provisions, and raising the statutory retirement age. This goes hand in hand with a redistribution of responsibilities and risks. As a result retirement processes have changed, both in terms of timing and design. A growing number of older adults combines some form of work with retirement until their seventies. Many will be able and willing to do so, because work provides them with intrinsic rewards. But for others prolonged involvement in work may be essential in achieving financial safety. Post-retirement work may thus have many faces and there are multiple ways to measure and conceptualize the transitional phase between work and full retirement. This symposium brings together empirical research on post-retirement work from different perspectives and national backgrounds. Rather than a static assessment of work status, the various contributions to this symposium view work in the retirement years as a dynamic construct. The guiding question is how individual differences in retirement pathways emerge and evolve over time. Hence, the symposium will give insights into the processes involved in shaping post-retirement employment decisions, behaviors, and outcomes. Following an introductory conceptual overview, the symposium will include four presentations and a concluding discussion. With data from the United States, the first presentation will focus on the extent to which older Americans combine retirement pathways—phased retirement, bridge employment, and reentry—as they gradually exit the labor force later in life. The second presenter examines job quality outcomes in pre- and post-pensionable age jobs across three different national settings: Sweden, Japan, and the United States. Using data from the Netherlands, the third presenter discusses plans for and reality of post-retirement work; with explicit attention to the position of older adults who were unsuccessful in finding post-retirement work. The fourth presentation is based on data from Sweden and explores the motives for and temporal dynamics of post-retirement work. Taken together, the presentations picture the many faces of post-retirement work in the 21st century.

#### *Symposium Chair(s)*

**Lawrence B. Sacco**<sup>1</sup>, **Isabelle Hansson**<sup>2,3</sup>

1. Department of Psychology, Stress Research Institute, Stockholm University
2. Department of Psychology, Centre for Ageing and Health (AgeCap), University of Gothenburg
3. Netherlands Interdisciplinary Demographic Institute (NIDI)

#### **Abstracts**

*To What Extent Do Older Americans Combine Retirement Pathways in the United States?*

**Kevin E. Cahill**<sup>1</sup>, **Michael D. Giandrea**<sup>2</sup> and **Joseph F. Quinn**<sup>3</sup>

1. Center on Aging & Work, Boston College
2. U.S. Bureau of Labor Statistics

### 3. Boston College

This paper will evaluate the extent to which older Americans combine retirement pathways—phased retirement, bridge employment, and reentry—as they gradually exit the labor force later in life. Each pathway is unique: phased retirement encompasses a reduction in hours with one’s career job employer; bridge employment consists of a change in employer following career employment later in life; and reentry or unretirement consists of a return to the workforce later in life following an initial separation. While each pathway is unique, conceivably, the flexibility of the US labor market enables older workers to combine pathways. But to what extent is this the case in reality, and why? The findings from this paper will inform policymakers about older Americans’ gradual retirement options and choices, and how they relate to policies aimed to promote continued labor force participation later in life.

*Job Quality in the Late Career in Sweden, Japan, and the United States*

**Loretta G. Platts<sup>1</sup>, Lawrence B. Sacco<sup>1</sup>, Ayako Hiyoshi<sup>2</sup>, Hugo Westerlund<sup>1</sup>, Kevin E. Cahill<sup>3</sup> and Stefanie König<sup>4</sup>**

1. Department of Psychology, Stress Research Institute, Stockholm University
2. Clinical Epidemiology and Biostatistics, School of Medical Sciences, Örebro University
3. Center on Aging & Work, Boston College
4. Centre for Ageing and Health (AgeCap), Department of Psychology, University of Gothenburg

This paper examines job satisfaction and psychosocial and physical job quality over the late career in three contrasting national settings: Sweden, Japan and the United States. The data come from an ex-post harmonized dataset of individuals aged 50 to 75 years constructed from the biennial Swedish Longitudinal Occupational Survey of Health (SLOSH, 2006–2018, n = 13,936 to 15,520), Japanese Study of Ageing and Retirement (JSTAR, 2006–2013, n = 3704) and the United States Health and Retirement Study (HRS, 2006–2016, n = 6239 and 8002). The job quality outcomes were physical labour, psychosocial working conditions (time pressure, discretion, pay satisfaction, job security) and job satisfaction. Random effects modelling was performed with age modelled with spline functions in which two knots were placed at ages indicating eligibility for pensions claiming or mandatory retirement. Interestingly, in each country, post-pensionable-age jobs were generally less stressful, freer, and more satisfying than jobs held by younger workers. These trends were similar in each country, as well as across genders and education levels. This study provides support for a two-phase late career: the first phase commencing in one’s fifties and extending up to pensionable age while the second phase—following age of eligibility for old-age pensions—being characterized by the provision of a stable and secure pension that decommodifies workers from the labour market.

*From Plans to Action? Post-Retirement Work in The Netherlands*

**Hanna van Solinge**

Department of Health Sciences, Netherlands Interdisciplinary Demographic Institute (NIDI), University Medical Center Groningen (UMCG)

This paper examines plans for and realization of post-retirement work among older workers in the Netherlands. The data come from the Netherlands Pension Panel Survey (NPPS 2015–2018). A subset of individuals that reached state pension age between the waves (n = 1672) were followed over time, confronting plans for post-retirement work (PRW) with actual take up. The data reveal a sizeable gap between plans and action. In order to explain PRW, four sets of hypotheses were tested: decisiveness of plans; opportunities and constraints for PRW and changes in the opportunity structure across waves; competitive activities; motives for working. Results show that taking up PRW was more

likely among older workers with more concrete plans, in better health status, with a spouse still in the workforce, among males and higher professionals. Further, older workers who expected to miss the latent functions of work were much more likely to take up PRW. Those involved in volunteering were less likely to take up PRW. All in all, this study reveals that plans for PRW are often not translated into action. The findings suggest that older adults primarily opt for PRW for non-financial reasons, in search for opportunities to engage in meaningful activities that replace the latent functions of work. Other activities, such as volunteering can fulfill this function as well. A focus on actual PRW, however, hides the position of those who were unsuccessful in finding PRW. This group is less advantaged in terms of health and financial resources and their retirement was often involuntary.

#### *Motives for and Temporal Dynamics of Post-Retirement Work in Sweden*

**Isabelle Hansson**<sup>1,2</sup>, **Kène Henkens**<sup>2,3,4</sup> and **Hanna van Solinge**<sup>2,3</sup>

1. Centre for Ageing and Health (AgeCap), Department of Psychology, University of Gothenburg
2. Netherlands Interdisciplinary Demographic Institute (NIDI)
3. Department of Health Sciences, University Medical Center Groningen (UMCG)
4. Department of Sociology, University of Amsterdam

Many retirees continue to work in retirement, but the temporal dynamics of this process are not well understood. This paper examines the extent to which retirees increase, decrease, and exit their work engagement over time. We hypothesized that different motives for post-retirement work—financial, social, internal, and external—may have differential impacts on changes in work extent. We analyzed seven waves of data from the HEalth, Aging and Retirement Transitions in Sweden (HEARTS) study (n = 3123). Post-retirement work was defined as working for pay while receiving pension benefits and changes in work extent were estimated with multi-state models. Results showed a gradual decrease in work extent following retirement. Financial motives increased the likelihood to take up more work, and decreased the likelihood to reduce work hours. Social motives increased the likelihood to reduce work hours while internal motives decreased the likelihood to reduce and exit work. External (demand driven) motives increased the likelihood to stop working. This paper highlights the differential functions of post-retirement work and the degree to which it helps to fulfill important needs in retirement. Our findings suggest that retirees who work for financial and internal reasons opt for continuity in their work engagement because of restricted opportunities to meet these needs elsewhere. The social function of work, on the other hand, may be gradually replaced by non-work activities, resulting in a decreased need to continue working. Finally, working for external reasons appear insufficient to continue working, likely because of the temporary nature of post-retirement work employments.

#### **The Nature-Based Social Prescribing May Reduce Experiences of Loneliness and Improve Quality of Life of Older Adults**

Category: Behavioural and Social Sciences/Lifestyle, engagement and transition

#### *Symposium Outline*

There is increasing evidence of adverse health and well-being outcomes of loneliness. It is associated with cognitive decline, depression, disability, and increased mortality, and it leads to increased use of health services. Nature-based social prescribing (NBSP) offers a novel socio-environmental innovation to reduce loneliness by creating solutions to foster social and community cohesion and support. RECETAS project will test NBSP in six urban cities: Barcelona, Cuenca, Helsinki, Marseille, Melbourne, and Prague. The COVID-19 pandemic has highlighted both the negative aspects of loneliness and the positive aspects of nature. The RECETAS project, funded by the EC, aims to tackle loneliness by investigating

nature-based interventions that enable social activity. The symposium will present novel aspects of RECETAS.

(1) Nature-based interventions to address loneliness: The overarching objective of RECETAS is to devise, validate, and exploit solutions that address loneliness through NBSP. Loneliness is permeating throughout society and is not sufficiently addressed by traditional health care systems. Alternatives are needed to capture people where they are at and engage them in activities that are socially organized and are connected to the natural environment.

(2) The Role of Natural Environments for Well-being: Nature-based experiences are associated with better health and well-being. Living nearby green and blue areas increases exercise. For example, in Finland, forest walks have been organized in primary health care to support the treatment of chronic diseases.

(3) Understanding the Ecosystem of Stakeholder Networks: Knowing more about the networks in RECETAS will inform the design of interventions that leverage existing strengths and fill gaps in network connections. Using network analysis, RECETAS will visualize the existing networks and create a place-based understanding of how NBSP can be promoted and sustained locally.

(4) Loneliness Up Close among Older People: This presentation will examine loneliness among older people in long-term care facilities (LTCF) and its alleviation. Of older adults living in LTCF in Helsinki, Finland, 36% experiences loneliness at least sometimes. We will discuss the planned randomized controlled trial of group-based NBSP using a group model Circle of Friends.

*Symposium Chair(s)*

**Jill S. Litt**<sup>1,2</sup>

1. Boulder Environmental Studies Department, University of Colorado
2. Barcelona Institute of Global Health

### **Abstracts**

*RECETAS: An Innovative Global Approach for Testing Nature-Based Social Interventions to Address Loneliness in Cities*

**Jill Litt**<sup>1,2</sup> and **Ashby Lavelle Sachs**<sup>1,2</sup>

1. Boulder Environmental Studies Department, University of Colorado
2. Barcelona Institute of Global Health

Alarming numbers of people from all walks of life feel lonely. Loneliness may be associated with chronic diseases and anxiety, depression, and cognitive decline. The global pandemic response underscores how important social contacts and outdoor access are, and how much they relate to mental health. We lack the evidence base to develop and test interventions for those who are lonely and face obstacles to accessing public space and group-based outdoor activities. In March 2021, we launched a H2020 project, entitled “Reimagining Environments for Connection and Engagement: Testing Actions for Social Prescribing in Natural Spaces (RECETAS)”. The objective is to leverage solutions that address loneliness through nature-based social prescribing (NBSP), by linking nature-based solutions and green infrastructure with care professionals working inside and outside of local healthcare systems. RECETAS will generate evidence on the effectiveness of NBSP in addressing loneliness and health-related quality of life. We will conduct 3 RCTs and 3 pre-post intervention studies in 6 cities worldwide to provide crucial information on the short-term effectiveness of different nature-based social prescribing interventions. We will conduct a systematic literature review to deepen our understanding of the use of nature-based solutions for loneliness and well-being. A social network analysis will explore the ecosystem of stakeholders working with nature-based solutions and loneliness and the level of community engagement. A benefit-harm analysis and a cost-effectiveness analysis

will assess the trade-offs and economic and social impact of these interventions. We expect results in 2022–5. They will be published in high-quality peer reviewed scientific journals.

*The Role of Nature for Health and Well-Being in Lonely Older People: A Life Course Perspective*  
**Annika Kolster**<sup>1,2</sup> and **Laura Rautiainen**<sup>3</sup>

1. University of Helsinki
2. City of Espoo
3. The Finnish Association of Welfare of Older People

**Introduction:** The scientific interest in nature's health and wellbeing promoting effects has increased during the past decade. The aim of this presentation is (1) to present the role of nature in human health and wellbeing; (2) to describe the RECETAS qualitative studies in lonely older people living in long-term care facilities (LTCF). **Material and methods:** Descriptive literature review will be performed concerning the relationship between nature experiences and health/wellbeing in people of all ages. To address the diagnosed experiences of loneliness a rigorous qualitative procedure brings the meaning of nature into practice. This qualitative study uses individual and group interviews before and after the RECETAS group intervention as well as observations during the intervention. The findings will develop the RECETAS intervention. **Results:** Literature review will investigate e.g., how nature affects exercise, mood and cardiovascular health, our immune system and how living close to natural areas decreases mortality. Practical examples will be presented concerning how nature has been used in health and social care. Senior citizens have a life story and a relationship to nature that goes back decades. Isolation during ongoing COVID-19 pandemic has increased loneliness. Could nature have a role in alleviating loneliness in LTCF? There is scarce literature on how dimensions of experienced loneliness, multimorbidity, impaired memory and senses modify older people's perceptions and needs of nature. Social interaction, regardless of age and other boundaries, has been seen to increase in nature. **Conclusions:** Nature may have several potential wellbeing improving paths and individual variance is likely.

*Understanding the Ecosystem Addressing Loneliness in Six Cities*

**Danielle Varda**<sup>1,2</sup>, **Amanda Beacom**<sup>1</sup> and **Kaley Bachinski**<sup>1</sup>

1. Visible Network Labs
2. University of Colorado, Denver

In order to understand the ecosystem of socio-spatial resources that currently address loneliness and well-being in the six urban sites, we conducted a social network analysis. Network science and social network analysis methods represent a proven approach to understanding a community ecosystem. We interviewed key informants to identify lists of people, organizations, and institutions that constitute these ecosystems, including government agencies, charitable and not-for-profit organizations, and stakeholders from the business community. We then conducted an online survey, via the PARTNER software platform, of all members of these urban ecosystems. Respondents were asked about their work to address loneliness, the current landscape of nature-based interventions to reduce loneliness in their communities, and how they collaborate with other community members to reduce loneliness and enhance well-being. For each city, we analyzed survey data to calculate descriptive statistics about the ecosystem and generate a network map visualizing how members of this ecosystem work together and the quantity and quality of their collaborative relationships. Understanding the relationships within these urban ecosystems and comparing network structural features across ecosystems allowed us to identify strategies to leverage strengths and fill gaps in how loneliness is being addressed, and to support efforts to test and disseminate social prescribing models and later project interventions. We produced aggregate reports and presentations for survey participants and other stakeholders in each city, and for survey participants, we also provided secure access

to private online data dashboards for viewing and exploring individual-level network data and survey results about their organizations.

*Nature-Based Social Prescribing to Alleviate Older People's Loneliness in Assisted Living Facilities: A Protocol for RECETAS Trial*

**Anu Jansson**<sup>1,2</sup>, **Laura Coll-Planas**<sup>3</sup> and **Kaisu Pitkälä**<sup>1,4</sup>

1. Department of General Practice, University of Helsinki
2. Primary Health Care, The Finnish Association for the Welfare of Older People
3. The University of Vic—Central University of Catalonia
4. Unit of Primary Health Care, Helsinki University Hospital

**Introduction:** Of older people in assisted living facilities (ALF), 36% suffer from loneliness. COVID-19 pandemic has increased loneliness because older people in ALFs were quarantined. Nature has health and wellbeing effects which have a potential to alleviate loneliness. We describe here the protocol for nature-based intervention addressed to lonely older people in ALFs. **Material and methods:** RECETAS is a large EU-funded study conducted with 11 countries that includes 3 trials. In Helsinki, Finland we will perform a randomized, controlled trial in ALFs. A total of 316 lonely older people will be recruited. The group model “Circle of Friends” with nature-based contents will be used in the intervention. It is closed, homogeneous group in which participants share their experiences of loneliness. The intervention group will be composed of 6–10 people who meet once a week over 2.5 months. The control group will continue usual care in ALF. The study nurse interviews and assesses the participants at baseline and 3, 6, and 12 months. The main outcome measures will be health-related quality-of-life (HRQoL) (15D) and loneliness (de Jong Gierweld Loneliness Scale). Secondary outcomes will be cognition, wellbeing and the use and cost of health and social services. The process will be explored in detail with qualitative studies. **Results:** We expect results in 2024–5. They will be published in high-quality peer reviewed scientific journals. **Conclusions:** We expect that meaningful activities in mutual interaction and nature-based experiences will play an important role in alleviation of loneliness and improving HRQoL in older people in ALFs.

### **Towards a Broader View of Loneliness in Later Life: Unravelling Its Complexity**

Category: Behavioural and Social Sciences/Lifestyle, engagement and transition

#### *Symposium Outline*

Although scientific literature states the relevance of applying a broader view of loneliness to study loneliness as a multidimensional concept, loneliness research still often starts from a simple or unidimensional view. As researchers often have questions on how to apply, conceptualise and operationalise such a multidimensional perspective, this symposium aims to provide researchers with suggestions, based on own research findings.

The four different presentations present and discuss 4 tangible paths of further research: loneliness studied from a social exclusion perspective, towards a life course on loneliness, exploring possible positive aspects of loneliness and the implications of using different loneliness measurement instruments on reported prevalence rates of loneliness.

First, Marja Aartsen (Norway) uncovers patterns of objective states of social exclusion in relation to subjective feelings of exclusion, i.e., loneliness in Nordic countries. She argues that understanding the drivers of loneliness improves when different states of social exclusion are considered.

Second, Lise Switsers (Belgium), examines the importance of the life course in order to understand loneliness in later life. She therefore used a life-story approach in order to interview 20 older adults and capture how the life course influences current loneliness feelings.

Third, limited research attention is given to the possible positive aspects of loneliness. Christina Victor (UK) uses qualitative data from 12,000 adults aged 60+ collected as part of

the BBC Loneliness Experiment to investigate the characteristics of older adults who see loneliness as positive and terms used to describe this.

Fourth, Hannelore Stegen (Belgium) conducted a systematic literature review and meta-analysis on the prevalence of loneliness among home-dwelling older people and examined the study characteristics of loneliness prevalence studies. She discusses how different measurement instruments lead to different results.

Liesbeth De Donder will reflect on these presentations and discusses how these different perspectives can further advance research and interventions on loneliness.

*Symposium Chair(s)*

**Liesbeth De Donder**

Department of Educational Sciences (EDWE), Vrije Universiteit Brussel (VUB), Belgium

### Abstracts

*Patterns of Social Exclusion and Loneliness Risks in Nordic Countries*

**Marja Aartsen**

NOVA Norwegian Social Research, Oslo Metropolitan University, Norway

**Introduction:** Social exclusion (SE) is a multidimensional construct referring to the separation of individuals from mainstream society. SE is unwanted and can lead to loneliness. SE can have different appearances and associations between types of exclusion and loneliness may vary across the SE types. This presentation describes different types of SE in Nordic countries and its associations with loneliness. **Material:** Data come from the European Quality of Life Survey (2016) and include people aged 50+ (n = 1998) living in Sweden, Denmark, or Finland. **Methods:** With Latent Class Analysis, we examine SE types and investigate associations with loneliness. Indicators for SE are exclusion from civic society, social relations, economic resources, and health services. Loneliness (yes/no) is based on the question “do you feel lonely”. **Results:** The data provide support for four SE types: Fully integrated (78%), exclusion from social relations (16%), exclusion from material resources (5%) and multidimensional exclusion (1%). Compared to the fully integrated people, people excluded from both social and material resources had the highest loneliness risk, followed by people who were excluded from material resources. **Discussion:** Almost one out of five older people in Nordic countries are excluded from one or more dimensions of social exclusion. Exclusion from social relations and material resources increase the risk of loneliness, and the combination of both creates the highest loneliness risks. Interventions to reduce loneliness should take both the social and economic conditions into account.

*Life Stories from Lonely Older Adults: The Role of Precipitating Events and Coping Strategies throughout the Life Course*

**Lise Switsers<sup>1</sup>, Hannelore Stegen<sup>2</sup>, Leen Heylen<sup>3</sup>, Sarah Dury<sup>1</sup>, Eva Dierckx<sup>4</sup>, Alexianen Zorggroep<sup>5</sup> and Liesbeth De Donder<sup>1</sup>**

1. Department of Educational Sciences (EDWE), Vrije Universiteit Brussel (VUB), Belgium
2. Department of Educational Sciences (EDWE), Research Foundation Flanders (FWO), Vrije Universiteit Brussel (VUB), Belgium
3. Thomas More University of Applied Sciences, Vonk3, Belgium
4. Department of Psychology (PSYC), Vrije Universiteit Brussel (VUB), Belgium
5. Tienen Psychiatric Clinic, Belgium

**Introduction:** To date, little research is available on life course and loneliness experiences, even though this could provide important insights into the possible influence of adversity over time. Hence this study focuses on understanding how precipitating events and coping strategies throughout the life course may influence current loneliness experiences in older adults. **Material and methods:** The experienced life courses of 20 older

adults with loneliness, living in Belgium were qualitatively examined applying a modified version of the McAdams life story interview scheme. Results: First, the results point the lifetime impact of experiencing precipitating events during childhood and adulthood, affecting vulnerability to loneliness later in life. Moreover, also un-realized life events during the life course (for example not being able to have children) appeared relevant in the emergence of loneliness in later life. Second, the narratives revealed that several older adults who had to cope with loneliness earlier in life and later in life, continued to use the same coping strategies throughout the life course, resulting in a vulnerability for loneliness. Some older adults did adapt their coping strategies based on earlier experiences and improved their loneliness coping skills. Furthermore, several life stories are indicating how individuals construct their own life course through the choices and actions they take within the opportunities and constraints of historical and social circumstances. Discussion: This study indicates the importance of understanding loneliness in later life by adding a life course perspective. The discussion makes a plea for lifelong prevention of and attention to loneliness.

*What Makes Loneliness a Positive Experience? A Preliminary Qualitative Analysis of Data from the BBC Loneliness Experiment*

**Christina Victor<sup>1</sup>, Manuela Barreto<sup>2</sup>, Pamela Qualter<sup>3</sup> and Lise Switsers<sup>4</sup>**

1. Department of Health Sciences, Brunel University, London, UK
2. Department of Psychology, University of Exeter, UK
3. Manchester Institute of Education, University of Manchester, UK
4. Department of Educational Sciences (EDWE), Vrije Universiteit Brussel (VUB), Belgium

**Introduction:** Loneliness is usually defined as a negative experience with adverse consequences for individuals (e.g., mortality, morbidity, and quality of life) and society (e.g., excess health and social care service use). We consider the prevalence of positive experiences of loneliness, and the reasons given by those who experience it that make loneliness positive for them. **Material and methods:** We use data from the 2018 BBC Loneliness Experiment and analysed data from the 19,125 participants who were aged 50 years and over and resident in the UK. We identified 'positive loneliness' by first asking how often participants felt lonely (from 1 = never to 5 = always). Those who responded 2 (rarely) or more frequently were asked "Is the experience of loneliness positive with the response options of No, sometimes, or yes. Those who answered sometimes or yes then completed a free text question describing what made loneliness positive. Responses were cleaned to remove erroneous characters and we undertook an inductive analysis. **Results:** There were 19,125 participants aged 50 years. 99% (15,509/15,648) answered the positive loneliness question with 43% agreeing that loneliness was 'positive' or 'sometimes positive'. 2964/6661 provided free text responses which ranged from 1–68 words. Preliminary analyses identified four broad themes that characterised the experience of loneliness as positive:- (a) a stimulus to (re)connect; (b) opportunities for personal growth/reflection; (c) opportunities to engage in meaningful activities; and (d) 'time out' from the world. **Conclusions:** These findings challenge our preconceptions of the inevitable negativity of loneliness, which merits further consideration.

*A Systematic Review and Meta-Analysis of Loneliness Prevalence Studies and Corresponding Study Characteristics in The Older Population*

**Hannelore Stegen<sup>1</sup>, Daan Duppen<sup>2</sup>, Lara Stas<sup>3,4</sup>, Lise Switsers<sup>2</sup>, Honghui Pan<sup>2,5</sup>, Eva Dierckx<sup>6</sup>, Alexianen Zorggroep<sup>7</sup> and Liesbeth De Donder<sup>2</sup>**

1. Department of Educational Sciences (EDWE), Research Foundation Flanders (FWO), Vrije Universiteit Brussel (VUB), Belgium
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7. Tienen Psychiatric Clinic, Belgium

**Introduction:** Loneliness is a major public health concern and has important implications for later-life wellbeing. This study reviews the prevalence of loneliness among the general population of older adults and examines the study characteristics of loneliness prevalence studies, by means of a systematic literature review and meta-analysis. **Material and methods:** A comprehensive literature search was conducted following the PRISMA guidelines with a search using 7 databases, namely ISI Web of Knowledge, Sociological Abstracts, Social Services Abstracts, PubMed, Embase, PsycINFO and Cochrane Systematic Reviews. English peer-reviewed studies researching the prevalence of loneliness in older adults as a main objective were included. Meta-analyses of prevalence rates were conducted using generalized linear mixed models. **Results:** 1096 original records were screened for eligibility. After exclusion based on title ( $n = 251$ ), abstract ( $n = 261$ ) and full text ( $n = 523$ ), 62 articles were included for review. Results first describe the variety of prevalence studies in terms of measurement instruments of loneliness, characteristics of the study population, the types of data collection and study design. Second, meta-analyses were performed, to examine the pooled prevalence of loneliness in the general population of older adults and to investigate to what extent the used measurement tools and the ways of data collection play a role in determining the prevalence of loneliness. **Conclusions:** The discussion reflects on the prevalence rates, the implications of the used measurement instruments and the consequences for practice and policy, and formulates recommendations for future loneliness research.

### **Using Accelerometers to Measure Movement and Physical Activity in Aging Populations**

Category: Biological and Medical Sciences/Digitisation and technology

#### *Symposium Outline*

Regular physical activity has an important role in maintaining health and functional status with aging. Accelerometry enables detailed measurement of free-living quantity and patterns of physical activity and sedentary time. These devices can be worn on different body locations and provide new opportunities to quantify detailed movement behavior throughout the 24-hour period. In this symposium, five presentations from Finland, Denmark and the UK will present different ways to utilize and analyze accelerometer data, and to measure movement and physical activity among older people, illustrating their potential to transform the ways movement can be investigated in older adults.

The first presentation will present activity behavior clusters describing intensity and patterns of daily activity and their association with laboratory-assessed functional capacity among older adults. The second presentation will show results regarding free-living sit-to-stand transition in older adults. It is hypothesized that exploring sit-to-stand transition quality may allow characterization of the free-living force production requirements. The importance of physical activity patterns and minute by minute accelerometer analysis has only begun to be explored in relation to health outcomes. The third and fourth presentations will explore the longitudinal associations between physical activity fragmentation and physical function, frailty and mortality outcomes. The fifth presentation will focus on 24-hour movement behavior and share results from compositional data analysis on changes in 24-hour activity behavior during transition from work to retirement. The five presentations will be followed by an interactive discussion section.

Collectively, the symposium will address a variety of accelerometer methods, metrics and analytical methods, which provide meaningful insights into physical activity behavior among people with advancing age.

*Symposium Chair(s)*

**Paolo Caserotti<sup>1</sup> and Sari Stenholm<sup>2</sup>**

1. University of Southern Denmark, Denmark
2. University of Turku, Finland

### Abstracts

*Physical Behavior Profiles among Finnish Community-Dwelling Older Adults and Their Associations with Indicators of Physical Capacity*

**Lotta Palmberg<sup>1</sup>, Laura Karavirta<sup>1</sup>, Antti Löppönen<sup>1</sup>, Matti Hyvärinen<sup>1</sup>, Erja Portegijs<sup>2</sup>, Taina Rantanen<sup>1</sup> and Timo Rantalainen<sup>1</sup>**

1. University of Jyväskylä, Finland
2. University of Groningen, the Netherlands

**Introduction:** Among older people physical activity (PA) characteristics are multifaceted and relate to physical capacity. Instead of using solely a single PA metric, our aim was to form data-driven profiles of PA behavior and examine their associations with physical capacity. **Material and methods:** Participants were 75-, 80-, and 85-year-old people who wore a thigh-mounted accelerometer continuously for 3–7 days (UKK RM42, n = 441). Cluster analysis was used to identify profiles based on activity intensity, fragmentation, absolute and relative PA minutes, sit-to-stand transitions, and gait bout characteristics, separately for men and women. Associations between the profiles and walking speed (6-minute walk test and maximal 10-meter walk test), maximal knee extension force, and Short Physical Performance Battery score were studied with age-adjusted general linear models. **Results:** Three physical behavior profiles were identified. “Exercisers” and “actives” both accumulated high total PA minutes, but actives engaged predominantly in lighter intensity PA, especially according to relative PA intensity. Furthermore, actives accumulated more but shorter gait bouts compared to exercisers. “Inactives” had the highest activity fragmentation and the lowest PA volume, intensity and number of gait bouts. Compared to exercisers and actives, inactives had lower scores in all physical capacity indicators. Physical capacity of exercisers and actives was rather similar except that women exercisers had higher walking speed during 6-minute walk test. **Conclusions:** Physical behavior profiling provided reasonable results which were parallel to differences in physical capacity. The predictive validity of the profiles for physical capacity needs to be confirmed in prospective analyses.

*Association between Free-Living Sit-to-Stand Transition Characteristics, and Laboratory-Based Lower-Extremity Performance, Fear of Falling, and Stair Negotiation Difficulties among Older Adults*

**Antti Löppönen<sup>1</sup>, Laura Karavirta<sup>1</sup>, Kaisa Koivunen<sup>1</sup>, Erja Portegijs<sup>2</sup>, Taina Rantanen<sup>1</sup>, Taija Finni<sup>1</sup>, Christophe Delecluse<sup>3</sup>, Evelien Van Roie<sup>3</sup> and Timo Rantalainen<sup>1</sup>**

1. University of Jyväskylä; Finland
2. University of Groningen, the Netherlands
3. KU Leuven, Leuven

**Introduction:** Good sit-to-stand (STS) performance is an important factor in maintaining functional independence. This study investigated whether free-living STS transition volume and intensity, assessed by a thigh-worn accelerometer, is associated with characteristics related to functional independence. **Methods:** Free-living thigh-worn accelerometry was recorded for three to seven days in a population-based sample of 75-, 80-, and 85-year-old community-dwelling people (479 participants; women n = 287, men n = 192). The

records were used to evaluate the number and intensity (angular velocity of the sit-to-stand phase) of STS transitions. Associations with short physical performance battery (SPPB), five-times-sit-to-stand test ( $5 \times$  STS), isometric knee extension force, self-reported fear of falls and self-reported difficulty in negotiating stairs were also assessed. Results: The number of STS transitions, mean and maximal angular velocity was lower in older age groups ( $p < 0.05$ ). All variables were higher in men than in women ( $p < 0.001$ ) and were positively associated with SPPB total points, knee-extension force ( $r$  ranged from 0.18 to 0.39, all  $p < 0.001$ ) and negatively associated with  $5 \times$  STS ( $r = -0.13 - -0.24$ , all  $p < 0.05$ ), lower extremity functional limitations ( $p < 0.001$ ) fear of falls ( $p < 0.001$ ) and stair negotiation difficulties ( $p < 0.001$ ). Conclusions: Free-living STS characteristics were related to laboratory-based lower-extremity performance, lower extremity functional limitations, self-reported fear of falls and stair negotiation difficulties, which can be a sensitive indicator of impending functional decline. Moreover, STS transitions may provide an indicator of adequacy of lower-limb muscle strength among older individuals.

*Longitudinal Associations between Physical Activity Fragmentation and Physical Function in Older Adults*

**Mathias Skjødt<sup>1</sup>, Paolo Caserotti<sup>1</sup> and Mark A Tully<sup>2</sup>**

1. University of Southern Denmark, Denmark
2. Ulster University, UK

**Introduction:** More fragmented physical activity patterns have been shown to be cross-sectionally associated with lower physical function. However, few studies have prospectively investigated this association. This study aimed to explore the longitudinal associations between physical activity fragmentation and physical function in community-dwelling older adults. **Material and Methods:** Six hundred and ninety older adults ( $\geq 65$  years old) recruited during the SITLESS project provided complete data at baseline and 22 months follow-up. Physical activity fragmentation was calculated as a reciprocal of the average physical activity ( $\geq 100$  counts per minute) bout duration measured using ActiGraph wGT3X+ accelerometers. Physical function was measured using the two-minute walk test (2 MWT). Two minimum bout lengths were utilised to calculate physical activity fragmentation:  $\geq 120$ -seconds and  $\geq 300$ -seconds. Multiple linear regression analyses, after adjusting for relevant covariates, were used to assess longitudinal associations. **Results:** After adjustment for relevant covariates, including baseline 2 MWT distance, changes in physical activity fragmentation calculated using  $\geq 300$ -second bouts were significantly associated with changes in 2 MWT distance ( $\beta = -0.09$ ;  $p = 0.013$ ), although this was not the case for physical activity fragmentation calculated using  $\geq 120$ -second bouts. **Conclusions:** Using a  $\geq 300$ -second minimum bout length, change to a more fragmented physical activity pattern appeared to be associated with reduced physical function in community-dwelling older adults. This suggests declines in sustained physical activity bouts leads to reduced functional exercise capacity. This study provides further evidence of the potential usefulness of measuring physical activity fragmentation and suggests addressing how physical activity is accumulated may be a useful target for interventions specifically in older adults.

*Physical Activity Fragmentation as an Early Risk Indicator of Frailty and Premature Mortality in Older Adults*

**Borja del Pozo Cruz<sup>1</sup> and Jesus Del Pozo Cruz<sup>2</sup>**

1. University of Southern Denmark, Denmark
2. University of Seville, Spain

**Introduction:** This study aimed to explore the associations of activity fragmentation with frailty status and all-cause mortality in a representative US sample of people 50 years and over. **Material and Methods:** We used data from 2586 from the 2003–2006 waves of the National Health and Nutrition Examination Survey (NHANES). Frailty status was assessed using a valid modification of the Fried criteria. Linked data from the National Death Index

registry were used to ascertain mortality. Physical activity fragmentation was measured by accelerometry. To calculate activity fragmentation, an active-to-sedentary transition probability was calculated as the number of physical activity bouts divided by the total sum of minutes spent in physical activity. Age, gender, ethnicity, education, mobility issues, drinking status, smoking status, bmi, and self-reported chronic diseases were reported. Results: Compared with participants in the high activity fragmentation/low physical activity category, participants in the low activity fragmentation/low physical activity and low activity fragmentation/high physical activity categories were associated with a lower likelihood of frailty. We found a non-linear association between activity fragmentation and all-cause mortality. Compared with participants in the high activity fragmentation/low physical activity category, participants in the low activity fragmentation/low physical activity, low activity fragmentation/high physical activity, and high activity fragmentation/low physical activity category categories were associated with a lower mortality risk. Conclusions: Our results suggest that a high fragmented physical activity pattern is associated with frailty and risk of mortality in adults and older adults. This association was independent of total volume of physical activity and time spent sedentary.

*Changes in the 24-h Movement Behaviors during The Transition to Retirement: Compositional Data Analysis*

**Kristin Suorsa<sup>1</sup>, Tuija Leskinen<sup>1</sup>, Jesse Pasanen<sup>1</sup>, Anna Pulakka<sup>2</sup>, Saana Myllyntausta<sup>1</sup>, Jaana Pentti<sup>1</sup>, Sebastien Chastin<sup>2</sup>, Jussi Vahtera<sup>1</sup> and Sari Stenholm<sup>1</sup>**

1. University of Turku, Finland
2. Glasgow Caledonian University, Scotland

**Introduction:** Transition to retirement is shown to affect sleep, sedentary time and physical activity, but no previous study has examined how distribution of time spent daily in these movement behaviors changes with retirement. The aim of this study was to examine changes in movement behaviors during the transition to retirement using the compositional data analysis (CoDA). **Material and Methods:** We included 551 retiring public sector workers (mean age 63.2 years, SD 1.1) from the Finnish Retirement and Aging study. The study participants wore a wrist-worn ActiGraph accelerometer continuously for one week before and after retirement, one year between the measurements. The daily proportions of time spent sleeping, in sedentary behavior (SED), light physical activity (LPA) and moderate-to-vigorous physical activity (MVPA) were estimated using the GGIR package. Changes in the daily proportions of movement behaviors were examined using linear mixed models. **Results:** The proportion of time spent in active behaviors decreased relative to time spent in passive behaviors after retirement ( $p < 0.001$ ). The change depended on occupation (occupation\*time interaction  $p < 0.001$ ). After retirement manual workers increased both sleep and SED at the cost of active behaviors. Proportion of sleep increased among non-manual workers at the cost of active behaviors and SED. LPA was affected relatively less than MVPA ( $p < 0.001$ ), independently of gender and occupation. Sleep increased in relation to SED ( $p < 0.001$ ), more among non-manual workers compared with manual workers. **Conclusions:** Retirement induces a decrease in the proportion of time spent in active behavior and affects time use of manual and non-manual workers differently.

### **What Are We Talking about? Unravelling the Concept of Reablement**

Category: Behavioural and Social Sciences/Lifestyle, engagement and transition

#### *Symposium Outline*

With an ageing society and an ageing-in-place policy in many Western countries the demand for community-based care is increasing. Traditionally, these services focus on acute and episodic events and are reactive in nature. In addition, health and social care staff often look at older people primarily in terms of frailty and provide care *for* their clients rather than *with* them. A valuable approach in preventing functional decline is promoting

older adults' active participation in daily activities, ranging from personal and instrumental activities of daily living such as bathing, dressing, cleaning or cooking through to preferred social, leisure, and physical activities at home or in the local community. This enabling approach is also known as reablement.

Despite increasing interest in reablement, it has been criticized for a lack of consensus on its conceptual understanding. Consequently, in 2018/9 a Delphi study among reablement experts was conducted to reach agreement on the aims, target groups, characteristics, and components of reablement leading towards an internationally accepted definition. Briefly, the aim of reablement is to enable clients to manage their everyday life as independently as possible and participate in activities that matter to them. This is accomplished by providing person-centered, holistic and goal-oriented services, often of limited duration (usually 6 to 12 weeks) by a multidisciplinary team (e.g., registered nurses, occupational therapists, and physical therapists). However, still more research into its conceptual understanding is needed.

During this symposium, researchers from four European countries will share their insights regarding the concept of reablement. The first speaker from Denmark will talk about how the ideas and practices of reablement spread over the world. The second speaker from Norway will talk about a paper that narratively presents and discusses theoretical perspectives on 'successful ageing' in relation to key components, principles and outcomes in reablement. The third speaker from the Netherlands will address the findings of a systematic review that attempted to identify the most promising reablement components with regard to clients' daily functioning. The fourth speaker will share characteristics of occupational therapy and physiotherapy within the context of reablement based on a national survey among 43 Swedish municipalities.

*Symposium Chair(s)*

**Silke F Metzelthin** <sup>1,2</sup>

1. Department of Health Services Research, Care and Public Health Research Institute, Maastricht, Maastricht University, The Netherlands
2. Living Lab in Ageing and Long-Term Care, Maastricht, The Netherlands

### **Abstracts**

*How did The Ideas and Practices of Reablement Spread over The World?*

**Tine Rostgaard, Marte Feiring, Fiona Aspinall and Oddvar Førland**

Introduction: Reablement approaches in old age care are growing rapidly across the Western world, reflecting ideas such as healthy and active ageing, which have framed reforms in health and social policies since the 1990s. Across world regions, there is today a general agreement that reablement is a person-centred approach, aiming to enhance the functioning and independence of older citizens through interprofessional training and activating them at home, thus reducing their need for long-term care. But how was the idea of reablement fostered originally and what was the driver? This paper investigates how ideas of reablement have travelled and materialised into similar policies, activities, and institutional practices of reablement within and across different world regions. Materials and methods: Inspired by theories of translation, we have interviewed nine key informants and studied policy documents and online information resources from governing authorities in six case countries, representing three world regions. Results: Our analysis supports the argument that the ideas of 'successful ageing', 'active ageing' and 'active and healthy citizens' have travelled from gerontological theories to local and national policy and practice, supported also by agendas of supra-national organizations. Conclusions: These processes are quite complex and characterized by circularity rather than linearity and often is focused mainly about sustainability of the long-term care systems and the need to find more efficient and cost-saving approaches.

*Reablement in Need of Theories of Ageing: Would Theories of Successful Ageing Do?***Jette Thuesen, Daniel Doh and Rudi GJ Westendorp**

**Introduction:** The reablement approach is becoming an increasingly popular social- and health-care model in many Western countries, providing short-term support strategies for older people experiencing impairment. Reablement programmes have, however, been criticized for a lack of theories, explicating the understanding of the problem that it is intended to address, that is ageing and impairment in old age. We need to explicate the inherent theories in intervention programmes to question taken for granted assumptions about not only what works, but also why it is assumed to work. **Materials and methods:** Theories on successful ageing have been suggested as underpinning reablement. This article aims to present and discuss theories of successful ageing compared to key principles, components, and outcomes in reablement. **Results:** Medical and epidemiological, psychological, and socio-cultural theoretical approaches to successful ageing are included. Contemporary reablement programmes mirror medical and psychological theories of successful ageing, including models of ageing that are associated with continuity, optimisation, selection, individuality, and goal-orientation. Most reablement programmes do not address socio-cultural perspectives on ageing, as older people experience impairment in pertinent liminality within and between the sociocultural values of the third and fourth age. **Conclusions:** This study indicate that it is important for reablement programmes and practice to consider the underpinning theories of ageing and to help older people balance between optimizing capacity and accepting losses in their everyday life.

*Effects on Clients' Daily Functioning and Common Features of Reablement Interventions: A Systematic Literature Review***Lise E. Buma, Lise E Buma, Stan Vluggen, Sandra M. G. Zwakhalen, Gertrudis I. J. M. Kempen, Silke F. Metzelthin**

**Introduction:** In the scientific literature, there is a lot of discussion about the concept of reablement and promising elements regarding client outcomes like daily functioning. In 2020, the internally accepted ReAble definition was published. This systematic review provides an up-to-date overview of reablement programs according to the new definition. Their effect on daily functioning and most common and potentially promising elements are reported. **Materials and methods:** Four databases (PubMed, Cochrane Library, CINAHL, PsycInfo) were systematically searched from 2002 to 2021 for Randomised or Clinical Controlled Trials of a reablement interventions matching the criteria of the ReAble definition, and had daily functioning as an outcome. Snowball sampling and expert completion were used to detect additional publications. Articles were screened and assessed for methodological quality by two researchers and analyzed narratively. **Results:** Twenty relevant studies from eight countries were included. Ten of these studies were effective in improving ADL functioning. Identifying promising features was challenging as an equal amount of effective and non-effective interventions were included, content descriptions were often lacking, and study quality was moderate to low. However, there are indications that the use of more diverse interdisciplinary teams, a standardized assessment and goal-setting method and four or more intervention components can improve daily functioning. **Conclusions:** The common elements that were identified can provide guidance when developing reablement programs. Intervention protocols and process evaluations should be published more often using reporting guidelines. Collecting additional data from reablement experts could help to unpack the black box of reablement.

*Characteristics of Occupational Therapy and Physiotherapy within the Context of Reablement in Swedish Municipalities: A National Survey***Magnus Zingmark, Bodil Evertsson and Maria Haak**

**Introduction:** Reablement is a multi-disciplinary, home-based intervention aiming to optimize functioning and independence in activities of daily living. In Sweden occupational therapists (OT) and physiotherapists (PT) have a central role in reablement. The purpose of this study was to explore the characteristics and differences of OT and PT interventions in terms of focus, content, and duration within the context of reablement in Swedish municipalities. **Material and Methods:** Web-based surveys were used to collect data from 43 municipalities. Data on intervention characteristics were reported for all cases receiving OT (n = 1395) and PT (n = 1006) over a 15-week period. Data were presented descriptively, and differences between the professions were analyzed using Chi2 tests. **Results:** The target group was adults in all ages (19–103 years, median 81.0 years); 72% had home help. For both professions, a baseline assessment was made in fewer than half of all cases. There were significant differences between OT and PT regarding the focus and content as well as the number of contacts and duration of the intervention. For OT, walking indoors and self-care were the largest focus areas whereas for PT walking indoors and body function were the largest focus areas. For most cases, the intervention was completed within 5 sessions over a six-weeks period. **Conclusions:** This study provides the first picture of OT and PT within Swedish reablement contexts; the focus of interventions, how assessments are made and how the intervention is implemented over time are issues that needs to be further elaborated.

### **Work, Lifestyle and Health Differences in The Nordic Countries: Exploring Birth Cohorts and Inequalities**

Category: Behavioural and Social Sciences/Lifestyle, engagement and transition

#### *Symposium Outline*

As life expectancy increases and society and technology change, the life opportunities and aging experience of subsequent birth cohorts will also change [1]. Cohort comparisons and time trends provide valuable information about individual and group differences, societal impact, and inequalities in aging. Cohort differences reflect the social context and societal constraints as a direct consequence of social policy and changes therein. Studying birth cohorts has been a key feature for understanding social and historical change.

Accumulating evidence suggests that old age is different for later cohorts of older adults—in general they live longer, have better health, more socioeconomic resources and live more active lives. In this symposium, we will present time trends and cohort differences from three Nordic countries focusing on various aspects of education, work, lifestyle and death, and the influence of inequalities, during the past decades.

First, we address the role of societal constraints in shaping the life chances of birth cohorts. By investigating genetically informative cohorts born during the first part of the 1900s, when access to higher education was restricted for women and the working class in the Nordic countries, and compare them to later cohorts with more equal access to education, results will show how genetic and environmental factors play together to shape educational and health trajectories. Second, we describe the job situation of workers in their 60s in Norway, and how subsequent cohorts perceive opportunities and resourcefulness related to their work. Third, focus will be on life post retirement and time trends in social participation among older adults aged 75 and above in Sweden from the 1990s until today. Fourth, we address time trends in alcohol consumption among older adults aged 75 and above in Sweden in light of the general increases described in other studies. Lastly, dying and the end of life among older adults in their 90s in Finland will be the focus, and whether there have been any changes in disability rates during the last years before death during the 2000s. The symposium is wrapped up with a discussion and reflection about the findings.

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*Symposium Chair(s)*

**Neda Agahi and Malin Ericsson**

Karolinska Institutet

### **Abstracts**

*Educational Influences on Late-Life Health—Exploring Cohort Differences to Understand Gene Environment Interplay*

**Malin Ericsson<sup>1</sup>, Neda Agahi<sup>1</sup> and Miriam Mosing<sup>1,2</sup>**

1. Karolinska Institutet
2. Max Planck Institute for Empirical Aesthetics

**Introduction:** Level of attained education is associated with observed differences in health, across the life span. However, genetic propensities underlying educational attainment may also influence health in late life and in particular, how they interact with the socioeconomic environment over the life course. The educational gradient in health may also depend on whether an individual's genetic propensities match their attained education level or not, i.e., if the two indicators of education are concordant or discordant. We investigated if a discordance between educational propensities and actual attained education influenced late-life health and if this relationship differed by birth cohort. **Material and methods:** Data were retrieved from the Swedish Twin Registry with twins born 1926–1953 (n = 14,570). Linear regressions were applied to estimate the influence of genetic propensities and attained education on frailty, multimorbidity, self-rated health, and mortality. Analyses were additionally stratified by birth cohort. **Results:** We observed that having a high genetic propensity but low attained education was more common in earlier-born cohorts, while the proportion with high propensities and high education increased over time. Analyses investigating discordance between educational propensities and attainment indicated the importance of attained education in predicting late life health compared to genetic propensities. Results also indicated that this pattern was stronger in later born cohorts. **Conclusion:** Our findings suggest that the educational reforms in Sweden have led to more equal educational opportunities for those with higher genetic propensities in later-born cohorts. Furthermore, attained education was more important than propensities for educational attainment in predicting late-life health.

*Older Workers' Assessment of Job Resources in Norway—Stability or Change?*

**Tale Hellevik and Katharina Herlofson**

NOVA/Oslo Metropolitan University

**Introduction:** Psychosocial work characteristics have been found to be significantly correlated with both retirement intentions and actual work exit. Hence, changes in such aspects of work may potentially alter the retirement timing of older workers. In this study, we concentrate on older employees' assessment of job resources (e.g., job autonomy, opportunities to develop, recognition at work), and ask whether the assessment has changed between cohorts and with increasing age. Furthermore, we will explore if the patterns vary between men and women, as well as across level of education. **Material and methods:** The analyses are based on longitudinal data from The Norwegian Life-course, Ageing and Generation Study (2002, 2007, 2017). We will study the subjective assessment of job resources among subsequent cohorts of older employees (aged 60 to 64), as well as follow one specific cohort over time (from aged 45–49 in 2002 to 60–64 in 2017). **Results:** The analyses show a clear and positive development in the assessment of job resources—both between cohorts and with ageing. On average, men and the higher educated score higher on subjective job resources than women and the lower educated, however all groups have experienced an improvement over time. **Conclusion:** Over the past years, the labour market participation of older men and women has increased in Norway, similarly to several other

European countries. We will discuss whether part of this growth may be due to a positive development in older workers' assessment of their job resources.

*Trends in Old Age Social Participation over a 30-Year Period in Sweden*

**Erika Augustsson<sup>1</sup>, Stefan Fors<sup>1,2</sup>, Johan Rehnberg<sup>1,3</sup>, Carin Lennartsson<sup>1,3</sup> and Neda Agahi<sup>1</sup>**

1. Karolinska Institutet
2. Centre for Epidemiology and Community Medicine, Region Stockholm
3. Stockholm University

**Introduction:** Old age is changing—both the timing of when one is considered to enter “old age” and what people in “old age” do. This study will explore how people participate in society in old age, how it has changed over time, and if there are any differences between women and men and socioeconomic groups. **Material and methods:** Four waves of data from the nationally representative panel study SWEOLD were used in the analysis. Data on formal and informal social participation, socioeconomic status, gender, and control variables were taken from survey waves 1992, 2002, 2011 and 2021 to give a dataset spanning 30 years with a population aged 77+. Multinomial regressions were used. **Results:** Preliminary results show differences between the waves in how older adults participate in society. In 2021 older adults are more likely to participate through formal activities such as being active members of organisations and attending study circles than in previous years. Informal participation such as visiting with friends and relatives has decreased over time and though more common than formal participation, shows a decrease between 1992 and 2021. **Conclusion:** Results suggest that individuals have become more involved in formal activities over time. Visits with friends and family have decreased indicating that the way older adults engage with society is slightly shifting from private and informal participation into more structured spaces. More detailed analyses are needed to investigate factors that explain this change and to identify groups that engage less in informal activities over time.

*Another Drink? Trends in Alcohol Consumption in The Older Population in Sweden between 1992 and 2021*

**Neda Agahi<sup>1</sup>, Erika Augustsson<sup>1</sup> and Susanne Kelfve<sup>2</sup>**

1. Karolinska Institutet
2. Linköping University

**Introduction:** Studies have found that alcohol consumption has increased over time in the older population. In Sweden, most indicators of alcohol consumption show increases or stability over time among older age groups. This study investigates changes in alcohol consumption in the older population over a 30-year-period, with a particular focus on the last 10 years and time-trends among those aged 85 and older. **Material and methods:** This study used repeated cross-sectional data from the nationally representative Swedish Panel Study of Living Conditions of the Oldest Old (SWEOLD) from 1992, 2002, 2011 and 2021/22 (ongoing). Proportion of drinkers and frequency of drinking among older women and men aged 77 to 107 were analyzed. **Results:** Preliminary analyses suggest that the proportion of drinkers in the older population has continued to increase, primarily among women. Weekly drinking has become more common among women and in the youngest age group (aged 77–79) during the last 10-year period. Among those aged 85+, the proportion of drinkers has increased throughout the period, primarily monthly drinkers during recent years. No further increase was found among men over the past ten years. **Conclusions:** These results confirm earlier findings that more recent cohorts of older adults drink more frequently and that drinking habits are kept and continued into old age. During recent years, this is especially true for women. The increase among those aged 85+ must be studied further, as it may lead to increased alcohol-related harms and care needs due to concurrent health problems and medication use.

*Association of Disability and Time to Death among The Oldest Old: The Vitality 90+ Study 2001–2014*

Linda Enroth <sup>1</sup>, Pheck Hwa Soo <sup>2</sup>, Jani Raitanen <sup>1,3</sup>, Kristina Tiainen <sup>1</sup>, Lily Nosraty <sup>1</sup>, Marja Jylhä <sup>1</sup> and Mari Aaltonen <sup>1</sup>

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Increasing life expectancy has postponed the last years of life to older ages. Previous studies have demonstrated that disability is determined by both age at death and closeness to death but only few have focused on oldest old population. We examined disability during the last years of life among people aged 90 years and older between 2001 and 2014 and assessed whether it varied by age at death, sex and study year. We used population-based survey data from the Vitality 90+ Study years 2001, 2003, 2007, 2010 and 2014 (n = 5711, response rate 77–86%) linked with dates of death from Statistics Finland. Disability was defined as dependency in daily activities (dressing, getting in and out of bed) and mobility (moving indoors, walking 400 m, using stairs). We analyzed disability by closeness to death and age at death for men and women with generalized estimating equation models. Disability in daily activities and mobility increased systematically with closeness to death (<1, 1–1.99, 2–2.99, 3–3.99 and 4 < years to death) for both sexes in each study year. Also higher age at death (90–91 vs. 94+ years) was associated with disability. These associations remained consistent throughout the study period. This study shows that in the oldest old population both closeness to death and age at death determine the level of disability. We suggest that the complex and resource-draining care needs at the end of life will increase with growing number of people living their last years of life in very old age.

**Abstracts for Oral Presentations and Posters**

*‘Pad Cultures’ and Their Consequences: Findings from an Ethnographic Study Examining Continence Care for People Living with Dementia during a Hospital Admission*

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Category: Social Research, Policy, and Practice/Morbidity, medical treatment and ageing processes

People living with dementia (PLWD) are a significant and highly vulnerable patient population within the acute hospital setting: their health can significantly and suddenly worsen during and following an unscheduled admission. Evidence is required to inform improvements and reduce the vulnerability of this patient group within the acute setting. This study’s focus was to explore a significant but poorly understood aspect of everyday care for PLWD during an acute admission: continence care.

180 days of ethnographic research, was collected over a 12 month period, from six wards within three hospitals. In-depth analysis of everyday care enabled us to examine how ward staff responded to the continence needs of PLWD and to follow the consequences of this care.

Our observations revealed the embedded practice of ‘pad cultures’: the routine use of continence pads in the care of all PLWD as a precautionary strategy. The organisational rationale to provide safeguards, ensure containment, and prevent incontinent episodes, informed an expectation that PLWD not only wear pads, but could and should use them. Pad cultures were associated with high levels of distress in the person, with significant impacts on dignity, personhood, and identity. Ward staff described feeling abandoned with the responsibility of continence care and unable to work in any other way.

These findings have implications for understandings of the person living with dementia and cultures of care within acute wards. We are using our findings to inform

staff education and training in collaboration with PLWD and specialists in dementia and continence care.

*"I know His Needs Better than My Own"—Informal Carers' Support Needs when Caring for a Person with Dementia*

**Clemmensen, Trine Holt, Kristensen, Hanne Kaae, Lauridsen, Henrik Hein and Karen Andersen-Ranberg**

UCL University College Denmark

Category: Health Sciences/A good life and a good death

Introduction: Caring for a person with dementia predisposes informal carers (carers) to mental and physical disability. Carers tend to focus on the needs of the person with dementia and have difficulties expressing their own needs for support. No instrument has yet been developed to directly assess carers' support needs. The aim of this study is to clarify the main categories of carers' support needs to inform future development of an instrument to assess carers' support needs. Material and methods: A qualitative approach combining focus group interviews with 18 carers and 13 professionals and five individual interviews with carers were used. Inductive content analysis was applied. Results: Carers' support needs were categorised into four areas: (i) daily life when caring for a person with dementia; (ii) focus on themselves; (iii) maintain own well-being; and (iv) communicate and interact with surroundings. Conclusions: Carers have support needs in common regardless of the relation to the person with dementia. Carers tend to focus on the needs of the person with dementia, thus not knowing their own needs. The four main categories clarified in this study may inform the foundation of developing an instrument to facilitate dialogue between carers and professionals with the purpose of assessing carers' support needs.

*"My Children Want Me to Be Careful"*

**Janicke Andersson**

Halmstad University

Category: Behavioural and Social Sciences/Lifestyle, engagement and transition

Introduction: The Swedish response to the COVID-19 pandemic included age-based recommendations of voluntary quarantine specifically for those 70 years of age or older. The hastily introduced recommendations represents an example of how power is shifted from older generations to younger ones. We use the concept generationing to highlight renegotiated power relationships within families. Material and methods: A web-based qualitative survey addressing people 70 years and older, was conducted in April 2020. We received 996 open responses which were analyzed by manual coding. Results: The result show that adult children and grandchildren increased their care and control of older family members almost overnight. Various forms of control were performed by the adult children and sometimes the grandchildren. As a consequence, it became important for people over the age of 70 to assert their independence via different strategies, such as recapturing the performance of activities initially taken over by the children or emphasizing the voluntary in complying with the children's demands. Conclusions: The restrictions did not only have consequences for older people's ability to move in public, but deprived people over the age of 70 the opportunity of equal relationships with their children and grandchildren. The "resource" that then remained for the older persons to offer in a generational economy of social relations, roles, and responsibilities, was docility and conciliatory.

*"We Are Too Old to Learn New Things"—eHealth Literacy and Empowerment? A Qualitative Study of App Testing among AMD Patients*

**Anne Liveng**

Roskilde University Center, Denmark

### Category: Humanities/Digitisation and technology

**Introduction:** Digital strategies in health care are seen as a solution to the demographic challenges with a growing older population and shortage of staff in the care sector. The interreg project NorDigHealth (2019–2021) sought to test several health-related technologies, seen from the perspective of patients and health professionals. A qualitative study of the testing of apps measuring AMD progression among older patients with the aim of home use, is presented here. **Material and methods:** The empirical material consists of 18 interviews with and observations of AMD-patients in Denmark and Germany. Themes were inductively generated in a hermeneutical process, involving four researchers; two had produced the empirical material, and two were otherwise involved in NorDigHealth. **Results:** Six interconnected themes were generated: Level of digital competences and access to equipment, General worries, Patients' relatives, The importance of treatment and seeing the doctor, App functionality and user friendliness, Understanding of the apps and results. **Conclusions:** Older patients with AMD had great challenges in using the apps and understanding the results of the tests, partly due to a low degree of digital health literacy, partly due to multimorbidity and general weakening. Shaking fingers, impaired memory, and worries to do things wrong formed hinderances for the use. However, patients tried to minimize their difficulties to seem competent. They expressed a strong need to see the doctor face-to-face. Several were dependent on relatives for helping with digital technologies. The technology did not provide empowerment for patients and the testing did not continue.

*A "Blue Zone" in The Netherlands; Personal and Environmental Characteristics*

### Dorly Deeg

Department of Epidemiology & Data Science, Amsterdam University Medical Centers, Vrije Universiteit

### Category: Behavioural and Social Sciences/A good life and a good death

**Introduction:** 'Blue Zones' (BZs) are, mostly remote, regions with an exceptionally high number of centenarians. The BZ concept is increasingly popular, because BZs are considered to provide clues to healthy ageing. The supposedly high longevity in BZs has been attributed to healthy lifestyles, but the evidence generally does not meet scientific quality criteria. In this study, we aim to characterise a municipality in the Netherlands that satisfies three criteria: a relatively high number of centenarians, a relatively high life expectancy, and a relatively stable population. **Material and methods:** We use the population-based Longitudinal Aging Study Amsterdam (LASA), which is ongoing since 1992 in 11 municipalities, including cities and towns, located in three socio-geographically different regions. Its data span 27 years and yield the cumulative number of centenarians across the study period. The three-yearly data collection includes a wide range of behavioural, social, health-related, and environmental data. **Results:** We found one municipality that satisfies the three BZ criteria. In comparison with inhabitants of other municipalities in the same province and other provinces in the Netherlands, BZ inhabitants consume less alcohol and smoke less, but walk fewer minutes/day and less often practice sports; they do paid work more often; they practice singing more often and attach higher importance to religion and prayer; they deem their environment as more highly liveable. However, their physical and mental health did not differ from the comparison groups. **Conclusion:** These findings suggest that BZs are not necessarily linked to healthy lifestyles and good health in old age.

*A Swedish Version of the Australian Death Literacy Index—Translation, Cultural Adaption, and Validation*

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Category: Health Sciences/Education and competences in ageing societies

**Introduction:** The Death Literacy Index (DLI) was developed in Australia to measure death literacy, i.e., experience-based knowledge needed to understand and act on end-of-life (EOL) care options. At the timepoint for this study, it has not been validated outside its original context. The aim was to adapt a culturally adapted Swedish-language version of the DLI, the DLI-S, and assess sources of evidence for its validity in a Swedish context. **Material and methods:** The study involved a multi-step process of translation and cultural adaption, and two validation phases: content and response process validity through expert review (n = 10) and cognitive interviews (n = 10); and internal structure validity of DLI-S data collected from an online cross-sectional survey (n = 503). The psychometric evaluation involved analysis of descriptive statistics on item and scale-level, internal consistency and test-retest reliability, and confirmatory factor analysis. During translation and adaption changes were made to adjust items to the Swedish context, based on findings from the expert review and cognitive interviews. **Result:** The content validity index exceeded recommended thresholds. The psychometric findings provided support for DLI-S's validity. The hypothesized six-factor model showed good fit. High internal consistency was demonstrated for the overall scale (Cronbach's  $\alpha = 0.94$ ) and each sub-scale ( $\alpha 0.81$ – $0.93$ ). Test-retest reliability was acceptable, ICC ranging between 0.66–0.85. **Conclusions:** The DLI-S demonstrates satisfactory validity and acceptability to measure death literacy in the Swedish context. Sub-scales measuring community capacity may function differently in Sweden than in Australia. The DLI-S has potential to contribute to research on EOL interventions in elder care.

*A systematic review on self-care in older bereaved adults*

**Lisbeth Kirstine Rosenbek Minet, Martin Mau, Dorthe Nielsen, Karin Dieperink and Margit Scmykker**

Category: Health Sciences/Lifestyle, engagement and transition

**Introduction:** One of the most stressful events that older people can experience is the death of a life partner. The new life conditions might result in increased health risks, changes in self-care and daily living abilities. In the development of effective health-promoting interventions targeted older bereaved adults, it is important to investigate how changed life circumstances have impact on the experienced self-care and self-care activities in relation to grief management. This study explores individual experiences of everyday life after loss and investigate how older adults identify self-care requisites and carry out self-care activities in the framework of Orem's Self-care Theory. **Material and methods:** A systematic review and thematic synthesis of qualitative studies was performed and included 23 peer-reviewed original research studies investigating the experience of grief and coping with everyday life in older adults who have lost a life partner late in life. The electronic databases Medline, CINAHL, PsychInfo, were searched up to May 2021. **Results:** The results showed that in addition to grieving, the transition to widowhood often includes a need for coping with new tasks, creation of new routines, making important decisions, meeting new expectations of roles, and taking greater responsibility for self-care.

Findings from this study showed that older bereaved adults might experience imbalance between therapeutic self-care demands and self-care agency that may lead to difficulties in accommodating self-care requisites. Conclusion: This review revealed how health care professionals can help older bereaved adults undertake the responsibility of his/her individual care function in everyday life.

*Active Ageing Parallel to COVID-19 Pandemic: Changes from Before to Amid and after the Emergency Powers Act in Finland*

**Taina Rantanen, Johanna Eronen, Markku Kauppinen, Kirsi Keskinen and Erja Portegijs**

Category: Health Sciences/Lifestyle, engagement and transition

Introduction: Actions to prevent the spread of SARS-CoV-2 virus may have caused lasting ill effects on older people. We define active ageing as ‘a person’s striving for activities as per one’s goals, opportunities and activities’. We studied active ageing in 2017–18 among people aged 75, 80 and 85 years with follow-ups in May 2020 during the Emergency Powers Act, and in autumn 2021 [1]. Methods and materials: The participants are 172 people who by the beginning of December 2021 had participated in the third assessment. We assessed active ageing using the University of Jyväskylä Active Ageing Scale (UJACAS [2] including 17 essential activities, such as enjoying the outdoors, taking care of one’s appearance, crafting/DIY, helping others, practicing artistic hobbies, participating in events, advancing societal/communal matters, and doing things according to one’s world view. Activities are self-reported from the sides of will, opportunity, ability to act, and extent of activity; sides form a subscore (range 0–68) and as summed the total score (0–272, higher more active). Results: The mean scores were 203 (Standard Error, SE, 2.0) at the baseline, 177 (SE 2.4) during April 2020 and 191 (SE 2.3) in autumn 2021. The subscore ‘opportunity to act’ declined most prominently during May 2020 ( $B = -9.53$ , SE 0.35) and bounced back during autumn 2021 ( $B = 7.28$ , SE 0.64). For other subscales, the declines observed in May 2020 were only partly normalized with 2021 scores remaining below the baseline. All time effects were significant ( $p < 0.001$ ). Conclusion: Reduced opportunity for activity during the the Emergency Powers Act may have impaired the voluntary activities of older people permanently, potentially reducing their quality of life.

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*Ageing Amid Climate Change: A Literary Gerontological Approach to Fostering Intergenerational Solidarity*

**Ulla Kribernegg<sup>1,2</sup> and Anna-Christina Kainradl<sup>1</sup>**

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Category: Humanities/A good life and a good death

Introduction: Age as a category of difference increasingly appears in discussions about who is responsible for anthropogenic climate change, and the measures to be taken to combat it. Global warming and its consequences for an ageing population have also become relevant for literary gerontologists who have begun to analyse fictional representations of what it means to grow old in the Anthropocene [1]. Material and Methods: Bringing together the fields of literary gerontology and ecocriticism, this paper aims at revealing the interconnectedness of both discourses in order to work towards intergenerational

solidarity. Analysing Margaret Atwood's short story "Torching the Dusties" this paper will discuss disastrous metaphors, looking for revealing intersections between descriptions of individual and societal ageing, and unsettling climate change imagery. Dealing carelessly and irresponsibly with the resources of both one's own body and the planet, such metaphors suggest, inevitably culminates in disaster. Results/Discussion: Metaphors of climate change and ageing overlap and have a mutually reinforcing effect. The catastrophic imagery of drought, catastrophe, and destruction describes both nature affected by anthropogenic climate change as well as old people and their ageing bodies on an individual level, leading to ageist stereotypes. Conclusions: Reading climate fiction through the lens of literary gerontology raises awareness for the discursive entanglements of guilt, responsibility, and ageist stereotypes. Deconstructing them creates an awareness that allows for more intergenerational understanding.

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*Ageing Engineers' Occupational Self-Efficacy Belief to Continue Working*

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Category: Health Sciences/Lifestyle, engagement and transition

Introduction: Engineers' work has become more complex in the continuously changing working life today. Occupational self-efficacy (OSE) is an important personal resource, and an essential adaptation capability to react to work related changes. Self-efficacy is found to buffer negative effects of job demands on psychological strain among engineers. However, there is less knowledge about ageing workers' OSE. Therefore, this study explored ageing engineers' occupational self-efficacy belief to continue working until expected retirement age. Methods and materials: A total of 125 engineers, 45–65 years old, answered two open-ended questions in a web-based questionnaire about what positively and negatively affect their OSE belief to continue working until expected retirement age. The data was analyzed using manifest qualitative content analysis. Results: The analysis revealed five categories positively affecting OSE belief: "Social inclusion and leadership", "Engagement in own health", "Stable and appreciated sector", "Belief in own competence" and "Own work motivation and life orientation". Correspondingly, six categories described issues negatively affecting OSE: "Consequences of workload", "Declining own health", "Declining prime mover of work", "Declining security and work well-being", "Society laws and attitudes", and "Social conditions". Conclusions: Supporting perceived health, work community and leadership as well as appreciating engineers' gained knowledge and offering them further development are important in ageing engineers' OSE belief to continue working until expected retirement age.

*Ageing with Long-Term Disability and The Association with Late Life Satisfaction. A 35-Year Follow-Up Study Based on The HUNT Study*

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Category: Behavioural and Social Sciences/Morbidity, medical treatment and ageing processes

Introduction: People with long-term disability often have poorer living conditions and health throughout the life span compared to the general population. Disability in adulthood may influence life satisfaction at older age, but research is scarce. This study investigates

the association between long-term disability and life satisfaction at older age. **Methods and Materials:** The study population comprised 23,139 participants in the Trøndelag Health Study (HUNT) participating in 1984–86 (HUNT1), again in 2017–19 (HUNT4) and who reported whether or not they had disability ('yes' at both waves: 2816 (12.1%)). In HUNT1 the sample was aged 20–65 years and in HUNT4, up to 35 years later, they were aged 53–98 years. Disability reported at both study waves, was defined as long-term disability and was regressed against life satisfaction (yes/no) at HUNT4 using logistic regression, adjusting for gender, education, and family situation. To reduce selection bias between study waves, inverse probability weighting was applied, weighting for baseline age, sex, experienced health and disability. **Results:** In total, HUNT4-participants aged 53+ without long-term disability had higher odds of being satisfied with life compared to those reporting long-term disability (OR = 2.5, 95% CI 2.2–2.8). Disability due to either vision-, hearing-, mobility, mental, or physical impairments, compared to reporting not having disabilities, were also associated with lower life satisfaction later in life. **Conclusion:** This study with a follow-up of 35 years provides a unique and timely attention on life satisfaction when ageing with disability.

*Ageism and Stereotypes: A Humanities Perspective in the Medicine Classroom*

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Category: Humanities/Education and competences in ageing societies

**Introduction:** Stereotypes about older people have been shown to negatively impact the quality of health care. Such stereotypes are culturally learned, and humanities scholars typically point out that clichés about older people must (and can) be unlearned through knowledge about them and by encouraging self-reflection. But how the humanities can contribute is a matter of contention. **Material and Methods:** The presentation will describe an intervention in the medical curriculum at the University of Southern Denmark. Ca. 40 first-semester students each year learn about ageism and stereotypes through a presentation of empirical research and are encouraged to identify problematic representations of older people in poetry and in their own expressive writing. The results of a brief, 2-part survey conducted during the intervention suggests that students' awareness about ageism increases. **Results/Discussion:** Rather than further exploring the results of the survey, this presentation raises the question what type of humanities resources (materials and methods) are best suited to convey knowledge about ageist stereotypes and skills for decreasing them. Researchers in literary studies are divided on this question: while one group foregrounds ideological critique, the other group emphasizes explorative methods that let students set the own agenda in their intersubjective encounter with a given topic or text. While each approach has its own advantages and disadvantages, both methods are difficult to combine. **Conclusions:** Clarity about the differences in humanities-based methods is crucial to establish a firmer ground for their 'use' in interdisciplinary contexts.

*Air Pollution Exposure across the Life Course and DNA Methylation-Based Telomere Length among Older Adults in Scotland*

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Category: Behavioural and Social Sciences/Morbidity, medical treatment and ageing processes

**Introduction:** Exposure to ambient air pollution has been linked to a wide range of age-related diseases, and biological pathways include changes in DNA methylation and shortening telomere length. However, there is limited knowledge on the long-term effects of air pollution on biological markers, including whether there are sensitive periods across the life course and/or if the impacts of pollution accumulate over time. **Material and methods:** We utilised data from the Lothian Birth Cohort 1936, a cohort of Scottish adults born in 1936 and residing in the area of Edinburgh. Air pollution in 1935, 1950, 1970, 1980, 1990, and 2001 was modelled for 5km grids using the EMEP4UK atmospheric chemistry transport model. Telomere length was measured from blood samples at the average age of 70, 73, 76 and 79, using a novel DNA methylation-based estimate (DNAmTL). Least angle regression selected best-fit life course models (i.e., sensitive periods, accumulation) using a composite air quality index (AQI); mixed-effects regression estimated selected models. **Results:** Based on 531 individuals with 1802 observations we found shorter DNAmTL among females with higher air pollution exposure in 1935 (AQI:  $b = -0.035$ , 95%CI:  $-0.058$ ,  $-0.013$ ) and among males with higher exposure in 1980 (AQI:  $b = -0.034$ , 95%CI:  $-0.055$ ,  $-0.013$ ). Further analyses suggested that associations were more robust among females, and for PM<sub>2.5</sub>, SO<sub>2</sub> and NO<sub>2</sub>. **Conclusions:** Air pollution exposure in utero and mid-adulthood was associated with faster cellular ageing among older adults. Applying the life course approach can provide novel insights into the long-term effects of air pollution on healthy ageing.

*Ambivalent Endings in Contemporary Danish End of Life-Novels*

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**Category:** Humanities/A good life and a good death

**Introduction:** Presenting the literary research of Danish Aging Research Center's interdisciplinary project *The Last Years of Life*, the paper introduces *the end of life-novel* (EOLN): a distinct literary form portraying protagonists facing the end of mortal life. **Material and method:** The paper examines a selection of newer Danish EOLNs, e.g. Christian Jungersen's *Udergrowth* (1999), Kirsten Thorup's *No Man's Land* (2003) and Dennis Gade Kofod *The Well-Jötunn* (2006). Contrary to the critical and skeptical attitude of much cultural gerontology, the paper's approach is *post-critical*. Thus, the novels are read as 'positive' sources of knowledge of the cultural imaginations of the last years of life. **Results:** The paper demonstrates the peculiar ambiguity of the EOLNs' representations of ageing and death. On the one hand the EOLNs are informed by an optimistic vision of late life as a time of 'wrapping up', of concluding and coming to terms with one's life-story. On the other, the novels are highly preoccupied with well-known fears of old age, e.g., declining health, loneliness and existential insecurity. Consequently, the EOLNs are structured around the tension between conflicting visions of the last years of life, most clearly manifesting itself in the novels' ambivalent endings. **Conclusion:** The paper concludes that EOLNs challenge readers to make sense of endings—and forms of ageing—that are different from or even less than ideal. As such they might give rise to reevaluate and nuance our notions of good and bad deaths, of happy and unhappy ends.

*An Existential or Clinical Phenomenon? 'Frailty' in Danish Healthcare Journals ca. 2000 to 2021*

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**Category:** Humanities/Morbidity, medical treatment and ageing processes

**Introduction:** Frailty (Danish: skrøbelighed) is increasingly used as a clinical concept, while simultaneously, it has a strong, negative lay meaning [1]. The concept's ambiguity might have consequences for older patients' treatment and wellbeing, and there is a need

for a consensus definition [2] and a better understanding of its use and meanings. This paper presents a first study of the concept in leading Danish healthcare journals, aiming to identify explicit and implicit definitions of frailty among healthcare professionals. Material and methods: We collected all papers using the concepts *frailty* and *skrøbelighed* in three Danish healthcare journals over the past two decades (Danish Medical Association's journal *Ugeskrift for Læger* (n = 46), Danish Nurses Organization's journal *Sygeplejersken* (n = 16), and the popular medical journal *Dagens Medicin* (n = 17)). Papers were coded by how they defined frailty. Results: *Sygeplejersken* mostly referred to frailty as existential and intangible, often but not always associated with high age. *Dagens Medicin* and *Ugeskrift for Læger* discussed frailty as a clinical fact but often without defining the term. There were considerable differences in definition related to the authors' specialty, reflecting different approaches to patient care. A change occurred in all journals in the late 2010s, where papers increasingly describe a measurable phenomenon. Conclusions: The use of frailty reflects the medicalization of old age and contemporary ambitions to quantify and possibly reverse age-related changes but simultaneously reflects a holistic approach to the care for ageing patients. This ambiguity calls for clear definitions and further discussions on its use and usefulness in healthcare.

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*An Umbrella Review of Instruments Assessing Gait, Balance, and Function to Predict Falls in Older Adults*

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Category: Health Sciences/Morbidity, medical treatment and ageing processes

Introduction: To review the validated instruments that assess gait, balance, and function to predict falls in older adults across different settings. Material and Methods: Umbrella review of narrative- and systematic reviews with or without meta-analyses of all study types. Reviews with older adults and validated instruments assessing gait, balance, and function were included. Four databases (MEDLINE, PsychINFO, Embase, and Cochrane) were searched from inception to 23 November 2020. Two reviewers screened and included full-text papers independently. Quality was assessed using risk of bias in systematic reviews (ROBIS). Data extraction was completed in duplicate using a standardized spreadsheet and a narrative synthesis presented for each identified assessment tool. Results: Among 2596 articles initially identified, 27 reviews were included; 9 of which were meta-analyses. Reviews were primarily of low quality, thus at high risk of potential bias. The most frequently reported assessments were: Timed Up and Go, Berg Balance Scale, gait speed, dual task assessments, single leg stance, Functional Reach Test, and tandem gait and stance. Results were inconsistent; however, moderate evidence suggests that gait speed can be useful in predicting falls. Conclusions: No single gait, balance, or function assessment can be used in isolation to predict fall risk in community-dwelling older adults with high certainty. However moderate evidence suggests that gait speed can be useful in predicting falls and might be included as part of a comprehensive evaluation for older adults. We found that dual task assessments demonstrate some potential to predict falls in older adults, warranting further research in this area.

*Anticholinergic Burden in Middle-Age Is Mildly Associated with Reduced Cognitive Function, but Not with Brain Volume*

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Category: Biological and Medical Sciences/Morbidity, medical treatment and ageing processes

**Introduction:** Anticholinergic drugs block muscarinic receptors in the body. They are commonly prescribed<sup>1</sup>, and their use has previously been associated with dementia and cognitive decline<sup>2</sup>. **Methods and Materials:** In participants of UK Biobank with linked health-care records (n = 170,798), we calculated the anticholinergic burden of drugs according to 15 different anticholinergic scales and due to different classes of drugs. We then used linear regression to explore the association between anticholinergic burden and cognitive function and various brain-imaging measures. **Results:** Anticholinergic burden was mildly associated with poorer cognition across most anticholinergic scales (standardised betas range:  $[-0.021, -6.2 \times 10^{-5}]$ ; and most cognitive tests, including tests for associative learning, mental planning, prospective memory, fluid intelligence, and visual memory. The association was mostly driven by antibiotics (beta =  $-0.028$ , 95% CI =  $[-0.034, -0.022]$ ) and drugs to treat disorders of the nervous system (beta =  $-0.016$ , 95% CI =  $[-0.022, -0.011]$ ). However, polypharmacy as a simple drug count was an equally good predictor of poorer cognition as anticholinergic burden. Furthermore, anticholinergic burden was not associated with any measure of brain volume for the brain structures studied. **Conclusions:** Anticholinergic burden is mildly associated with poorer cognition, but there is no evidence for a mediation by measures of brain volume. Future studies might focus more broadly on polypharmacy or more narrowly on distinct drug classes, instead of using purported anticholinergic action to study the effects of drugs on cognitive ability.

*Assessment of Renal Function in Old Age: Does Body Mass Matter?*

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Category: Biological and Medical Sciences/Morbidity, medical treatment and ageing processes

**Introduction:** There is uncertainty as to which estimated glomerular filtration rate (eGFR) equation should be used among older adults, thus we aimed to: (1) quantify the agreement between five equations; (2) compare their discriminative capacity in predicting 12-year mortality; (3) explore the role of age and body mass across potential discrepancies. **Material and Methods:** We included 3094 participants (age range: 60–102) from the Swedish National Study on Aging and Care in Kungsholmen (SNAC-K). Five creatinine-based equations were considered: Modification of Renal Disease (MDRD), Chronic Kidney Disease Epidemiological Collaboration (CKD-EPI), Revised Lund-Malmö (R-LM), Berlin Initiative Study (BIS) and Full Age Spectrum (FAS). Agreement was quantified using Cohen's Kappa. Discriminative capacity was quantified using areas under the curve (AUC) and Harrel's C statistic. Calf circumference, BMI and age were explored as potential correlates of discrepancies. **Results:** Cohen's kappa between dyads of equations ranged from 0.45 to 0.89, with poorest agreement between CKD-EPI and FAS, and best between BIS and FAS. MDRD and CKD-EPI were more likely to classify participants in lower CKD stages. The best mix of AUC (0.80) and Harrel's C statistic (0.73) was observed for BIS, however the prognostic accuracy for death decreased in subgroups with high age and low body mass. Differences between equations were not consistent across age, BMI and calf circumference levels. **Conclusions:** Different equations provided different estimates of GFR. BIS outperformed other equations in predicting mortality, however its discriminative capacity was

reduced in subgroup analyses. Further studies are needed to optimize eGFR equations for older adults.

*Association between Cardiometabolic Multimorbidity and Dementia Risk: A Nationwide Twin Study*

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Category: Biological and Medical Sciences/Morbidity, medical treatment and ageing processes

**Background:** Cardiometabolic diseases (CMDs) have been individually linked to increased dementia risk, but their combined impact on dementia and its major subtypes remains unknown. **Methods:** Within the Swedish Twin Registry, 17,387 dementia-free individuals aged  $\geq 60$  were followed for up to 18 years to detect incident dementia. Dementia (including Alzheimer's disease [AD] and vascular dementia [VaD]) was identified based on medical records. CMDs (including type 2 diabetes, heart disease, and stroke) were also ascertained from medical records. Data were analyzed using two strategies: (1) unmatched analysis using Cox models conducted among all twin individuals (to assess the CMD-dementia association); and (2) co-twin matched analysis using Cox models stratified by zygosity in dementia-discordant pairs (to assess the role of genetics in this association). **Results:** Of all participants, 3176 (18.3%) had a single CMD at baseline and 789 (4.5%) had multiple. During the follow-up, 2494 participants developed dementia (including 817 AD and 515 VaD cases). The hazards ratios (HRs, 95% CIs [confidence intervals]) of dementia were 1.36 (1.23–1.51) (1.23, 1.03–1.49 for AD and 1.53, 1.23–1.89 for VaD) for a single CMD, and 1.82 (1.48–2.23) (1.39, 0.93–2.09 for AD and 2.41, 1.64–3.55 for VaD) for CMD multimorbidity. In co-twin matched analysis, the CMD-dementia association remained significant in dizygotic twins ( $n = 544$ ; HR 1.68, 95% CI 1.26–2.39), but was greatly attenuated among monozygotic twins ( $n = 102$ ; 0.84, 0.42–1.65) ( $p = 0.045$  for interaction). **Conclusions:** Cardiometabolic diseases are associated with an increased risk of dementia, AD, and VaD. Genetic background appears to underpin the CMD-dementia association.

*Associations between LIBRA Dementia Risk Index and Cerebrospinal-Fluid Alzheimer's Biomarkers: Findings from the European Prevention of Alzheimer's Dementia Cohort Study*

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Category: Biological and Medical Sciences/Lifestyle, engagement and transition

**Introduction:** There is growing interest in modifiable lifestyle risk factors associated with Alzheimer's Disease (AD) which are thought to contribute up to 40% of the risk of dementia. The Lifestyle for Brain Health (LIBRA) index, a dementia risk score which focuses exclusively on such factors, has been found to be associated with increased risk of dementia and cognitive decline. It is currently unclear how LIBRA scores relate to cerebrospinal fluid (CSF) biomarkers of AD. Therefore, we examined the association between LIBRA scores and CSF amyloid-beta ( $A\beta$ ), phospho-tau 181 (p-tau181), and total tau (t-tau). **Methods and Materials:** 1715 participants (mean age = 66.0, 56.4% female) were enrolled in the European Prevention of Alzheimer's Dementia Longitudinal Cohort Study (EPAD LCS).

Linear mixed effects models were used to examine the association between LIBRA index scores and longitudinal CSF A $\beta$ 42, p-tau181, and t-tau in the total sample. Analyses were repeated after sample stratification by CSF A $\beta$  values into amyloid-positive (A $\beta$ +) and amyloid-negative (A $\beta$ -) groups. Results: Overall, there were no significant associations between LIBRA scores (mean = 0.73) and CSF biomarkers. However, in A $\beta$ - participants (n = 1134), LIBRA scores were significantly associated with longitudinal CSF t-tau, where higher LIBRA scores (denoting higher dementia risk) were associated with increases in t-tau. There were no significant associations between LIBRA scores and CSF biomarkers in A $\beta$ + participants. Conclusions: In those without pathological A $\beta$  accumulation, lifestyle factors may have a larger influence on tau accumulation than those with pathological levels of A $\beta$ .

*Association between Post-Traumatic Stress Disorder (PTSD) and Cognitive Function: A Meta-Analysis*

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Category: Health Sciences/Morbidity, medical treatment and ageing processes

Introduction: A subset of individuals exposed to life-threatening events develop PTSD. Although certain symptoms such as memory problems and concentration difficulties are common in both PTSD and among individuals with impairment in cognitive function, it is still unclear if PTSD is associated with impaired cognitive function. In the current meta-analysis, we aim to examine the association between PTSD and cognitive impairment by several indicators. Material and methods: Articles were extracted from PubMed and Web of Science by using keywords and predetermined inclusion and exclusion criteria. In total, 52 peer-reviewed studies were included in this meta-analysis. We examined the association between PTSD and cognitive impairment by conducting a three-level random effect meta-analysis in R, and then stratified the association by age (older adults vs. others), study design (cross-sectional vs. longitudinal study) and several mental processes (executive function, memory, and global cognitive function, visuospatial abilities and working memory). Results: The findings from this meta-analysis suggest that PTSD is associated with impairment in cognitive function, mainly in executive function (random effect = 0.113; 95% CI: 0.208–0.019), general cognitive abilities (random effect = 0.204; 95% CI: 0.3245–0.083) and memory (random effect = 0.125; 95% CI: 0.212–0.037). Other findings were non-significant. Conclusions: In summary, the findings from this meta-analysis suggest that individuals with a diagnosis of PTSD may be at risk for impairment in executive functioning, general cognitive abilities, and memory. The findings indicate that cognitive screening may help identify individuals with PTSD who may need additional services.

*Association of Household and Transportation Physical Activities with Executive Functions and Verbal Fluency in Older People: The Three-City Cohort*

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Category: Health Sciences/Lifestyle, engagement and transition

**Introduction:** In the normal aging process, a cognitive decline is observed. Some cognitive abilities resist to brain aging but other progressively decline over time. In this study (1), our objective was to analyse the association between two physical activity types and the decline over time in different cognitive domains in a large prospective cohort of older adults. **Material and methods:** The study analysed a sub-sample of the Three-city cohort (3C) including participants aged 72 or more years at baseline. The Voorrips questionnaire was used to assess physical activity using two sub-scores: household and transportation activities, leisure and sports activities. Cognitive performances were evaluated at baseline and during a 8-year follow-up (Mini-Mental State Examination, Benton Visual Retention Test, Trail Making Tests A and B, Isaacs's Set Test, Free and Cued Selective Reminding Test). Associations between physical activity scores and cognitive decline in different domains were tested using multi-adjusted linear mixed models. **Results:** 1697 dementia-free participants were included (median age of 79.7 years). A slower decline over time was found for the Trail Making Test B and Isaacs's Test in participants with high level of household and transportation activities compared with low level. No significant associations with cognitive evolution over time were found for leisure and sport activities. **Conclusion:** In older adults, a moderate to high level of household and transportation activities were associated with better executive functions and verbal fluency evolution over time. Participation in domestic activities and using adapted transport means could allow older adults to maintain specific cognitive abilities.

*Association of Long-Term Exposure to Air Pollution and Dementia Risk: The Role of Homocysteine, Methionine*

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Category: Health Sciences/Morbidity, medical treatment and ageing processes

**Introduction:** Growing evidence associates long-term exposure to air pollution with dementia<sup>1</sup>. The biological mechanisms behind this association are yet unclear. We aimed to investigate the role played by homocysteine and methionine in the association between air pollution and dementia. **Material and methods:** Data from 2512 dementia-free individuals were derived from the ongoing Swedish National study on Aging and Care in Kungsholmen (SNAC-K). Two major air pollutants (particulate matter  $\leq 2.5 \mu\text{m}$ , PM 2.5 and nitrogen oxides, NOX) were assessed yearly from 1990, using dispersion models for outdoor levels at residential addresses. The hazard of dementia was estimated using Cox models. The potential mediating or modifying effects of homocysteine and methionine were analysed through the counterfactual approach. **Results:** Over a mean follow-up time of 5.18 years (SD: 2.96), 376 incident dementia cases were identified. We observed an up to 70% increased hazard of dementia per unit increase in PM 2.5 levels during the previous five years (HR: 1.71; 95%CI: 1.33–2.09). We found that approximately 50% (95% CI: 8.9–97.7) of the total effect of PM 2.5 on dementia was due to mediation (7.5%; 95% CI: 1.8–13.3%) and/or interaction (50%; 95% CI: 5.0–94.9%) with homocysteine. Higher levels of methionine reduced the dementia risk linked to PM2.5 exposure by 31% (HR: 0.69; 95% CI: 0.56–0.85). No statistically significant mediation effect was found through methionine in the association between PM 2.5 and dementia. Similar but attenuated results have been obtained for NOX. **Conclusion:** High levels of homocysteine enhanced the dementia risk associated with air pollution exposure, whereas high methionine reduced such a risk.

*Associations between Muscle Mechanical Function, Muscle Quality and Gait Speed in Older Adults*

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Category: Health Sciences/Morbidity, medical treatment and ageing processes

Introduction: Muscle quality is the ability to generate muscle strength relative to muscle size (MSQ). Muscle power (force  $\times$  velocity) declines at faster rate than strength with aging, and muscle power quality (MPQ: power divided by muscle size) may be a stronger predictor than muscle strength or power alone as well as MSQ for gait performance. This study aims at investigating the predictive ability of muscle strength and power, MSQ and MPQ on short- and long-distance gait speed. Methods: Sixty-five older adults ( $82.5 \pm 4.8$  years) were assessed for maximum isometric single leg press strength (Newton/kg body weight), single leg press power (Nottingham Power Rig) (Watt/kg body weight) and for fat-free mass on a full-body DXA scanning. MSQ and MPQ were calculated by dividing strength and power by lower-body fat-free mass (FFM). Maximum gait speed was measured during a 10 m test and 2-minute walk test. Results: Muscle power and strength alone were associated with 10 m ( $R^2 = 0.39$ ,  $R^2 = 0.33$ , respectively  $p < 0.01$ ) and 2-minwt ( $R^2 = 0.43$ ,  $R^2 = 0.33$ , respectively,  $p < 0.01$ ). MPQ and MSQ were significantly associated with 10 m ( $R^2 = 0.29$ ,  $R^2 = 0.23$ , respectively) and 2-minwt ( $R^2 = 0.31$ ,  $R^2 = 0.22$ , respectively) ( $p < 0.01$ ) after adjusting for sex and age. Conclusion: Muscle power normalized by body weight was the strongest predictor of short- and long-distance gait speed. Muscle power quality and muscle strength quality provided weaker associations with gait speed for both gait distances compared to strength and power alone. Muscle power quality has a stronger association to gait speed than muscle strength quality on both short- and long gait distance.

*Attitude of Nursing Home Staff towards Psychological Services in Nursing Homes in Iceland*

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Category: Behavioural and Social Sciences/Lifestyle, engagement and transition

Introduction: Although depression and impairment in cognitive function are common among older adults in nursing homes, psychological services are often not available. The aim of this study is to examine the attitude of nursing home staff towards psychological services in nursing homes in Iceland for the benefit of residents and staff. Material and methods: A total of 145 nursing home staff members from 12 nursing homes in Iceland participated in the study. The participants were asked to rate their attitude towards and the importance of psychological services within nursing homes for residents (individual or family therapy). They were also asked to indicate if the availability of psychological services would allow staff to complete their assigned tasks on time and could help lower the prescription drug use among nursing home residents. SPSS was used to provide descriptive statistics and Word was used to summarize qualitative responses. Results: The results showed that most participants (62.8%) had a positive attitude towards psychological services and believed the services could be useful for residents as well as staff. Staff stated that psychological services would be most helpful to address bereavement, mental health concerns and adjustment issues among residents. The majority of participants also believed that psychological services could reduce drug use among residents (65.5%) and allow staff to focus on their assigned tasks (60.8%). Conclusions: This study suggests that nursing home staff in Iceland have a positive attitude towards the provision of psychological services within nursing homes. Furthermore, there appears to be a need for these services for both residents and staff.

*Behavioral and Psychological Symptoms of Dementia in Patients Living in Ordinary Nursing Home Wards—Nurse's Perspective*

**Knut Hestad**

Category: Behavioural and Social Sciences/Morbidity, medical treatment and ageing processes

**Introduction:** A high proportion of patients in nursing homes are affected by dementia, but most of them do not live in dementia wards. Many sufferers from behavioral and psychological symptoms (challenging acting out behavior), which can be stressful for the patient, and those around them. The purpose of the study is to describe how nurses in ordinary long-term wards' experience such behavioral and psychological symptoms in patients. **Material and method:** A qualitative survey in which 6 semi-structured interviews of nurses have been conducted in 4 different nursing homes. The interviews were conducted from November 2021–January 2022. To analyze the data, systematic text condensation was done in 4 steps as described by Malterud (2018). **Results:** The findings indicate that there are few meetings to discuss and make systematic interdisciplinary approaches to help patients with such difficulties. Instead knowledge exchange takes place in informal arenas. The concept of behavioral and psychological symptoms of dementia appeared unknown to several of the those interviewed. Many of them also reported that patients with dementia often isolate themselves in their own room as communal meals and other activities become too much for them. **Conclusion:** Competence-building in behavioral and psychological symptoms of dementia is necessary to promote patient safety for ordinary nursing home wards. There is a need for more knowledge for those who take care of the patients suffering from behavioral and psychological symptoms.

*Being Brought in Dead to an Emergency Department Is Not a Good Death and Unfortunately Not a Rare Event among the Elderly*

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**Category:** Health Sciences/A good life and a good death

**Introduction:** Persons who are found unexpectedly dead or dying outside a hospital and then brought into the emergency department (ED) are called brought-in dead (BID). Relatives often attend the ED to see and say their goodbyes to the deceased. It is the responsibility of nurses to care for BID persons and their relatives during their stay in the ED. Losing a loved one unexpectedly, and sometimes being the one who initiates or witnesses failed resuscitation can be painful and associated with an increased risk of pathological grief. There is a need for new knowledge about the BID population. Therefore this study aimed to describe the size and characteristics of the BID population in a Danish ED. **Material and methods:** A retrospective review of health records for all patients received in a medium-size Danish ED in a 2-year period (2018/19). **Results:** We included 719 BID persons. Their mean age was 71 years (SD 15) and 64% were men. The majority (80%) were found either dead or dying in their homes and in 54% of the cases by relatives. In 43% of the cases, resuscitation was initiated and witnessed by the relatives. **Conclusions:** BID and their relatives constitute a rather large and unnoticed population. Being brought-in dead into an ED cannot be considered a good death, especially not for the bereaved. Our results show that the majority of BID persons are elderly which underpins the need for healthcare professionals to increase focus on advanced care planning and bereavement care practice for the elderly in ED settings.

*Bilateral versus Single Peripheral Nerve Impairment and Gait Speed in Community-Dwelling Older Adults*

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Category: Health Sciences/Morbidity, medical treatment and ageing processes

Introduction: Reduced touch sensation indicates Peripheral Nerve Impairment (PNI), and is associated with falls, mobility disability, and gait impairments in older adults. Whether and to which extent bilateral (BPNI) versus single (SPNI) PNI may be associated with reduced gait speed is unknown. This study investigates whether subclinical bilateral versus single or no loss of sensation is associated with reduced gait speed in self-reliant community-dwelling older adults. Materials and methods: Participants (n = 401, age = 78.2 ± 5.9 years; 60% women) from Healthy Ageing Network of Competences (HANC) and SITLESS projects (baseline data) were assessed for tactile sensitivity with 1.4 g monofilament at the dorsum of the great toe on both feet. PNI was defined as the inability to feel at least 3 touches on either right or left (single PNI = SPNI) or both feet (bilateral PNI = BPNI). Gait speed was measured over 3-m (usual) and during 2-min maximum gait test. Results: Non-impairment (n = 142), SPNI (n = 100) and BPNI (n = 159) groups had 2-min gait speed of 1.21 (0.25), 1.17 (0.22) and 1.10 (0.27) m/s, respectively, and 3-m usual gait speed of 0.96 (0.22), 0.97 (0.23) and 0.88 (0.24) m/s. BPNI had a significant and clinically meaningful lower speed compared to non-impairment (0.11 m/s,  $p < 0.01$ ) and SPNI (0.07 m/s,  $p < 0.05$ ) for 2-min test and for the 3-m usual speed non-impairment (0.08 m/s,  $p < 0.01$ ) and SPNI (0.09 m/s,  $p < 0.01$ ). No differences were found between non-impairment and SPNI. Conclusions: Bilateral subclinical loss of sensation is associated with clinically meaningful lower gait speed to SPNI and may help identifying people at greater risk of future mobility disability.

*Body Care of Elderly People in Nursing: A Systematic Mapping Review with a Problematization Perspective*

**Kirstine Aakerlund Rosendal**

Category: Health Sciences/A good life and a good death

Introduction: Body care is considered a key aspect of nursing and imperative for the health, wellbeing, and dignity of elderly people. In recent years body care as a professional practice has undergone considerable changes, bringing new understandings and dilemmas into caregiving. The aim of the review is to systematically identify, and map published nursing research literature on body care of elderly people and to identify the dominant assumptions in the literature. Material/Method: A systematic research mapping was carried out, based on searches in leading bibliographic databases. A problematization approach was used to analyze dominant assumptions. Results: Out of 4180 papers, 34 met the inclusion criteria. The papers primarily dealt with long-term care settings. The major research foci were the effectiveness of care regimes or products, whereas the perspectives of elderly people were lacking. Most papers reported on empirical research. Four dominant assumptions were identified in the papers: *Body care as an evidence-based practice*, *Body care as a relational ethical practice*, *The body as a body-object and a body-subject* and *Materiality as a passive object in the body care practices*. Conclusion: The mapping identified body care of elderly people as a broad heterogeneous concept. Empirical papers dominate the research field. Papers exploring the perspectives of elderly people are infrequent and research in a hospital setting seem to need greater visibility. Given the complexities of professional body care practices, there is a need for alternative research designs and theoretical perspectives within nursing that expand our understanding of body care of elderly people.

*Body Mass Index in Patients with Subjective Cognitive Decline, Mild Cognitive Impairment and Alzheimer's Disease*

**Knut Hestad**

Category: Biological and Medical Sciences/Digitisation and technology

Introduction: It has been suggested that patients with Alzheimer's dementia has lower Body Mass Index (BMI) than healthy elderly at the same age. Material and methods: We examined BMI in 1433 patients, 352 with Subjective Cognitive Decline, 518 Mild

Cognitive Impairment and 563 Alzheimer's dementia. ANCOVA was used to examine group differences in BMI controlling for age, sex, and APOE polymorphism (E2, E3, and E4) Results: A highly significant difference between the groups ( $F = 8.2; p < 0.001$ ) was found with lowest BMI in the Alzheimer's group, mean 24.5 (SD = 4.2), followed by the MCI, mean 25.5 (SD = 4.2), and the SCD, mean 26.1 (SD = 4.4). Sex ( $F = 15.4; p < 0.001$ ) and APOE polymorphism ( $F = 15.9; p < 0.001$ ) were both highly significant associated with BMI. Women had lower BMI compared to men and persons with the E4 allele had lower BMI compared to persons with e3 and e2 allele, regardless of diagnosis. The highest BMI was in the E2 group. Conclusions: Dementia diagnoses, age, and polymorphism of the APOE gene showed a highly significant influence on BMI. The diagnosis of Alzheimer's dementia, female sex and the E4 allele were all related to lower BMI, indicating that both severity of cognitive dysfunction (diagnosis) and biological factors (sex and ApoE genotype) may influence on BMI and possibly on malnutrition.

*Bringing Policy into Practice—Supporting Values of Capability through Contemporary Models of Eldercare in Sweden*

**Maria Wolmesjö and Lotta Dellve**

Category: Social Research, Policy, and Practice/A good life and a good death

Introduction: Eldercare is under current demands of development due to changing demographics with increasing populations of older adults over the age of 85 combined with smaller populations of younger adults to provide care and contribute to care via their taxes. This article explores and analyses policies related to capability and how these are translated into practice of municipal and private organised eldercare in Sweden. Contemporary models and developments, were analysed stepwise related to users, employees and organisational perspectives of capability. Material and methods: A mixed method approach was used: (1) qualitative analysis of policy documents and interviews with managers at strategic levels ( $n = 80$ ), followed by (2) quantitative analysis of questionnaire to first line managers ( $n = 284$ ) in 35 municipalities in Sweden. Results: Findings point out policy of public care of older adults has moved from cost-based marketization, new public management and entrepreneurial policies, towards policies on value-integrating, value-based models as person-centred care, co-production and trust-based management. These were brought into practice through a variety of contemporary models. Prevailing models, that also had the strongest association with capability perspectives, had focus to increase users and employees' participation in operative decisions and employees' competence to handle work. There were associations between improvement of user and employee capability. Thus strengthening capabilities for employee may support strengthening capabilities for users of eldercare. Conclusions: The adoption of capability strengthening models can comprise both barriers and facilitators for capability, which needs to be taken into consideration and requires a critical follow-up.

*Burden and Health Trajectories of Older Informal Caregivers: Findings from a Swedish Urban Population-Based Study*

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Category: Health Sciences/Lifestyle, engagement and transition

Introduction: Characteristics of the caregiver-care receiver dyad and the context of care affect the extent to which caregivers incur the negative effects of informal caregiving.

We aimed to identify which subgroups of older informal caregivers: (1) experience most limitations to life and perceive more burden; and (2) suffer a faster decline in objective health status. **Methods/Materials:** We identified a sample of older informal caregivers ( $n = 620$ , 18.9% at baseline, mean age 69.9 years) within the Swedish longitudinal study on Aging and Care in Kungsholmen (SNAC-K). Limitations to life and perceived burden were self-reported during nurse-led interviews. Health status was assessed using the comprehensive clinical and functional Health Assessment Tool (HAT, range: 0–10). Ordered logistic regression models and linear mixed models were used to estimate the associations between caregiving-related exposures and self-reported or objective health outcomes, respectively. **Results:** Having a dual role (providing and receiving informal care simultaneously), caring for a spouse, living in the same household as the care receiver, and providing a greater number of hours of care per month were significantly associated with more limitations and burden. In addition, having a dual role ( $\hat{I}^2 = -0.12$ ,  $p = 0.032$ ) and caring for a spouse ( $\hat{I}^2 = -0.07$ ,  $p = 0.031$ ) were associated with a faster HAT-score decline. Being female and having a poor social network seem to further exacerbate the health decline linked to caregiving. **Conclusions:** Heterogeneity among caregivers, as well as contextual factors influencing the process of caregiving, should be accounted for in research and public health interventions.

*Can Home-Based and Technology-Promoted Cognitive Stimulation Therapy Be Effective in People with Dementia in One-to-One Interaction with a Close Relative?*

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Category: Behavioural and Social Sciences/Digitisation and technology

**Introduction:** People with dementia (PwD) experience progressive cognitive decline that affects their ability to perform daily activities and to engage socially. Cognitive stimulation therapy (CST) is a psycho-social group intervention capable of improving cognition in PwD [1,2]. A need of homebased cognitive intervention exists due to factors such as Covid-pandemics or frailty. This study examines cognitive and psychological effects of technology-supported, individualized CST between home-dwelling PwD and their relatives. **Material and methods:** An app to assist individualized CST sessions [2] was innovated by Brain+ in 2020. The program was facilitated for 27 PwD and caregivers August 2020–January 2022. In three trials including a small pilot RCT, the app was used to support PwD to perform homebased: (A) maintenance CST (12 wk) following group CST (7 wk) at a daycare center; or B) 7 weeks of individualized CST only (all  $2 \times$  wk). Results on cognition, psychological effects, quality of life, and satisfaction with the app were collected, together with quantitative health data on the relative. Spring 2022, semi-structured qualitative interviews with relatives are performed in order to understand how app-supported CST affects their daily lives. Three Danish municipalities recruited participants. **Results:** Pilot-RCT results are ready at March 2022. The initial pre-post studies in 2020 ( $n = 8$ ) showed a program adherence of 6/8 and great user satisfaction with technology and CST content, but large individual differences in time spent on CST. Cognitive results pointed to a positive dose-response correlation. **Conclusion:** The overall results and potentials of digitalized CST to support mental health of participants will be discussed.

*Care according to Age: A Case of Ageism or a Conflict on Needs?*

**Håkan Jönson, Elisabeth Carlstedt, Tove Harnett**

Category: Social Research, Policy, and Practice/A good life and a good death

Introduction: Despite a strong emphasis that individual support services should be provided according to needs, chronological age is also used for determining the right to some eldercare services in Sweden. This could constitute a form of ageism that connects old age to care needs, but do older people themselves share such concerns? The purpose of the presentation is to investigate views among older people on a proposed reform: the right for people above the age of 85 years to move into a nursing home without having their needs evaluated. Material and methods: The study is based on eleven peer-group interviews with 27 older people who were asked to evaluate and elaborate on the proposed nursing home guarantee. The analysis was guided by Bradshaws (1972) taxonomy on social needs that differs between expert needs, felt needs, expressed needs and comparative needs. Results: A common view was to support care according to individual needs, but since municipal needs-assessors did not acknowledge the felt and expressed needs of older people, a nursing home guarantee was perceived to strengthen the right of older people. The suggestion that a guarantee would support images of older people as dependent was dismissed as irrelevant and some argued that it was the lack of rights to care that constituted discrimination. Conclusions: There is a risk that gerontologists put too much emphasis on problematic images of old age as a period of dependency, that older people themselves do not find relevant when compared to the lack of social rights.

*Care Coordinators in The Norwegian Long-Term Care Context*

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Category: Social Research, Policy, and Practice/A good life and a good death

Introduction: Well organized health and care services in the municipality is important to facilitate a good life and a good death. Given the complex structure of care service delivery in Norwegian municipalities the need for coordination is increasing. In Norway, patients with complex needs are entitled to a care plan, and a care coordinator responsible for follow up at the individual level. At the same time, different coordinator roles are developed at a system level. So far, we have limited knowledge of the prevalence of these care coordinators, and what roles and functions these coordinators have in care service delivery. Material and methods: A nationwide web-based survey conducted in 2019 in Norwegian municipalities (response rate 65.6 percent, n = 277) and national registry data, combined with qualitative interviews with different types of coordinators and their leaders in three municipalities. To analyse the prevalence, we use descriptive statistics and chi-squared tests. To understand roles and functions a qualitative content analysis of the interviews were performed. Results: The prevalence of care coordinators is varying; generally larger municipalities have to a larger extend coordinators for several different patient groups compared to small municipalities. Coordinators for palliative care, dementia care and rehabilitation are common. The coordinators have several tasks both patient related and system related. They function as point of contact and initiate competence building in the services and contribute to service allocation. In this way the care coordinators have delegated responsibility for service development and, sometimes service logistics for their patient group.

*Caregivers of Home Care Clients in Iceland Express More Feelings of Distress, Anger, or Depression than in Five Other European Countries*

**Inga V. Kristinsdottir**

Category: Health Sciences/A good life and a good death

Introduction: Informal caregivers play an important role in caring for their loved ones. It can be challenging to care for an elderly relative, and the caring role can have various consequences for caregivers. In this forward-looking longitudinal study, the experience of

caregivers in six European countries, namely Iceland, Belgium, Finland, the Netherlands, Italy, and Germany, were examined and compared. **Methods and Materials:** Home care clients in the participating countries were assessed using the interRAI-Home Care assessment tool (2014–2016). Descriptive and analytical statistics were used for data analysis. **Results:** A much higher proportion (32%) of caregivers in Iceland expressed feelings of distress, anger, or depression about their role as carer for their loved ones than in the other participating countries (from 8–22%), although home care clients in Iceland have better physical and cognitive skills than in the other countries. Caregivers in Iceland also feel overwhelmed due to the illness of an elderly relative. Compared to those in other countries, caregivers in Iceland spend the same number of hours per week providing care, but formal assistance is second lowest in the country, following Italy. **Conclusions:** In southern Europe, it is a tradition for the extended family to care for an elderly family member, whereas in northern Europe, residents expect and avail of public services and assistance. In Iceland, residents work long hours, and women have a high employment rate. Less formal assistance in Iceland and cultural differences may be a part of the explanation of the differences in carers' experiences.

*Causes of Death and Cause-Specific Excess Mortality after Hip Fracture. The Norwegian Epidemiologic Osteoporosis Studies (NOREPOS)*

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Category: Health Sciences/Morbidity, medical treatment and ageing processes

**Introduction:** Hip fracture is a serious injury which affects older multimorbid patients and involves excess mortality. We aimed to describe leading causes of mortality through the first year after a hip fracture. **Material and Methods:** Hospital-treated hip fractures in Norway 1999–2016 were linked with age- and sex-matched population controls and the Norwegian Cause of Death Registry through 2017. Underlying causes of death were coded according to ICD-10 and grouped by the Eurostat shortlist. **Results:** Of 146,132 Norwegians with a first incident hip fracture, 35,498 (24.3%) died within one year. By 30 days post-fracture, external causes (usually the fall causing the fracture) were defined as the underlying cause for 53.8% of deaths, followed by circulatory diseases (19.8%), neoplasms (9.4%), respiratory diseases (5.7%), mental and behavioral disorders (2.0%) and diseases of the nervous system (1.3%). By one year post-fracture, external and circulatory causes together accounted for half of deaths (26.1% and 27.0%, respectively). For causes other than external causes, one-year relative mortality risks in hip fracture patients compared with population controls ranged from 1.5 for circulatory diseases to 2.5 for diseases of the nervous system in women. In men, the corresponding relative risks ranged from 2.4 for circulatory diseases to 5.3 for diseases of the nervous system. **Conclusions:** Hip fractures entail high excess mortality from all major causes of death. However, the traumatic injury of a hip fracture is the leading underlying cause of death the first year after the fracture, underlining the importance of preventing falls and fractures in older adults.

*Change during Cognitive-Behavioral Therapy for Complicated Grief Reactions in Old Age*

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Category: Health Sciences/Digitisation and technology

**Introduction:** Bereavement is common in old age and inevitably leads to changed life-circumstances. The majority adapts to such changes, but some fail to and develop *complicated grief reactions (CGR)*, including prolonged grief disorder (PGD), depression, anxiety, and posttraumatic stress. Studies indicate that *cognitive-behavioral therapy (CBTgrief)* facilitate reduction of CGR. However, fine-grained knowledge about change processes of CBTgrief and factors influencing this change (e.g., delivery formats) is needed. This study will examine change in bereaved elderly who are treated with CBTgrief. **Material and methods:** The study is design as randomized, non-inferiority trial of group versus individual CBTgrief. Eligible participants are adults ( $\geq 65$  years) who have lost a loved one ( $\geq 6$  post-loss) and have CGR. Based on a power-analysis, 160 participants will be recruited and treated at the Danish National Center for Grief. Measures are questionnaires at pre-, mid-, post-intervention, three- and six-months follow-up. The primary outcome is PGD. Secondary outcomes are posttraumatic stress, anxiety, and depression. Measures of hypothesized change processes focus on maintaining mechanisms (insufficient integration of the loss, avoidance, and negative grief-related cognitions), therapeutic alliance, and group processes. **Results:** We will present CBTgrief, including therapeutic aims and methods, hypothesized change processes, and factors that may influence change (e.g., group vs. individual format). Cases from clinical practice will be presented. **Conclusions:** This study will contribute with knowledge about change processes of CBTgrief and factors influencing this change. This knowledge has potential to optimize future grief therapy. Thus, helping bereaved elderly adjusting to their changed lives after a loss.

*Changes in Gait in Outdoor Environments among Older People*

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Category: Health Sciences/Housing, generations and mobility

**Introduction:** With increasing age, changes in gait, such as in step length and cadence are common, increasing risk of mobility decline. Gait assessments are typically based on laboratory measures, even though walking in a laboratory environment may be significantly different to walking in normal daily life. New sensor fusion technology, such as the recently developed GaitPod (GP) [1], is a groundbreaking tool that allows gait analysis in normal living environments. We will present the study protocol of the ongoing project 'Gait features in different environments contributing to participation in outdoor activities in old Age' (GaitAge) and first findings of GP assessments among community-dwelling older people. **Methods and Materials:** In April–June 2022, we will recruit 100 community-dwelling people, aged 70-years and over to interviews and walking measurements in different environments; level environment outdoors (running track); hilly environment (uphill, downhill walking); and, the neighborhood environment close to the participants' home, reflecting their individual life-space area. Alterations in gait between these environments and associations with life-space mobility, reflecting participation in outdoor activities, will be examined. **Results:** We hypothesize that there will be changes in gait, for example in speed, cadence, and higher step time and center of motion variability between these environments. Alterations in gait features may be indicative of adaptive or maladaptive processes when responding to environmental demands, thus these changes may influence possibilities to move outside the home. **Conclusions:** Findings of this study will open possibilities for personalized interventions and rehabilitation to maintain health and functional capacity among older people.

*Changes in Grandparenting during the Pandemic and Effects on Mental Health: Evidence from England*

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Category: Behavioural and Social Sciences/Housing, generations and mobility

**Introduction:** Policies aiming at reducing rates of hospitalisation and death from COVID-19 encouraged older people to reduce physical interactions. For grandparents in England, this meant that provision of care for grandchildren was allowed only under very limited circumstances. To date, evidence on changes in grandparenting during the pandemic is scarce and little is known about whether and to what extent changes in grandchild care provision impacted grandparents' mental health and well-being. **Material and Methods:** Using pre-pandemic data from Wave 9 (2018/19) and the second COVID-19 sub-study (November/December 2020) of the English Longitudinal Study of Ageing, we first describe changes in grandparenting since the start of the pandemic to then investigate, using regression models, associations between changes in grandparenting and mental health (depression, quality of life, life satisfaction) during the pandemic, while controlling for pre-pandemic levels of the outcome variables. **Results:** About 10% of grandparents stopped altogether to look after grandchildren during the pandemic, with 23% also reporting an overall decrease in the amount of grandchild care provided. Those who reported an increase or similar levels (18%), mostly provided grandchild care to help parents while working. Compared to grandparents who mostly maintained unchanged their grandchild care provision, those who stopped altogether were more likely to report poorer mental health and well-being, even accounting for pre-pandemic health. **Conclusions:** While measures to limit physical contact and shield older people were necessary to reduce the spread of the virus, policymakers should acknowledge potential adverse consequences for mental health and well-being among grandparents who stopped looking after their grandchildren.

*Changes in Modifiable Health Behaviors during the Pandemic and Effects on Mental Health and Well-Being: Evidence from England*

**Giorgio Di Gessa and Paola Zaninotto**

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Category: Behavioural and Social Sciences/Lifestyle, engagement and transition

**Introduction:** COVID-19 mitigation efforts (including lockdowns and advice to stay at home) are likely to have resulted in changes in health behaviours such as the amount of sleep, physical activity, alcohol use, and eating. To date, little is known about how and to what extent these changes since the beginning of the pandemic are related to mental health and well-being. **Material and Methods:** Using data from Wave 9 (pre-pandemic: 2018/19) and two COVID-19 sub-studies (June/July and November/December 2020) of the English Longitudinal Study of Ageing, we investigate how changes in health behaviour during the initial months of the pandemic are associated, both cross-sectionally and longitudinally, with mental health and well-being among older people. In our regression analyses, we considered depression, quality of life, life satisfaction, and anxiety. **Results:** Between March and June/July 2020, about a third of older people reported less physical activity; one in five less sleep; and one in ten eating less food and drinking more. Compared to respondents who did not change their behaviours, those who reported sleeping and eating both more and less, and who mentioned less physical activity and more alcohol were more likely to report poorer mental health in the short term, even taking into account pre-pandemic mental health. In the longer term, only changes in sleep and less physical exercise were detrimental to mental health. **Conclusions:** Policymakers should encourage older people

who have engaged in unhealthier behaviours during the pandemic to modify them to reduce the negative effects on their mental health and well-being.

*Changes in Modifiable Risk Factors for Alzheimer's Disease and Dementia during the COVID-19 Pandemic in Swedish Older Adults: A Population-Based Digital Survey*

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Category: Biological and Medical Sciences/Lifestyle, engagement and transition

**Introduction:** Older adults have a higher risk of Alzheimer's disease (AD) and dementia. They also represent the group most severely affected by the SARS-CoV-2 (COVID-19) pandemic. Since February 2020, the Swedish government recommended different general measures, to contain the spread of infection. These might lead to a negative impact on modifiable factors for AD and dementia. **Methods and Materials:** A digital survey was distributed to people aged 60+ years, free of dementia, and living in Sweden, With the aim of measuring changes in lifestyle, care of vascular&metabolic risk factors, and psychosocial factors relevant for AD and dementia. The survey is part of the World-Wide-FINGERS-SARS-CoV-2 initiative. **Results:** Mean age of the 6918 participants was 67.9 (5.11 SD), 58% were female, 71.6% were from urban areas. Preliminary results showed that 27% of participants decreased their physical activity, 26.3% increased intake of unhealthy snacks, 25.7% experienced increased sleep problems, 58.7% had less contact with family, 40.4% experienced loneliness, 24.7% experienced worsening of memory, and 26.8% rated their health worse than before the pandemic. On the other hand, consumption of vegetables and fruits increased 14.1% and 15.7%, respectively, 2.6% of participants decreased smoking, and 11.2% reduced their alcohol consumption. The occurrence of chronic vascular/metabolic diseases and related disruption in access to healthcare is presented in Table 1. **Conclusion:** The COVID-19 pandemic has influenced modifiable factors for AD and dementia in Swedish older adults. These changes can affect future AD/dementia occurrence and should be addressed in forthcoming interventions for AD/dementia risk reduction and prevention.

*Changes in Physical Activity from Before to Amid the First Wave of the COVID-19 Pandemic among Community-Dwelling Older People in Finland*

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Category: Health Sciences/Lifestyle, engagement and transition

**Introduction:** In spring 2020, social distancing recommendations suggested self-quarantine for people aged 70+ years to restrict the spread of the SARS-CoV-2 virus, raising concerns about the possible decrease in older peoples' physical activity (PA). We investigated changes in PA from before to amid the COVID-19 pandemic and analyzed physical capacity as a predictor of the change in PA. **Methods and materials:** Community-dwelling people aged 75, 80, and 85 years at the baseline (2017–2018) responded to the postal survey in spring 2020 as part of the AGNES-study (n = 809) [1]. PA was assessed at both times with Yale Physical Activity Survey and presented as summed daily minutes of walking and

vigorous PA [2]. Physical capacity was assessed at the baseline with Short Physical Performance Battery (SPPB) and maximal handgrip strength. Results: Amid the COVID-19, daily minutes of PA increased on average by 5.2 (SD 24.8) min/day, from 35.3 (20.7) to 40.5 (27.3). Baseline and follow-up PA correlated moderately ( $r_s = 0.528$ ,  $p < 0.001$ ), indicating that those who were more active at baseline were likely more active amid the COVID-19. The absolute change of PA did not differ statistically between age cohorts or sexes and did not materially correlate with baseline physical capacity measures either ( $r_s < 0.120$  for all). Conclusions: Contrary to expectations, older peoples' PA increased during the first wave of the COVID-19. Age, sex, or physical capacity did not explain the observed change. SD of PA minutes was observed to increase during COVID-19, suggesting some were even more active and some less active than before.

*Changing the Script: Using Forum Theatre to Reimagine the Future in Older Age*

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Category: Humanities/Lifestyle, engagement and transition

Introduction: cultural images and narratives of later life tend to either depict ageing as a negative transition to decline and dependency, or as an overly-positive, age-defying continuation of middle age. The lack of diverse cultural narratives of ageing can undermine the ability of people to meaningfully engage with transitions to later life and imagine potential futures [1]. In this paper we discuss the potential of forum theatre to challenge reductive dominant narratives and to provide the opportunity for counter narratives of ageing futures. Methods: in 2021 we worked with arts and theatre company Active Inquiry and a group of self-identified older adults. Over a series of online workshops we used techniques of forum theatre [2] to identify systems of age-based oppression and opportunities for resistance. This culminated in the creation of two forum theatre pieces that were performed live online to an international audience in June 2021. Results: we present initial findings that discuss the effectiveness of the theatre workshops and performances in: (1) making visible participants' evolving thoughts, agreements and disagreements on aged identities; (2) enabling participants to explore and discuss intersectional approaches to age; and (3) creating pieces of forum theatre that challenged oppressive systems and offered new insights into the continuing value of later life. Conclusion: forum theatre can be an effective technique in opening up conversations about the future in later life, identifying barriers to achieving future aspirations, creating counter narratives, and engaging wider audiences in these conversations.

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*Characterization of The Profile, Perception of Needs and Expectations of The People Aged 80 and over in Portugal*

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Category: Social Research, Policy, and Practice/Lifestyle, engagement and transition

Introduction: The territory of the interior of Portugal is characterized by a low population density with a high percentage of very old people. This reality poses challenges of change and development of policies and actions that allow responding to the needs of this population. This investigation aimed to draw a profile of the population aged 80 and over residing in this territory, to assess their perception of needs and expectations regarding the

present and the future. Materials and methods: Cross-sectional, descriptive study based on a sub-sample (n = 117) of the PerSoParAge project with people aged 80 and over residing in the community in the interior of Portugal. Results: The sample was mostly female (57.3%), without formal education (46.1%), widowed (63.2%) and living alone (58.1%). Perception of loneliness (53.9%), social network from the family or neighbors, without income to face an unexpected situation (59.5%) and with limitations due to health problems (63.3%). They face the future with concern/fear (69.9%), feeling that it is natural/inevitable (65.0%). Among the most important support was identified the need for affective/relational support (78.8%). They also highlight the perception of need for services that assess their situation (41.95). There are significant differences in the perception of needs and expectations about their own aging, modulated by differences in gender, place of residence, education, income level and level of dependency. Conclusion: There is a need for innovation and change in gerontological policies that allow older generations to continue to age in these regions, guaranteeing the continuity of their development.

*Citizen Science—An Untapped Resource in Gerontological Research? Senior Citizens Assessed Housing Accessibility in the Swedish Housing Experiment 2021*

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Category: Behavioural and Social Sciences/Housing, generations and mobility

Introduction: While citizen science is gaining momentum in many research fields, the approach is scarcely used in gerontology. The objective of the presentation is to describe one citizen science approach and discuss the pros and cons of using it in ageing research by presenting the Housing Experiment 2021. The aim of the Housing Experiment was to investigate the character and occurrence of physical environmental barriers and accessibility problems in different types of dwellings and residential areas across Sweden. Material and methods: In collaboration with VA (Public & Science) and senior citizen organizations, the Housing Experiment was launched in September 2021. We invited primarily senior citizens to record information on physical environmental barriers, using a folding ruler and a mobile app that was developed for the study. In two months, 1181 housing assessments were recorded, including 592 single-family houses and 579 apartments. Results: Preliminary analyses show that a substantial number of environmental barriers are present in Swedish dwellings. However, depending on the housing type and when the dwelling was built, the environmental barriers will cause different kinds of accessibility problems to present and future residents with different functional limitations. Despite comprehensive recruitment, fewer than expected participated, however, among those who did, registering data on a mobile app seemed less problematic than expected. Conclusions: We will discuss lessons learned using a citizen science approach that potentially can give researchers access to data impossible to collect on their own, with the added value of increasing public knowledge about the topic in focus.

*Civic Engagement among Older Migrants in Europe: A SHARE-Based Analysis*

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Category: Behavioural and Social Sciences/Lifestyle, engagement and transition

As scholarly interest on older migrants increases so does the identification of angles of investigation that deserve our attention. Research on older migrant's civic engagement is, for example, virtually non-existent even though civic participation is a topic that has received considerable attention. This presentation is based on a multivariable logistic regression analysis of data from wave 7 of the Survey of Health, Ageing and Retirement in Europe (SHARE) [n = 74,292; 5752 of them are foreign-born], which draws attention to older migrants' civic engagement. The analysis focuses on to the differences between native-born and foreign-born's civic engagement. The results show that having a foreign-born status was significantly associated with lower participation in both volunteering and political participation, even when sociodemographic, socio-structural, and social capital variables were considered simultaneously in the analyses. These results are interesting because civic engagement is one of the cornerstones of participatory democracy, and because civic participation is fundamental to preventing old-age social exclusion. By integrating both the social-structural resource theory and social capital theory, specifically with native-born and foreign-born older adults, theoretical insights on civic engagement in later life are expanded. Interesting, and building on both theories, the same picture emerges for foreign-born older adults as is already known for native-born older adults. The presentation will argue not only that interventions to facilitate civic participation amongst foreign-born older adults in Europe are needed, but also that investing in such interventions makes sense considering that active aging policies are highly prioritized at present.

*Co-Creation of a Virtual Learning Game Application for Nursing Education*

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Category: Health Sciences/Digitisation and technology

**Introduction:** Virtual Reality (VR) technology offers excellent opportunities for the development of new learning environments in healthcare education. However, in the nursing education, the introduction of simulation games and virtual reality is still developing and there is a need for new content. The use of co-creation in the development process takes also into account the needs and perceptions of users. **Material and methods:** Our intention was to create a VR learning environment by co-creating, testing and evaluating it in on-site workshops by students, educators and health care professionals. The aim of the VR Home Safety application was to test knowledge of home security issues in the form of a simulation game. Workshops and test rounds were held where participants evaluated the application at various stages of its development. The methods used were focus group interviews, surveys, written evaluations and observations. **Results:** Many good remarks were made during the co-creation process about how the layout, content, instructions, technical and pedagogical usability of the game could be developed. These factors were taken into account, when possible, in the development of the virtual learning game. In addition, it would be important for further development to better notice different customer cases and increase the interactivity in the game. Ethical aspects also raised in the discussion. **Conclusions:** It is a good idea to involve end-users in the creation of a learning environment at an early stage. Co-creation provides a broad perspective on the topic being developed, and improves the content and usability of the application.

*Cohort Differences in Physical Performance according to Job Demands across Three Cohorts of Older Workers in the Longitudinal Aging Study Amsterdam*

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Category: Health Sciences/Housing, generations and mobility

**Aim.** To evaluate the association between job demands at baseline and physical performance over a six-year period across three cohorts of older Dutch workers examined 10 years apart. **Materials and methods.** Data were drawn from cohorts (1992–1999, 2002–2009 and 2012–2019) of the Longitudinal Aging Study Amsterdam. Individuals aged 55–65 years from each cohort who worked for pay were included ( $n = 274$ ,  $n = 416$  and  $n = 618$ , respectively). Physical performance was measured using timed measurements of gait speed and chair stand. Job exposure matrix was used to indicate levels of exposure probability of physical (use of force and repetitive movements) and psychosocial (cognitive job demands and time pressure) job demands. Linear mixed models with random intercepts were used to assess differences in physical performance between cohorts according to job exposures. **Findings.** Psychosocial job demands increased and physical demands decreased across the three cohorts ( $I^2 p < 0.008$ ). No between cohort differences were found for how job demands affected changes in physical performance over follow-up. For men, a 1.2% faster decline in gait speed was observed when comparing higher and lower use of force at baseline ( $I^2 -0.012$ , 95% CI  $-0.021$ ,  $-0.004$ ,  $p = 0.005$ ). Greater use of force and repetitive movements were associated with 1.2% ( $p = 0.002$ ) and 0.9% ( $p = 0.021$ ) faster decline in chair stand performance, respectively. In women, no association of job demands on change in physical performance was observed. **Conclusions:** Higher physical job demands were associated with stronger decline in physical performance across six years for men in all cohorts, while no associations were found among women.

*Cohort Profile: Register RELOC-AGE: A Nationwide Swedish Register-Based Study to Identify The Links between Housing, Relocation and Active and Healthy Ageing in Adults Aged 55+ between 1987 and 2021*

**Giedre Gefenaite, Jonas Björk and Susanne Iwarsson**

Category: Health Sciences/Housing, generations and mobility

**Introduction:** The provision of housing that promotes active and healthy ageing in the population is a burning challenge, especially in societies experiencing a fast rate of population ageing. Yet, there is a lack of evidence utilizing epidemiologic and population-based approaches. Register RELOC-AGE project was established to study the links between housing choices, relocation and active and healthy ageing in a Swedish population register-based sample. **Material and Methods:** Nearly four million index participants born 1908–1961 are included from the Total Population register during the study period between 1987 and 2021. To be able to address the context in which the 55+ participants age, we included all the same data about their spouses or registered partners during the study period, irrespective of their age, resulting in a total sample of approximately five million participants. For each participant we are able to additionally link data from Death Cause, Real Estate Property, Apartment registers, Longitudinal integrated database for health insurance and labour market studies and several others. To be able to account for the consequences of the COVID-19 pandemic, we linked the data from the Swedish internet-based surveillance system for communicable diseases. The data are pseudonymised, with linkage implemented by Statistics Sweden. The Swedish Ethical Review Board approved the project (Dnr.2020-01369). **Results:** N/A. **Conclusions:** In Register RELOC-AGE, a number of population-based registers have been linked to provide a hitherto never used opportunity to investigate housing and health associations in older age, with a possibility to also study the effects of COVID-19 pandemic.

*Cohort Specific Disability Trajectories among Older Women and Men in Europe 2004–2017*

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Category: Behavioural and Social Sciences/Morbidity, medical treatment and ageing processes

**Introduction:** As the population of Europe grows older, one crucial issue is how the incidence and prevalence of disabilities are developing over time in the older population. In this study, we compare cohort specific disability trajectories in old age across subsequent birth cohorts in Europe, during the period 2004–2017. **Methods and Materials:** We used data from seven waves of data from the Survey of Health, Ageing and Retirement in Europe (SHARE). Mixed effects logistic regression models were used to model trajectories of accumulation of ADL limitations for subsequent birth cohorts of older women and men in different European regions. **Results:** The results showed that there were sex differences in ADL and IADL limitations in all regions for most cohorts. Women reported more limitations than men. However, these sex differences were more marked in Eastern and Southern than Northern and Western Europe. Among men in Eastern, Northern and Western Europe later born cohorts reported more disabilities than did earlier born birth cohorts at the same ages. Similar patterns were observed for women in Northern and Western Europe. In contrast, the risk of disabilities was lower in later born cohorts than in earlier born birth cohorts among women in Eastern Europe. **Conclusions:** Overall, the results from this study suggest that disability trajectories in different cohorts of men and women were by and large similar across Europe. The trajectories varied more depending on sex, age, and region than depending on cohort.

*Combining Work and Care for Older Parents*

**Heidi Gautun**

Norwegian Social Research (NOVA), Oslo Metropolitan University

Category: Social Research, Policy, and Practice

**Introduction:** Trends in population ageing constitute an important policy dilemma with respect to the organisation of elderly care. The probable rise in care requirements, in combination with the challenges related to the fiscal sustainability of the welfare state, suggest that we need to mobilize family resources in order to provide long-term care for older people. On the other hand, the mobilization of family resources may make it difficult for caregivers to participate fully in the labour market, and this may again undermine the fiscal sustainability. The primary objective of the current study is to generate knowledge on the impact of providing care to parents on the children's labour market participation, and to disseminate this knowledge to informed policymaking promoting extended and full-time working lives for children giving care to older parents. **Material and Methods:** We will analyse data from a Norwegian survey carried out February/March 2022. Approximately 3000 in the age group 30–67 years, having parents alive, responded to the questionnaire. The survey is one of several data sources used in the project Combining Work and Care for Older Parents, funded by The Research Council of Norway. **Results:** We will investigate which employees that are giving substantial care to older parents, and analyse whether difficulties in combining work and care vary according to individual characteristics, family situation, enterprises characteristics, and older parents use of elderly care services. **Conclusion:** By contributing with new knowledge the study may help policy makers design policy that promote labour marked participation for employees with care obligations.

*Conceptualisations and Uses of Collaborative Research with Residents and Staff in Nursing Homes*

**Sophie Gaber, Manuel Guerrero and Lena Rosenberg**

Karolinska Institutet

Category: Health Sciences/Lifestyle, engagement and transition

**Introduction:** The potential for collaborative research to facilitate change has been explored throughout gerontological literature; however, the conceptualisations and uses of collaborative research have not been compared or synthesised across different studies and contexts, nor have the various associated terms such as co-creation and co-production been critically reviewed. This presentation aims to provide increased understanding of how collaborative research is conceptualised and used with residents and staff in nursing homes. **Methods and Materials:** A meta-ethnography was used to analyse and synthesise the qualitative evidence base regarding collaborative research methods and approaches with residents and staff in nursing homes. **Results:** We identified creative and novel collaborative approaches that contributed to changes and ‘turning points’ in relationships, everyday activities and environments in nursing homes. However, the degree to which older adults, especially those with cognitive or communication limitations, desired and felt able to engage varied between studies. Longer-term changes and consequences were frequently overlooked. **Conclusions:** This synthesis of collaborative research in nursing homes contributes to the definition of collaborative research, and elucidates opportunities and challenges to support future collaborative research which may benefit the everyday lives, health and wellbeing of both residents and staff.

*Connector Programs as a Promising Means of Addressing Social Isolation and Loneliness among Older Adults: A Review of The Evidence*

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University of New Brunswick

**Category:** Behavioural and Social Sciences/Lifestyle, engagement and transition

**Introduction:** The COVID pandemic has brought home the significance of social connections and the pain of loneliness. However, before the pandemic, the problem of loneliness was recognized as urgent among older adults who tend to be more isolated than their younger counterparts. One promising means of addressing loneliness are community connector programs. These programs use volunteers to act as connectors, identifying isolated seniors, learning about their needs, and supporting their participation in appropriate activities. **Material and Methods:** The objective of this research project was to synthesize recent scholarly and grey literature on community connector programs. An environmental scan was performed to identify and describe the range of connector programs currently being implemented. Using a case study methodology, we provided a holistic description of promising connector programs that may serve as exemplars for local adaptation. **Results:** Our research review indicates that connector programs are advantageous because they build on existing community capacity, linking adults to activities and events already underway. Further, by involving lay volunteers and community organizations they avoid medicalizing social isolation and loneliness. The research reviewed further demonstrates that connector programs are correlated with an increased sense belonging as well as decreased hospital visits and lower overall health care costs. **Conclusions:** Connector programs are a promising means of addressing social isolation and fostering belonging among older adults. They not only improve connection among the older clients they serve but also among the volunteers participating in the program.

*COVID Restrictions Undermined the Well-Being and Social Engagement of Long-Term Care Clients—A Register-Based Study*

**Johanna Edgren, Matti Mäkelä and Satu Havulinna**

Finnish Institute for Health and Welfare

**Category:** Social Research, Policy, and Practice/A good life and a good death

Due to COVID-19 the Finnish Government (2020) declared the Emergency Powers Act in March 2020. One of the measures was the imposition of a ban on visits for the elderly 24-h long-term care facilities (LTCF). The aim was to avoid the spread of the virus. Though,

the visits from relatives and community activities are important for the well-being of LTC residents [1]. In this register-based study, we examined how COVID restrictions affected the well-being and social engagement of 65+ customers living in LTCF during 2018–2021. Data of RAI assessments (Resident Assessment Instrument) in were used (n = 35,461). The measures of interest i.e., the number of weekly outdoor activities, close help, and the achievement of customers' goals decreased (respectively 9%, 9% and 14%). Deterioration was greatest in clients whose pre-existing performance (ADL) and cognition were already impaired. However, the average level of customers' daily performance, cognition and mood did not deteriorate. The finding confirms previous knowledge that the most vulnerable elderly is at greatest risk of exclusion and deterioration of function. A cycle of negative effects may lead to a rapid decline in ADL and cognition and a collapse in well-being. In the future, in similar exceptional context, the social and psychological dimensions should be considered carefully, in addition to medical considerations, especially for the most fragile and frail older people. The results of the study can be utilized both to prepare for exceptional circumstances and to develop the operations of LTCF in general.

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*COVID-19 Collateral Damage: Psychological Burden and Behavioural Changes among Older Adults during The First Outbreak in Stockholm, Sweden*

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Category: Biological and Medical Sciences/Morbidity, medical treatment and ageing processes

Introduction: During the first wave of the COVID-19 pandemic, 70+ year old people were strongly encouraged by the Swedish public health authorities to self-isolate but remain physically active in a safe manner. This study aimed to explore the indirect, negative effects of COVID-19 restrictions (collateral damage) on the lives and health of older adults living in Stockholm, and to characterize the sociodemographic profile of those with the highest susceptibility to this damage. Methods and Materials: A telephone questionnaire was administered between May and June 2020 to a random sample of older adults aged 68+ (n = 1231). We explored three dimensions of collateral damage: psychological burden (feelings of worry, stress and loneliness), reductions in social and physical activities, and reductions in medical and social care use since the beginning of the pandemic. Logistic regression models were used to test the association between age, sex, education and living arrangement, and the risk of collateral damage. Results: Vast majority of participants reported practicing self-isolation (n = 928). Half of the sample reported psychological burden, 55.3% reported reductions in social or physical activity, and 11.3% reported decreased medical or social care use. 77.8% were affected by at least one of the three collateral damage dimensions. Female sex was the strongest sociodemographic predictor of collateral damage. Conclusions: COVID-19 and its restrictions during the first half of 2020 had a negative effect on most of the elderly living in central Stockholm. Women were at a higher risk of negative consequences. We emphasize the need for predefined, evidence-based interventions to address these negative consequences.

*COVID-19 Infections, Hospitalizations and Deaths in Sweden in 2020: A Nationwide Register-Based Analysis of Older Adults*

**Pierre-Olivier Blotière, Géric, Maura, Maté Szilcz, Jonas Wastesson and Kristina Johnell**

Medical Epidemiology and Biostatistics Department, Karolinska Institute, Stockholm, Sweden

Category: Health Sciences/Morbidity, medical treatment and ageing processes

**Introduction:** The COVID-19 mitigation strategy chosen by Sweden in 2020 has been debated internationally, especially regarding the protection of the older population. The study aimed to report the nationwide absolute numbers and incidence of COVID-19-cases, -hospitalizations, and -deaths in the group most severely affected by the pandemic, the older population, in Sweden during the year 2020. **Methods and Materials:** We used individual-linked register data of Swedish adults aged 65 years and older. We identified positive COVID-19 PCR tests (confirmed cases) in the surveillance system for communicable diseases (SmiNet register), the COVID-19 hospitalizations by the main diagnosis in the National Patient Register (ICD-10 codes: confirmed U071 or suspected U072) and the COVID-19 deaths via the underlying cause of death in the Cause of Death Register. **Results:** In patients aged 65+, we identified 57,869 confirmed cases, 16,873 hospitalizations, and 8919 COVID-19 deaths in 2020. The monthly incidence of confirmed cases peaked in December (102/10,000) and was much higher than in April (33/10,000). The monthly incidence of COVID-19 hospitalizations peaked in December (21/10,000 vs. 17/10,000 in April), while the incidence of COVID-19 deaths peaked in April (12/10,000 vs. 10/10,000 in December). Nearly 75% of the COVID-19 decedents were aged 80+ compared to 42% of the identified cases and 48% of the hospitalized. **Conclusions:** Sweden had a large number of COVID-19 deaths in 2020 that mainly occurred in persons aged 80+. COVID-19 confirmed cases and hospitalizations peaked in December, while mortality peaked in April.

*COVID-19 Restrictions and Older Adults' Quality of Life in a Nursing Home—Self-Rated Health during the COVID-19 Pandemic*

**Britta Hørdam**

Category: Social Research, Policy, and Practice/Digitisation and technology

**Introduction:** Older adults living in a nursing home have experienced isolation, partial isolation, and preparing for a return to normality. Over the course of six months in 2021, six older adults (one man and five women, all in good mental health) were followed; they participated in interviews concerning their daily lives and ways of coping with the unfamiliar circumstances of the pandemic. The older adults, aged between 85–94 years old, who had lived in the nursing home for two and a half years, participated after having provided oral and written consent. **Methods:** Semi-structured interviews were used, together with a questionnaire examining older adults' self-rated health and quality of life. A combination of both quantitative and qualitative questions was used to identify how the pandemic restrictions influenced individuals' physical, social, and mental well-being while they were waiting for vaccinations and further guidance from the relevant authorities. **Results:** A total of 30 interviews was conducted, lasting 45–75 min. The interviews represent the period following two vaccinations, when society was re-opening; another lockdown; and yet another re-opening period, following the third vaccine dose. **Conclusion:** Self-rated health and quality of life did not decrease in the group. Alternative methods of rehabilitation are presented. The participants recommend including more participants in the study, conducting further interviews, and an extension of the project.

**Keywords:** Older adults; isolation; alternative rehabilitation; nursing home; quality of life

*Declining Daily Functioning as a Prelude to a Hip Fracture in Older Persons—An Individual Patient Data Meta-Analysis*

**Willeke Ravensbergen, Jeanet Blom, Andrew Kingston, Louise Robinson, Ngaire Kerse, Ruth Teh, Rolf Groenwold and Jacobijn Gussekloo**

Leiden University Medical Center

Category: Biological and Medical Sciences/Morbidity, medical treatment and ageing processes

**Introduction:** Daily functioning is known to decline after a hip fracture, but studies of self-reported functioning before the fracture suggest this decline begins before the fracture [1,2]. This study aims to determine whether change in functioning in the year before a hip fracture in very old (80+) differs from change in those without a hip fracture. **Methods:** This two-stage individual patient data meta-analysis includes data from four population-based longitudinal cohorts from the Netherlands, New Zealand and the United Kingdom from the Towards Understanding Longitudinal International older People Studies (TULIPS)-consortium. Participants aged 80+ years were followed for five years, during which (instrumental) activities of daily living [(I)ADL] scores and incident hip fractures were registered at regular intervals. Z-scores of the last (I)ADL score and the change in (I)ADL in the year before a hip fracture were compared to the scores of controls, adjusted for age and sex. **Results:** Of the 2357 participants at baseline, the 161 who sustained a hip fracture during follow-up had a worse (I)ADL score before the fracture (0.40 standard deviations, 95% CI 0.19 to 0.61,  $p = 0.0002$ ) and a larger decline in (I)ADL in the year before fracture ( $-0.11$  standard deviations, 95% CI  $-0.22$  to  $0.004$ ,  $p = 0.06$ ) compared to those who did not sustain a hip fracture. **Conclusions:** In the very old a decline in daily functioning already starts before a hip fracture. Therefore, a hip fracture is a sign of ongoing decline and what full recovery is should be seen in light of the pre-fracture decline.

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*Demographic Ageing and Housing Demand: Evidence from Residential Turnover in Polish Metropolises*

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Category: Behavioural and Social Sciences/Housing, generations and mobility

**Introduction:** Population ageing is a key demographic development experienced in many EU, continental and non-continental countries. This phenomenon is due to factors such as increased societal control over mortality and fertility continually boosting the portion of older-aged individuals in the population [1]. The effects of demographic transitions of this kind on the housing market have mostly been limited to price considerations, with little examination of their demand-side effects. This paper seeks to fill this void by exploring the effect of demographic ageing on residential turnover—housing transactions involving ownership transfers. **Methods and Materials:** Using a semiparametric varying-coefficient model with fixed effects, and municipal-level housing data from the statistical office of Poland (GUS) spanning from 2012 to 2019, this analysis explores the role of demographic ageing on homeownership transfers in Polish metropolises. **Results:** Preliminary results reveal a positive residential turnover and demographic ageing relationship, before and after controlling for relevant regional covariates. Moreover, a positive housing price-turnover relationship is confirmed, and similar to Cain et al. [2] turnover is directly related to regional employment. For robustness, the fixed effects model is contrasted to results from pooled and weighted least squares estimates. **Conclusion:** Granted that current patterns and changes in the existing housing stock forecast future changes in housing consumption,

the results of this analysis underline how some regional policies affecting the elderly may influence the stability of their housing markets or the converse. A more explicit analysis of individual driven determinants of housing turnover, limited herein by the lack of specialized housing and household information, may be invaluable to this end.

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*Demographic and Health-Related Correlates of Receiving Informal Care from Different Sources in Sweden*

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Category: Behavioural and Social Sciences/Lifestyle, engagement and transition

Introduction: To help gauge the implications of an increasing reliance on informal care among older adults in Sweden, this study seeks to identify the demographic and health-related characteristics that are most closely associated with receipt of help from three key informal sources: spouses, adult children, and other family members and friends. We also examine associations between receiving care from informal sources and receiving care from formal services. Methods: Data from a nationally-representative Swedish survey are used. Sources of informal care are identified as those providing help to the older adult with Activities of Daily Living (ADLs), Instrumental Activities of Daily Living (IADLs), and miscellaneous tasks such as repairs, private economy, and transportation. Results: Older women are more likely than older men to receive help from adult children, while older men are more likely to receive help from spouses. Being younger and having poor health (for women) or poor function (men) is associated with receiving help from a spouse. The vast majority of older men and women receiving help from children live nearby their children. Among older men, receiving help from a spouse is inversely associated with receiving help from formal services, while among older women, help from children and help from formal services are positively associated with one another. Conclusions: Sources of informal care are strongly patterned by gender and age, as well as life circumstances. In addition, there are differences between older men and women in the combination of formal care with different sources of informal care.

*Determinants of The Effects of Physical and Cognitive Training on Executive Functions in Older Adults: Exploratory Analysis of a RCT*

**Anna Tirkkonen**, **Timo Törmäkangas**, **Jenni Kulmala**, **Tuomo Hänninen**, **Miia Kivipelto**, **Anna Stigsdotter Neely** and **Sarianna Sipilä**

Category: Health Sciences/Education and competences in ageing societies

Introduction: Physical and cognitive interventions have been shown to induce positive effects on older adults' executive functioning. However, it is unlikely that all participants benefit similarly from the interventions. Therefore, we investigated whether sex, training adherence, age, global cognition, concentration of serum brain-derived neurotrophic factor (BDNF) or its precursor proBDNF were associated with changes in executive functions by interventions. Material and methods: The study utilized exploratory data from a randomized controlled trial. Participants were 70- to 85-years-old men and women who received a yearlong physical (PT) or combination of physical and cognitive training (PTCT). Measurements for executive functions related to inhibition (Stroop), set-shifting (Trail

making test B) and updating (letter fluency) were performed at baseline and 12 months. The data were analyzed with a linear model for the two longitudinal measurements. Results: Mean age of the participants was 74,5 years and 60% were women. Women and participants with low training adherence in PTCT improved Stroop significantly more compared to corresponding participants in PT (difference  $-8.758$   $p = 0.001$  and difference  $-8.405$   $p = 0.010$ , respectively). In addition, participants with low training adherence in PTCT improved TMT B after the intervention, whereas corresponding participants in PT performed worse in TMT B after the intervention (difference  $-15.034$   $p = 0.032$ ). No other significant associations were observed. Conclusions: PTCT provided additional benefit over PT to older adults' executive functions among women and participants who performed training occasionally. However, the additional benefit from PTCT was uniquely expressed in each executive function used in this study.

*Developing Eldercare in Ageing Societies: The Misaligned Visions and Caged Change Agents*  
**Anna Williamsson and Lotta Dellve**

Category: Behavioural and Social Sciences / A good life and a good death

Introduction: The need for developments in eldercare is highlighted during the COVID-19 pandemic. Swedish state subventions directed to the development of municipalities responsible for publicly managed eldercare has been sparsely evaluated and realization of visions of future eldercare is shrouded in mystery. This study aimed to explore work and strategies of development leaders and change agents in Swedish eldercare, specifically in terms of alignment between democratic visions at political level and their operationalization. Material and methods: 28 interviews with development leaders was conducted in 14 Swedish municipality organizations during March 'til October 2021. The interviews focused; supporting roles and functions, responsibilities and collaborations, visions and operationalizations, and follow up and evaluation of eldercare development. All interviews were recorded and most transcribed before pursuing a thematic analysis, inspired by grounded theory. Results: The core category *Top-down handling of unmanageable alignment* and the categories *Shaping a high road for change*; *Sticking to visions, hopes and respect for practice*; *Self-serving focus on politics*. The quality of alignment strategies and strategic vision into practice were related to organization size and resources. A gap between strategic and operative levels was accentuated in terms of inconsistent responsibility in following through with development projects and development being characterized by top-down initiatives, resources on strategic level but strained implementation abilities on operative levels. Conclusions: Peripherally placed change agents with legitimacy at multiple organizational levels is suggested to ease top-down as well as bottom-up drive, which could increase vertical alignment of visions and practice.

*Development and Field-Testing of the Dementia Carer Assessment of Support Needs Tool (DeCANT)*

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Category: Health Sciences / A good life and a good death

Introduction: Caring for a person with dementia is associated with poor mental, physical, and social health, which makes it important to consider how informal carers (carers) are best supported in their caring role. At present, a robust instrument to assess carers' support needs does not exist, and this study aimed to develop such a self-reported questionnaire. Material and methods: A design using pilot-testing and field-testing was conducted. In the pilot-testing, eight experts, 12 carers, and seven digital users participated. In the field-testing, 301 carers of people with dementia from nine municipalities and

one dementia clinic in a hospital in Denmark participated. Items for inclusion in the Dementia Carer Assessment of Support Needs Tool (DeCANT) were generated based on interviews and literature review. Iterative pilot-testing established face and content validity of DeCANT using Content Validity Index and cognitive interviews. Field-testing of DeCANT among carers was conducted as a survey. Results: Initially, an item pool of 63 items was generated, and pilot testing reduced this to 42 items. Subsequent field-testing resulted in a 25-item version of DeCANT, and confirmatory factor analysis of three hypothesized models demonstrated a better fit to a four-factor model with fit indices of:  $\chi^2 = 775.170$  ( $p < 0.001$ ), root mean square error of approximation = 0.073, Comparative Fit Index = 0.946, the Tucker-Lewis Index = 0.938, and weighted root mean residual = 1.265. Conclusions: DeCANT is a 25-item questionnaire that can be used to help identify support needs when caring for a person with dementia to enable supportive interventions and improve carers' health and well-being.

*Development Work in Swedish Eldercare: Resources for Trusted, Integrated Managerial Work of Safety and Quality for Older persons?*

**Lotta Dellve, Anna Williamsson**

Category: Behavioural and Social Sciences/A good life and a good death

Introduction: The need for reforms and organizational developments that strengthen capabilities of the elder, the employees and the organization have been argued for, for some decades [1,2] and was highlighted during the pandemic. This study identify focus and conditions for development work in eldercare regarding the resources for capabilities of the elder, the employees and the organization, and its importance for trusted, integrated managerial work. Material and methods: A mixed method study-design. Structured interviews with strategic development leaders ( $n = 25$ ) and eldercare development documents from 14 of these municipalities were analyzed qualitatively. Questionnaire data from first line managers right before ( $n = 284$ ), and 16 months in the pandemic ( $n = 189$ ) from randomly selected municipalities ( $n = 32$ ) was analyzed with regression models. Results: Leaders at strategic and operational levels had different focus of development work. Strategic level developers ranked elders' influence in visions but seldom in practice. Operative level development leaders focused working conditions, and the implemented projects foremost regarded capability of employees. First line managers' managers' trusted, integrated managerial work decreased 16 months in pandemic. The stepwise linear regression models showed their managerial work was primary strengthened through development projects focusing the strengthening of employees' and elders' resources, but also through decreased workload and by receiving development support ( $r^2 = 0.48$ ). Conclusions: The study demonstrates the importance of strengthening resources and provide conditions to convert resources to capabilities for trusted, integrated managerial work regarding safety, influence and quality conditions for elders and employees.

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*Disentangling the Varying Associations Between Systolic Blood Pressure and Health Outcomes in the Very Old: An Individual Patient Data Meta-Analysis*

**Rosalinde Poortvliet, Jacobijn Gussekloo, Veerle Van der Klei, Wilco Achterberg, Jeanet Blom, Ngaire Kerse, Anna Rolleston, Marama Muru-Lanning, Ruth Teh, Carol Jagger, Andrew Kingston, Louise Robinson, Yasu Arai, Ryo Shikimoto and Jonathan Bogaerts**

Category: Biological and Medical Sciences/Morbidity, medical treatment and ageing processes

**Introduction:** While randomized controlled trials have proven the benefits of blood pressure (BP) lowering in participating octogenarians, population-based observational studies suggest an association between low systolic blood pressure (SBP) and faster overall decline. This study investigates the effects of BP-lowering treatment, a history of cardiovascular diseases (CVD), and cognitive and physical fitness on the associations between SBP and health outcomes in the very old. **Methods and Materials:** Five cohorts from the Towards Understanding Longitudinal International older People Studies (TULIPS) consortium were included in a two-step individual participant data meta-analysis. We pooled hazard ratios (HR) from Cox proportional-hazards models for five-year mortality and estimates of linear mixed models for change in cognitive and functional decline. Models were stratified by BP-lowering treatment, history of CVD, Mini-Mental State examination-scores (MMSE) and grip strength (GS). **Results:** Of all 2480 participants (59.9% females, median 85 years), median baseline SBP was 149 mmHg, 64.3% used BP-lowering drugs and 47.3% had a history of CVD. Overall, higher SBP was associated with lower all-cause mortality (pooled HR 0.91 [95% CI 0.88–0.95] per 10 mmHg). Associations remained irrespective of BP-lowering treatment and history of CVD, but were absent in octogenarians with above-median MMSE and GS. In pooled cohorts, SBP was not associated with cognitive and functional decline. **Conclusions:** While in the very old with low cognitive or physical fitness, a higher SBP was associated with a lower all-cause mortality, this association was not evident in fit octogenarians. SBP was not consistently associated with cognitive and functional decline.

*Do They Know What Medication They Are Prescribed?*

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Category: Health Sciences/Morbidity, medical treatment and ageing processes

**Introduction:** Patient safety defines and describes actions to “lower risks, reduce the occurrence of avoidable harm, make errors less likely and reduce the impact of harm when it does occur” [1,2]. Elders are prescribed several medications, which increases the risk of mistreatment and drug-interactions. To ensure correct medication use, elders should be well informed about what medication they are prescribed. This study describes the association between prescribed medications, and the information elders give about what medication they are prescribed. **Material and method:** 208 persons >60 years receiving home-care services from one Norwegian municipality, answered questions about their medication use, where the answers were compared to the list of prescribed medication for the individual. **Results:** A high proportion of the participants were prescribed psychotropic drugs. Most of the participants who were prescribed sedatives or analgesics, were informed about their prescription and for what condition the medications were prescribed. 17.4% of participants who were prescribed anxiolytics, were not informed about the indication. Furthermore, 27.6% of the participants who were not prescribed sedatives said they used sleeping pills. As many as 63.4% who were not prescribed analgesia, said they used painkillers. In total, most of the participants were aware of what medication they were prescribed, but a significant proportion of the participants were not fully aware of it. **Conclusion:** The results are a concern regarding patient safety. Health care personnel should inform their patients better, moreover, repeat information about the medication prescribed. Better knowledge can help the patient take informed decisions about their own health.

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*Does How Adults Talk about Loneliness Vary across Age Groups? Preliminary Analysis of The BBC Loneliness Experiment*

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Category: Behavioural and Social Sciences/Lifestyle, engagement and transition

Introduction: Standard loneliness scales for adults (e.g., UCLA or De Jong Gierveld) presume a common understanding and language of loneliness across age groups. This presumption remains empirically untested. We address this evidence gap by (a) describing the language used by adults to describe loneliness; (b) examining variations between different age groups; and (c) drawing comparisons with the language used in loneliness scales. Material and methods: We use data from the 2018 BBC Loneliness Experiment. Of the 55,203 adults aged 16+ who participated, 71% (39,444) completed the free text question “What does loneliness mean to you?” Responses were cleaned to remove erroneous characters, and clustering and keyword extraction used to identify the most common and important words describing loneliness. Topological Data Analysis (persistent homologies and diagrams, and Mapper) was used to examine age and gender responses. Results: Respondents’ ages ranged from 16–99; 65% were female and 31% lonely (score of 6+ on the 3 item UCLA scale). Free text answers ranged from 1–3189 words. The “most important” words linked to loneliness were: *feeling, share, talk, lack, care, people, friends and family, time, life, isolation, company, thought, experience, social, turn, sad, connection, contact, support, left*. Responses were broadly consistent across age groups. There is limited overlap with terms used in loneliness scales. Neither companionship (UCLA scale) or emptiness (DJG scale) are in our list, but isolation is (UCLA). Conclusions: We demonstrate that adults aged 16–99 have a broadly similar language of loneliness only some of which is included in established loneliness scales.

*Does Variation in Health Change with Age?*

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Category: Health Sciences/Morbidity, medical treatment and ageing processes

Introduction: That health measures decline after the age of 40–50 at the individual level has been the main focus in many studies of aging, including how this decline can be influenced [1,2]. However, the variation in how we age has not received the same attention. The aim of this study was to investigate whether variation in health changes with age. Materials and methods: We investigated whether the variation in health measures changed with advancing age in a population comprising approximately 9000 men and 12,000 women with an age range of 40–100 years. Health was assessed by self-rated health measures, a composite measure of five cognitive tests, grip strength, and a depression symptomatology score. Results: We found a significant cross-sectional decline in health with age, and the standard deviation (SD) of the continuous measures seemed to be fairly constant with age. However, taking into account that comparisons of SD over age should be compared relative to the mean, which is measured by the coefficient of variation (CV), we

found a big cross-sectional increase in the relative variation of health with age, especially after age 60 years. Using longitudinal data from a subset of the 21,000 persons, we also found an increase in CV with age. Conclusion: The results suggest that the relative health variation increases with age, making the oldest old a more diverse group compared to the middle-aged group and the young elderly. The results also show the importance of treating the oldest old individually when considering different medical treatments.

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*Doubling The Physical Activity Recommendation in Older Adults: Impacts on Physical Function*

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Category: Biological and Medical Sciences/Lifestyle, engagement and transition

Introduction: A weekly 150 min of moderate to vigorous physical activity (MVPA) is recommended to maintain physical function in older adults. Paucity exists whether additional accumulation of MVPA is associated with further benefits on physical function in older adults. Therefore, the aim of this study was to determine whether doubling the recommended amount of weekly MVPA time associates with beneficial impacts on physical function in older adults adhering to least 150 min of weekly MVPA. Materials and methods: 193 older men and women (65–70 years old) meeting the 150 min MVPA recommendation were included in the study. Physical function was assessed based on handgrip strength, six-minute walk test, squat jump and the five times sit to stand test, using standardized procedures. A continuous- clustered-physical-performance-score (PPS) was generated based on the single physical function tests. Physical activity was objectively assessed during a week using accelerometry. Muscle strengthening activities (MSA) were determined by self-report. Influence of waist circumference (WC) and protein intake was adjusted for in data analysis. Results: Older women accumulating at least 300 weekly minutes of MVPA had a significantly ( $0.26 \pm 0.090$  vs.  $-0.04 \pm 0.090$ ;  $p < 0.05$ ) higher handgrip strength and ( $0.15 \pm 0.11$  vs.  $0.02 \pm 0.11$ ;  $p < 0.05$ ) PPS compared to those with less MVPA time. This remained significant after adjustment by MSA, WC and protein intake. No corresponding differences were observed in older men. Conclusions: Doubling weekly MVPA positively impacts on physical function in older women but not in men. Further research should determine the optimal amount of health-enhancing PA for maintenance of physical function in aging populations.

*Effects of Exercise and Self-Management Interventions on Use of Analgesics and Health Care Services Among Older Adults—A Study Protocol*

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Category: Health Sciences/Morbidity, medical treatment and ageing processes

Introduction: Chronic pain is most prevalent among people +75 years, and is associated with mobility-limitations, falls, low physical activity, and reduced quality of life and seems to be reduced by physical activity [1]. Exercise referral schemes (ERS) enhanced by self-management strategies (SMS) to tackle lifestyle behaviours (e.g., reducing sedentary time) are interventions used in primary care. Whether and to what extent ERS and behavioral change interventions (SMS) alone, or combined, may reduce use of analgesics and health care services among community-dwelling older adults is largely unknown (1). This project will explore the effects of ERS and SMS on use of analgesics, health care services, and related costs among community-dwelling older adults. Material and methods: Data from two successfully completed randomised trials—The Welfare Innovation in Primary Prevention (WIPP), n = 146, and the SITLESS-project: Exercise Referral Schemes Enhanced by Self-Management Strategies to Battle Sedentary Behaviour, n = 338—will be merged with data from National Danish registries. Results: We seek to estimate effects on (1) use of analgesics; and (2) utilisation of health care services (GP contacts, days in hospital, emergency department visits, and home nursing help) among respondents randomised to ERS, SMS or both. Finally, we aim to (3) conduct a health economic evaluation including the effect in terms of quality-adjusted life years (QALYs). Conclusions: The project will provide evidence indicating whether implementing ERS and SMS, alone or combined, in primary care may contribute to pain alleviation and thereby reduce use of analgesics and health care services among community-dwelling older adults.

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*Employment Exit Type and Metabolic Syndrome Incidence: A Longitudinal Study among 12,356 Older Workers from the Lifelines Cohort Study and Biobank*

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Category: Health Sciences/Lifestyle, engagement and transition

Background: This study investigates (1) whether involuntary employment exit through unemployment or work disability and voluntary employment exit through early or regular retirement among older workers (50–65 years) is associated with metabolic syndrome (MetS) incidence; and (2) whether sex or occupational group moderate the association between employment exit type and MetS incidence. Methods: A sample of 12,356 older Dutch workers from the Lifelines Cohort Study and Biobank was examined using longitudinal data from two comprehensive measurement waves with a mean follow-up time of 3.8 years. MetS components were based on physical measures, blood markers, and medication use. Employment exit type was determined using questionnaires. Logistic regression analysis was used to examine the association between employment exit type and MetS incidence. Results: Older workers who experienced an involuntary employment exit through unemployment (adjusted OR: 1.47, 95% CI 1.11, 1.94) or work disability (adjusted OR: 1.99, 95% CI 1.19, 3.32) had a significantly higher MetS incidence risk than the working control group. No effect of voluntary employment exit on MetS incidence was found. No moderating role of sex or occupational group on the association between employment exit type and MetS incidence was found. Conclusion: The results suggest that involuntary

employment exit among older workers is a risk factor for developing MetS. Interventions focused on regular health check-ups throughout the working life and beyond as well as fostering the re-integration of older unemployed adults into the labor market may contribute to the prevention of MetS as a result of involuntary work exit.

*End-of-Life Care Competencies among Finnish Care Home and Home Care Personnel*

**Pirita Forsius, Teija Hammar and Hanna Alastalo**

Finnish Institute for Health and Welfare

Category: Health Sciences/A good life and a good death

Introduction: Healthcare professionals working in older people services should be able to provide appropriate palliative care [1]. An increasing number of elderly people die in care homes with 24-h assistance or nursing homes, or at home and they should be able to receive high-quality care in their place of residence. The purpose of this presentation is to describe the personnel's competencies in end-of-life care in Finnish home care units, care homes with 24-h assistance and nursing homes. Material and methods: The data is based on the Status of Older People Services Follow-Up Survey of 2020 conducted by the Finnish Institute for Health and Welfare. The answers cover 80% of regular home care service providers and 98% of service providers of 24/7 care in Finland. Employees' competence was measured in eight topics related to palliative care. Unit managers were asked to choose if they evaluated their staff competence "good", "moderate" or "in need of further training". Results: The results show that pain management, managing other symptoms and medication skills are at good level in most units. Additional training was needed in recognizing psychosocial and existential needs of patients. In home care, additional training was required more frequently than in care homes and nursing homes. The results are compatible with previous studies [2]. Conclusions: The personnel working in elderly care units are lacking essential competence in end-of-life care. Ensuring sufficient competence requires investing in education of nurses and practical nurses and improving options for further training

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*Environmental Aspects for Active Living in Older Individuals' Long-Term Care*

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Category: Health Sciences/Housing, generations and mobility

Introduction: Individuals in long-term care settings live inactive lives even though activity is vital for their health, well-being, and functional ability. We aimed to investigate the relationship between the environment and the mobility and activity of older individuals in long-term care and how the environment has been used to increase mobility and activity in these settings. Methods: Two systematic reviews were conducted. The first investigated the effects of interventions to improve mobility outcomes of residents using the environment as the main component in the intervention content or delivery. The second, a mixed-method review, thematically compiled evidence of the physical, social, and symbolic environmental aspects related to the physical activity of older residents in long-term care. Results:

Experimental research to increase mobility and activity of older long-term care residents intervening with environmental elements is sparse but some positive effects have been observed. Several themes were identified for the environmental dimensions (1) physical: accessible and safe living environment, activating physical environment; (2) social: supportive professionals, the role of other people, adequate activities to socialize and be active; and (3) symbolic: policy at multiple levels, and values of organizations and professionals. Conclusions: Comprehensive assessments should be conducted in long-term care settings to the physical, social, and symbolic aspects of the environment to create population and setting-fitted solutions to create active living environments in long-term care. Widescale modifications to existing environments should be tested experimentally. The evidence should be used for the design of new facilities.

*Evaluation of Day Activity Service for Older Home Care Clients: Protocol for a Mixed Method Pragmatic Quasi-Experimental Trial*

**Hanna Ristolainen, Elisa Tiilikainen and Leena Forma**

Category: Behavioural and Social Sciences/A good life and a good death

The day activity service is targeted for older home care clients who are unable to participate in other available activities due to poor health or functional ability. The aim of the day activity service is to support home care client's ability to live at home and to enhance their wellbeing and social inclusion. The mixed method study examines the effectiveness, cost-effectiveness and process of the day activity service. The target sample size is 200 participants. The intervention group (n = 100) is composed of home care clients who begin to participate in the day activity service. The comparison group (n = 100) are home care clients who do not participate in the day activity service, and whose functioning and care needs are similar to the participants of the intervention group. The primary outcome is social inclusion (ESIS-scale). Secondary outcomes are loneliness (single item and De Jong Gierveld Loneliness Scale) and social care related quality of life (ASCOT). Baseline, three-month and six-month follow-up surveys are gathered from intervention and comparison group participants. Register data on service use and the costs of the intervention are utilized in examining the cost-effectiveness of the intervention compared to services as usual. Qualitative data are collected by interviewing the intervention participants (n = 10) and professionals working at the day activity centres and older people's services (4 focus groups) to explore the process of the intervention and to find out how and why the intervention is effective or ineffective. The study produces comprehensive understanding of the effectiveness of the day activity service.

*Everyday Life among Frail Elderly People in Denmark in The Light of the COVID-19 Pandemic*

**Louise Scheel Thomasen and Pernille Tufte**

Category: Behavioural and Social Sciences/A good life and a good death

Introduction: The presentation focuses on how elderly home care recipients in Denmark—a population group which is being defined as particularly at risk—experience and manage the implications of COVID-19. COVID-19 have caused new conditions of everyday life of frail elderly people, both as changed circumstances of social interaction, for local communities and for the home care. Material and methods: A qualitative study was undertaken in four Danish municipalities over a period of 12 months. Interviews and follow-up interviews have been conducted over the phone with 22 home care recipients, as well as 5 home care workers and 4 close family members. Based on a framework of sociology of the everyday life [1] the study focuses on how the pandemic intersects with everyday life in different ways as the elderly ultimately try to form a meaningful everyday life under changing circumstances. Results: The findings show that perceptions and effects of COVID-19 in frail elderly people's lives ranges from none or only small changes in their normal daily life to many shifts and ruptures in what Bech-Jørgensen terms the *taken-for-grantedness* of the everyday life. Conclusions: Concluding on the findings we see that differences in the ways of handling the pandemic and

the perceived health risk to a high degree relate to the way of living and of dealing with other types of shifts and risks, indicating that COVID-19 not only cause real changes, but also clarify already existing patterns and ways of living among frail elderly people.

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*Everyday Life in a Swedish Nursing Home during the COVID-19 Pandemic: The Safest Isolation in The World?*

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Category: Health Sciences/A good life and a good death

Introduction: People living in nursing homes are defined as one of the risk groups for severe COVID-19, and extensive restrictions have been implemented to protect them from the disease. Yet, there is notable paucity of empirical research on their experiences of the threat of the virus and pandemic-related restrictions. Therefore, this study aimed to understand and report on the impact of the COVID-19 pandemic on the everyday lives of frail older persons living in nursing homes. Methods and materials: Ten persons, aged 85 to 100 years, living in a Swedish nursing home, were interviewed in June 2020 and the interviews were analysed using thematic analysis. Results: Representing what could be understood as the safest isolation in the world, the most important finding is the visualisation of everyday life as a life in a bubble, i.e., a protected but isolated life. Living one day at a time, the participants were not afraid of the virus, and they felt well taken care of. However, they also had limited freedom to do what really mattered, and that they were even more dependent than before the pandemic. Conclusion: The findings contribute to the growing area of COVID-19 research, by providing insights into how pandemic-related restrictions represent a risk of isolating people in nursing homes from the outside world, and diminishing their freedom. These findings could be applied beyond the pandemic, to develop research and practice that puts focus on how to support older people to decide for themselves how to spend the rest of their lives.

*Evidence of (Critical) Life Events Concerning Successful Ageing in The Oldest Old from Two Waves of a Survey in Germany*

**Marina Plugge**

Category: Behavioural and Social Sciences/Lifestyle, engagement and transition

Introduction: The number of people aged 80 and over is rapidly increasing. However, concepts of successful ageing (SA) as a dynamic, stable or diverse process are primarily explored for people below that age, and mostly using with cross-sectional data. Material and Methods: In this study, SA was analysed through two waves of the representative sample of NRW80+ with n = 912 people aged 80 to 102. In this survey on quality of life, the development of objectively and subjectively measured SA criteria were analysed. Furthermore, multiple linear regressions were used to identify whether transitions like becoming widowed or moving to an institutionalized housing setting affect the development of SA. Results: For the majority of the sample, the status of objectively measured success did not change and was stable. In subjective measurements like positive ageing experience, affective well-being and valuation of life, half the sample experienced deteriorations, regarding life satisfaction were changes in two-thirds of the sample over time. The development of these criteria is very dynamic, but on average the differences on subjectively measured SA criteria over time were not high. Correlates on SA show that interpersonal social engagement, life satisfaction and valuation of life decrease significantly with becoming widowed

and interpersonal social engagement increases with moving to institutional housing setting. Conclusions: These results show that SA in the oldest old is very diverse concerning vulnerable groups. Therefore, these groups should receive special attention for their needs.

*Exclusion from Civic Engagement in Later Life: Studying Older Adults' Lived Experiences in Socio-Economically Disadvantaged Neighborhoods*

**Bas Dikmans<sup>1</sup>, Sarah Dury<sup>1,2</sup>, Rodrigo Serrat<sup>3</sup>, Toon Vercauteren<sup>1</sup> and Liesbeth De Donder<sup>1</sup>**

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Category: Social Research, Policy, and Practice/A good life and a good death

The relation between residence in socio-economically disadvantaged neighborhoods and civic engagement in later life is an understudied topic. Through using an environmental gerontological lens, this research will focus on how socio-spatial characteristics of the neighborhood affect in- or exclusion in civic engagement, such as informal help, volunteering, associational membership, or political and digital engagement, in later life in several socio-economically disadvantaged neighborhoods in Brussels, Belgium. The lived experiences of 15 older adults, aged 65 years and over, are gathered through employing individual qualitative interviews and life diagrams. Collection of the data takes place from March to June 2022 and will be thematically analyzed afterwards. The results explore (1) how older adults living in socio-economically disadvantaged neighborhoods understand and give meaning to civic engagement; (2) how different dimensions of socio-economically disadvantaged neighborhoods (such as poverty indicators or migration rate) affect in- or exclusion of civic engagement, and (3) how civic engagement is a culturally embedded process that is shaped by the socio-political environment in which engagement occurs. Furthermore, the study will critically discuss the importance of including neighborhood-level features in understanding older people's experiences of in- or exclusion in civic engagement. The outcomes can subsequently be utilized for policy recommendations to enhance older individuals' civic engagement in socio-economically disadvantaged areas. This study is part of an international consortium called CIVEX, consisting of Belgian, Finnish, British, Swedish, and Spanish researchers who aim to investigate features of exclusion from multidimensional civic engagement in later life.

*Experiences of Crime and Disorder among Older Adults Living in Deprived Neighborhoods in Sweden*

**Afsaneh Taei, Håkan Jönson and Marianne Granbom**

Lund University

Category: Behavioural and Social Sciences/Housing, generations and mobility

Introduction: The existence of social problems, crime, and diminishing sense of community are known as challenges to residents of deprived neighborhoods. Previous research in Sweden mainly targeted younger residents and neglected older adults. The purpose of this study was to explore how older adults in deprived neighborhoods in Sweden experienced crime and disorder, and how they adapted and responded to these problems. Methods: Semi-structured interviews were performed with 6 men and 15 women, with a mean age of 74, who had lived five years or more in deprived areas of two cities in the southern part of Sweden. Data was analyzed with thematic analysis. Results: Most residents had positive expressions about their homes and neighborhoods, but criminal acts such as drug dealing, arson, burglary, knife attacks and shootings were a part of everyday life. Despite crime and disorder, most of the participants had no intention of moving out. Instead, the residents attempted to manage these events by applying Exit,

Voice and Loyalty strategies [1]. Exit strategies included staying indoors or avoiding certain areas, voice strategies were used to actively try to solve the problems and engage with the community. Loyalty strategies but also relativizing approaches were used to defend the neighborhood reputation. Conclusions: The finding shows that we need to move away from generalized notions of older adults as passive victims of the environment, and highlight the fact that some older adults are active agents in building community, even in deprived neighborhoods.

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*Experiencing Outpatient Healthcare and Dental Care in Old Age: Perspectives of People Aged 80 and Over*

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Category: Health Sciences/Morbidity, medical treatment and ageing processes

Introduction: The incorporation of patients' views is essential for patient-centred care. Currently, there is a limited understanding of older people's views regarding outpatient medical and dental healthcare. Therefore, the aim of this study was to explore of the oldest old's experiences and what they perceive to be "good" healthcare. Materials and Methods: Problem-oriented interviews were conducted with 22 people aged 80 and over in Cologne, Germany. One group was interviewed regarding their outpatient healthcare (A), the other group regarding their dental care experiences (Z). The interviews were transcribed verbatim and analysed using thematic analysis by Braun and Clarke. Results: Regarding characteristics of good healthcare, several aspects such as time for healthcare, involvement in decisions in healthcare, and information were described similarly in both groups. Moreover, a strong patient-provider-relationship, especially including non-medical communication, was very important to the participants. Another result was that older people were more aware of possible future (health) deteriorations in group A and therefore, expected good healthcare to respond to these changing requirements. By contrast, in group Z, the participants' reports were more grounded in the present. Consequently, their ideas of good dental care were based on their current status that, for instance, still allowed them to carry out oral hygiene by themselves. Conclusions: The results show that many aspects people  $\geq 80$  years perceive as "good" healthcare are congruent with the general principles of patient-centred care. Future measures to improve care should especially focus on communication and relationship-building.

*Exploring The Conceptual Nature of Intrinsic Capacity Defined by the World Health Organization: A Scoping Review*

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Category: Health Sciences/Morbidity, medical treatment and ageing processes

**Introduction:** WHO has defined intrinsic capacity (IC) as the composite of all physical and mental capacities of an individual covering five key domains: cognition, locomotion, sensory, vitality, and psychology. Methods for operationalization of the overall IC and its domains are not standardized, which has resulted in diverse approaches. This may stem from a lack of clear conceptualization of the construct. This study explores how the current literature addresses and assumes the nature and measurement model of IC (i.e., reflective and/or formative model). **Material and methods:** A scoping review based on a systematic literature search will be performed for studies published from January 2015 till December 2021 in electronic databases with a help of a librarian. Literature will be screened by two independent reviewers. For inclusion, we will consider all types of research articles written in English, in which intrinsic capacity as defined by WHO is under the attention. **Results:** The results show which indicators of IC are described in literature and whether they are assumed to be manifestations (reflective model) or defining characteristics (formative model) of overall IC. Moreover, potential inconsistencies and gaps in the general understanding of the IC construct are identified. **Conclusions:** A thorough understanding of the novel IC construct is essential if we wish to have a standardized and valid way to quantify it. Defining a measurement model is not merely a theoretical matter but influences the operationalization and validation processes as well as pertains whether the target of intervention is the overall IC or its subdomains/indicators.

*Factors related to Living Arrangement in Norwegian Older Adults over Three Decades (1995–2019)*

**Milan Chang Gudjonsson**

Category: Social Research, Policy, and Practice/Lifestyle, engagement and transition

**Introduction:** Among older adults who are living alone, social isolation, and physical and cognitive impairment are more common than among those who do not live alone. The proportion of older adults who live alone is expected to increase further. The current study investigated the disability and formal care service use among older adults living alone between 1995–2016 in Norway. **Methods:** A total of 31,263 people aged 70+ participated in the Trøndelag Health Study (HUNT) survey 2 (1995/97), 3 (2006/08), and 4 (2017/19). The study assessed the use of formal care including practical help (PH) and home nursing (HN), and disability in personal and instrumental activities of daily living (PADL: 7 items and IADL: 6 items). **Results:** More than 70% of older adults living alone were women (74% in HUNT2, 77% in HUNT3, 71% in HUNT4). The use of PH service among those who were living alone decreased from 33.7% to 18.6%, while HN service use increased from 10.4 to 16.4%. The percentage of PADL disability among those who lived alone was similar (10.3 to 9.1%) between 1995–2019. However, the percentage of IADL disability has decreased from 37.6% (1995–97) to 27% (2017–19) while in all cohorts IADL disability rates were significantly higher among those who were living alone than those who were living with others. **Conclusions:** Although the use of HN service among older adults who were living alone decreased during 1995–2016, those who were living alone in all cohorts had higher IADL disability rates compared to those who lived with others.

*Fall Types Aid Communication and Falls Prevention Services*

**Lotte Evron**

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Category: Health Sciences/Education and competences in ageing societies

**Introduction:** The six fall personality types are an innovative approach to working with falls prevention in a growing number of Danish municipalities. Health professionals use the fall types to communicate strategically with patients and suggest tailored aid and/or falls prevention services. Over 7000 nursing students, health professionals, and older adults have been taught about the types; the first two groups have received instruction in communicating differently with each type. The response from all aforementioned groups has been positive. However, the correlation between older adults' own perception of the fall types and that of health professionals has never been examined. If there is little or no correlation, tailored communication is ineffective. **Methodology:** A reverse engineering pilot study was used to examine how the six fall types were perceived, in order to explore the correlation between the older adults and health professionals' perception. A questionnaire with 14 questions on fall prevention behavior/strategies was developed. **Materials:** Six home-dwelling older adults rated themselves, and three nursing students/nurses, who had prior knowledge of the patient's fall, rated the individual. **Results:** There was 100% correlation in identifying the three most dominant types between the two groups. However, there were small differences between the groups' ratings in the second and third dominating type. **Conclusion:** The significant correlation between the two groups demonstrates that the six fall types are an effective tool to measure the behavioral patterns of older adults and support health professionals create individual services. Further research is necessary.

*Falling as an Everyday Life Experience*

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**Category:** Health Sciences/Morbidity, medical treatment and ageing processes

**Introduction:** Falls are a serious health threat to older adults and an economic burden on society. During the past 10 years, an increasing number of clinical guidelines and government recommendations has aimed to reduce the occurrence of falls among the elderly. However, many older adults are reluctant to participate in fall prevention programs or use recommended surveillance technologies. This study examines how citizens over the age of 65 experience falling in their own home and the challenges they face in the home. **Methodology:** Semi-structured interviews with hermeneutic analysis, based on Kvale and Brinkmann (2009), lasting between 20–40 minutes. **Materials:** Six home-dwelling individuals aged 73–91, five women and one man, recruited at a Copenhagen activity center. The study is part of a collaborative fall project between University College Copenhagen and Copenhagen Municipality. **Results:** Three main themes emerged. (1) Experiences, emotions, and physical consequences related to shame, guilt, humor, fear of falling, caution, and self-irony; (2) The municipality's fall prevention efforts related to assistance, training programs, and helplines; (3) Personal fall prevention strategies related to cautious, sporty, and dangerous behavioral patterns. **Conclusion:** Falling was experienced as a part of everyday life in old age that could sometimes be prevented, while others not. Overall, the participants were satisfied with the municipality's fall prevention services; however, they demanded tailored technologies to help them cope with daily life's challenges.

*Favorable Cardiovascular Health Profiles Moderate the Association of Metabolic Genetic Risk with Vascular Brain Aging*

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Category: Health Sciences/Morbidity, medical treatment and ageing processes

**Introduction:** The American Heart Association proposed the Life's Simple 7 approach to define cardiovascular health (CVH) profiles (1). We investigated the possible role of CVH profiles in modifying metabolic genetic risk for vascular brain aging. **Materials and methods:** This population-based study included 317 participants (age  $\geq 60$  years) with repeated brain measures over six years (perivascular spaces, lacunes, and volumes of white matter hyperintensity [WMH] and grey matter). Baseline global, behavioral, and biological CVH profiles were categorized into favorable, intermediate, and unfavorable levels according to tertiles. The metabolic genetic risk score was derived by summing 15 risk alleles regarding hypertension, diabetes, or dyslipidemia. Data were analyzed using linear mixed-effects and Cox proportional-hazards models. **Results:** Favorable and intermediate (vs. unfavorable) global CVH profiles were separately related to multiple-adjusted  $\beta$ -coefficients(95%CI) of  $-0.019(-0.035--0.002)$  and  $-0.018(-0.034--0.001)$  for WMH change. Favorable and intermediate (vs. unfavorable) biological CVH profiles were significantly related to slower WMH progression only in 60–72-year-old people. Furthermore, higher metabolic genetic risk score was associated with multiple-adjusted  $\beta$ -coefficient of  $0.005(0.003-0.008)$  for WMH change; such association significantly varied by CVH profile levels, with  $\beta$ -coefficients being  $0.015(0.007-0.023)$ ,  $0.005(0.001-0.009)$ , and  $0.003(-0.001-0.006)$  across unfavorable, intermediate, and favorable global CVH, and  $0.013(0.006-0.020)$ ,  $0.006(0.003-0.009)$ , and  $0.002(-0.002-0.006)$  across unfavorable, intermediate, and favorable behavioral CVH profiles, respectively. **Conclusions:** Intermediate-to-favorable global CVH profiles are associated with slower vascular brain aging. Such benefits of intermediate-to-favorable biological CVH profiles exists only in young-old. Favorable global and behavioral CVH profiles could mitigate vascular brain aging attributable to metabolic genetic predisposition.

*Food and Nutrition Champions are Key in Foodservices in Aged Care But How Do We Effect Systems Change?*

**Danielle Cave, Karen Abbey and Sandra Capra**

The University of Queensland

Category: Social Research, Policy, and Practice/A good life and a good death

**Introduction:** The foodservice system in residential aged care plays a critical role. However, despite numerous calls for change and improvement, little has changed in more than twenty years. This study aimed to understand the opinions of key food and nutrition staff in Australian residential aged care and what needs to happen to effect and maintain change. **Material and methods:** Semi-structured in-depth interviews were conducted with dietitians, carers, foodservice staff and managers from across Australia. Of 24 who expressed interest, 21 (88%) interviews were conducted. Interviews were recorded, transcribed verbatim and analysed using inductive thematic analysis following the method of Braun and Clarke [1]. **Results:** Three themes (with six sub-themes) were identified. There was consensus that there are opportunities to make positive changes in the operation of foodservices through teamwork, leadership and the workplace culture. These factors are also required to ensure implementation and continuation of change. Dietitians were not present at aged care homes daily to champion change, as they usually operated as external consultants. It is difficult to achieve teamwork within the aged care home when there are no dedicated staff members embedded within the system, who are present onsite each day to champion food and nutrition. **Conclusion:** It is clear there is a need for change at the systems level and the findings of this study further support a mandate for identified

food and nutrition champions, and making nutrition everyone's business in order to make long-term sustainable changes in foodservices.

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*Frailty Trends at Ages 75, 85, and 95 in Persons Born 1895–1945: Findings from Swedish Registry Data*

**Alexandra Wennberg, Marcus Ebeling, Stina Ek, Mats Talbäck and Karin Modig**

Category: Health Sciences/Morbidity, medical treatment and ageing processes

Introduction: Frailty affects approximately 25% of older adults and aging is the greatest predictor of and risk factor for frailty. However, little is known about frailty trends over time, though these are important to understand in the context of increasing life expectancy and a growing older adult population. Material and methods: We investigated prevalence of frailty and its association with mortality at ages 75, 85, and 95 in the Swedish 1895–1945 birth cohorts using the Total Population Registry data. Frailty was assessed with the Hospital Frailty Risk Score (HFRS), a cumulative deficit model of frailty created by summing weighted ICD codes. Results: Frailty increased with age and became more common in more recent birth cohorts. This was driven by an increase in the share of individuals with scores in the highest quartile of HFRS, while the bottom three quartiles remained relatively stable across birth cohorts. Women accounted for a greater proportion of frail individuals, particularly at older ages; women also accounted for more of the population at older ages, though these disparities decreased over time. The relationship between frailty and mortality did not differ across birth cohorts, nor did it differ by sex. Frailty was most strongly associated with mortality proximal to the age that it was measured (i.e., 75, 85, and 95) and the association was stronger at younger ages. Conclusions: As frailty becomes more commonplace, it is critical that we consider how to adjust healthcare to better care for these individuals.

*Frequency of Praying and COVID-19 Vaccine Hesitancy among People aged 50+—A Comparison of European Regions*

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Category: Health Sciences/Morbidity, medical treatment and ageing processes

Aims: Differences in levels of vaccine uptake have emerged across Europe, which may, among others, be explained by religious beliefs. Here we aim at studying the association between religiosity, measured by prayer frequency, and vaccine hesitancy, and to examine how this association vary across European regions. Methods: This study was based on 42,583 adults from 27 European countries, aged 50 years and above from the Survey of Health, Ageing and Retirement in Europe (SHARE) wave 1–8 surveys and SHARE

COVID-19 Survey 2. Logistic regression models were used to investigate the associations. Results: Participants were more likely to be vaccine hesitant when praying weekly (odds ratio (OR) 1.32 95% CI 1.23–1.42) or daily (OR 1.78 95% CI 1.65–1.92). Weekly praying was associated with increased vaccine hesitancy in Southern (OR 1.42 95% CI 1.12–1.80) and Eastern (OR 1.37 95% CI 1.25–1.49) Europe, while daily praying was associated with vaccine hesitancy in both Western (OR 1.93 95% CI 1.64–2.70), Southern (OR 1.34 95% CI 1.06–1.70), Eastern (OR 1.83 95% CI 1.68–2.00) and Northern (OR 2.93 95% CI 1.59–5.41) Europe. Conclusions: These findings provide support for an association between daily prayer frequency and COVID-19 vaccine hesitancy, with a consistent pattern across Europe.

*Functioning Potential of an Elderly Client Could Be Utilized better in Long Term-Care—Comparison of Public and Private Service Providers*

**Johanna Edgren, Matti Mäkelä and Satu Havulinna**

Finnish Institute for Health and Welfare

Category: Health Sciences/A good life and a good death

Most of the elderly clients living in long-term care facilities (LTCF) have potential to improve their functioning [1,2]. However, their potential is often not utilized as good as possible. Our aim was to compare how the functioning potential of an elderly client, the belief in rehabilitation opportunities, and the activities supporting clients' rehabilitation and social engagement were implemented in public and private service providers. The material was the RAI-LTC (Resident Assessment Instrument Long Term Care) assessments of customers living in LTCF providing enhanced 24-hour care housing service from 1 April to 30 September 2021. There was a total of 25,516 clients (9639 living in public and 15,877 in private facilities). The following metrics were calculated: rehabilitation belief, functioning potential, the proportion of clients who received help from rehabilitation and special workers, clients who participated activities, and clients who received sufficiently rehabilitative nursing. Public and private LTCF service providers were compared. The clients of public and private service providers were similar regarding age (on average 84 years), treatment period (2.8 years), activities of daily living (4% independent) and cognition (5% no decline). In both public and private facilities, the level of rehabilitation belief (respectively 55% and 54%) and functioning potential were moderate (60 and 62%). Still, support for clients' social engagement and maintaining functioning ability were modest, especially in public care facilities. This may be due to different care and service practices but requires further attention and research.

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*Geriatric Assessment and Intervention in Older Vulnerable Patients Undergoing Surgery for Colorectal Cancer: A Randomised Controlled Trial (GEPOC Trial)*

**Troels Gammeltoft Dolin**

Department of Medicine, Herlev and Gentofte Hospital

Category: Biological and Medical Sciences/Morbidity, medical treatment and ageing processes

Background: Colorectal cancer (CRC) incidence increases with age. Older persons are a heterogeneous group ranging from fit to frail. Frail Older patients with CRC are at increased risk of negative outcomes and functional decline after cancer surgery compared

to younger and fit older patients [1] Physical independence after surgery is rarely studied in clinical trials although older patients value it as high as survival [2]. Comprehensive geriatric assessment (CGA) evaluates an older persons' medical, psychosocial, and functional capabilities to develop an overall plan for treatment and follow-up. The aim was to investigate the effect of interventions from CGA on physical performance in older frail patients undergoing surgery for CRC. Methods: This single-center randomized controlled trial included older patients ( $\geq 65$  years) undergoing resection for localized CRC. Frail patients ( $\leq 14/17$  points using the G8 screening tool) were randomized 1:1 to geriatric intervention ( $n = 29$ ) or standard of care ( $n = 29$ ). Interventions included preoperative CGA, perioperative geriatric in-ward review and postoperative follow-up. Patients in the intervention group participated in an exercise program ( $2 \times / \text{week}$ ). Primary endpoint was change in 30-second chair stand test. Secondary endpoints included change in other physical measures, quality of life (QoL), complications from surgery, body composition and inflammatory biomarkers. Results: All patients are included and results from 3 months follow-up including change in functional capacity, QoL and body composition will be presented at NKG. Conclusion: The trial will provide valuable knowledge on whether geriatric interventions including exercise can counteract physical decline and improve QoL in older frail patients with CRC undergoing surgery.

*Giving Persons with Dementia a Voice in Research about Using Song and Music in Everyday Life at a Nursing Home*

**Aase Marie Ottesen**

Category: Humanities/Lifestyle, engagement and transition

Introduction: I will present results from an action research project entitled: "Meeting through song and music as an integral part of the culture and everyday life for persons with dementia in a nursing home", carried out in collaboration with a nursing home, whose vision was that song and music should become an integral part of the culture and everyday life at the nursing home. The person with dementia, relatives, employees, and the manager were co-researchers in dialogue-based and co-creative processes, with the following purposes:

- Investigate how song and music can become an integral part of the culture and everyday life in the nursing home
- Coming up with recommendations and ideas for the development of a culture and everyday life, where song and music are included.

Alzheimer's Research Foundation funds the research. Material and methods: 28 residents participate. With reference to Alzheimer Europe's board's position paper (Gove et al., 2018), person-attuned methods are used: songwriting, idea cafes and workshops. Results: Through songwriting processes, four songs were composed. The results from this revealed the residents' suggestions and ideas for how song and music can become an integral part of their everyday lives. It led to the start of a choir, weekly dance events and a music club at the nursing home. Conclusions: By using person attuned methods, person with dementia can have a voice in action research and contribute to the initiation of concrete efforts, so that song and music can become an integral part of their everyday live.

*Goals of Gerontological Social Work and the Wellbeing of Older Adults*

**Tiina Soukiala and Ilkka Pietilä**

The University of Helsinki

Category: Social Research, Policy, and Practice/A good life and a good death

In gerontological social work, clients' needs are often complex and intertwined, which underscores the importance of goals that social workers set for their actions. Despite this, very few studies have explored social workers' goal-setting practices. In this study, we examine what kinds of goals social workers set when working with older adults with

complex needs. The data consist of seven focus groups with gerontological social workers. We analysed material with theory-driven content analysis, using philosophical action theory as an analytical tool. Our analysis of goal-setting showed that gerontological social workers, first of all, aimed to ensure their clients' basic needs. Alongside this, social workers focused on enabling the clients' actions to change their own lives. It was striking, however, that while working to directly improve their clients' wellbeing, social workers also spent a lot of time trying to create conditions that allowed them to help their clients, e.g., by building trust with clients and their relatives or motivating other professionals to help their clients. This highlights the multifaceted goals that gerontological social workers have to set when working with their clients. This may affect the ways in which social work appears to the clients and other professionals; everything that social workers do for their clients' wellbeing may not be observable to others. The increased knowledge about the goals of social work helps to systematise work practices of gerontological social work as a special area of social work.

*Health and Mortality by Vision and Hearing Impairments among Danes*

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Category: Health Sciences/Morbidity, medical treatment and ageing processes

Introduction: Although vision impairment (VI), hearing impairment (HI), and dual sensory impairment (DSI) are common conditions among the elderly, the associations with health and mortality are inconsistent [1,2]. We investigate potential health consequences of sensory impairments and how they differ by sex. Material and methods: We performed a cohort study including 5718 Danes aged 40+ years interviewed from 2004–2015 in the Survey of Health, Ageing and Retirement in Europe. Participants were followed-up in registries for mortality and hospital admissions from interview until 2018. To examine associations, we used Cox regressions and negative binomial regressions including interactions with sex and adjustments for age, marital status, education, and wealth. Results: Overall, 12.0% of men and 13.0% of women reported VI, 17.9% of men and 11.0% of women reported HI, and 3.6% of men and 3.1% of women reported DSI. Among 1062 deaths, we found higher mortality for men with VI (HR 1.40; 95% CI 1.12–1.74), HI (HR 1.29; 1.06–1.58) and DSI (HR 1.53; 1.07–2.18) compared with men without impairments. After further adjustments for diseases, lifestyle factors and BMI, the associations attenuated, but remained for VI. Indications of higher mortality was found among women with impairments. Among 18,201 hospitalisations, we found increased hospitalisation rates for VI (IRR 1.42; 1.17–1.72), HI (IRR 1.27; 1.08–1.49) and DSI (IRR 1.53; 1.10–2.14) among men and for VI (IRR 1.27; 1.23–1.75) and DSI (IRR 1.52; 1.09–2.12) among women. Most associations remained after further adjustments. Conclusions: Our results add knowledge to the limited literature showing that reduced vision and hearing may reflect worse health and a shorter lifespan, particularly among men.

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*Health Literacy and Health Behavior among Older Adults*

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Category: Health Sciences/Education and competences in ageing societies

Introduction. Health literacy predicts health outcomes and one possible explanation for this is the influence that health literacy may have on health behavior. When investigating

older adults, health behavior should be considered from a wide perspective including not only the most common behaviors such as alcohol use, nutrition, and physical activity (PA), but also involvement in social activity and participating in voluntary work. The aim of this study was to examine the association between health literacy and different health behaviors, such as smoking, alcohol use, nutrition, PA, social contacts, volunteering, and active initiative in social relations among older Finnish persons. Material and method: Data were collected from 948 individuals, 57% women, aged 75, 80 and 85, in 2017–2018 in the city of Jyväskylä in Central Finland. Health literacy was assessed with the 16-question version of the European Health Literacy Survey (HLS-EU-Q16) and health behaviors were self-reported with a questionnaire and in face-to-face interview. Results: Higher health literacy was associated with better nutrition ( $\hat{I}^2$  0.19, 95% CI 0.23, 0.51), being physically active (OR 1.10, 95% CI 1.04, 1.16), higher frequency of social contacts ( $\hat{I}^2$  0.14, 95% CI 0.05, 0.15), higher active initiative in social relations ( $\hat{I}^2$  0.19, 95% CI 0.09, 0.20) and doing voluntary work (OR 1.13, 95% CI 1.05, 1.23). Conclusion: Health literacy guides older persons' health choices, and it may be possible to influence their lifestyle by offering them understandable information. Further research is needed to determine the causal order of health literacy, social activity, and volunteer work.

*Health Professional's Experiences in Carrying out Infection Control in Nursing Homes during The First Year of Covid Pandemic in Norway*

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Category: Health Sciences/Education and competences in ageing societies

Introduction: The first case of COVID-19 virus was confirmed in Norway on 26 February 2020. It was recommended that nursing home residents who become ill with COVID-19 should be treated in the nursing home. In February 2021 most nursing home residents in Norway were vaccinated [1]. The aim of the study was to explore health professionals' experiences of dealing with the COVID-19 pandemic in nursing homes with a focus on what promotes and what hinders good clinical practice. Material and methods: Health personnel at six nursing homes in a major city in Norway participated in focus group interviews that took place at each nursing home during March 2021. Theoretical domain framework [2] was used in the design of the interview guide and analysis. Results: The health personnel stood together, mobilized quickly, and took responsibility for the residents under very demanding working conditions. A major challenge was to create conditions for residents with dementia and hearing loss. Health professionals' biggest fear was to be the one who brought the infection into the ward. The quarantine of large sections of staff at a ward, had taught them to be prepared and to facilitate that at short notice a completely new staff who know neither the ward nor the residents must take over responsibility for the residents. Conclusions: The authorities' infection control recommendations were poorly adapted for the nursing home's residents. Commitment to the residents, support from colleagues and management motivated health professionals to stay in the job despite demanding working conditions.

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*Health Trends among Older Women and Men in Sweden, 1992–2021***Carin Lennartsson,<sup>1,2</sup> Neda Agahi<sup>1</sup>, Louise Sundberg<sup>1</sup> and Stefan Fors<sup>1,3</sup>**

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Category: Behavioural and Social Sciences/Morbidity, medical treatment and ageing processes

**Introduction:** While health problems are increasingly common in old age, they are unevenly distributed within the older population. Women report more health problems than men, and individuals with lower socioeconomic positions have more health problems than their peers with higher socioeconomic position. The magnitude of these health inequalities differs across space and time—making continuous monitoring a pillar of public health research. In this study, we will analyze the trends in health and health inequalities among older Swedes during the period 1992 to 2021. **Material and methods:** Data from the Swedish Panel Study of Living Conditions of the Oldest Old (SWEOLD) will be used to address changes in older adults' physical and mental health conditions between 1992 and 2021. We will also analyse changes in the sex-gap and socioeconomic inequalities in health during the period, both in relative and absolute terms. **Results:** Using up-to-date data, our findings will show health trends in physical and mental health problems for women and men, and by different socioeconomic groups. Preliminary results on mobility limitations suggests that the prevalence decreased over the last decades, and more so for women than for men - leading to decreasing sex inequalities. **Conclusion:** The findings shows that the sex-gap in health among older adults in Sweden decreased between 1992 and 2021. These findings are in line with the hypothesis that the sex-gap in health is decreasing, while the socioeconomic inequalities in health are increasing.

*Health-Related Inequalities in Internet Access and Usage among Older Adults before and during the COVID-19 Pandemic in Germany***Miriam Grates**

TU Dortmund University

Category: Social Research, Policy, and Practice/Digitisation and technology

**Introduction:** On the one hand, arguing with the Technology Acceptance Model [1], older adults with health restrictions might have seen a particular added value in using the internet during the COVID-19 pandemic. On the other hand, studies have shown that the worse the health status is rated, the lower the access and usage rates [2]. This presentation explores the impact of health on internet access and regular usage for social and informational purposes among older adults before and during the pandemic. **Material and methods:** Cross-sectional data from the German Ageing Survey from 2017 and 2020 was used. Participants aged 65 years and older were included ( $n(2017) = 3252$ ,  $n(2020) = 3099$ ). Descriptive and logistic regression analyses were conducted. **Results:** Internet access rates and the frequency of internet usage for social and informational purposes have increased in 2020 compared to 2017. After controlling for gender, age, education, income, household size and perceived availability of potential supporters, poor and average self-rated health was significantly associated with lower likelihood of internet access only in 2017. In both waves, poorer health was associated with less frequent internet usage for maintaining social contacts and information seeking. **Conclusions:** While impact of health on internet access seemed to decrease, health resources were still influencing the frequency of internet usage for social and informational purposes during the pandemic. People with poorer health might be less able to gather important information and compensate for contact restrictions using digital tools. This group may be at risk of exclusion.

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*Healthcare Providers and Older Adults' Evaluation of Personal Hygiene in Homecare Settings—Living with a New Personal Hygiene Technology*

**Britta Hørdam**

Category: Social Research, Policy, and Practice/Housing, generations and mobility

Intro: The study aimed to examine the satisfaction with, evaluation of, and attitudes toward prepacked disposable washcloths of both healthcare providers and older adults. Questionnaires were used to collect baseline data; both healthcare providers and the older adults were interviewed before and after the bathing procedure. During the study period, the older adults managed their personal hygiene by turns with soap and water or prepacked washcloths. Methodology: A questionnaire was used to collect baseline data, such as age, gender, type of housing, bathing facilities, daily life activities, and self-rated health. Face-to-face interviews were conducted with both older adults and healthcare providers before and after assisted baths (by turns with soap and water or prepacked disposable washcloths). Questions were prepared, focusing on well-being, use of time, conditions under which the bath took place, evaluation, ethical dimensions, and the choice between prepacked washcloths or soap and water. Conclusion: The overall result was both healthcare providers and older adults' satisfaction with the prepacked washcloths. The older adults preferred to choose their bathing procedure in relation to their daily activities and their experiences with differences regarding use of time. Both groups chose and recommended prepacked washcloths. Their choice was significant and motivated by concern for older adults' efforts, use of time, and personal well-being.

**Keywords:** self-rated well-being; nes technology; daily personal hygiene

*Healthy Survival from a Life-Course Perspective: A Register-Based Follow-up of Helsinki Birth Cohort Study*

**Mikaela von Bonsdorff, Hannu Kautiainen, Johan Eriksson and Tuija Mikkola**

Category: Biological and Medical Sciences/Morbidity, medical treatment and ageing processes

Introduction: Selection of older adults according to vital and health status in the study samples is likely to bias most estimates of prevalence of healthy aging. We quantified the probability of surviving and remaining free of severe chronic diseases, i.e., healthy survival, across adulthood in an unselected sample yielding an upper limit for the prevalence of healthy aging. Early and midlife factors associated with healthy survival were also examined. Methods and Materials: Men and women born in 1934–44 from the Helsinki Birth Cohort Study were studied (n = 13,140). Information on severe chronic diseases (such as severe chronic cardiovascular, musculoskeletal, and psychiatric diseases) and deaths were obtained from national registers for the years 1971–2017. Information on early and midlife characteristics were obtained from birth hospital, child welfare clinic, and school healthcare records, and national registers. Results: The cohort was followed up for 951,088 person-years. The survival models showed that at the age of 65 years less than half and at the age of 75 years only one in four of the members of the birth cohort were alive and healthy. Further, healthy survival was associated with higher birth weight and lower maternal body mass index, especially in men, with higher socioeconomic status both in childhood and midlife, and also with being married. Conclusions: Less than half of older adults age healthy after the age of 65 years. The probability of healthy aging is likely to be shaped by a variety of factors across the life-course, starting from the fetal period.

*History of Working Conditions and The Risk of Late-Life Dependency. A Nationwide Swedish Register-Based Study*

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Category: Health Sciences/Lifestyle, engagement and transition

**Introduction:** There is substantial evidence that work plays a significant role in post-retirement health. Yet little is known about its role in when late-life dependency may occur. We examined associations between working conditions and the risk of entering late-life dependency. **Material and methods:** Individually linked nationwide Swedish registers were used to identify people 70+ alive in January 2014, and who did not experience the outcome (late-life dependency) during two months prior to the start of the follow-up. Late-life dependency was operationalized as use of long-term care. Information about working conditions was obtained via job exposure matrices and matched with job titles. Cox regression models with age as time-scale (adjusted for living situation, educational attainment, country of birth, and sex) were conducted to estimate hazard ratios (HR) for entering late-life dependency during the 24 months of follow-up (n = 993,595). **Results:** An initial high starting point of physically demanding or hazardous work followed by an increasing trajectory across working life had a 35% higher risk (HR = 1.35) of entering late-life dependency at a younger age during the follow-up, compared with the reference group (low starting point with a decreasing trajectory). Having an initial high starting point of job strain followed by an increasing trajectory throughout working life implied a 23% higher risk of entering late-life dependency at a younger age. A history of intellectually stimulating work had a limited impact on age at entrance into late-life dependency. **Conclusions:** Reducing physically demanding, hazardous, and stressful jobs across working life may contribute to postponing late-life dependency.

*How do Existing and Newly Diagnosed Chronic Health Conditions Affect Older Workers' Vitality and Worries about Functional Ability?*

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Category: Behavioural and Social Sciences/Lifestyle, engagement and transition

**Introduction.** With increasing pension ages, older workers are working longer while experiencing chronic health conditions (CHCs). Our knowledge on how CHCs influence older workers' vitality and worries is limited. We examine how four existing and newly diagnosed CHCs influence older workers' vitality and worries about physical and mental functional ability. **Materials and methods.** We used data from a Dutch pension panel survey. A sample of 1894 older workers (60–62 years at baseline) was analyzed using conditional change OLS regression models. **Results.** Having CHCs decreased vitality and increased worries. This effect was worse for older workers newly diagnosed with CHCs. Being newly diagnosed with physically disabling conditions increased worries about physical functioning, while being newly diagnosed with mentally disabling conditions increased worries about mental functioning. **Conclusions.** These findings aid the identification of

vulnerable groups of older workers, thereby informing interventions that could improve their quality of life, while promoting healthy ageing at work.

*How do Older Adults with Multiple Sclerosis Experience Being Engaged in Data Collection through a Photovoice Study?*

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Category: Social Research, Policy, and Practice/Lifestyle, engagement and transition

Introduction: The use of participatory research (PR) approaches has grown in the field of gerontology, seeking to involve and empower older adults in research and policy making. However, older adults with cognitive and/or physical impairments are often excluded from PR. Integrating visual methods into PR may support engagement of people who otherwise often are underrepresented in PR. In this study, we explore how older adults with Multiple Sclerosis (MS) experience being engaged in generating data in a photovoice study. Methods and Materials: Twenty-four older adults diagnosed with MS were encouraged to take pictures of situations they found meaningful in their everyday life. As a part of a subsequent narrative interview, the participants were asked to elaborate on their experiences taking the photos. Meaning units were extracted and categorized using a thematic network analysis. Results: From the analysis three main themes emerged: (1) Photovoice initiated reflections on everyday life situations that were meaningful to participants; (2) This reflective process supported participants with cognitive impairments in telling their stories in subsequent narrative interviews; and (3) Photovoice was challenging for some participants who found it difficult to express themselves in a “visual language” or experienced lack of meaningful situations in their everyday life. Conclusions: Using visual methods, such as photovoice, may support the engagement of older adults with cognitive impairments in aging research. To engage participants with different impairments, support and guidance as well as individual approaches need to be considered by researchers working with photovoice in the field of gerontology.

*How Social Isolation due to The COVID-19 Pandemic Impacted Persons with Dementia, Family Caregivers and Healthcare Professionals: A Qualitative Study*

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Category: Social Research, Policy, and Practice/A good life and a good death

Introduction: Social isolation measures imposed due to the COVID-19 pandemic presented vital challenges to the health and wellbeing of persons with dementia, their family caregivers and professional caregivers. This study examined the impact of these measures on home- and long-term care (LTC) for persons with dementia, family caregivers, and healthcare professionals. Material and method: For this qualitative study, 20 family caregivers and 20 healthcare professionals from home care and LTC participated in online semi-structured interviews. The interviews were analyzed using an inductive thematic approach. Results: The social isolation measures resulted in a deterioration of the persons with dementia’s physical health, while the impact on their emotional state and behaviour depended on the stage of dementia and whether they lived at home or in an LTC. The impact on the cognitive status remained unclear. Family caregivers experienced difficulty coping with visiting restrictions, anxiety regarding safety, and changes in caregiving burden. Healthcare professionals experienced an increased workload, regrets about adhering to restrictive measures, and feelings of guilt. Important differences between home care and LTC were also reported (e.g., scarcity of activities for community-dwelling persons with dementia and use of personal protective equipment more intrusive for home care).

**Conclusions:** The social isolation measures negatively impacted persons with dementia, family caregivers, and healthcare professionals. More attention is needed for community-dwelling persons with dementia and family caregivers in times of social isolation. Clear communication about how social isolation measures are developed is vital to support all involved, as is flexibility in enforcing those measures.

*HuBERTien: Automatic Speech Recognition for Interview Recordings in Long-Term Care*

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Category: Health Sciences/Digitisation and technology

**Background:** Client perspectives have become increasingly important in long-term care (LTC) for older adults. To obtain information about these perspectives, interviews may be conducted. Audio recordings are often transcribed verbatim: being a time-consuming and costly task. Automatic speech recognition (ASR) could provide a solution. However, current ASR systems are specially tailored to English. This study aims to show how data in another language and regarding a specific demographical group (e.g., older adults), can be used to develop an effective ASR model. **Materials and Methods:** An initial ASR model was developed based on the Spoken Dutch Corpus dataset. Audio and transcript data (70 h) were collected from interviews with residents, family, and care professionals/managers in LTC. Interviews contained data regarding quality of care. Interviews were preprocessed and used to improve the initial ASR model. **Results:** Due to background noise and mispronunciations, the initial ASR model (trained on the CGN) transcribed only 70% of words in the interviews correctly. After using the interview data for model improvement, the final ASR model was able to recognize 90% of words in the interviews correctly. **Conclusions:** This study shows that ASR models can be improved using interview data from specific demographical groups such as older adults. The resulting ASR model is not only better at recognizing words used in an LTC context but also better at transcribing general Dutch audio material. This could allow researchers to include more interviews in their studies and may be even used outside the LTC and health care sector.

*Impact of Obesity and Type 2 Diabetes on Everyday Life—Perspectives from Nursing Home Residents and Care Staff*

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Category: Health Sciences/Lifestyle, engagement and transition

**Introduction:** Despite the increasing number of people with obesity and type 2 diabetes (T2D) among nursing home residents (NHR), little is known about how NHR and health care staff experience and manage these conditions. Studies indicate that obese NHR are more dependent and perceived as unmotivated for life style changes [1]. Other studies report that care staff perspective focus on own working environment [2], but does not describe how staff manage obesity and T2D. The aim of the study was to explore what impact obesity and T2D have on NHRs experience of their everyday life and how care staff manages obesity and T2D in NHR. **Methods:** We conducted semi-structured interviews with 11 NHR with a BMI  $\geq 30$  and with or without T2D, and five group interviews with

20 care staff. A phenomenological analysis was applied. Results: The NHR's experience of their daily lives can be categorized into 4 themes: wanting to maintain weight loss, desire to stay independent, motivated for changes in everyday life and environmental matters. The care staff interviews can be categorized into 3 themes: managing obesity and T2D can be difficult, some NHR lack motivation and the care staff lack knowledge and skills to guide the NHR towards healthy lifestyle. Conclusion: This study find that the NHR are motivated for preserving functional abilities and independence in everyday life. On contrary, the care staff describes that not all NHR are motivated, and that staff lack knowledge and skills to manage obesity and T2D and guide NHR.

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*Implementation of a New Case-Finding Tool to Identify Citizens with Dementia or Mild Cognitive Impairment in The Public Care Sector*

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Category: Health Sciences/A good life and a good death

Introduction: Elderly care professionals have a high chance of meeting citizens who show signs of mild cognitive impairment or dementia. People with such symptoms have better prospects of accessing proper treatment and care once they have been diagnosed. However, symptoms are often likely to remain undetected by their GP and relatives. Therefore, there is a need to support elderly in achieving a diagnosis earlier. Materials and Methods: The Danish Dementia Research Center developed a new case-finding tool to identify cognitive impairment for use in community settings. The tool called Brief Assessment of Impaired Cognition Questionnaire (BASIC-Q) was initially tested on 293 memory clinic patients and 135 non-patients. The tool consists of seven simple questions directed at the person showing signs of cognitive impairment and three questions which may be directed at a relative or other informant. Results: The City of Copenhagen, Health and Care Administration began to implement BASIC-Q from late 2019. Currently (winter 2021–2022) approximately 200 of the health and care workers have been trained in the use of the tool. BASIC-Q has been applied on 108 citizens receiving municipal health and care services. In 45 cases, the GP has received notice from a health and care worker that a patient has been identified as showing symptoms of dementia. Conclusions: Preliminary experiences with the implementation of BASIC-Q as a tool to enhance timely diagnosis of dementia in a municipal setting, looks promising. There is a need to systematically follow the application of the tool and the results.

*Implementation of The BPSD Method for Citizens with Dementia in Nursing Homes. Experiences from The City of Copenhagen, Denmark*

**Katrine Due Jespersen**

Category: Behavioural and Social Sciences/Education and competences in ageing societies

Introduction: The BPSD method is developed by The Danish Health Authority. BPSD stands for Behavioral and Psychological symptoms of Dementia (BPSD). The aim is to

improve the well-being and quality of life among residents of nursing homes with dementia by a systematic and individually interventions for people with BPSD symptoms. Materials and Methods: The BPSD method has been tested at 24 nursing homes in Denmark from 2017–2018 by The Danish Health Authority. The model consists of a continuous process with three steps:

1. NPI screening (NPI.NH); is used to carry out systematic observation and BPSD symptoms amongst residents. The screening is an interview with the resident's primary helper.
2. BPSD conference; Is a method for the staff to analyze the outcome of the NPI screening, discuss symptoms and possible causes of the BPSD symptoms and decide possible interventions to reduce the symptoms.
3. Intervention; the interventions are initiated and evaluated after three (maximum 3 months).

Results: The BPSD method is implemented in all nursing homes in The City of Copenhagen. The results from The Danish Health Authority shows that the use of the method reduce the frequency and severity of BPSD symptoms and allow health care team to work towards the same goal and provide support and reassurance for the resident. Conclusions: The implementation of the BPSD method increases employees' knowledge of dementia and ensure a higher quality in the care of residents with dementia and BPSD symptoms and reduce BPSD symptoms.

*Incidence and Consequences of Accidental Falls amongst Well-Functional Community-Dwelling Older Adults: Findings from the Northern Jutland Cohort of Fall Risk Assessment with Objective Measurement*

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Category: Health Sciences/Lifestyle, engagement and transition

Introduction: Falls amongst older adults are a major health problem and economic burden on the healthcare system, with 30% of older adults experiencing at least one fall per year. This study aims to document fall incidence and circumstances as well as fall-related injuries in a well-functional group of community-dwelling older adults. Method: The NOCfao study is a prospective cohort study with a one-year follow-up on falls [1]. Three hundred and thirty-two older adults were recruited for the study, with follow-up data of 284 (85.5%), mean age 76.5 (6.3), 82% female. At baseline, participants completed three questionnaires, performed selected physical tests, and wore an ankle-mounted pedometer for measuring physical activity for five consecutive days. Monthly fall incidences and circumstances were recorded throughout the one-year follow-up period. Results: Falls were reported by 34.2 percent of the participants of which 10.3 percent reported more than one fall. One hundred and fifty-nine falls were registered, eighty-two indoor. Forty-five percent of indoor and fifty-five percent of outdoor falls happened during walking activities. Of the fallers, twelve percent reported a fracture, all women. Seven out of ten fractures were related to the upper-extremity and occurred during outdoor walking activities (tripping accidents). Conclusion: This study showed a high fall incidence amongst an active and well-functioning group of community-dwelling older adults. Most falls occurred during indoor and outdoor walking activities. The majority of fractures located to the upper-extremity

may indicate a preserved upper-extremity avoiding strategy. Targeting fall-related tripping-accident in existing training programs might reduce fall-related injuries.

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*Individual Characteristics Associated with COVID-19 Infections and Severe COVID-19 in Community-Dwelling and Nursing Home Older Adults: A Nationwide Swedish Register-Based Study*

**Géric Maura, Kristina Johnell, Pierre-Olivier Blotière, Jonas Wastesson and Szilcz Matè**

Morbidity, medical treatment and ageing processes

**Introduction:** In Sweden, half of all deaths occurred in nursing homes in 2020. We assessed individual characteristics associated with COVID-19 infections or severe COVID-19 among community-dwelling and nursing home residents aged 65+ in Sweden. **Methods and Materials:** Based on nationwide register data, the association between selected individual characteristics (marital status, education, income, birth country income group, region, multimorbidity and frailty) and COVID-19 infection or severe COVID-19 (hospitalization or death) was assessed using age- and sex-adjusted Cox regression models with non-COVID-19 death as a competing risk, in community-dwelling and nursing home residents aged 65+, separately. Individuals were followed up to 6 months from 1 March 2020 until outcome or administrative censoring. **Results:** Among 1,970,889 community-dwelling residents (81,511 nursing home residents), 12,478 (5775) and 8408 (2920) had a COVID-19 infection and severe COVID-19 during follow-up, respectively. Among community-dwelling residents, increasing age, male sex, being widowed or single/divorced vs. married, coming from low-income countries, living in the Stockholm region and having lower levels of income and education were all associated with increased risks of COVID-19 infections and severe COVID-19. In nursing home residents, we found reverse associations for marital status, income and education, and attenuated associations for age, birth country income, frailty and multimorbidity for both outcomes. **Conclusions:** The analyses among Swedish community-dwelling 65+ confirm previously reported associations for negative COVID-19 outcomes. However, many of these associations were attenuated or reversed in nursing home residents 65+, which suggests that other factors may have played a role in eldercare during the first COVID-19 wave in Sweden.

*Inequalities in Old Age Wellbeing in Germany and Poland: The Role of Social Integration, Material Conditions and Regional Factors*

**Alina Schmitz**

Category: Social Research, Policy, and Practice/A good life and a good death

**Introduction:** Material conditions and social integration are important predictors of wellbeing. It can be expected that older individuals who reside in depopulating areas experience declines in wellbeing, as their property loses value, their social networks are shrinking and public infrastructure is lacking. We conduct comparative analyses of Germany and Poland, two countries that show significant differences with regard to the economic and social situation of the older population. We expect that regional depopulation is more detrimental to wellbeing in Poland, as older individuals rely more strongly on informal support and individual resources in old age. **Material and methods:** We apply multilevel regression models to investigate the interrelations between life satisfaction, social integration, material conditions and regional factors. To that end, we combine micro-data from the *Survey of Health, Ageing and Retirement in Europe* (SHARE) with macro-data on regional characteristics

(depopulation, public infrastructure and economic development). Results: Our preliminary analyses suggest that a substantial part of inequalities in life satisfaction can be traced back to regional differences in the level of depopulation. Social integration and material conditions are important mediators of this association. Additionally, regional differences in care and health infrastructure are important predictors of wellbeing—especially for older adults in need of financial and social support. Conclusions: Regional depopulation can be detrimental to wellbeing in later life due to material hardship, low social integration and lacking public infrastructure. In the next steps, we will investigate whether there are differences at the country level by comparing Germany and Poland.

*Influence of Individual Characteristics, Societal Characteristics, and The Care Service Profile on Allocation of Services*

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Category: Health Sciences/A good life and a good death

Introduction: Quality in healthcare is reliant on available and fairly distributed health services. The growing challenges facing primary healthcare together with limited resources, however, compel municipal healthcare to prioritize their services. As a result, variation in service allocation will arise. Both individual and societal characteristics determine service allocation, but previous literature has often investigated the influence of either individual or societal factors separately. The present study aimed to investigate the extent to which service allocation is associated with characteristics related to the individual patient, the municipal system level context and the care service profile of the municipality. Material and methods: This is a cross-sectional study using register data from the KPR register on individuals receiving health and care services from Norwegian municipalities in 2019. These individual level data were paired with municipal level data from the KOSTRA register and information on the care service profile of municipalities, identified from a nationwide survey. Multilevel analyses were used to identify individual and societal factors that contributed to explain the variation between municipalities in allocation of the services nursing homes, care homes and home care. Results: Results are pending analysis and will be presented at the congress. Conclusions: Results from the present study will indicate the most influential factors determining service allocation as a step towards equally available and fairly distributed health services.

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*Inter-Municipal Interaction as a Challenge when Caring for Frail Older Sámis in (Mobile) Reindeer Herding Families with Two Homes*

**June Brita Eira**

Category: Health Sciences/Housing, generations and mobility

Background: Reindeer husbandry in Nord-Sápmi is semi-nomadic, which means that the reindeerherds and their owners moves regularly twice a year between coastal areas and the inland. The move presents challenges specially for their older family members who

need the same public welfare services in the summerhome as in the winterhome. Relocation entails interaction challenges between the municipalities. Aim: This study will explore the inter-municipal interaction challenges when allocating nursing- and care services to patients who regularly move between their homes. The knowledge can help to improve inter-municipal interaction and point to challenges the home care service may face. Methods: A focus group interview was conducted in a district municipality in northern Sápmi with two nurses and an auxiliary nurse. Their average work experience is 21 years in home nursing. The interview data were thematically analyzed. Results: Two main themes were identified: «Lack of interaction» and «Balance between real service offerings and expectations». The home nursing service knows from experience that the older reindeer herding Samis are coming to the municipality when the reindeer have arrived for summer grazing. Occasional communication is reported between the winter- and summer municipality home care services, and the lack of an ICT-function for electronic interaction. No matter how welcoming and solution-oriented the home care service is when the patients arrive their summerhome, they can become the losing party because of lack of inter-municipal interaction before departure and a lack of clarification of expectations between patients and the service. Conclusion: Requirements for interaction between municipalities with joint patients must be legislated, and digital interaction between municipalities must become possible.

*Is Frailty Different in Younger and Older Individuals? Prevalence, Characteristics and Risk Factors of Early-Onset and Late-Life Frailty*

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Category: Health Sciences/Morbidity, medical treatment and ageing processes

Introduction: Recent studies show that frailty is present and relevant in younger adults. However, whether and how frailty in young adults differs from the old is unknown. To this end, we analyzed the prevalence, characteristics and risk factors of frailty in young (aged <65) and old (aged ≥65) adults. Material and methods: We analyzed 405,123 and 43,641 individuals in the UK Biobank and Swedish Screening Across the Lifespan Twin (SALT) study, respectively. Frailty index (FI) was used to measure frailty and FI > 0.21 was used to demarcate the frail status. The characteristics of frailty were analyzed by collating the individual FI items into broader domains. Logistic regression was used to assess the risk factors of frailty. Results: The average prevalence rates of frailty based on the UK Biobank and SALT were 10.1%, 14.0%, 18.1%, 27.5% and 33.5% in individuals aged ≤55, 55–65, 65–75, 75–85 and >85, respectively. The prevalence of items in the immunological, mental wellbeing and pain domains were higher in young frail individuals compared to old frail individuals, whereas the opposite was true for the cardiometabolic, cancer, musculoskeletal and sensory domains. Higher age, female sex, smoking, lower alcohol consumption, lower education, obesity, overweight, low income and maternal smoking were associated similarly with higher risk of frailty in young and old adults. Conclusions: Frailty is prevalent also in younger age groups, but it differs in some of its characteristics from the old. The risk factors of frailty are nevertheless largely similar in young and old adults.

*Labour Market Participation and Cognitive Decline at Older Ages: Evidence from Germany*

**Annette Trahms and Laura Romeu Gordo**

Category: Social Research, Policy, and Practice/Education and competences in ageing societies

Ageing of the population is one of the main societal challenges in most of the western economies. In order to react to demographic change the legally required retirement age in Germany has been increased to 67 years and is under discussion whether it needs to be further delayed. On the one hand, prolonging the participation of older people in the labour market is important to moderate the financial impact of demographic change. On the other hand, and this is the focus of this paper, labour market participation might help to maintain cognitive abilities for elderly. These are also important in order to remain active and independent in old age as long as possible. The analysis is based on data of the National Educational Panel Study (NEPS) adult starting cohort. The NEPS provides data on the life course, educational and employment histories. Furthermore, NEPS provides data on the development of competencies over throughout the life course. Therefore, the data allows observing a change in cognitive performance in reading and mathematical competencies between the years 2011 and 2017 and labour participation between these two points in time. Our results show that in the case of reading competences there is no evidence of a more rapid decline in these abilities in case of retirement. However, in the case of mathematical competences, we do observe that individuals who retire before the age of 65 are more likely to suffer a decline in these competences than individuals who remain active in the labour market.

*Learning from The Experts: A Co-Operative Inquiry Approach Exploring How to Investigate the Process of Grief in Adulthood and Old Age*

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Category: Behavioural and Social Sciences/Lifestyle, engagement and transition

Introduction: Each year thousands of elderly Danes lose a loved one. This often represents one of multiple losses, requiring coming to terms with and transitioning to a new way of life. Grief is a natural response to loss. The Dual Process Model of Coping with Bereavement is the leading theory of how bereaved persons adjust to their new life circumstance. The theory proposes that there is an adaptive oscillation between loss-oriented and restorative processes. Empirical data supports these processes, but the oscillation between them is not well-understood. When, how, and why oscillation occurs needs further exploration. Methods and Material: A workgroup of eight bereaved adults (in early to old adulthood) and two clinical researchers will meet 9 times for 3 hours in the spring of 2022. Through the co-operative inquiry method, they will together examine grief processes, discuss how to capture the dynamics of grief (the oscillation), and develop a survey and study design to be used to investigate the process of grief in adults. Results: The main outcome will be the development of a survey and study design to investigate the process of grief in a sample of bereaved adults. Another outcome will be how successful the co-operative inquiry approach is in shedding light on a scientific question. Did merging the real-life experience of bereaved people with the theoretical- and research perspectives of clinical researchers create new knowledge? Conclusions: At the 26NKG, we will present the preliminary findings and share lessons learned from using the co-operative inquiry approach.

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*Life Satisfaction and Social Capital in Different Age Groups in Finland—Data from The European Values Study*

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Category: Behavioural and Social Sciences/A good life and a good death

**Introduction:** Previous research indicates a positive relationship between social capital and life satisfaction in old age. However, studies comparing older and younger adults in this regard have so far been scarce. The overall aim of the current study was to explore age group differences in the association between social capital and life satisfaction across the adult life span in a Finnish setting. **Material and methods:** The sample consisted of two data collections from the European Values Study (EVS) conducted in Finland. A data collection was conducted during 2017–2018 for Finnish speakers, and in 2018–2019 for the Swedish-speaking minority. The sample included 2514 individuals aged 18 and over with no upper age limit. Life satisfaction was measured with a single-item measure ranging from 0 (= dissatisfied) to 10 (= satisfied). The study included two measures of structural social capital (voluntary work and membership in associations) and two measures of cognitive social capital (social trust and perceived connection to the neighborhood). **Results:** The results showed that both structural and cognitive social capital were associated with life satisfaction. Age, gender, civil status, and self-rated health were also associated with life satisfaction in the multivariable regression models. Further, the results indicated that there in some instances were differences between the age groups regarding the explanatory variables associated with life satisfaction. **Conclusions:** Social capital was positively associated with life satisfaction in the total sample, and notably in those aged 75 years and older, which thus highlights the importance of promoting social capital throughout the life course.

*Life's Simple 7 and Transitions in Cognitive Status in Older Adults: A 15-Year Population-Based Study*

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Category: Health Sciences/Morbidity, medical treatment and ageing processes

**Introduction:** Life's Simple 7 (LS7), which defines ideal levels of seven cardiovascular risk factors, was recently recommended for promoting brain health [1]. We sought to assess the associations of LS7-defined cardiovascular health (CVH) level with progression from normal cognition through cognitive impairment, no dementia (CIND) to dementia in older adults. **Methods:** This population-based cohort study included 2746 baseline (2001–2004) dementia-free participants from the Swedish National Study on Aging and Care in Kungsholmen regularly examined over 15 years [2]. LS7-defined CVH was categorized into poor, intermediate, and ideal levels. Dementia and CIND were diagnosed following international criteria. We assessed the CVH-cognition relationship with multistate models in the total sample and stratified by age (<78 years and ≥78 years). **Results:** During the follow-up period, 571 participants developed CIND and 425 developed dementia. Intermediate and ideal CVH were associated with hazard ratios of 0.8 (95% CI: 0.6–0.9) and 0.8 (0.6–1.0) for incident CIND. Stratifying by age group, intermediate (0.7 (0.5–0.9)) and ideal (0.6 (0.5–0.9)) CVH were associated with a lower risk of incident CIND, and ideal CVH (0.6 (0.3–1.0)) was associated with a lower risk of progression from CIND to dementia in people aged <78 years. LS7-defined CVH was not associated with transitions across cognitive states in people aged ≥78 years. **Conclusions:** LS7 may be helpful for promoting cognitive health in older adults but may not be as meaningful in the oldest old. Further

studies are needed to assess the value of LS7 in promoting healthier cognitive aging in the oldest old.

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*Light, Activity and Sleep in My Daily Life: Design of An Online Intervention Targeting Changes to Routines and The Home*

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Category: Behavioural and Social Sciences/Education and competences in ageing societies

Introduction: Older adults spend more time at home after retirement, and the home becomes a central place for activity. While research indicates that indoor lighting, exposure to daylight, physical activity and sleep interact to influence functioning, mood and daily rhythm, strategies are needed to promote behavioural changes to optimise these factors in daily life. The objective is to design an intervention programme delivered as a web-based course to encourage behaviour change related to outdoor physical activity, sleep patterns and changes to the home environment. The behaviour changes are intended to promote mental wellbeing and improve lighting and darkness conditions. The intervention strategy departs from the Information-Motivation-Behavioural Skills Model. Intervention components build on goal implementation theory. The Technology Acceptance Model is used as a framework for evaluating usability aspects of the course. Methods and materials: Using a mixed-methods approach, qualitative and quantitative data were collected through video observations, interviews and questionnaires. Three experts on pedagogy, design for older people and/or interaction design were invited to independently assess usability of the course on their laptops in a full-scale model of an apartment. The setting enabled manipulations of the lighting conditions and video observation to identify any problems when participants experimented with the test kit included in the course material. Findings: Participants' ratings of usability aspects indicated sufficient usability. However, the interviews did reveal usability issues (e.g., difficult or inconsistent terms, unclear instructions). Results were used to refine the course before a second usability trial with six participants representing intended users (aged 70+).

*Longitudinal Association between Leisure Activity and Depressive Symptoms among Icelandic Community-Living Older Adults*

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Category: Health Sciences/A good life and a good death

Background: Depressive symptoms among the older population are associated with socioeconomic status (SES), medical care, and physical activity. However, there is little evidence on the longitudinal association between the level of leisure activity (LA) and physical activity (PA) with depressive symptoms among community-dwelling older adults in Iceland. The study examined an association of LA and PA at baseline with high depressive symptoms (HGDS) assessed after 5 years of follow-up among community-dwelling older adults. Methods: A large community-based population residing in Reykjavik, Iceland participated in a longitudinal study with 5 years of follow-up (n = 2957, 58% women,

74.9 ± 4.8 years). Those with HGDS or dementia at baseline were excluded from the analysis. The reported activity was categorized into 2 groups, no-activity versus any-activity. Depressive symptoms were assessed by the 15-item Geriatric Depression Scale (GDS) on average 5 years later. Results: After adjusting for demographic and health-related risk factors, those who reported having any LA had significantly fewer HGDS after the follow-up of 5 years (6 or higher GDS scores, Odds Ratio (OR) = 0.46, 95% Confidence Interval (CI): 0.27~0.76,  $p = 0.003$ ). However, reporting any PA at baseline was not significantly associated with HGDS (OR = 0.71, 95% CI: 0.51~1.00,  $p = 0.053$ ). Conclusion: Our study shows that any LA among older adults is associated with having less depressive symptoms 5 years later among community-dwelling older adults while having any PA was not associated with depressive symptoms after 5 years of follow-up.

*Making Sense of Work Exit Narratives in Longitudinal Interview Data: A Case Study Analyzing Small Stories by Finnish Postal Workers*

**Hanna Kosonen and Kirsi Lumme-Sandt**

Category: Health Sciences/Lifestyle, engagement and transition

Introduction: We are studying sense-making narratives related to the work exit process in interview data generated in 2015–2018 in collaboration with Finnish postal workers aged 50+ years. Material and methods: Pre-transcribed, longitudinal interviews (n = 5) selected from a total of 40 participants based on retirement plans during their first interviews: our focus is on people who reported retirement as a main goal after leaving the Finnish postal service. Data will be analyzed by focusing on “small stories” (as opposed to Labovian “big stories” with a beginning, middle and end). A multimodal theory of agency involving individual and structural components will be employed as the theoretical framework with a focus on the agentic dimensions of feeling and wanting. Results: Preliminary analyses have shown that the two dimensions of agency under analysis often appear in high concentrations in “small stories”—such as future wishes and hypothetical events, e.g., regrets—which are therefore especially useful in analyzing wanting and feeling in our data. Conclusions: By focusing on the above-mentioned dimensions of agency via a narratological approach, we are able to look at the work exit process and the individuals it touches in a holistic way that takes into account individual differences in agency and sense-making in the work exit process, as well as social/ietal structures that may limit or enable individual agency. By analyzing longitudinal data, we will be able to look at temporal changes in these dimensions.

*Malnutrition Screening across Health Care Settings? A Systematic Review*

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Category: Social Research, Policy, and Practice/Lifestyle, engagement and transition

Introduction: Relying on age and setting, a wide array of screening tools are used to identify risk of malnutrition. To reduce miscommunication as a risk to patient safety, the Norwegian Directorate of Health wished to harmonize and standardize the screening practice across adult age groups and health care settings in Norway. A harmonization is in line with former work in other countries (1,2). Aim: The aim of this systematic review was to summarize the validity and reliability of screening tools used to identify risk of malnutrition across health care settings, diagnoses/conditions, and adult age groups. Material and methods: A systematic literature search for articles evaluating validity and reliability of malnutrition screening tools, published up to August 2020. The systematic review was registered in PROSPERO (CRD42022300558). Results: The review identified 100 articles that

fulfilled the inclusion and exclusion criteria. The most frequently validated tools were Mini Nutritional Assessment short-form (MNA), Malnutrition Universal Screening Tool (MUST), Malnutrition Screening Tool (MST) and Nutritional Risk Screening 2002 (NRS-2002). All tools displayed overall moderate validity. MST and MNA displayed moderate agreement, and NRS-2002 and MUST low agreement. MUST and MST displayed good generalizability across age, setting and condition, which was limited for MNA and NRS-2002. Data on reliability was limited. Conclusions: MUST, MST and NRS-2002 display moderate validity for the identification of malnutrition in all adult age groups, of which MUST and MST are validated across health care settings. In addition, MNA has moderate validity for the identification of malnutrition in adults 65 years or older.

*Many 30-Day Readmissions of Older Patients with Hip Fracture Are Emergency Ward Visits!*

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Category: Biological and Medical Sciences/Morbidity, medical treatment and ageing processes

**Introduction:** 30-day readmission rates in the Capital Region of Denmark reported by The Multidisciplinary Hip Fracture Registry ranges from 21–29% (2018) and 15–19% (2019). Differences might be related to whether emergency ward visits are included. We examined readmission rates including emergency ward referrals within 30 days of discharge after hip fracture. **Material and Methods:** 687 consecutive patients aged  $\geq 65$  years discharged after treatment of an acute hip fracture at a university hospital between Jan 2018 and June 2019. Readmissions were defined as any physical hospital contact, and patients were followed until death or 30-days post-discharge. **Results:** 220 (32% in 2018 and 31% in 2019) patients were readmitted within 30 days; median (IQR) of 8.5 (4–18) days post-discharge. 56 (25%) and 89 (40%) of patients, respectively, came from a nursing home and other 24-h settings. Length of readmission was median 1 (0–6) day, and distributed as; 0 (emergency ward), 1, 2 and 3 days for respectively 89 (40%), 27, 18 and 14 of patients. Sixty-five (73%) of patients with an emergency ward visit came from a nursing home or other 24-h setting. Readmissions were related to many potential or confirmed reasons, i.e., a new fall, hip pain, pulmonary, gastrointestinal, infection and luxation of arthroplasty. **Conclusions:** One-third of patients with hip fracture were readmitted within 30 days and almost half were seen only in the emergency ward, among whom many came from a nursing home or other 24-h settings. Enhanced post-discharge medical attention and cross-sectorial collaboration is needed for these frail patients.

*Marital Histories and Associations with Later-Life Dementia and Mild Cognitive Impairment Risk in The HUNT4 70+ Study in Norway: The Changing Lives Changing Brains Project*

**Bjørn Heine Strand, Asta Häberg, Ekaterina Zotcheva, Bo Engdahl, Steinar Krokstad, Hans-Peter Kohler, Bernt Bratsberg, Catherine Bowen, Sarah Tom, Jordan Weiss, Astanand Jugessur, Jennifer Ruth Harris, Yaakov Stern, Geir Selbæk and Vegard Skirbekk**  
Norwegian Institute of Public Health

Category: Health Sciences/Morbidity, medical treatment and ageing processes

**Background:** Marital history has been shown to be associated with dementia and mild cognitive impairment (MCI), but findings are inconclusive. **Methods:** We expand upon earlier research by applying a historic cohort study design to analyze the association between marriage trajectories and MCI/dementia risk. Data on cognitive assessments at age 70–88 years in the Norwegian HUNT Study 2017–19 ( $n = 8706$ ) were linked with registry data to obtain marriage trajectories from age 44–68. Information on sociodemography and health was included. Multinomial logistic regression with inverse probability weighting and multiple imputation was applied. **Results:** Overall, 11.6% were diagnosed with dementia and 35.3% with MCI. The risk of dementia was lowest among those who remained married. The prevalence of dementia was 14.1% among the non-married and 11.2% among the continuously married. Compared to the continuously married, the continuously divorced group had higher risk of dementia in an age- and sex-adjusted model (RRR = 1.84; 95% confidence interval (CI): 1.26–2.68). This elevated risk persisted after adjustment (RRR = 1.51; 95% CI: 1.03–2.22). The intermittently divorced, the non-married and the intermittently married had elevated risk of dementia compared to the continuously married, but the differences were not significant in the fully adjusted model. The risk of dementia did not differ between the widowed and the continuously married groups. Marital status was not associated with MCI in the fully adjusted model. **Conclusions:** Our data show that marital status was associated with a lower dementia risk, which is an important factor to consider when designing interventions for health service provision and long-term care.

#### *Meaning in Life in Demented Residents in Long Term Care Nursing Homes*

**Knut Hestad**

Category: Humanities/A good life and a good death

Meaning in life is related to important well-being outcomes in older adults with dementia. However, research into this field is lacking. This study examine "meaning in life" in long-term care nursing home residents. **Material and methods:** The study was conducted using an adapted version of Meaning and Purpose scale (Schnell, 2021). In-depth interviews were conducted with 10 residents in a nursing home in Norway. All respondents were diagnosed with dementia ranging from mild to severe. Systematic text condensation (Malterud, 2017) was used as a pragmatic method of analysis to capture themes across interviews. Three aspects of meaning in life were addressed: meaningfulness (experiencing life as meaningful), crisis of meaning (experiencing life as frustratingly empty) and two sources of meaning (religion and communion). **Results:** Interviewing persons with dementia is a challenge. However, persons with dementia are a heterogeneous group. Nevertheless, preliminary findings suggest some similarities when it comes to the experience meaning in life. Close relations, religion, generativity, freedom, and acceptance are emerging themes across interviews. Further, meaningfulness can be drawn from having lived a meaningful life and accepting the changes and stage of life one is in. **Conclusion:** Our preliminary findings suggest that in-depth interviews with persons with mild to severe dementia, although challenging, can provide important insight into their experience of meaning in life. They further support existing evidence and suggest that meaning in life is an important aspect of dementia care.

#### *Meaningful Social Participation—The Perceptions of Senior Housing Residents in Finland*

**Ann-Louise Sirén, Marjaana Seppänen, Mikaela B. von Bonsdorff**

Category: Behavioural and Social Sciences/A good life and a good death

**Introduction:** Increased population longevity necessitates enhanced knowledge about how good quality of life (QoL) can be achieved in different older populations. Finland is one of the European countries where the population rapidly is ageing, a trend that has triggered the development of senior housing. A purpose of senior housing is to provide

new opportunities for social participation. Social participation is a fundamental component for good QoL in later life, particularly meaningful social interaction. To better understand how satisfying QoL can be supported in senior housing environments, this study sought to explore residents' views on what characterises meaningful social participation. **Methods and Material:** Data were collected through semi-structured interviews with six residents aged 82–97 from one senior housing community in Finland. The data was analysed using thematic analysis. **Results:** Social participation that adds meaning to life involves interaction that makes the participants feel like they are valuable, and matter, as individuals. According to the participants, various aspects of social connectedness characterize meaningful social participation, particularly social interactions that generate a sense of companionship. Additionally, the living environment influences the participants' opportunities for meaningful social participation, particularly when declines in functional ability become more pronounced. Satisfying QoL among senior housing residents can be achieved if the living environment is modified to meet the needs of individuals with functional declines, supports meaningful social participation and mitigate the consequences of age-related health declines. **Conclusions:** Increased knowledge about older adults' diverse needs can allow them to live a social meaningful life, regardless of functional ability.

*Meanings of Troublesome (and Distressing) Behavior of a Spouse with Memory Disorder for The Aging Couple*

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Category: Behavioural and Social Sciences/Lifestyle, engagement and transition

Introduction: Troublesome and distressing/challenging behavior such as aggression, wandering, and restlessness caused by memory disorder are well known, but less is known about how people with memory disorders and their spousal caregivers describe what that means in their relationship. This qualitative study examined the situations in which the spouse with a memory disorder behaves in a troublesome manner and even aggressively, spouses interaction in these situations, and how these situations are experienced by both parties. **Material and methods:** Home-dwelling people diagnosed with memory disorder (n = 14) and their spousal caregivers (n = 19) were interviewed in 2019–20 in Finland. In most interviews spouses were interviewed together. Interviews are semi-structured life-course interviews that addressed changes caused by spouses' memory illness in spousal relationship and in their intimate relationship. Data was analyzed with thematic content analysis. **Results:** Three main themes were formed from the data, describing troublesome situations and how the behavior of a spouse with a memory disorder had become aggressive and affected the interaction between the couples. Themes were named: facing the illness, spousal caregiver giving time to other people, and coping with daily routines with a memory disorder. The latter was divided into two subthemes counseling and directing or restricting the spouse's activities. **Conclusions:** While memory disorder may bring about conflicts, aggressive behavior, and even abuse, the intimacy shared by the couple may serve as a resource and support the continuity of their relationship.

*Measuring The Prevalence of Chronic Conditions in a Population Aged 90 and Over: The Agreement between Self-Reported and Health Register Data*

**Pauliina Halonen**, **Esa Jämsen**, **Linda Enroth** and **Marja Jylhä**

Category: Health Sciences/Morbidity, medical treatment and ageing processes

Introduction: Administrative health registers and surveys are widely used in estimating the prevalence of chronic diseases. Since they gather data for different purposes, they

may produce varying rates particularly in the oldest age groups with multimorbidity. This study aims to compare self-reported survey data and national register data in a population aged over 90. Material: Data from the Vitality 90+ Study collected in 2014 was linked with national administrative registers: The Hospital Discharge Register and The Finnish Prescription Registry. Information on ICD-10 diagnoses and ATC -codes were matched with the survey. Prevalence of ten chronic diseases was compared between the survey and discharge register among 1548 survey participants. The prevalence of five of these conditions was additionally compared across all three data sources in a subsample of 1117 survey participants. Agreement was assessed with Cohen's kappa and percent agreement (proportion of positives/negatives in survey and register out of total positives/negatives in register). Results: The agreement was highest between survey and combination of both registers. In this comparison, Kappa was 0.810 for Parkinson's disease, 0.751 for diabetes, and 0.663 for memory disorder. Kappa was lowest for osteoarthritis and depression (<0.3). Positive percent agreement was high for memory disorder, Parkinson's disease, and diabetes. Negative percent agreement was high for stroke, cancer, diabetes, and Parkinson's disease. Conclusions: The agreement between self-reported and register data is moderate or substantial for most chronic diseases in the oldest old population. Registers produce lower prevalence rates of depression, osteoarthritis, and memory disorder than survey data.

*Medication-Related Hospital Readmissions within 30 Days of Discharge—A Retrospective Study of Risk Factors in Older Adults*

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Category: Biological and Medical Sciences/Morbidity, medical treatment and ageing processes

Introduction: Previous studies show that approximately 20% of hospital readmissions are medication-related and that 70% of these are possible to prevent. This retrospective medical records study aimed to identify risk factors associated with medication-related hospital readmissions in older adults ( $\geq 65$  years). Materials and methods: Readmissions within 30 days of discharge ( $n = 360$ ) were assessed as either possibly or unlikely medication-related. Selected variables were used to individually compare these two groups to a comparison group ( $n = 360$ ), using either a Student's *t*-test,  $\chi^2$ -test or Fishers' exact test. Multiple logistic regression analysis was used to identify variables associated with possibly medication-related readmission. Results: Of the 360 readmissions, 143 (40%) were assessed as possibly medication-related. Charlson Comorbidity Index (OR 1.15, 95% CI 1.5–1.25), excessive polypharmacy (OR 1.74, 95% CI 1.07–2.81), adjusted dosages at discharge (OR 1.63, 95% CI 1.03–2.58) and living in your own home, alone, were variables identified as risk factors of such readmissions. Living in your own home, alone, increased the odds of a possibly medication-related readmission 1.69 times compared to living in your own home with someone ( $p$  value 0.025) and 2.22 times compared to living in a nursing home ( $p$  value 0.037). Conclusions: Our results show that comorbid, highly medicated patients living in their own home, alone are at increased risk of medication-related readmission. Having dosages adjusted at discharge also increase the risk. These results indicate that care planning before discharge and the provision of help with, for example, managing medications after discharge, are factors important if aiming to reduce medication-related readmissions among this population.

*Mental Health among Older Population of Eastern European Diaspora***Ieva Reine<sup>1</sup>, Ilze Koroleva<sup>2</sup> and Maris Goldmanis**

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2. University of Latvia

Category: Behavioural and Social Sciences/A good life and a good death

Mental and physical health factors play a crucial role in the pattern of using healthcare in the country of residence of migrants. We aim to study, how the mobility across Europe and other regions of the world for different patterns and transnational lifestyles relate to mental health, wellbeing and healthcare as a pillar for social security and overall wellbeing. We analysed personal characteristics, including self-rated health and pre-disposing factors, as well as context to reflect on the mental health differences for migrant groups in different regions in the world. The study includes groups of 6242 respondents living outside Latvia who answered from questions from the General Health Questionnaire, GHQ-12, about their mental health, as well as rated their overall health and assessed the use of the healthcare on a rotating basis in a 2019 survey "Research of Welfare and Social Integration in the Context of Liquid Migration: Longitudinal Approach". Comprehensive data on migrants from multiple countries all over the world allowed to perform multiple regression analysis on stratified groups by migration patterns, including both individual and contextual level variables. Results of a multiple logistic analysis showed that older migrants tended to have less psychological symptoms compared to younger persons. Moreover, those who were born or lived in another country seemed to have better mental health and were more confident in the use of healthcare system in the country of residence. The results showed that individual factors like age, gender, language of communication and education level were strongly related to better health.

*Models of Primary Care Provision: A Cross Sectional Study***Hanne Marie Rostad, Marianne Sundlisæter Skinner, Tore Wentzel-Larsen and Maren Raknes Sogstad**

Norwegian University of Science and Technology

Category: Health Sciences/A good life and a good death

Introduction: Decision-makers in Europe are searching for models to redesign primary care systems to become more responsive to changing health and care needs [1]. Yet, there is limited knowledge of the different primary care service models that are unfolding in the European care service landscape. To contribute to the knowledge and discussion, this study will analyze current trends in Norway to identify and characterize different primary care service provision models. Material and methods: We adopted a cross-sectional research design. A web-based questionnaire was sent to all Norwegian municipalities (n = 422) in the spring 2019. Identification of primary care models was done by sorting variables from the questionnaire into four core domains; (i) availability specialized services; (ii) extent of welfare technology; (iii) preventions and activation; and (iv) planning and coordinating care. The four themes were used in a hierarchical cluster analysis. Results: Four primary care provision models were identified among Norwegian municipalities and are preliminarily described as; (i) all-embracing; (ii) traditional; (iii) forward-looking, and (iv) resource supportive. There were statistically significant associations between the clusters and municipal income, and the population size of the municipality. Conclusion: Different models may impact on municipal service provision since the clusters of municipalities prioritize the four core domains somewhat differently. Identifying and characterizing different care models is thus the first step to improve the quality of primary care across the lifespan as information about what types of models exists, is necessary for subsequent analyses of how these models may influence outcomes.

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*Multicultural Staff in Nursing Homes: Training and The Flexible Mode of Labour in Norway*

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Centre for Care Research West, Western Norway University of Applied Sciences

Category: Social Research, Policy, and Practice/Education and competences in ageing societies

Introduction: The long-term care (LTC) services in Norwegian municipalities are labor-intensive, female dominated and characterized by flexible work arrangements known as 'part-time culture'. The workforce is increasingly becoming culturally diverse as recruitment of staff with an immigrant background is a measure to meet the demographic challenge of an ageing society [1]. How does the mode of flexibility influence training, development of competence and intra-collegial support at the workplace? Material and methods: This presentation reports from the MultiCare project. Inspired by Dorothy Smiths [2] institutional ethnography of approaching a phenomenon 'bottom-up', our data is based on forty-one qualitative interviews of employees in various positions at nursing homes in 2017–2018. Results.: Care workers with immigrant background received limited training, often held part time positions and they 'filled in' for others at several wards. These factors hamper access to updates on residents' changing care needs, learning procedures at the wards and enough wage to make a decent living. "Everyday contact" with the residents is held as a prerequisite for good quality care. Substitute, part-time, on-call care workers have less chance of obtaining this advantage of continuity in care. We argue that these issues keep immigrant workers in low-rank positions at the nursing home. Conclusions: The increase of immigrant labor in Norwegian nursing homes and the limited training combined with the flexible work mode results in an emergent immigrant niche in the lower tiers of the LTC 'industry'.

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*Music Therapy and Health, Musicking as Psychological and Palliative Rehabilitation in Dementia (at The Mild to Moderate Stage)*

**Hugo Jensen**

Category: Behavioural and Social Sciences/A good life and a good death

Introduction: Due to cognitive impairment self-administered music quite early slips out of the lives of most persons with dementia. Music and social engagement can provide healthy ageing and prevent behavioural and psychological consequences of dementia [1]. A Danish public health survey found that music serves as a health promoting factor to the majority of Danish adults [2]. Here selected parts of an exploratory pilot study of group music therapy (GMT) with younger persons with dementia is presented with a theoretical framework of 'health musicking'. The project was funded by Aalborg university and published in Danish Musicology Online (2021). Material: 11 sessions with 7 persons with mild to moderate dementia were conducted and video-recorded. The participants had the opportunity to connect through music by singing, improvising, dancing, working with their body and voice, listening to selected music and writing a song together. Methods: The empirical study focused on psychosocial support, perception, mentalization and symbolization. The qualitative design included observation, and individual interviews

(using stimulated recall) with the participants were analyzed thematically. Results: GMT as health musicking could afford development and/or confirmation of individual identity and values. In GMT, music(king) could be facilitated to constitute a community and create a red thread throughout life, because both past (musical life story), present (common music in the present) and thoughts about the future could be shared. Conclusions: The participants could mirror each other and in the music. This intervention with a holistic approach can be considered as psychological and palliative rehabilitation.

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*Narratives of Coping in The Early Stages of Young-Onset Dementia: Is it Chaos, Disengagement, or Active Story?*

**Katja Hautsalo**<sup>1,2</sup>

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Category: Behavioural and Social Sciences/Lifestyle, engagement and transition

Introduction: getting a memory disorder makes disruption on person's life course. If diagnosis is done before the age of 65, (young-onset dementia = YOD) the break is even more radical, because of its unexpected timing and rarity of YOD. Young-onset dementia changes the expected life course and demands adjustment as well as the reconstruction of one's life story. Material and methods: this study focuses to examine the narratives of persons with YOD on how they deal with the changes in their lives in the early stages of their illness and how their family members' stories resonate with the stories of persons with YOD. Material was collected through interviews (14 YOD persons and 14 family members) and analyzed by narrative methods. Results: the analysis brought up three story types: the chaos, disengagement, and activity stories. These story types included variation for example in how the illness was accepted and positioned, role of relationships was described, how own abilities or future was seen and time-relations of story. Conclusions: The study provides knowledge and understanding of the individual experiences in the beginning of YOD. Understanding of the effects of YOD, different ways of adapting and preparing for the future, may help professionals but also family members when supporting YOD person in new life situation. It will be also investigated how narrativity is part of the reconstruction process of a life story and how the wellbeing of persons with YOD can be supported through by considering different ways to cope with the illness.

*Nursing-School Teachers in Clinical Practice Make Staff See Themselves as (Legitimate) Educators*

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Category: Health Sciences/Education and competences in ageing societies

Introduction: This article describes the role of nursing-school teachers in a 'training hospital'. The 'training hospital' is an educational model that aims to train more nurses and makes the transition from training to practice less stressful for the new nurses. It is established in a medical unit with 12 beds for inpatients and space and capacity for many students. Patients are recruited from the acute unit and are generally over 65 years old, have many socially and other health issues and often in need of complex nursing interventions. Methodology: Action research involving all health professional at the unit, leaders across sectors (hospital, community, and nursing school), nursing-school teachers

and researchers. The theoretical frame is situated learning with cooperative internship that allowed students and nursing-school teachers to be immersed in clinical practice at the unit. Materials: Workshops and scheduled discussions with clinical nurses (4), nurse supervisors (3), nursing-school teachers (4), leaders (3) and researchers (2) during the second year of the project. Notes and written material were analyzed thematically. Results: The nursing-school teachers' role emerged as: (1) Creating/supporting an environment of critical thinking; (2) Bridging between theory and practice; (3) Bringing practice back into teaching at the nursing school. Conclusion: The employment of nursing-school teachers both working in clinical and academic settings seems to create an environment where every staff member sees themselves as educators both in relation to students but also to peers.

*Nutritional Status of Nursing Home Residents in Akureyri, Iceland*

**Berglind Blöndal, Anna Jónsdóttir, Ragnheiður Halldórsdóttir, Þóra Sigurðardóttir, Bryndís Þórhallsdóttir and Jóhanna Bjarnadóttir**

Category: Health Sciences/Morbidity, medical treatment and ageing processes

Introduction: A good nutritional status plays an important role in the functioning of the immune system and to be able to maintain a good mental and physical health. Unfortunately, malnutrition is common among old adults, both in Iceland and throughout the world. The prevalence of being at risk of being malnourished or being malnourished has been shown to be highest in nursing homes residents (60–80%), but in Iceland this has never been studied. There is an urgent need to study this in Iceland to be able to implement appropriate nutritional therapy to improve the at-risk resident's nutritional status. Material and methods: All nursing home residents at Heilsuvernd Nursing Homes in Akureyri, Iceland will be screened for the risk of malnutrition using a validated nutritional screening tool, the Icelandic Nutritional Screening Tool. The screening tool gives the individual 1–30 points depending on how high the risk is of being malnourished. At low risk are those who score 0–2 points, at risk are those who score 3–4 points and at high risk are those who score >4 points. Results: The study results are expected to be ready in April/May 2022. Conclusions: As the study is ongoing and no results to report yet, we do hope that if the prevalence of nutritional risk is high among the studied population that we can implement proper nutritional interventions to improve their nutritional status.

*Old Overnight: Experiences of Age-Based Recommendations in Response to the COVID-19 Pandemic in Sweden*

**Gabriella Nilsson, Janicke Andersson, Lisa Ekstam and Anna Axmon**

Lund University

Category: Social Research, Policy, and Practice/Lifestyle, engagement and transition

Introduction The Swedish response to the COVID-19 pandemic included agebased recommendations of voluntary quarantine specifically for those 70 years of age or older. This paper investigates the experiences of a sudden change of policy in the form of an age restriction that trumped the contemporary active aging ideal. Method and materials: A web-based qualitative survey was conducted in April 2020. Through manual coding of a total of 851 responses, six different ways of relating to the age-based recommendations were identified. Results: The results show that age is not an unproblematic governing principle. Instead, in addition to protecting a vulnerable group, the age-based recommendation meant deprivation of previously assigned individual responsibility and, consequently, autonomy. It is shown how respondents handled this tension through varying degrees of compliance and resistance. Conclusion: Findings highlight the importance of continuously tracking the long-term consequences of age-based policy to avoid negative self-image and poorer health among older adults.

*Older Adults' Societal Views about Digitalization from Perspective of Everyday Life***Outi Valkama and Outi Jolanki**

Category: Behavioural and Social Sciences/ Digitisation and technology

The study investigates older adults' views on the digitalisation of society and how they portray themselves and others as users of digital devices and services. The data was collected in 2018–2019 and comprises 36 individual interviews with older adults. Altogether 20 women and 16 men participated in the interviews (mean age 78 years). The theoretical framework comes from critical theory of technology and data was analysed with critical discourse analysis. Analysis showed that participants' views about digitalization varied from positive to negative views. The discourses identified were: digitalisation as a necessity, digitalisation as a threat, and digitalisation as an opportunity, within these discourses, participants positioned themselves and other older adults various ways such as pragmatic user, outsider, technology savvy, enthusiastic and engaged user and victim. Finland is one of the most rapidly digitizing societies and digital skills and use of technology are needed practically in all spheres of daily lives. Analysis showed that older people acknowledge some benefits of digitalization, but not all are able or willing to embrace digitalization of society and take up IT and digital devices themselves. Digital divide exists between different groups of older people.

*Older Ill Persons and Their Adult Children's Experiences with Primary Healthcare***Helle Elisabeth Andersen**

UCL University College

Category: Humanities/ A good life and a good death

Introduction: Aging in place puts ill and frail older persons in a vulnerable situation, and relatives, especially adult children, are expected to assume caring responsibilities. Healthcare professionals, like homecare nurses, play a key role in providing care to older persons needing support to live at home. However, the quality of primary homecare has been questioned. Material and methods: The aim of this study was to describe older persons living at home and their adult children's lived experiences with caring responsibility assumed by healthcare professionals. We used a Reflective Lifeworld Research approach and analyzed 23 interviews and eight diaries. The COREQ checklist was followed. Results: The findings revealed that caring responsibility is tantamount to being professionally competent and balancing immanent power to either promote or inhibit important areas of the older persons and their adult children's lifeworld. Blurred lines of caring responsibility between the participants, the healthcare professionals, and the healthcare systems occurred and indicated that there were errors of commission and omission regarding the safety of older persons in own homes. Conclusions: The insights obtained from older persons and their adult children into what is encompassed in the phenomenon of caring responsibility as exercised by healthcare professionals in primary healthcare represent important knowledge for healthcare professionals, nursing managers, and policymakers. After early discharged from the hospital, older persons as well as their adult children want to be able to trust that primary healthcare can handle the caring responsibility and provide safe and secure care.

*Older Migrants' Experiences of Civic Engagement in Sweden and Finland***Pernilla Ågård and Emilia Häkkinen**

Category: Behavioural and Social Sciences/ Lifestyle, engagement and transition

Research on older migrants tend to focus on the challenges they face and the resources they require. The societal contributions that older migrants make are seldom discussed, and neither has their civic engagement received the attention it deserves [1]. Simultaneously, civic engagement of older migrants is of particular importance, since involvement of older adults in productive social activity and active citizenship is linked to healthy and

socially included ageing processes [2]. A recently launched cross-national study including five European countries with dissimilar welfare and migration regimes (CIVEX) brings attention to older people's civic engagement, and focuses, among other groups, on older migrants born outside of Europe who have settle here in their adulthood. Based on preliminary analysis of two qualitative datasets stemming from similar welfare regimes but dissimilar migration regimes (i.e., Sweden and Finland) this presentation brings attention to the different informal and formal types of civic engagement that older migrants have engaged on through their life course, and the ways in which they contribute to societies today. The presentation will argue that the study of older migrants' civic engagement could advance scholarly debates on civic participation and exclusion in later life since these debates have yet to bring attention to this population, and neither have they considered the specific ways in which the migratory life course could facilitate or hinder civic participation in later life.

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*Older People and Civic Engagement: What Micro-, Meso- and Macro-Level Variables Do Have an Influence?*

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Category: Social Research, Policy, and Practice/A good life and a good death

As the world population is gradually getting older, organisations like the WHO and the UN are promoting healthy ageing to keep older people active and engaged. This research aims to examine older people's involuntary exclusion from society's political, economic and societal processes. In other words, it aims to investigate their social exclusion and in this study specifically from civic engagement. Civic engagement entails activities like volunteering, informal help, associational membership, political and digital activities. Starting from the dynamic biographical-institutional-societal model of Silverstein and Giarusso, this study aims to explore factors that facilitate or hinder older people from engaging in civic activities. It identifies influencing factors at micro- (e.g., socio-economic status), meso- (e.g., organisations, municipality), and macro-level (e.g., country). While previous studies mostly assess only individual variables and/or contextual variables, this study uses a combination of micro-, meso- and macro-contexts. It makes use of data collected from the SHARE and ELSA databases (waves 7 and 8 respectively) to cover European countries and the UK. The data were collected in 2016–2017. Multilevel analysis is used to account for nested data. The results provide insight into the micro-, meso-, and macro-level factors that are associated with the social exclusion of various older people in terms of civic engagement on both individual and contextual levels. In turn, the results indicate where actions can be taken to enlarge the opportunities for older people to participate in civic activities.

*Older People on The Move*

**Annele Urtamo**

Age Institute

Category: Health Sciences/Lifestyle, engagement and transition

Introduction: In Finland, a national “Older people on the move” Program, coordinated by Age Institute, aims to encourage older persons for a more physically active lifestyle. The role of Age Institute is to coordinate and support local projects of municipalities and national NGOs within the program. The program is part of a set of other physical activity programs across other life stages (children, adults etc.), funded by the Ministry of Education and Culture. Material and methods: The target group includes physically inactive persons over the age of 65. The projects of municipalities and NGO’s implement good practices of reaching and engaging of the target group, and practices of physical activities (e.g., exercise counselling, strength and balance training, outdoor activities) with tailored support and training provided by “Older people on the move” Program. As part of the Program, Age Institute produces materials, organizes learning opportunities for professionals, and evaluates the impact of implemented activities. Results: So far, 38 local projects of municipalities and 4 NGO’s have taken part in the program. These projects have developed and implemented physical activity practices by developing service structures, knowledge and skills, and the quality and quantity of physical activities. Conclusions: The opportunities for the old people to be physically more active can be increased through cross-sectional cooperation in municipalities and through the coordination of the national Program. A physically active lifestyle of older people promotes functional capacity and opportunities for successful ageing.

*Older Workers’ Experience with Technology-Related Changes at Work during the COVID-19 Pandemic*

**Arianna Poli, Annika Heuer and Andreas Motel-Klingebiel**

Division Ageing and Social Change (ASC), Linköping University

Category: Behavioural and Social Sciences/Digitisation and technology

Introduction: Many (older) workers experienced changes in their working life as a result of the COVID-19 pandemic, some of them related to increased use of digital technologies. In this study, we aim at understanding older workers’ degree of affectedness as well as the experience of and satisfaction with technology-related changes at work during the COVID-19 pandemic in Sweden. Methods and Materials: Between June 2020 and December 2021, novel data on work during the COVID-19 pandemic was collected via a four-wave online survey (n = 2901). Based on such data, which was collected in the Swedish region Östergötland, we modeled (a) the overall affectedness with technology-related changes at work in a sub-sample of workers aged 50 years and older; (b) the experience of specific types of technology-related changes at work in the same sub-sample; and (c) the satisfaction with technology-related changes at work in a sub-sample of 357 workers aged 50 years and older who reported to have experienced such changes. Results: Our findings show how the experience with technology-related changes is structured along the lines of age, gender, education, occupation, and job status. Also, the satisfaction with technology-related changes proved to be unequally distributed among older workers with differences also between household and family types. Conclusions: The results have implications for policies and practices to support equal and inclusive late working life in times of digitalisation of work.

*On Intentions to Leave Work in The Eldercare Sector: Autonomy over Working Conditions vs. Individually Negotiated Influence*

**Caroline Hasselgren, Helena Håkansson and Lotta Dellve**

AGECAP—Center for Ageing and Health, University of Gothenburg

Category: Social Research, Policy, and Practice/Education and competences in ageing societies

**Introduction:** Eldercare organizations in many countries, including Sweden, are currently facing substantial challenges in retaining staff and struggle with high levels of sick-leave. While previous studies have shown that work autonomy could buffer the negative effects of high intensity at work and reduce turnover, less is known about the influence of individually negotiated work adaptations. The present study investigates and compares the significance of (1) autonomy to modify one's work-efforts without negotiation when feeling sick or tired; and (2) individually negotiated influence over work tasks, schedule and salary, for intentions to leave among eldercare workers in Sweden. **Material and methods:** Data were obtained from the HEARTS-LEXLIV study, which examines conditions for sustainable work among Swedish public-sector employees aged 55+. Using a subsample of eldercare workers ( $n = 769$ ), we employed Confirmatory Factor Analyses and Structural Equation Modelling to test the relationships between general work autonomy, individually negotiated influence and intentions to leave. **Results:** The results suggest that individually negotiated influence over salary ( $b = -0.247$ ;  $p < 0.01$ ) and general work autonomy ( $b = -0.182$ ;  $p < 0.05$ ) were the only types of influence that significantly lowered intentions to leave. As expected, both autonomy and influence over salary were also negatively and significantly associated with female gender and/or occupational class. **Conclusions:** Opportunities to reduce, or in other ways modify, work-efforts without negotiation when feeling sick or tired, and individually negotiated influence over salaries predicted lower turnover intentions. However, negotiated influence pertaining to work tasks or schedule flexibility did not, which may suggest that care workers are, above all, "underpaid and overworked".

*Organizational Collaboration and Support Resources for Frontline Work in Eldercare regarding Safety, before and during The COVID-19 Pandemic*

**Rebecka Arman and Lotta Dellve**

**Category:** Behavioural and Social Sciences/A good life and a good death

**Introduction:** Reducing spread of disease and offering safe care to elderly people living at home or in nursinghomes is an important goal for all of the involved health and social care organizations. However, collaboration between caregivers has been shown to be difficult and create obstacles. The study aims to contribute knowledge about organizational collaborations and support resources for frontline work in eldercare regarding safety, before and during the COVID-19 pandemic. **Material and methods:** A sequential mixed-method design with data from semi-structured interviews with 23 managers and workers in health and social care for the elderly and a questionnaire to first-line managers before and during the pandemic. **Results:** Before COVID-19 standardized collaboration was perceived as difficult when it came to sharing information, creating a mutual care plan and drawing boundaries in order to clarify responsibilities between different functions and professions. Organizations standardized management of COVID-19 was of most importance for frontline work and engagement regarding safety at the studied units, as well as for managers role demands. The collaboration between health and social care functions and professionals was of least importance for safety but had importance for managerial work and their units' engagement behavior. Managers' excessive role demands least explained safety and while general support by superior managers best explained safety. **Conclusions:** Strengthening collaboration between health and social care functions and professionals in eldercare seems crucial to support frontline work and engagement in creating safe care.

*Organizational Facilitators and Barriers to The Quality of Care in Nursing Homes and Home Care Services*

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Category: Social Research, Policy, and Practice/A good life and a good death

Introduction: Recently, reports have emerged describing challenges related to the quality of care among older care services; these challenges have been further exacerbated by the COVID-19 pandemic (WHO, 2020). However, there seem to be few recent studies focusing on the factors that may be facilitators or barriers to the quality of care among services for older people from an organizational perspective. The aim of this study was therefore to describe organizational facilitators and barriers to the provision of care services for older people in nursing homes and home care services. Material and Methods: 16 nursing home and home care managers were interviewed using semi-structured interviews in Finland in October 2021. The data was analyzed using qualitative content analysis. Results: The results showed 5 organizational facilitators and 6 organizational barriers to the quality of care in nursing homes and home care services. Described facilitators included: person-centeredness, a good working environment, sufficient and committed staff, supporting professional development and optimizing tasks. Described barriers included: job strain, challenges related to staffing, challenges related to the division of labor and the resource planning system, conflicts within the organization, restricted resources, and challenges associated to COVID-19. Conclusions: The study revealed that obtaining sufficient staffing, optimizing tasks and task division are major factors relating to quality of care. These results indicate that more attention should be paid to the conditions of the employees, to ensure continued quality of care.

*Orthogeriatric Home Visit Is Associated with Overall Reduced 30-Day Readmission Following Surgical Treatment in +65-Year-Old Patients with Hip Fracture*

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Category: Biological and Medical Sciences/Morbidity, medical treatment and ageing processes

Introduction: High readmission rates are common in patients following hip fracture. However, evidence indicates that multidisciplinary home visits after hip fracture may improve care and reduce overall readmission rate. We investigated whether an orthogeriatric home visit was associated with overall 30-day readmission in +65-year-old patients surgically treated for hip fracture. Methods and Materials: Two 1-year-cohorts were compared. Thus, 246 patients (mean age 81.9 y, 71% female) admitted with hip fracture between 12 June 2020–13 June 2021, discharged to own home or care facilities, and visited  $\geq 1$  time were compared with a non-visited historical cohort of 247 patients (mean age 81.5 y, 72% female) admitted between 1 January–31 December 2018. Home visits were performed by

an orthopaedic nurse specialist at day two and nine after discharge. Treatment and care were decided in collaboration with a hospital based geriatric medical specialist. Data were extracted from hospital medical records. Primary outcome was overall 30-day readmission defined as  $\geq 12$  h length of stay, regardless of reason or place, within the first 30 days after discharge. Covariates used for statistical adjustment included demographic, mental and physical functioning, medication, co-morbidity, severe complications, and residential status. Cox Regression models were used for analysis. Results: The readmittance rate was reduced from 27% to 19% ( $p = 0.03$ ). Crude and fully adjusted Hazard Ratio in patients visited were 0.67 (CI 95%: 0.46–0.97) and 0.58 (CI 95%: 0.39–0.85) compared with non-visited patients, respectively. Conclusion: An orthogeriatric team visiting older patients discharged after hip fracture seems to be associated with overall reduced 30-day readmission.

*Osteoporosis Medication among Older Adults—Who Will Get Preventive Treatment and Who Will Not?*

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Category: Health Sciences/Morbidity, medical treatment and ageing processes

Introduction: There are guidelines for medical treatment of osteoporosis, but still, older adults at risk of an osteoporotic fracture seem to be undertreated. In addition, there seem to be sociodemographic differences. In this study of the Swedish older population, we wanted to: (1) investigate the proportion of older adults that received medical osteoporosis treatment and trends over time; (2) explore differences in medication depending on sociodemographic differences. Method: 2,655,042 individuals, 60 years and older were included. Bone strengthening medications (Bisphosphonates, Strontium ranelate, Denosumab and Parathyroid hormone) from the Prescribed Drugs Register were recorded per calendar year between 2007–2020 and fragility fractures were derived from the National Patient Register. Results: Prescription increased slightly over time; 3.4% in 2007 compared to 4% in 2019. For individuals with a recent fragility fracture (i.e., treatment indication) the proportion was higher but following the same pattern; 11% in 2007 and 14% in 2019. It was half as common to receive a prescription if being older than 90 years or being a man. Discussion: There is a low bone strengthening medication prescription rate overall and especially among the oldest old. A fracture in these age groups is most often osteoporosis related and can be seen as a treatment indication, but only  $\approx 8$ –16% received a prescription in this group. Possible reasons for this could be non-functioning fracture chains or a fear of side effects. Conclusion: Reasons for under prescribing needs to be further investigated. It is also important to investigate how big part of osteoporosis medications are being dispensed in other channels than through pharmacies.

*Outpatient Service for Elderly People at a Primary Health-Care Center*

**Anna Björg Jónsdóttir Jónsdóttir**

Heilsuvernd

Category: Health Sciences/A good life and a good death

Introduction: The number of elderly people is increasing in Iceland, it is predicted that the number of people aged 80 and over will increase by 46% in 2030. Fortunately, most of them are healthy and with excellent skills for their age. It is a fact though, that with age, the chances of disability, multiple illnesses, and dementia increase. It is also clear that it is important to find the individuals who need help and treatment and the sooner it can be done the better and usually that journey starts within the primary health-care. The goal of our project is to find those who need further assessment and possible treatment sooner and provide them with the right services. Material and methods: We will contact every 67 years and older within our primary health-care center and offer them to come visit, during which the person will meet a nurse and a nutritionist with a speciality in nutrition for the elderly.

They will go through a standardized questionnaire and do a standardized workup. Results: The service started in January 2022. We hope to have results by June. Conclusions: Since the service just started, we can't draw any conclusions yet but our hope is that the service will lead to a better quality of life for our clients as well as preventing premature disability in the elderly. We also aim provide them with the right services in the right place at the right time by the right professionals.

*Overweight, Obesity and Type 2-Diabetes Is Markedly Present in Danish Nursing Home Residents*  
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Category: Health Sciences/Morbidity, medical treatment and ageing processes

Introduction: Overweight and obesity (Ow/O) and type 2-diabetes (T2D) in older adults may be associated with functional disability and increased need of care [1,2]. Focus in nursing home residents (NHRs) has mainly been on underweight, while knowledge about prevalence of Ow/O and T2D in NHRs is limited. The aim of the study was to investigate prevalence of Ow/O and T2D in NHRs. Material and methods: National prevalence of T2D in NHRs was analysed based on data from various Danish registers. In addition, data on Body Mass Index (BMI) and T2D was collected in a cross sectional study including NRHs in three municipalities, Region Zealand. Results: National register data revealed that 19% of the 37,891 NHRs in Denmark in 2018 lived with T2D. Results from the three municipalities including 749 NHRs showed that prevalence of T2D in these municipalities was 16% and that 55% had a BMI  $\geq 25$  kg/m<sup>2</sup> with 23% being categorized as obese (BMI  $\geq 30$  kg/m<sup>2</sup>). In comparison, 7% were underweight (BMI  $\leq 18.5$  kg/m<sup>2</sup>). The association between BMI categories and T2D was significant ( $p < 0.001$ ) with the highest prevalence (29%) of T2D observed in NHRs with BMI  $\geq 30$  kg/m<sup>2</sup>. Conclusions: Ow/O and T2D is markedly present in NHRs in Denmark, which call for increased attention and effective interventions to maintain a healthy weight allowing for high functional ability and independence and thus secure a high health related quality of life in this group of vulnerable older adults.

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*Perceptions and Experiences of Safety at Home: A Survey among Older Adults in Sweden*

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Category: Health Sciences/Housing, generations and mobility

Introduction: Home safety is important to prevent injuries and accidents in older adults living at home. Feeling safe at home is also essential for frail older adults' well-being.

“Ageing in place” is a term focusing on enabling older adults to stay in their ordinary homes, rather than in special housing. But when older adults continue living at home, more injuries and accidents can occur. The aim of this study was to explore older adults’ experiences, preventive measures, and feelings of safety in their home in relation to a range of potential home-based health and safety hazards. Methods and Materials: The study had a cross-sectional design and was based on a national telephone survey among 400 adults over 70 years of age, living at home in ordinary housing in Sweden. Descriptive and comparative statistics were used to analyse the data. Results: The participants rated the importance of feeling safe at home as high, and seldom felt unsafe. Higher age, greater frequency of feeling unsafe at home or in the neighbourhood, access to support, better health, importance of safety and living alone were associated with level of worry or for having taken preventive measures against some but not all hazards in the home. Conclusions: Taking preventive measures is not always associated with experiences or level of worry. Age, feelings of safety, access to support, health and living alone or not, are all factors that can influence level of worry or for taking preventive measures or not against specific hazards in the home.

*Practices in The Common Areas of Nursing Homes Working towards High-Quality Care for Residents Spending Time There*

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Category: Health Sciences/A good life and a good death

Introduction: Residents of nursing homes are increasingly frail and dependent. At the same time, there are increased demands of quality care for the individual resident. In this study we have explored how the care workers create and maintain quality care for frail and dependent residents in 6 highly ranked nursing home units. Material and methods: An ethnographic design was applied and a purposive sample of six departments for long term care in three nursing homes in Norway was included in the study. Data were collected by participant observation including an informal conversation with the staff and residents. The data was analysed using thematic analysis. Results: The care takes place within given frames affected by quality demands and a focus on meeting the residents’ physical needs and the demand for cost-effective care in the nursing homes. Within these frames, we found that although the organising of the nursing home practice is focused on the residents as a group, the care workers adjust the frames and work towards person-centred care. Conclusions: The quality of care is recognized by how the care workers are meeting the individual residents’ needs. The quality is highly related to the competence, capability and skills of the individual care worker.

*Prescription Benzodiazepine and Related Drug Use in Finnish Family Caregivers: A Nationwide Register-Linkage Study*

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Category: Health Sciences/Morbidity, medical treatment and ageing processes

Introduction: Family caregiving can be burdensome and lead to mental health and sleep problems. Benzodiazepines and related drugs (BZDRDs) are commonly used for anxiety and sleep problems despite potential risks, especially in older adults. The aim was to examine the use of prescription benzodiazepines and related drugs among Finnish family caregivers compared to controls using register-based data. Methods and Materials: The data included all individuals, who received family caregiver’s allowance in Finland in 2012 (n = 42,256, mean age 67 years, 71% women) and controls matched for age, sex, and municipality of residence (n = 83,618). Information on BZDRD purchases were obtained from the national prescription drug reimbursement register for the years 2012–2017. Results:

A greater proportion of caregivers than controls used BZDRDs during the follow-up (women 31% vs. 27%,  $p < 0.001$ ; men 26% vs. 22%,  $p < 0.001$ ). Long-term use (6 months or more during a calendar year) was more frequent among caregivers (women 9.3% vs. 8.1%,  $p < 0.001$ ; men 10.0% vs. 7.1%,  $p < 0.001$ ). Also, the number of daily doses of BZDRDs per person-year was higher among caregivers than controls (women 27.7 vs. 25.1,  $p = 0.005$ ; men 30.0 vs. 22.6,  $p < 0.001$ ). Anxiolytic BZDRD use was highest between 50 and 75 years of age, whereas use of hypnotic BZDRD increased with age both in caregivers and controls. Conclusions: Excess use of BZDRDs in caregivers suggests that caregiving may cause mental health and sleep problems. Effective and safe prevention and treatment options for these conditions should be available for caregivers to support caregivers in their care responsibilities.

*Promoting Continued Engagement in Outdoor Recreation among Older Adults in Sweden through The Public Sector, Third Sector and Companies*

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Category: Health Sciences/Lifestyle, engagement and transition

Background: The advantages of sustained health and well-being in old age may be reduced by disengagement from outdoor recreation. We present a rationale for how the public sector, the third sector and companies can promote continued engagement in outdoor recreation. Methods: Mixed methods were applied to gather empirical data from (i) older adults through a quantitative survey and semi-structured interviews; (ii) sector representatives and companies through semi-structured interviews; (iii) older adults, sector representatives and companies through a workshop. A literature review focused on contextualization of outdoor recreation, together with theoretical frameworks to promote continued engagement. Results: Outdoor recreation was rated as important by 90% of survey respondents in terms of maintaining physical fitness, identity, and daily routines. During the previous year, more than 50% had disengaged from activities previously performed due to health decline, that activities were too demanding, or social loss. Continued engagement was considered important but challenging. Interviews with sector representatives indicated difficulties to offer activities that cater to a variety of physical fitness levels and outdoor recreation preferences, and respondents requested increased financial resources, improved support and knowledge on how to design accessible activities and natural environments. Conclusions: The public sector, third sector and companies can play a significant role in promoting outdoor recreation, but there is a knowledge gap regarding how such support should be designed. We suggest a person-centered approach to address physical functioning, self-efficacy, mobility needs, tailored outdoor activities as well as adaptation to find new ways to engage in outdoor recreation.

*Prospective RELOC-AGE: Baseline Data from a Longitudinal Mixed-Methods Study Exploring Associations of Housing, Relocation and Active Ageing in Sweden*

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Category: Health Sciences/Housing, generations and mobility

Introduction: To inform the design of policies and societal support related to housing, knowledge is needed about how housing and relocation are associated with active ageing and health outcomes. The objectives of Prospective RELOC-AGE are to study housing

choices and relocation and explore effects on active ageing among men and women aged 55+ in Sweden considering relocation. **Material and Methods:** Recruitment included people aged 55+ listed with an interest for relocation at either of three housing companies. A two-level longitudinal mixed-methods design included a survey and a telephone interview for the baseline data collection. The questions related to present housing and neighbourhood, relocation plans and expectations, a range of perspectives on active and healthy ageing, and demographics. Exploratory and inferential statistics are applied to investigate how personal and neighbourhood-level characteristics are associated with active ageing and health outcomes such as life-space mobility and self-rated health. **Results:** The sample (n = 1966) included 56% women, mean age 70 years. Preliminary analyses indicated that 83% rated their health as good or better, 53% lived in apartments. Several reasons for signing up with an interest for relocation were reported. Further analyses will broaden the scope of baseline sample characteristics, and associations with active ageing, life-space mobility and self-rated health will be explored. **Conclusions:** Prospective RELOC-AGE has the capacity to generate new policy-relevant knowledge on associations of housing, relocation and active ageing relevant for the development of proactive approaches to housing in old age on the individual, group as well as societal levels.

*Proxy Decision-Making in a Deprescribing Trial in Nursing Home Residents with Dementia: A Qualitative Analysis*

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Category: Biological and Medical Sciences/Morbidity, medical treatment and ageing processes

**Introduction:** With a greater risk of severe adverse side-effects, older adults with dementia could benefit from deprescribing complex drug regimens. However, high-quality evidence concerning the benefit-risk ratio is scarce. Therefore, research on proactive deprescribing in individuals with dementia is needed. In order to optimize such studies, we explored which themes play a role in proxy-deciding on behalf of individuals with dementia to participate in a randomized controlled trial (RCT) on the deprescribing of antihypertensive treatment. **Methods and Materials:** Legal guardians that agreed with (n = 19) and refrained (n = 18) from proxy-participation in the *Discontinuation of Antihypertensive Treatment in Older people with dementia living in a Nursing home* (DANTON) study were interviewed by telephone. Verbatim transcripts were thematically analyzed [1] with a deductive framework from a pilot study combined with permissive induction of additional themes, being an overall abductive approach [2]. Separate coding schemes based on (dis)agreement with proxy-participation were compared, reviewed and refined to a single framework. **Results:** Deciding to give proxy-consent for an RCT, was an interplay between factors associated with (1) the aim and design of the study; (2) the individual with dementia; and (3) the treating physician, individually balanced by the legal guardian. Key themes included: a fragile balance, altruism, transferred responsibility, accepting uncertainty and perceived risks and benefits. **Conclusions:** Since legal guardians balance the study design and the condition of the participant when proxy-deciding for trial participation, clear information about the possible risks and benefits to expect communicated by the treating physician could ameliorate the process in future (deprescribing) trials.

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*Psychosocial Factors as Determinants of Physical and Cognitive Functioning among The Oldest Old*

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Category: Behavioural and Social Sciences/Morbidity, medical treatment and ageing processes

**Introduction:** Ample of studies link psychosocial factors with physical and cognitive functioning. However, only rarely in these studies are both physical and cognitive functioning examined simultaneously as outcomes. Especially, little research exists on these associations among the oldest old. The aim is to explore how psychosocial factors determine physical and cognitive functioning among the oldest old. **Material and methods:** Cross-sectional data is used from the Cardiovascular Risk Factors, Aging and Dementia (CAIDE) study collected in 2019–2020. Altogether 191 individuals (age  $87.8 \pm 4.4$  years) provided data on health-related quality of life (RAND-36) from which dimensions on emotional well-being, vitality, emotional role functioning, social role functioning, and self-rated health were drawn and scores divided to tertiles. Physical functioning was derived from short physical performance battery (SPPB) and cognitive functioning from Mini-Mental State Examination (MMSE) score. Logistic regression was used where the highest tertile of SPPB (score 10–12) and MMSE (score 27–30) were separately modelled and adjusted for age, sex, education and multimorbidity. **Results:** High vitality (OR 3.79, 95% CI 1.44–9.96), high emotional well-being (OR 3.01, 95% CI 1.13–8.03), and high self-rated health (OR 5.01, 95% CI 1.89–13.52), were statistically significantly associated with high physical functioning when compared to the lowest tertile in each psychosocial factor. For other factors and for cognitive functioning, no statistically significant associations ( $p < 0.05$ ) were found. **Discussion:** Among the oldest old, vitality, emotional well-being and self-rated health, appear to serve as determinants for physical functioning but not for cognitive functioning.

*Reaching Older People with a Digital Fall Prevention Intervention in a Swedish Municipality Context—An Observational Study*

**Magnus Zingmark, Beatrice Pettersson, Erik Rosendahl, Lillemor Lundin-Olsson, Marlene Sandlund and Saranda Bajraktari**

Category: Health Sciences/Digitisation and technology

**Introduction:** For evidence-based fall prevention interventions to have a population health impact, outreach with suitable interventions is needed. While digital interventions are promising there is limited knowledge on the characteristics of who is reached. This study aimed to describe the recruitment process, estimate reach rate at the population level and describe participants characteristics and representativeness in a digital fall prevention intervention study. **Material and methods:** In a municipality-based observational study,

reach of a digital fall prevention intervention was evaluated. The intervention included a digital exercise programme (Safe Step), optional supportive strategies, and a range of recruitment strategies to optimise reach. The target group consisted of people 70 years or older who had experienced a fall or a decline in balance the past year. Reach was based on data from the baseline questionnaire including health and demographic characteristics of participants. Representativeness was based on data from the Swedish National Public Health Survey. Results: The recruitment rate was 4.7% (n = 173) in relation to the estimated target group (n = 3706). The intervention attracted primarily women, people with high education, individuals who used the internet or digital applications almost every day and those perceiving their balance as fair or poor. Participants lived more commonly alone, had higher education and better walking ability in comparison to the Swedish National Public Health Survey. Conclusions: Most participants were recruited during the first month. Considering participants characteristics, a higher diversity of intervention types is needed to more likely reach a larger group of older people with different needs.

*Recruiting Future Healthcare Professionals to Home Care Settings and Nursing Homes through Education and Research*

**Anne-Katrine Mathiassen**

Category: Health Sciences/Education and competences in ageing societies

Introduction: As the percentage of older adults in Denmark increases, the number of complex tasks facing healthcare professionals in local healthcare service has also increased in recent years. At the same time, municipalities report major challenges in recruiting healthcare professionals. Studies show that nursing students do not seem to consider the sector of elderly care attractive when applying for internships or considering a future job. A questionnaire survey conducted among students at the Deaconess Foundation's Nursing Education highlights this trend. Involving students in research activities can increase interest in the field of elderly care. Method: In order to investigate elderly nursing home residents' perceptions of self-assessed health and quality of life during coronary occlusion, before and after vaccination against COVID-19, semi-structured interviews were conducted; this was combined with a questionnaire examining older adults' self-rated health and quality of life. A combination of both quantitative and qualitative questions was used to identify how the pandemic restrictions influenced individuals' physical, social, and mental well-being while awaiting vaccinations and further guidance from the relevant authorities. The Deaconess Foundation's nursing students were invited to attend the researcher's work when interviews with the elderly were conducted, in order to create a connection between education, research, and clinical practice in the field of ageing. The students participated in data processing, analysis, and dissemination, as well as co-authorship of academic articles and oral presentations in relevant forums. Results: The presentation will focus on older adults' outcome, the students evaluation and ethical consideration of interviews.

*Rehabilitees' Conceptions of Rehabilitation after Six Months—A Phenomenographic Study*

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Category: Health Sciences/Lifestyle, engagement and transition

**Purpose:** A prerequisite for the success of rehabilitation is the participation of rehabilitees in all stages of the rehabilitation process. The ecological paradigm and aim for rehabilitee-centered practice highlight the active role and participation of the rehabilitee in rehabilitation. However, rehabilitation professionals from different sectors may be lacking the know-how of content and implementation of rehabilitation. This study aimed to understand the qualitative variation in how rehabilitees perceive and comprehend participation in rehabilitation. **Methods:** Data were collected with 20 rehabilitees based on individual interviews after six-month rehabilitation process. The interviews were audio-recorded and transcribed verbatim and analyzed based on phenomenographic methodology. **Preliminary results:** We identified three conceptions of rehabilitee participation in rehabilitation, based on hierarchically constructed categories: (i) Dependent participation; (ii) Progressive participation; and (iii) Committed participation. These categories varied according to four themes: (1) Rehabilitation process; (2) Rehabilitation in everyday life; (3) Interaction in rehabilitation; and (4) Rehabilitation support network. Two critical aspects between the categories were also identified: (i) expanding resilience; and (ii) reinforcement of self-confidence. **Conclusion:** The study generated new insights into the meaning of rehabilitee participation, as conceptualized in relation to six-month rehabilitation. The findings highlight the challenges of ecological paradigm in rehabilitation practice. The identified critical aspects in this study can be useful in planning and developing rehabilitation to increase rehabilitee resilience and self-confidence.

*Relationship between Isolation, Aging and Sleep Disorders: Narrative Review*

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Category: Health Sciences/Lifestyle, engagement and transition

**Introduction:** Poor sleep quality is one of the most common complaints in the elderly, there is a negative association between loneliness/social isolation and sleep disorders. In this age group, there is a higher prevalence of poor quality sleep, fragmented sleep and insomnia, among others. **Objective:** to synthesize and evaluate the state of the art regarding sleep and its relationship with social isolation and loneliness in aging. Discuss the importance of the consequences of social isolation/loneliness throughout aging and how it affects or influences sleep quality. **Methodology:** Search in databases—SCOPUS and MEDLINE using the keywords—(sleep) AND (sleep quality) AND (sleep disorders) AND (elderly) OR (older) AND (social isolation) OR (loneliness). The search for articles in open access format in the time period between 2016–2020 in the English language. **Results:** The reduction of social interaction in aging, increased loneliness, predisposes the elderly to negative effects on health, well-being and mortality. In sleep, there is a loss of quality of this vital parameter as a result of intrinsic or extrinsic mechanisms in elderly individuals. Decreased social contact can lead to inactivity and boredom, counteracting the promotion of healthy sleep. **Discussion/Conclusion:** considering the implication of social isolation and poor sleep quality for mortality and morbidity in the elderly, it is essential to carefully evaluate each of these variables and their influence on the positive or negative process of aging.

*Relationship between Oxygen Saturation, Functional Mobility, Physical Activity, Chronic Pain and Quality of Life of Older People during Pandemic Period*

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Category: Health Sciences/Lifestyle, engagement and transition

**Introduction:** The aging process causes changes that affect functionality, mobility, quality of life and is characterized by the incidence of chronic and degenerative diseases, often associated with chronic pain. **Objective:** To evaluate the relationship between oxygen saturation (SpO<sub>2</sub>), functional mobility, levels of physical activity, chronic pain and quality of life of older people. **Materials and methods:** Cross-sectional study, with sample (n = 48) aged 65+ years. Oxygen saturation were evaluated using a pulse oximeter; functional mobility by the TUG; levels of physical activity using a pedometer; chronic pain with a the Numerical Pain Rating Scale and quality of life through the WHOQOL-Bref questionnaire. **Statistical analysis** was performed using the software SPSS 25.0. **Results:** There were statistically significant differences between the SpO<sub>2</sub> values of people aged  $\geq 65$  years ( $96.3 \pm 1.8\%$ ) versus people  $\geq 80$  years old ( $94.6 \pm 2, 7\%$ ); between those who reported mobility problems ( $94.6 \pm 2.6$ ) and those who didn't ( $96.5 \pm 1.6$ ). A moderate positive correlation ( $r = 0.437$ ) was observed between SpO<sub>2</sub> and the number of steps and a moderate negative correlation ( $r = -0.487$ ) with the times in the TUG. Negative correlation was observed between chronic pain and the physical domain of QoL ( $r = -0.505$ ). There were no statistically significant correlations between pain intensity and TUG, nor between TUG and the various QOL domains. **Conclusions:** Chronic pain has a negative impact on the physical domain of QoL. There was a decrease in SpO<sub>2</sub> values with ageing and people with lower values seem to have worse functional mobility and lower levels of physical activity.

*Relationship between Perceived Health and Access to Health Care for The Elderly and Future Elderly in a Region in The Interior of Portugal*

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**Category:** Social Research, Policy, and Practice/Morbidity, medical treatment and ageing processes

**Introduction:** Real and perceived health is, for the vast majority of the elderly, a fundamental aspect when evaluating their quality of life. Perceived health depends on several factors that must be identified and analyzed to intervene to avoid negative perceived health results, which may have different consequences. Studies carried out in several countries show that different sociodemographic characteristics and accessibility to health care are related to the perception of health in the elderly population. The main objective of this study is to verify whether the perception of accessibility to health care and sociodemographic characteristics are related to the perceived health of the elderly and future elderly in a low-density region of the interior of Portugal. **Materials and Methods:** Data were collected through two questionnaire surveys, applied to people aged 55 and over living in the community (n = 484), in municipalities in the Portuguese interior, within the scope of the PerSoParAge Project. The *t*-test was used to verify the existence of a relationship between perceived health, age and area of residence. To compare perceived health with income and the perception of accessibility to health care, ANOVA analysis of variance was used. Descriptive statistics were used to explore the sample characterization variables and the answers to the selected questions. **Results/Conclusions:** we conclude that the perception of accessibility to health care and the sociodemographic characteristics are correlated with the perceived health of the elderly and future elderly in a region in the interior of Portugal.

*Relationship between Physical Frailty, Nutritional Risk Factors and Protein Intake in Self-Reliant Community-Dwelling Older Adults*

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Category: Health Sciences/Morbidity, medical treatment and ageing processes

**Introduction:** Physical frailty may compromise physical function and reduce self-reliance in community-dwelling older adults. We investigated if nutritional risk factors and protein intake were associated with physical frailty in self-reliant community-dwelling adults. **Materials & methods:** This cross-sectional study combined data from two studies in self-reliant community-dwelling adults  $\geq 65$  years. Variables included physical frailty (SHARE-FI75+), nutritional risk factors (dysphagia, poor dental status, illness, unintentional weight loss, low and high BMI), and protein intake. Logistic regression analyses were performed to investigate the association between physical frailty, number of nutritional risk factors and specific nutritional risk factors, and between physical frailty and protein intake. **Results:** A total of 1430 participants were included in the study of these  $n = 860$  were  $\geq 80$  years. Having one, two or more nutritional risk factors increased odds of physical pre-frail/frail condition (adjusted OR 1.39 95% CI 1.07–1.80; OR 2.67 1.76–4.04, respectively). Unintentional weight loss, poor dental status, dysphagia, and high BMI independently increased odds of physical pre-frail/frail condition. In participants  $\geq 80$  years two or more nutritional risk factors were associated with physical pre-frail/frail condition (adjusted OR 2.56 95% CI 1.45–4.52) and high BMI increased odds of physical pre-frail/frail condition independently. Higher intakes of protein did not significantly reduce odds of physical pre-frail/frail condition (adjusted OR 0.23 95% CI 0.05–1.09) in this sample of self-reliant community-dwelling adults  $\geq 80$  years. **Conclusion:** Nutritional risk factors were independently associated with physical pre-frail/frail condition in community-dwelling older adults. Tackling nutritional risk factors offers an opportunity in primary prevention of malnutrition and physical frailty.

*Relative Maximum Oxygen Uptake during Activities of Daily Living in Very Old Community-Dwelling Adults*

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Category: Health Sciences/Morbidity, medical treatment and ageing processes

**Introduction:** Maximal oxygen uptake ( $VO_2$  max) decreases with age, may play an important role for activities of daily living (ADL) and represent a limiting factor for independent living. Regardless, the metabolic cost of common ADL in very old adults is not well-known. This study aims at evaluating the absolute and relative metabolic cost of selected ADL in very old community-dwelling adults. **Material and methods:** Ninety-eight older adults (46% female) were recruited for the ENerGetics in old AGE (ENGAGE) study ( $80.5 \pm 3.8$  years, range 75–90). Participants performed two sets of semi-standardized ADL at their own pace in the laboratory (one light, one moderate) while oxygen uptake was continuously assessed with the Douglas bag methodology. The light ADL circuit included getting dressed, combing hair, brushing teeth, setting and cleaning a table, light sweeping, preparing foods, while the moderate included making the bed, doing laundry, vacuuming, window wash.  $VO_2$  max was measured with a graded treadmill walking test by on-line system (Bruce protocol). **Results:**  $VO_2$  max was on average  $22.9 \pm 5.7$  ml  $O_2$ /kg/min.  $VO_2$  for light and moderate ADL circuits was  $8.4 \pm 1.3$  and  $10.1 \pm 1.6$  ml  $O_2$  kg/min,

respectively, with a relative metabolic cost of  $38.8 \pm 9.6\%$  (range: 21–71%) and  $46.1 \pm 12.3\%$  (range 23–76%) of  $\text{VO}_2$  max. Thirty and 10% of the participants used >50% of their  $\text{VO}_2$  max. for the moderate/light ADL, respectively. Conclusions: Several community-dwelling older adults experience relatively high intense metabolic work when performing light and moderate ADL which ultimately may threaten their independent living.

*Repurposing Antidiabetic Drugs for Rheumatoid Arthritis: Results from a Two-Sample Mendelian Randomization Study*

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Category: Biological and Medical Sciences/Morbidity, medical treatment and ageing processes

Introduction: Rheumatoid arthritis (RA) patients have impaired glucose metabolism. Antidiabetic drugs like thiazolidinediones could decrease disease activity and inflammation among non-diabetic RA patients in crossover trials [1]. We aimed to explore repurposing potentials of antidiabetic drugs for RA using Mendelian randomization (MR) to investigate the effects of genetically predicted glucose-lowering through different drug pathways on RA. Material and methods: MR uses alleles randomized at conception as genetic instruments (SNPs) to estimate unconfounded associations between an exposure and outcome and may thus be a viable method to gauge the potential of repurposing antidiabetic drugs for RA. To proxy the pharmacological modulation of antidiabetic drugs, this study identified genes encoding protein targets of antidiabetic drugs from Drugbank and ChEMBL databases and chose independent SNPs (linkage disequilibrium  $r^2 < 0.01$ ) from those gene regions as instruments. Summary statistics were from genome-wide association studies on blood glucose (UK Biobank) and RA, respectively [2]. The effects of genetically predicted glucose lowering on RA were estimated by the inverse-variance weighted or Wald ratio test. Sensitivity analyses included MR Egger, weighted median and weighted mode methods. Results: Overall genetically predicted glucose lowering was not associated with RA risk (odds ratio [OR]: 1.01 per 0.1 mmol/L decrease in glucose; 95% confidence interval [CI]: 0.97–1.05; Table 1). However, lower genetically predicted glucose through thiazolidinediones (target gene: *PPARG*) was inversely associated with RA risk (OR = 0.54; 95% CI, 0.35–0.83). Sensitivity analyses regarding thiazolidinediones were robust. Conclusion: Using MR analysis, we provide genetic evidence supporting thiazolidinediones as potential drugs to reduce RA risk.

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*Residence Preferences after Retirement in Rural and Urban Settings***Maria João Guardado Moreira and Vítor Pinheira**

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Category: Social Research, Policy, and Practice/Housing, generations and mobility

**Introduction:** Entering retirement can be an opportunity to change the context of life and residence. This work aims to identify residence preferences after retirement in people between 55 and 64 years old. **Materials and Methods:** Using a sub-sample (n = 137) from the PersoParAge Project, post-retirement residence preferences of adults (55–64 years) living in rural and urban environments were evaluated. The reasons given to maintain the residence where they currently live and the identification of available resources in the locality were analyzed. **Results:** Of those residing in a rural environment, 58.8% do not intend to continue living in the same locality, while 92.2% of those residing in an urban environment intend to remain in the same locality. For residents in a rural environment, the reasons that justify staying in the same locality are associated with the existence of a house/assets, a family, or the fact that it is "their land". Residents in urban areas describe the same reasons, but there are also references to specific characteristics of the locality itself, such as quality of life, comfort, and peace. The lower availability of resources and services and the greater difficulty in accessing them (with an impact on access to health services) is associated with the desire to change location among residents in rural areas. **Conclusion:** The residence preferences of future seniors after retirement are conditioned by available and accessible resources, which can contribute to the continuous depopulation of rural territories.

*Residential Area Characteristics Moderate The Association between Political Group Participation and Depressive Symptoms among Older Adults: An 11-Year Longitudinal Investigation***Yuchun Lin<sup>1,2</sup> and Huangting Yan<sup>3</sup>**

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Category: Health Sciences/Lifestyle, engagement and transition

**Introduction:** Given recent evidence indicating that political group attendance can result in negative mental health outcomes among older adults, this study specified the geographical contexts under which political participation is causing an epidemic of depression. **Material and methods:** The 11-year follow-up data from the Taiwan Longitudinal Study on Ageing, covering 5334 persons aged 50 years and older, were analysed using random-effects panel logit models. Depressive symptoms were assessed using 10 items from the Centre for Epidemiologic Studies Depression Scale. We modelled depressive symptoms as a function of political group participation (the independent variable) and two types of geographical regions (the contextual factor): urban and rural settlements, and electoral regions. **Results:** Respondents in political groups were more likely to report depressive symptoms than those in non-political groups. Urban and rural settlements had no statistically significant impact on mental health outcomes among older adults engaged in political groups. For those who remained politically engaged, living in areas with higher levels of electoral competition was associated with a higher likelihood of depression; this conditional effect was not prevalent among those who were solely engaged in non-political groups. **Conclusions:** Political group attendance can have potentially harmful effects on mental health outcomes among older adults living in politically competitive regions.

*Risk Factors for Hospital Readmission in Older Adults within 30 Days of Discharge—A Comparative Retrospective Study***Maria Glans<sup>1,2</sup>, Annika Kragh Ekstam<sup>3</sup>, Ulf Jakobsson<sup>1</sup>, Åsa Bondesson<sup>1,4</sup> and Patrik Midlöv<sup>1</sup>**

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Category: Biological and Medical Sciences/Morbidity, medical treatment and ageing processes

**Introduction:** Hospital readmission within 30 days of discharge is extensively researched but few studies look at the whole process, from admission to follow-up. This study aimed to identify patients, 65 years and older, at risk of readmission, as well as processes in need of improvement. **Materials and methods:** This comparative retrospective study included 720 patients in total. Variables concerning patient characteristics prior to and events during initial hospital stay, as well as those related to the processes of discharge, transition of care, and follow-up, were collected. Either a Student's *t*-test,  $\chi^2$ -test or Fishers' exact test was used for comparisons between groups. A multiple logistic regression analysis was conducted to identify variables associated with readmission. **Results:** The final model showed increased odds of readmission in patients with a higher Charlson Comorbidity Index (OR 1.12, *p* value 0.002), excessive polypharmacy (OR 1.66, *p* value 0.007) and living in the community with home care (OR 1.61, *p* value 0.025). The odds of readmission within 30 days increased if the length of stay was five days or longer (OR 1.72, *p* value 0.005) and if being discharged on a Friday (OR 1.88, *p* value 0.003) or from a surgical unit (OR 2.09, *p* value 0.001). **Conclusions:** Our findings indicate that comorbid, highly medicated patients, dependent on home care, are at risk of readmission within 30 days. Further, our results indicate the need to improve discharging routines for patients discharged after a long hospital stay, on a Friday, or from a surgical unit, in order to reduce readmission in this population.

*Risk Factors of Post COVID-19 Condition Attributed to COVID-19 Disease in 50+ People in Europe and Israel*

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Category: Health Sciences/Morbidity, medical treatment and ageing processes

**Introduction:** High age, male sex, smoking and multimorbidity are risk factors for a more severe development of COVID-19 (1), and individuals surviving COVID-19 may experience persistent symptoms afterwards e.g., fatigue. WHO coined this phenomenon "Post COVID-19 condition", which represents a range of symptoms after recovering from COVID-19 (2). The aim of this study is to identify the risk factors of Post COVID-19 condition among middle-aged and older Europeans who tested positive for COVID-19. **Material and methods:** We conducted a cross-sectional study based on data from SHARE\* and used logistic regression models to investigate potential risk-factors of having post COVID-19 condition. Risk-factors were age (50–69 and 70+), sex (male/female), education (low, medium, high), co-morbidities (0, 1–2, 3+), smoking (non-smoker, previous, current smoker), BMI and severity of COVID-19 (hospitalised, not hospitalised). **Results:** Preliminary adjusted results show that older participants (70+) (OR 1.59), and those with a medium (OR 2.56) or lower education (OR 5.54), has a higher risk of post COVID-19 conditions. When adding the country variable to the model, smokers appear to be at higher risk (OR 2.35) compared to non-smokers. Additionally, when considering the severity of the COVID-19 disease, those who were hospitalised due to COVID-19 had a 25 times higher risk of post COVID-19 condition (OR 25.7). **Conclusions:** This study supports that health inequalities exist with respect to post COVID-19 condition. Information on protective measures and behaviour against COVID-19 infection must be targeted in particular to individuals with lower educational levels, smokers, as well as the older old adults.

*Risk of Hip Fracture in Norwegians Using Anti-Osteoporosis Medication*

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Category: Health Sciences/Morbidity, medical treatment and ageing processes

**Introduction:** Norway has a high hip fracture incidence. Clinical trials have demonstrated fracture-preventive effects of bisphosphonates (BPs) and denosumab (DMab). We aimed to investigate whether BPs and DMab used in the population of Norway reduce risk of first-time hip fracture when adjusting for morbidity. **Material and methods:** Demographic information from participants in the Population and Housing Census 2001 who were alive and resident by 1 January 2005 was linked with filled prescriptions in the Norwegian prescription database (2005–2016) and the NOREPOS hip fracture database. Persons 50 years and older were included starting from January 2005 and observed through December 2016. Sex-stratified time-to-event analysis was used with age as time scale and time-varying exposure to BPs and DMab. The medication-based Rx-Risk Comorbidity Index was added as a time-varying covariate. Other covariates were marital status, education, and exposure to BPs/DMab with another indication than osteoporosis. **Results:** Of 1,044,661 women and 1,040,782 men, 74,775 (7.2%) and 13,417 (1.3%), respectively, were ever-users. Age-adjusted hazard ratio (HR) of hip fracture in women was 1.20 (95% CI: 1.15–1.26) when using BPs, and HR 0.74 (0.55–0.99) when using DMab. Fully adjusted HRs were 1.01 (0.96–1.06) and 0.62 (0.46–0.83) respectively. For men exposed to BPs, HR was well above 1—also when adjusted. **Conclusions:** In population-wide real-world data, women exposed to BPs had a hip fracture risk around the same level as the unexposed population after adjusting for comorbidity. Exposure to DMab was associated with a lower risk of hip fracture in women.

*RNA Extraction in Biobank Material from Cohorts of Danish Middle-Aged Twins, Elderly Twins, and Oldest Old Singletons*

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Category: Biological and Medical Sciences/Morbidity, medical treatment and ageing processes

Since the 1990s, the University of Southern Denmark in Odense has been storing biobank material from several national surveys, including blood collected from centenarians from the 1895, 1905 and 1915 birth-cohorts and from twins from the Danish Twin Registry (DTR), e.g., middle-aged (MADT/MIDT) and elderly twins (LSADT) who have been followed up longitudinally since 1997/98. In 2020, DTR was certified in facilitating and operating the research register and biobank (ISO/IEC 27001:2013). Biobank samples are

linkable to survey data and registers, e.g., the cancer registry and have served as the basis for many epidemiological and biological studies of aging and related traits. The largest surveys, the MADT/MIDT surveys, were completed in 2011 and include a battery of collected biospecimens, mainly blood, suitable for DNA and RNA (from PAXgene tubes) extraction and OMICs analyses (genomics, transcriptomics, methylomics, proteomics, etc.). Among ~2000 RNA samples, gene expression array data for >600 samples have been generated using Agilent SurePrint G3 Human GE 8 × 60 K Microarrays. Additionally, more than 10,000 buffy coats were collected and stored at –80 °C for future DNA extraction. Here, we aim to investigate if buffy coat samples are suitable for RNA extraction. We will demonstrate a protocol for RNA extraction from frozen buffy coat samples using the Ribo-pure kit. Also, we will present an overview of available biobank material for aging research. The availability of biobank material and the novel RNA extraction protocol is promising for expanding transcriptomic data analyses to a wide range of biobank samples.

*Secular Trends in Cognition among Danish Centenarians: Results from the 1895, 1905, 1910 and 1915 Birth Cohort Studies*

**Signe Høi Rasmussen, Mikael Thinggaard, Karen Andersen-Ranberg, Bernard Jeune and Kaare Christensen**

Category: Health Sciences/Morbidity, medical treatment and ageing processes

Introduction: A continued increase in the proportion and numbers of centenarians is well-known. However, is this increase followed by poorer or better health? A previous study has shown that the more recent centenarian cohort was less physically disabled than the previous. But does this also apply to cognitive performance? Using four Danish centenarian cohorts, we aimed at investigating the development in cognitive health over a twenty-year period. Materials and methods: We used the population-based centenarian studies of the 1895, 1905, 1910 and 1915 birth cohorts. Two different survey instruments were applied: the 1895 and the 1915 cohort in the western part of Denmark (1915-West) were assessed by a geriatrician and a nurse, whereas the 1905, 1910 and 1915 in the east, interviews were conducted by trained lay interviewers. Data was collected during structured in-home visits with participation rates of 75–79% (1895 and 1915-West) and 58–65% (1905, 1910 and 1915-East). Cognitive performance was assessed by the Mini Mental State Examination (MMSE). Results: The results showed an improvement in MMSE over twenty years, but only in the eastern part of Denmark. No improvement could be observed in the western part of Denmark. Conclusions: The first results indicate an improvement in cognitive performance, but only in the eastern part of Denmark. Different hypotheses which could explain these divided results between the eastern and western part of Denmark will be presented at the congress.

*Self-Perceived Functioning and (I)ADL Questionnaires after a Hip Fracture: Do They Tell The Same Story?*

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Category: Health Sciences/Morbidity, medical treatment and ageing processes

Introduction: (I)ADL questionnaires are often used as a measure of functioning for different purposes.(1) Depending on the purpose, subjective patient perspectives about their functioning can be an important part of this measurement. However, it is unclear to what extent (I)ADL instruments capture self-perceived functioning. This study aims to explore what functioning means to older persons after a hip fracture and to assess the extent to which (I)ADL instruments align with their self-perceived functioning. Methods: This qualitative interview study is part of a prospective cohort study on recovery after a hip fracture among older persons in a hospital in one of the largest cities in the west

of the Netherlands. Eighteen home-dwelling older persons ( $\geq 70$  years) who had a hip fracture 6–12 months ago were interviewed about functioning before and after the hip fracture. Interviews were coded and analysed using the framework method. Results: The activities mentioned by participants to be part of their self-perceived functioning could be split into activities necessary to maintain the desired level of independence, and more personal activities that were of value to participants. Both the ‘independence activities’ and the ‘valued activities’ mentioned went beyond the activities included in ADL and IADL questionnaires. Due to various coping strategies, limitations in activities that were specifically measured in the ADL and IADL questionnaires did not necessarily lead to worse self-perceived functioning. Conclusion: Self-perceived functioning differs from functioning measured with (I)ADL questionnaires in the items included and the weighing of limitations in activities.

*Sex-Specific Associations of Occupational Physical Demands before Retirement and Dementia Risk: The HUNT Study*

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Category: Behavioural and Social Sciences/Lifestyle, engagement and transition

Introduction: Higher levels of physical demands in the workplace have been linked to an increased dementia risk, but the sex-specific associations are not clear. Methods and Materials: The study sample comprised 8167 participants (4247 women) aged 69–85 from the fourth wave of the Norwegian Trøndelag Health Study (HUNT4, 2017–2019). All participants were employed at least one year during 1967–2019. Dementia was clinically assessed at HUNT4, whereas data on occupational physical demands the year before retirement, education, marital status, and number of children was registry-based. Data on lifestyle and health was obtained from previous waves of the HUNT Study. Binary logistic regression was performed to obtain odds ratios (OR) with 95% confidence intervals (95% CI) for women and men separately. Results: Of the study sample, 10.1% were diagnosed with dementia at HUNT4. Women in occupations with high physical demands before retirement had 45% higher odds of dementia, compared to women in occupations with low physical demands. Men in occupations with intermediate physical demands before retirement had 36% increased odds of dementia compared to men in occupations with low physical demands. Women in occupations with intermediate physical demands and men in occupations with high physical demands before retirement did not differ significantly in terms of dementia odds from women and men in occupations with low physical demands. Conclusions: Women with dementia were more likely to have held occupations with high physical demands, whereas men with dementia were more likely to have held occupations with intermediate physical demands.

*Shaping and Being Shaped: Social Relationships as Sites of Responding to Late Life Transitions*

**Laurine Blonk**

University of Humanistic Studies

Category: Humanities/A good life and a good death

**Introduction:** Social relationships are thoroughly studied for the goods they offer, such as care, recognition and belonging. However, relationships are also constitutive of the self. As such, they do not only yield goods, but also figure as sites of self-formation in response to late life transitions and losses. Through ethnographic study of older persons' relationships in voluntary and community initiatives in the Netherlands, this study aims to advance understanding of social relationships' role in the search for a good old life. **Methods and Materials:** Data stems from ongoing research (2020–2022) in Dutch voluntary and community initiatives, in which community-dwelling older persons are involved as volunteers, participants or recipients of services. Fieldwork is conducted by participant observations, in-depth interviews and follow-up interviews. Data collection focuses on the dynamics of relationships formed in the voluntary or community initiative, and older persons' experiences of these relationships. Analysis draws on anthropologist Mattingly's concept of the 'experimental narrative self' and on philosophy of friendship to understand how these relationships figure as sites of self-formation. **Results:** Detailed analysis of cases shows how relationships formed in voluntary and community initiatives figure both as sites of long-lasting developments of the self and as momentary variations of self in responding to late life transitions. **Conclusions:** The study of social relationships as sites of self-formation complements prevailing understandings of social relationships' significance in gerontology. In addition, findings contribute to understanding potential and vulnerability in the search for a good old life.

*Social Isolation and Loneliness among Latvian and Swedish Older Populations*

**Ieva Reine and Dzhaneta Khutieva**

Riga Stradins University

**Category:** Social Research, Policy, and Practice/A good life and a good death

**Introduction:** Getting older increases material exclusion and risks of exclusion from the labor market as well as decreases the frequency and breadth of social contacts. Social isolation and loneliness are linked to social and psychological aspects that may lead to different health problems. The objective of the study is to analyse the association of the demographic factors, health and activity in relation to social isolation and loneliness. **Method and material:** The study involves 3130 respondents aged 50 or over from Wave 8 of SHARE survey in Latvia (n = 775) and Sweden (2355). The results of the logistic regression showed that old age was the only factor associated with loneliness in both Latvia and Sweden. In Latvia, unemployment and retirement were related to social isolation. Even those with low income experienced more social isolation. In Sweden, on the other hand, the gender of an elderly person was strongly related to feeling lonely; women were more likely to be single than men. Also, unmarried people were found to be more lonely than married people. No associations were found, e.g., between social isolation and loneliness and contact with children. **Conclusions:** These findings lead us to conclude that welfare regimes and social structures may have different impact on social isolation and loneliness in the two studied countries. However, governments in Latvia and Sweden must establish action plans in order to better meet the needs of their oldest citizens. The study was performed within the project/agreement No. 1.1.1.2/VIAA/3/19/540 'Challenges of ageing'.

*Social Network and Physical Function among Community Dwelling Older Adults in Iceland*

**Sigurveig Sigurdardottir, Pálmi V. Jónsson, Lenore Vilmundur Guðnason, Milan Chang Guðjónsson and Hrafnhildur Eymundsdóttir**

**Category:** Social Research, Policy, and Practice/Lifestyle, engagement and transition

**Background:** Lack of strong social integration among older adults has been shown to be associated with deterioration in physical health however results remain controversial. **Aim:** To examine the associations between social network (SN) and physical performance, using grip strength and 6-meter gait speed as an indicator among older adults. **Methods:**

Data from the longitudinal study of Age Gene/Environment Susceptibility-Reykjavik Study among community-dwelling old adults (N:2992, age 65–96 years). Social network included questions on frequency of contact with children, relatives, friends and neighbors. To calculate the longitudinal associations between SN and physical function, we used General linear model (GLM). Grip strength and 6-meter gait speed were the outcome variables and SN was the exposure variable. GLM was applied adjusting for various confounders in a 4-step model. Results: According to baseline analysis participants with low SN were 8% and the majority had high SN. Low SN was associated with lower grip strength in fully adjusted model ( $\beta = -8.199, p = 0.062$ ). Performance on 6-m gait speed was significantly worse among low SN compared to high SN ( $\beta = 0.275, p = 0.016$ ). Overall, the correction for confounding factors only minimally changes the associations between SN and physical function which maintained significant for 6-m gait speed and borderline significance for grip strength in the final calculation. Conclusion: Low physical function can be counteracted by reducing sedentary behavior and increasing PA. Results indicate that future intervention studies, aimed at improving physical function among community-living older adults should include evaluation and inclusion of social networks in conjunction with physical activity.

*Social Relations, Loneliness and Self-Identity amongst Older People in Sweden during the COVID-19 Pandemic*

**Axel Ågren and George Pavlidis**

Linköping University

Category: Social Research, Policy, and Practice/Lifestyle, engagement and transition

Having an active life with meaningful social relations is often viewed as key for older persons' well-being. Consequently, experiences of loneliness is seen as something negative which must be avoided or reduced. During the COVID-19 pandemic, the issue of loneliness among older persons has been highlighted in the public discourse, as the restrictions imposed to avoid the spread of infection has resulted in increased social isolation for older persons. This study examined how older persons talk about social relations and loneliness relating these issues to their own identity during the COVID-19 pandemic. Qualitative semi-structured interviews with 30 persons (14 men, 16 women) living in Sweden were conducted. We examined how older persons make sense of how their social relations and experiences of loneliness have been affected by the COVID-19 pandemic. Furthermore, focus was on how the participants construct their self-identity in relation to these experiences using linguistic resources (i.e., concepts, phrases, and metaphors) and to what extent the pandemic altered the process of constructing a self-identity. The preliminary findings indicate that older persons viewed loneliness as a minor problem during the COVID-19 pandemic. Having an active lifestyle and being busy was recurrently mentioned as the preferred strategy for mitigating loneliness. Loneliness was mainly considered as an issue of "others", often comparing the "self" with "others" who are lonelier. It was concluded that during the COVID-19 pandemic, being "non-lonely" was an important part of older persons' self-identity.

*Social Workers Discussions on Risks in Swedish Elder Care during The COVID-19 Pandemic*

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Category: Social Research, Policy, and Practice/Lifestyle, engagement and transition

Social workers handle risks in their everyday work. As the COVID-19 pandemic evolved challenges in form of new risks emerged in elder care that social workers needed to handle when assessing and catering for older clients' care needs. Based on a naturalistic material of 39 audio-recorded intraprofessional discussions amongst social work colleagues conducted as the pandemic developed and analysed through discourse analysis, this presentation aims to provide an understanding of what risks social workers encountered in their work and how different ways of handling them were discussed. The findings revealed an increased risk of older people living with unmet care needs. Social workers discussed how to avoid spreading the virus when meeting clients, why creative protective measures were taken. Challenges social worker encounter in their practice also involved the risk of clients spreading the virus towards each other. To minimize this risk, new approaches and strategical decisions was elaborated on in the conferences. Social workers also discussed the risk of being held accountable by clients or their significant others when implementing new decisions made at a strategical level in the municipality regarding elder care. Boundaries between different organisations in regards to responsibility of how to co-ordinate and collaborate amongst different professionals was yield as important but questioned due to deficiencies recognised during the pandemic. The presentation will provide an insight of how social workers discussed these risks and handle them in practice when assessing and catering for the needs of older clients in a contemporary situation as the pandemic.

*Socioeconomic Inequalities in Self-Rated Health in Very Old Adults during COVID-19 Pandemic*

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Category: Health Sciences/Education and competences in ageing societies

Introduction: Self-rated health status is considered an important predictor of morbidity and mortality in older age. The scientific evidence points to socioeconomic disparities in self-rated health [2]. Nevertheless, very old adults are often underrepresented or excluded from these studies. Wettstein et al. [1] suggest that people in very old age are highly resilient against health-related losses. The aim of the study was to examine whether socioeconomic inequalities in health persist in very old age and which role they play in the COVID-19 pandemic. Material and methods: Data from the representative survey "Old Age in Germany" of the population aged 80 and over were used. The study sample included 10,372 community-dwelling as well as institutionalized persons. General linear model was applied to examine associations between socioeconomic indicators and self-rated health. Additionally, we used binary logistic regression to identify risk factors of health decline associated with COVID-19 pandemic. Results: Preliminary results show that higher education, better housing condition, being close attached to own home environment and living in West Germany was associated with better self-rated health. Living in East Germany, having worse housing condition and residence in nursing home increase the risk of pandemic-related health decline. Conclusions: In the very old population, socioeconomic disparities are associated with subjective health status. Similarly, the health deterioration related to COVID-19 pandemic can be partly explained by socioeconomic disparities. These findings suggest that capacity of very old adults to adapt to health losses depends on available resources.

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*Socioeconomical Inequalities in Functional Decline among Very Old Adults in Germany: Longitudinal Study*

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Category: Behavioural and Social Sciences/Morbidity, medical treatment and ageing processes

Aging is usually associated with a decline in functional health. There is evidence that particular social groups, such as older adults with lower socioeconomical status (SES), experience functional decline more frequently than others [1]. Functional health refers not only to physical health, but also to self-care and self-reliance in participation in important areas of life. We propose that due to the accumulation of disadvantages over the life course, socioeconomically disadvantaged very old adults are more impaired in functional abilities and suffer more frequently from functional decline over the time. We use data from the two waves of population-based longitudinal study “Quality of Life and Well-Being of the Very Old in North Rhine-Westphalia” (NRW80+) including community-dwelling as well as institutionalized persons aged 80 years and over living in NRW [2]. Very old people in institutional settings, are rarely, if ever, included in quantitative empirical data collection. Functional health was measured as subjective assessment of independence in basic (ADL) and instrumental activities of daily living (IADL). SES was assessed by education level (ISCED), residential location and migration background. Estimating mixed linear models, the impact of SES on the change in ADL and in IADL over the study time, controlled by relevant sociodemographic and health indicators, was examined. Preliminary results show that low education and poorer residential area are negatively associated with functional decline, origin and sex have no significant effects. Our findings suggest that socioeconomic deprivation may contribute to functional decline in very old age.

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*Strategies Older Adults Use to Maintain Social Participation*

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Category: Health Sciences/Lifestyle, engagement and transition

Introduction: It is well known that multiple factors contribute to healthy ageing and social participation is one of those. Possibilities for social participation can be influenced by altered personal circumstances or environmental factors, such as the pandemic. The awareness of the relationship between social participation and healthy ageing, as well as the fact that a lack of social participation is associated with perceived loneliness among older adults, highlight the need to further explore these issues. Knowledge about how social participation is preserved as well as strategies older adults employ to maintain social participation over time is sparse. Therefore, the aim of the study was to explore and describe older adults’ experiences of maintaining social participation. Material and methods: Interviews were conducted with nine older adults, 69–92 years old, and analysed with inductive qualitative content analysis. Results: Social participation is created and maintained by making efforts and taking initiatives within different dimensions such as; cultivating social relations, maintaining community bonds, engaging in social events

and staying connected with society. Together these dimensions contribute to the overall experience of social participation. Conclusion: Maintaining social participation is an active process that requires active engagement and motivation. Older adults also face challenges when striving to adapt to new circumstances and developing strategies. These results provide implications for practice and how older adults' social participation can be supported.

*Study Protocol of a Care Pathway for Older Adults with Persistent Symptoms Post COVID-19: A Multicenter Randomized Trial (SPACO+)*

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Category: Health Sciences/Lifestyle, engagement and transition

Introduction: Prolonged forms of COVID-19 could affect 10–20% of patients, including those with a moderate initial episode. Cognitive disorders, fatigue and dyspnea are at the forefront, altering the quality of life. A multidisciplinary approach with an important place given to physical activity seems to be a shared approach in the treatment of persistent symptoms post COVID-19. Our project aims to propose an innovative care pathway with the main objective of evaluating its effectiveness through the evolution of quality of life in participants with persistent symptoms through the evolution of their symptoms. The present communication presents the SPACO+ study protocol. Material and methods: This is a randomized study by minimization. After inclusion and before evaluation, participants will be divided into two groups (intervention and control) by a minimization randomization procedure. At T0 is a first appointment with a nurse. It consists of inclusion and assessment. For participants in the intervention group: depending on the results of the assessment, the nurse will refer to the appropriate intervention (adapted physical activity intervention, medical specialists, medico-social intervention). There will be 3 evaluations: qualitative, quantitative and medico-economic. Expected results: The main expected benefit for the person is his inclusion in a prevention program that includes the identification of risk factors for loss of autonomy, adapted medico-social care, and a personalized response. We expect a reduction in persistent symptoms post COVID-19 and an improvement in quality of life. Conclusion: For public health, the project proposes a better organization of the management of persistent symptoms at COVID-19.

*Successful Ageing in Popular Culture—Does Gender Matter?*

**Ella Fegitz**

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Category: Humanities/Lifestyle, engagement and transition

The field of cultural gerontology has long challenged ageist cultural narratives of decline when dealing with later life, arguing for the need of 'progressive' narratives of old age, whereby autonomy, creativity and fulfilment replace notions of deterioration, decay, and dependency [1]. However, in the past 20 years or so, new discourses about older adults that depart from narratives of decline have emerged, notably in media culture as well, which follow a neoliberal injunction to age 'successfully' [2]. This paper offers an insight into contemporary discourses about growing old in popular culture through the analysis of two Netflix shows: *Grace and Frankie* (with two female leads aged 70+) and *The Kominsky Method* (with two male leads aged 70+). The study employs a Foucauldian discourse analysis to investigate the cultural discourses that are produced and reproduced in these two popular shows. The analysis reveals that while the shows employ elements of both 'decline' and 'successful ageing' discourses, the degree to which the pendulum swings is closely related to the gender of the protagonists. Indeed, while women are shown to engage in life more 'successfully' in their old age, men's narratives appear to follow a more

traditional focus on morbidity and mortality. Ultimately, the paper argues that changes in representation of later life in popular culture appear to be mostly related to women, rather than men, confirming arguments, widespread in the field of feminist cultural studies, about the centrality of femininity to neoliberalism.

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*Support Network for End-of-Life Care in Finnish Care Homes and Home Care*

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Category: Social Research, Policy, and Practice/A good life and a good death

Background: The national policy is to allow older people to live at home, even until the end of their lives, and have the services they need provided at home. As recommended by the expert group, palliative hospital-at-home support is a prerequisite for ensuring good palliative care and valuable death at home or in home-like environment, such as in care homes with 24-hour assistance and nursing homes [1,2]. Objectives: The purpose of the presentation is to describe what kind of support network for providing end-of-life care is available for staff in home care, care homes with 24-hour assistance and nursing homes units. Data and Methods: The data is based on the Status of Older People Services follow-up survey of 2020. 165 directors of older people services responded to the survey. The answers cover 94% of municipalities in Finland. The support network included support from medical consultation 24/7, hospital-at-home and support ward with palliative expertise. Results: Home care units have less opportunities to consultant a doctor 24/7 than care homes and nursing homes

- One third of the areas are lacking hospital-at-home
- Most home care and care homes units have access to support ward with palliative expertise

Conclusion:

- Hospital-at-home network doesn't yet cover the whole country. The differences between regions vary.
- A palliative hospital-at-home brings specialist palliative care to the elderly and helps to avoid unnecessary acute admissions to a hospital.
- Practices, such as 24/7 doctor consultation and hospital-at-home support, help provide quality palliative care

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*Support of Older Parents in Europe during COVID-19—A Question of Region and Gender?*

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TU Dortmund

Category: Behavioural and Social Sciences/Housing, generations and mobility

Introduction: The outbreak of COVID-19 caused many challenges for older Europeans in need for help and their supporting children. With formal services for the elderly being reduced, the pressure was on their adult children to step in and provide the needed support. We investigate how support patterns from adult children to their older parents have changed during the pandemic, with a special focus on inequalities by gender and European regions (east, north, south, west). In addition, we examine if changes in support patterns are associated with policy measures to reduce the spread of the virus. We expect the largest share of support in Northern Europe and the least in Southern Europe. Concerning gender, we assume the highest share of supporters being female in Southern Europe. Material and Methods: We apply multivariate regression models to investigate the interrelations between changes in support provision, gender, European regions and policy measures. We combine data from the COVID-19-Survey of the *Survey of Health Ageing and Retirement in Europe* (SHARE) with data of the *Oxford COVID-19 Government Response Tracker* (OxCGRT) on protective policy measures at the individual level in our analysis. Results: The preliminary findings show that the most support is provided in Northern Europe, followed by Western Europe, whereas gender differences in support provision persist across all regions alike. Still, gender inequalities and differences between European regions are evident in multivariate regressions models.: Conclusion: In the next steps, we will investigate the impact of protective national policy measures on the changes in support patterns.

*Supporting Religiosity of People with Severe Dementia*

**Jari Pirhonen**

Category: Behavioural and Social Sciences/A good life and a good death

Introduction: Due to population ageing, more and more people with dementia live among us. Eventually, the progressive disease compromises individuals' chances to profess and practice their religion. The aim of this study was to shed light on chaplains' chances to support religiosity of people with severe dementia residing in nursing homes. Material and methods: Ten thematic interviews were conducted with chaplains of the Evangelical-Lutheran church of Finland in 2020. The chaplains worked in nursing homes or otherwise visited there regularly. The data consisted of 197 pages of transcriptions and were analyzed by qualitative content analysis. Results: Four specific methods to support religiosity of people with severe dementia were discovered: Common prayer meetings, personal encounters, utilizing generational intelligence, and chaplains as physical reminders of religion. Conclusions: People with severe dementia eventually lose their ability to profess and practice their religion on their own initiative. However, this research shows that demented people with religious history are eager and many times able to participate in religious practice when it is made possible for them. They understand religious symbols and are able to differentiate between holy and profane. We need more knowledge on religiosity of people with severe dementia. Theoretically, there are significant chances to elaborate views of lived religion and human agency. Practically, there is a chance to improve quality of life of people with severe dementia.

*Systematic-Review on The Effects of Mindfulness-Based Interventions in Cognitive Measures in Older Adults*

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Category: Behavioural and Social Sciences/Education and competences in ageing societies

**Introduction:** It is of uttermost importance to validate interventions that promote healthy aging. In this regard, mindfulness-based interventions (MBIs) have been gaining increased attention. MBIs are shown to have effects on different endpoints, such as cognition, emotion, and sleep-related problems. However, the results are still controversial. Recent reviews (e.g [1,2]) have been conducted to verify the MBIs effects on cognition but they predominantly included studies with younger adults. Besides, the literature on MBIs is growing sharply, so it is helpful to have up-to-date reviews on this topic. Therefore, the aim of this work is to systematically review the MBIs effects on healthy older adults. **Material and methods:** Seven databases (EMBASE, PsychINFO, Scopus, Pubmed, Science Direct, Web of Science, and Scielo) were searched in October, 2021. Gray literature searches were performed in the medRxiv and in the ProQuest Dissertations and Theses Global Platform. Search terms related to MBIs were combined with those from aging. To be included, studies should incorporate MBIs with an explicit mindfulness component, have at least four sessions applied to a sample of healthy older adults ( $\geq 60$  years old). **Results:** Preliminary analysis suggests positive effects of MBIs on cognitive outcomes, especially on executive functions. However, many studies present methodological issues, such as having a waiting list as a control condition. **Conclusions:** This review has shown that MBIs are effective to boost cognition in older adults, but it is still necessary to conduct more studies with a higher methodological rigor.

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*Telephone-Based Behavioral Activation with Mental Imagery Reduced Depressive Symptoms in Isolated Older Adults during The COVID-19 Pandemic*

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Category: Behavioural and Social Sciences/Morbidity, medical treatment and ageing processes

**Introduction:** To shield older adults during the COVID-19 pandemic, governments around the world have recommended social distancing. This can lead to social isolation and increase the risk for mental health problems such as depression. There is a need for brief, easy-accessible psychological treatments for depressive symptoms that can be delivered remotely. The aim of this study was to investigate the feasibility, acceptability, and preliminary efficacy of telephone-delivered Behavioral Activation with Mental Imagery (BA-MI) for the treatment of depressive symptoms in individuals 65 years and older living in isolation during the COVID-19-pandemic. **Materials and methods:** In this open-label pilot randomized clinical trial,  $n = 41$  individuals aged 65 years or older with clinically significant symptoms of depression were assigned to either a BA-MI treatment condition or an Attention control condition delivered over the telephone over a four week period. **Results:** Depressive symptoms decreased in the treatment condition but not the control

condition. The results in the treatment group were maintained 3 months post intervention. After treatment, 2 out of 16 participants in the treatment condition met diagnostic criteria for depression compared with 9 out of 13 in the control condition. Most participants in the treatment condition were satisfied with the treatment. Conclusions: This pilot study suggests that BA-MI delivered over the telephone is feasible, acceptable, and potentially efficacious for the treatment of depressive symptoms in older individuals living in isolation. Replication in larger samples in different healthcare settings is needed.

*The Associative Network Structure of Multimorbid Chronic Conditions among Older Adults with Atrial Fibrillation: A Population-Based Study*

**Lu Dai, Federico Triolo, Amaia Larrañaga, Graziano Onder, Mirko Petrovic, Gregory Lip, Iain Buchan, Deirdre Lane, Søren Johnsen and Davide Vetrano**

Karolinska Institutet

Category: Biological and Medical Sciences/Morbidity, medical treatment and ageing processes

Introduction: Multimorbidity (concurrent long-term conditions) is common in older people with atrial fibrillation (AF) and has major clinical and public health implications. Characterizing the network of co-occurring conditions in individuals with AF may help to explore the relationships between chronic diseases and their relative influences on clinical trajectories. Methods and materials: We analysed cross-sectional data from the Swedish National Study on Aging and Care in Kungsholmen, Stockholm (SNAC-K) <sup>1,2</sup> and included 671 individuals with prevalent and incident AF aged 60+ years old with at least one additional long-term condition. We investigated association networks of conditions with a prevalence  $\geq 5\%$  using Spearman's partial correlations and characterized the network structure and centrality using the index of expected influence. Results: Colitis, heart failure, chronic obstructive pulmonary disease (COPD) and dorsopathy had the highest values of expected influence, and this structure sustained adjustment for age, sex and education. In sensitivity analysis excluding subjects with dementias, the diseases with the highest expected influence remained heart failure, colitis, COPD and dorsopathy, in model adjusted for age, sex and education ( $n = 555$ ). In a subgroup analysis excluding incident AF during follow-up, COPD, asthma, neurotic, stress-related and somatoform diseases, and depression presented the highest expected influence ( $n = 324$ ). Conclusions: Colitis, heart failure, COPD and dorsopathy constitute the most interconnected diseases in multimorbid older AF subjects. Diseases central to the network may provide targets for focused interventions and in studies investigating AF prognosis in older people.

*The DANTON Study—Discontinuation of Antihypertensive Treatment in Older People with Dementia Living in a Nursing Home: Results of a Randomized Controlled Trial*

**Jacobijn Gussekloo, Bianca de Jong-Schmit, Wilco Achterberg, Rosalinde Poortvliet and Jonathan Bogaerts**

Category: Biological and Medical Sciences/Morbidity, medical treatment and ageing processes

Introduction: Neuropsychiatric symptoms (NPS), such as apathy and agitation, are highly prevalent in nursing home (NH) residents with dementia. Literature suggests an association of both cerebral hypoperfusion and antihypertensive treatment (AHT) with NPS in patients with dementia. Therefore, we investigated whether discontinuation of AHT in NH residents with dementia reduces NPS and improves quality of life (QoL). Methods and Materials: Randomized, single-blinded trial conducted in 26 Dutch NH organisations. Residents with moderate-severe dementia and a systolic blood pressure  $\leq 160$  mmHg during AHT were randomized in an intervention (semi-protocolized discontinuation) and control (continuation) group during an 8-month period. Exclusion criteria were heart failure NYHA-class-III/IV, angina pectoris, recent cardiovascular event/reperfusion procedure, or

life-expectancy <4 months. Co-primary endpoints were NPS (Neuropsychiatric Inventory-NH) and QoL (Qualidem) at 4 months. Secondary endpoints include cognitive function, care dependency, general daily functioning and falls. Results: Between December 2018 and May 2021, 205 NH residents (median age 86 years—79.5% women) were randomized, of which 177 (86.3%) reached the primary endpoint at 4 months. During trial, 63 severe adverse events occurred in 61 residents. On advice of the Data Safety Monitoring Board, the study was preliminary finished in December 2021 due to futility based on the co-primary endpoints. Definitive results for all endpoints at 4 and 8 months follow-up will be available in April 2022. Conclusions: Based on preliminary study results, the benefits of deprescribing AHT in NH residents with dementia for reduction of NPS and improvement of QoL, are unclear and may not be without any potential risk.

*The Development of a Garment-Integrated Artificial Intelligence-Based Sensor System for Early Detection of Stress in Persons with Impaired Cognition*

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Category: Behavioural and Social Sciences/Digitisation and technology

Introduction: Persons with impaired cognition are vulnerable to stress. Stress and communication difficulties are risk factors for challenging behavior. Challenging behavior has negative consequences for the quality of life of people with impaired cognition and their caregivers, caregiver burden, and complicates providing good care. Developing technology that increases quality of care while also reducing the caregiver burden, is essential. Materials and methods: A qualitative design with focus groups is used to collect the user requirements for the to-be-developed sensor system from family and professional caregivers, and persons with impaired cognition (e.g., dementia and intellectual disabilities). Separate focus groups are held per group per setting. The participants take part in three focus groups within a 6-month-period, allowing for each focus group round to build on the findings of previous rounds and to collect feedback on (parts of) the prototype of the sensor system. Qualitative data from the focus groups are analyzed using a conventional content analysis approach. RESULTS: The data collection is still ongoing. We will present the preliminary results of the focus groups on the user requirements (e.g., acceptability, important functions and goals of the sensor system, user-friendliness, ease of use, ethical issues, technical and economic aspects, and safety) and present possible differences per setting. Conclusions: The garment-integrated artificial intelligence-based sensor system can be used to prevent and to mitigate the causes of stress in people with impaired. To successfully implement the system in clinical practice, it is important to adhere to the proposed user requirements.

*The Distribution of Cognitive Performance across Educational Groups: Findings from The Longitudinal Aging Study Amsterdam*

**Johan Rehnberg**, **Almar Kok**, **Stefan Fors**, **Anna Marseglia** and **Martijn Huisman**

Category: Health Sciences/Education and competences in ageing societies

Introduction: More schooling is associated with higher cognitive performance. Due to this relationship, education is often cited as a protective factor for the onset and rate of cognitive decline among older adults. While a non-linear relationship between education and cognitive performance is sometimes found, a less commonly considered non-linearity is that the effect of education might vary across levels of cognitive performance. Standard regression methods estimates mean effects and may therefore mask non-linear effects across the outcome scale. In this study, we consider whether educational differences in cognitive performance is of equal size at all levels of cognition in a sample of older persons in the Netherlands using quantile regression. Material and methods: This study utilises data on persons aged between 58 and 68 from the Longitudinal Aging Study Amsterdam (LASA) during 1995–1996, 2005–2006, and 2015–2016. We use quantile regression to examine whether education has different effect sizes at different levels of cognition. Outcome: crystallized intelligence, MMSE, information processing speed, episodic memory. Exposure: education. Results: Results indicated varying effect sizes across the outcome distributions: crystallized intelligence, information processing speed, MMSE and a composite measure of cognitive performance showed larger educational inequalities at lower levels of cognition. Conclusions: Knowledge that educational differences in cognition is larger at low levels of cognitive performance enables a better understanding the mechanisms that generate the commonly found relationship between education and cognition.

*The Effect of Family Care on The Couple Relationship between Older Spouses*

**Marjut Lemivaara**

Category: Behavioural and Social Sciences/Housing, generations and mobility

Introduction: Family care is often hard and engaging work, typically carried out by women. Furthermore, the caregiver is often an older woman, caring for her spouse. The aim of this study was to find out, from the caregivers' point of view, how family care affects relationships of older couples. Material and methods: The study is based on a questionnaire addressed to family caregivers over the age of 65 (n = 935). Caregivers were asked if their couple relationship with their spouse had changed during the family care situation. The question regarding the issue consisted of a multiple-choice question and a free space to justify one's answers. The questionnaire was analyzed using SPSS, and the free responses were subjected to qualitative content analysis. Results: According to 38% of the respondents, there had been no significant change in the couple relationship during the family care. 13% perceived that the couple relationship had improved. These respondents usually reported a strong sense of affection and commitment. Most often (49%) the couple relationship had suffered from the situation. The couple relationship had changed into a care relationship from which sexuality and sometimes also love had disappeared. Conclusions: The majority of older caregivers caring for their spouse experienced a deterioration in the quality of their relationship. Based on the results, the couples might benefit from relationship counseling. Better psychological support for older family caregivers is also needed.

*The Effect of Staffing on Everyday Life and Social Contacts of Dementia and Non-Dementia Residents over 80 Years in Long-Term Inpatient Care*

**Melanie Zirves**

Category: Health Sciences/Lifestyle, engagement and transition

The proportion of the population over 80 years of age as well as the population suffering from dementia at this age is rising rapidly in Germany. Being able to organize everyday life and social contacts independently is part of the self-determination as well as the control experienced, and therefore has an impact on the well-being and health of people in need of care. Care facilities or the staff working there can actively promote these abilities by activating the residents and supporting them, but current research lacks data of how staff-to-resident ratios influence residents' ability to maintain their everyday life and social

contacts. Our study examined whether a relationship between the staff-to-resident ratio for registered nurses and nursing home residents with and without dementia aged over 80 exists. Secondary data collected in the project inQS (indikatorengestützte Qualitätsförderung) in Germany were used (n = 1782) an multiple regression analysis was performed. The results revealed that the ability of residents without dementia was significantly associated with the staff-to-resident ratio of registered nurses. This did not hold true for residents with dementia. For the latter segregated care was the strongest predictor to maintain their everyday life and their social contacts. Additional and longitudinal research is indispensable to explain the inequality between the two groups analyzed, but the results of our study can be incorporated into organizational processes and the planning of personnel capacities.

*The Experience of Meaning in Life in Finnish Elderly People*

**Jonna Ojalampi, Suvi-Maria Saarelainen, and Isto Peltomäki**

Category: Humanities/A good life and a good death

In this mixed-methods study, we investigate the experience of meaning in life in Finnish elderly people. We compare their experience of meaning by place of residence in Eastern and Southern Finland, and whether participants live in private homes or nursing homes. Compared to Southern Finland, in Eastern Finland, resources for domiciliary care are more developed and the care more accessible. Previous studies show that the wellbeing of elderly living in nursing homes is lower compared to those living in private homes. Wellbeing and experience of meaning in life are connected. In addition, it is well-established that loneliness decreases the experience of meaning. Based on this, we inquire the role of COVID-19 pandemic in the experience of meaning in life as the restrictions in Finland have particularly impacted on the elderly. By methodological triangulation, we gain a more holistic perspective. Our quantitative data is based on SoMe questionnaire (The Sources of Meaning and Meaning in Life developed by Tatjana Schnell) that we have translated in Finnish. We will also conduct 20 interviews with elderly over 80 years living in private and nursing homes. Both quantitative and qualitative data include questions about the impact of Covid pandemic. We are currently in the process of gathering data and in this paper, we present preliminary results.

*The Experiences of People with Dementia and Cognitive Impairment in England during The COVID-19 Pandemic: Isolation, Infection, and Access to Health Services*

**Brian Beach and Paola Zaninotto**

UCL (University College London)

Category: Behavioural and Social Sciences/Morbidity, medical treatment and ageing processes

The number of people living with cognitive impairment will grow in coming decades, posing challenges to health services. The COVID-19 pandemic presented additional challenges that might have impacted such people in disproportionate ways. This research explored the experiences of people across three cognitive function groups (no impairment, mild impairment, and dementia) with respect to shielding/self-isolation, COVID-19 infection, and access to health/care services using data from two waves of the English Longitudinal Study of Ageing (ELSA) COVID-19 sub-study collected in 2020. Findings suggest that people with dementia were more likely than those with no impairment to be staying at home or self-isolating ("shielding") early in the pandemic (June/July), while differences disappeared later in the pandemic (November/December). Those with mild impairment appeared less likely to shield than those with no impairment early in the pandemic. Nearly half the proportion of people with dementia had probable COVID-19 infection compared to other cognitive groups, and those receiving unpaid care had nearly a 50% higher chance of infection than those not receiving unpaid care (controlling for other factors). Around a third of people who needed community health/care services could not

access them early in the pandemic, with no significant differences according to cognitive function. 1 in 5 people had hospital operations/treatments cancelled by June/July; those with mild impairment appear more impacted. By Nov/Dec, people with dementia were 5.7 times more likely than those with no impairment to still be waiting for a cancellation to be rescheduled.

*The Faroese Septuagenarians Cohort: A Comparison of Well-Being before and during The COVID-19 Pandemic among Older Home-Dwelling Faroese*

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Category: Health Sciences/Lifestyle, engagement and transition

Introduction: Despite the success in avoiding morbidity and mortality in the oldest members of the population during COVID-19 pandemic, the crisis may have affected well-being, e.g., due to social distancing measures. The aim was to examine well-being of older Faroese by conducting a direct comparison of well-being indicators on the same group of elderly people before and during the COVID-19 pandemic. Methods: Data were collected from 227 home-dwelling adults aged 82–86 years from the Faroese Septuagenarians cohort. The pre-COVID-19 period was from December 2017 to January 2019, and the COVID-19 period was from 8 June to 15 July 2020. Three aspects of well-being were assessed: loneliness, self-rated health, and quality of life (WHOQOL-BREF). Results: During the COVID-19 pandemic there were significant increases in loneliness (21.8% vs. 6.8%;  $p$  value < 0.001) and in worse self-rated health compared with previous year (37.2% vs. 19.0%;  $p$  value < 0.001). In terms of quality of life, the domains of overall QOL ( $74.33 \pm 14.96$  vs.  $71.88 \pm 15.21$ ;  $p$  value 0.04) and physical health ( $73.81 \pm 17.11$  vs.  $71.66 \pm 17.37$ ;  $p$  value 0.03) deteriorated. On the other hand, the domains of social relationships ( $78.87 \pm 16.52$  vs.  $85.81 \pm 13.35$ ;  $p$  value < 0.001), environment ( $82.49 \pm 10.78$  vs.  $87.06 \pm 7.88$ ;  $p$  value < 0.001) and psychological health ( $77.07 \pm 11.52$  vs.  $80.53 \pm 10.89$ ;  $p$  value < 0.001) improved during the pandemic. Conclusions: Our findings suggest that attention should be directed to loneliness and physical well-being amongst home-dwelling old adults, despite the elderly showed resilience and improved psychological health, social relations, and environment domains in quality of life assessment during the COVID-19 pandemic.

*The Impact of COVID-19 Pandemic to Ageing Process—Development of Healthy Ageing Index (HAI-19) for Latvian Population*

**Madara Miķelsone, Ieva Reine, Eva Petrošina, Diāna Baltmane and Māra Grēve**

Statistics Unit, Riga Stradiņš University

Category: Health Sciences/Morbidity, medical treatment and ageing processes

Introduction: According to the WHO, healthy ageing is characterized by such interrelated determinants as intrinsic capacity, functional ability and environment. An individual's intrinsic capacity (IC) is a powerful predictor of the future ageing process and includes 5 areas—cognitive, psychological, sensory, locomotion and vitality. The ageing process for older individuals is different, and regular assessment of ageing processes is crucial, especially since COVID-19 pandemic. Methods and materials: The data from Wave 8 of SHARE survey including COVID-19 add-on module (2019/2020) were used. To assess the impact of COVID-19 pandemic to ageing process Healthy Ageing Index (HAI-19) for Latvian population, aged 50+ years, ( $n = 652$ ) was constructed. Descriptive statistics as well as inferential statistics (PCA with Varimax rotation test, Cronbach's alpha, Mann-Whitney U test) were used. Results: The HAI-19 was constructed with 19 items covering all IC determinants. The findings confirm that HAI-19 is acceptable regarding PCA and reliability analysis. Lower HAI-19 score ( $p < 0.001$ ) was detected for respondents with increased

feeling of depression, nervousness, loneliness, worsened health status, as well as for those who never left home or never went for a walk since COVID-19 pandemic. No differences were detected between respondents with less or no more social contact with own children and relatives. Conclusions: The findings indicate that short-term impact of COVID-19 pandemic can be associated with changes in cognitive, psychological and physical factors. In order to implement the necessary measures for reducing and preventing the consequences of the COVID-19 pandemic, further longitudinal research is needed.

*The Impact of Existing and Newly Diagnosed Chronic Conditions on The Change in Subjective Life Expectancy: Results from a Panel Study*

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Category: Behavioural and Social Sciences/Morbidity, medical treatment and ageing processes

Introduction: Subjective life expectancy (SLE) is a vital predictor of mortality, health and retirement. We, however, have sparse knowledge about what drives changes in SLE. Having a chronic health condition (CHC) is likely to change SLE. However, individuals who have managed CHCs for a longer time (existing CHCs) may perceive their longevity differently than those recently diagnosed with CHCs (newly diagnosed CHCs). We hypothesize that newly diagnosed CHCs will be more detrimental to change in SLE than existing CHCs. As CHCs vary in their symptoms and management, we differentiate the effects of five CHCs: arthritis, cardiovascular disease, sleep disorders, psychological disorders and life threatening conditions. Materials and methods: Data from two waves of a Dutch pension panel survey, collected 3 years apart, was used. The analytical sample included 4735 older workers between the ages of 60–65 years at wave 1. Results: OLS regression analysis demonstrated a negative association between most existing CHCs and low SLE. Longitudinal analysis using conditional change OLS regression models revealed that, in general, newly diagnosed CHCs had a larger detrimental effect on the change in SLE, than existing CHCs. Our hypothesis is only partially supported as this effect differed based on the CHC. Conclusion: Older workers newly diagnosed with life threatening conditions, psychological disorders and cardiovascular disease, experienced the steepest decrease in SLE. They may benefit the most from the timely provision of educational interventions that aid the accurate evaluation of SLE, thereby retaining them in the workforce for longer, while also improving their wellbeing.

*The Impact of Hip Fracture on Geriatric Care and Mortality among Older Swedes: Mapping Care Trajectories and Their Determinants*

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Category: Health Sciences/Morbidity, medical treatment and ageing processes

Introduction: This study examines the impact of hip fractures on care trajectories and mortality in Sweden and explores sociodemographic and health-related factors associated with these trajectories. Material and methods: Hip fracture patients aged 65+ during 2014–2015 were identified in the Swedish Inpatient Register. The Social Service Register was used to collect information on granted home care and care home residence. We visualized care trajectories during two years of follow-up for hip fracture patients and for two hip fracture-free control groups: age-and-sex-matched controls representing the general population and health-matched controls identified through propensity score matching. We

employed multistate modeling to identify factors associated with care trajectories. Results: Our study included 20,573 hip fracture patients. Hip fractures had an immediate negative effect on care trajectories and survival chances. However, already before the fracture, patients were frailer and more often received care than their same-aged peers without hip fracture. After two years, care statuses among survivors in the hip fracture group and the health-matched control group were virtually identical. Conclusions: Already before their fracture, hip fracture patients have worse health than the general population. Hip fractures have an immediate, yet short-term, impact on care trajectories while long-term care use is largely attributable to poorer health profiles independent of the fracture itself. Our findings suggest that the increase in care use among hip fracture patients might have also occurred in absence of the fracture, even if somewhat later. This emphasizes the importance of adequate comparison groups when examining the consequences of diseases.

*The Impact of Shielding during The COVID-19 Pandemic on Mental Health and Well-Being: Evidence from the English Longitudinal Study of Ageing*

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Category: Behavioural and Social Sciences/Lifestyle, engagement and transition

Introduction: During the COVID-19 pandemic, older and clinically-vulnerable people were instructed to shield or stay at home. Policies restricting social contact and human interaction pose a risk to mental health, but we know very little about the impact of shielding. This study aims to understand the extent to which shielding contributes to poorer mental health and well-being among older people. Material and Method: Exploiting longitudinal data from Wave 9 (2018/19) and two COVID-19 sub-studies (June/July 2020; November/December 2020) of the English Longitudinal Study of Ageing we use regression models to investigate associations between patterns of shielding during the pandemic and mental health and well-being (depression, anxiety, quality of life, and life satisfaction), controlling for socio-demographic characteristics, pre-pandemic physical and mental health, and social isolation measures. Results: By December 2020, 70% of older people were still shielding or staying at home, with 5% shielding throughout the first 9 months of the pandemic. Respondents who shielded experienced worse mental health and well-being. Although prior characteristics and lack of social interactions explain some of this association, those shielding throughout had higher odds of reporting elevated depressive symptoms (OR = 1.87, 95% CI = 1.22; 2.87) and reported lower quality of life (B = -1.28, 95% CI = -2.04; -0.52) than those who neither shielded nor stayed at home. Shielding was also associated with increased anxiety. Conclusions: Shielding itself seems associated with worse mental health among older people, highlighting the need for policymakers to address the mental health needs of those who shielded, both in emerging from the current pandemic and for the future.

*The Impact of The COVID-19 Pandemic on Physical Activity for Older Persons in a Municipal Context*

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Category: Health Sciences/Lifestyle, engagement and transition

Introduction: Many municipalities today offer physical group activities and exercises for the older population, with a focus on promoting good health [1]. During the COVID-19 pandemic, physical activities continued to some extent. Therefore, the aim of this study was

to examine the perceptions of stakeholders involved in physical activities in a municipal context during the COVID-19 pandemic. **Methods and Materials:** Six online focus group interviews were conducted with head of units for health promotive activities, physical activity coordinators and training leaders from a municipal context, private stakeholders and non-profit associations that collaborate with the municipality to offer physical activity. The participants (n = 25) were from seven different municipalities in Sweden. Data were analyzed using focus group methodology [2]. **Results:** COVID-19 changed the prerequisites for physical activity and the reduced opportunity to participate in physical activity affected health, participation and empowerment of the older person. The pandemic required adaptation to new physical activities and digital solutions. Organizers of physical activities perceived that the older persons health deteriorated because of passivity due to restrictions during the COVID-19 pandemic. Likewise, social fellowship was perceived to diminish, affecting health, empowerment and participation. Initiatives concerning physical activities taken by the older persons themselves were perceived as positive but involved only a few. **Conclusions:** In the event of changed prerequisites in the future, a faster adjustment is needed where physical activity is made possible to a greater extent for older persons to maintain health and with continued empowerment and participation.

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*The Impact of Using KOMP as a Tool for Reducing Malnutrition and Loneliness for Home-Living Older Adults*

**Ida Synnøve Grini and Øydis Ueland**

Nofima AS

Category: Social Research, Policy, and Practice/Digitisation and technology

**Introduction:** Food and meals are important elements of everyday life. A meal becomes more meaningful when shared, the food tastes better, and one tends to eat more. Nevertheless, elderly living at home are often unsupported. In addition, the COVID-19 pandemic reduced older adults' mobility and social interaction. Digital technology has been framed as a possible solution to increase interaction with elderly. The aim was to explore how a technical solution, KOMP, consisting of a screen placed with the older person connected with an app supervised by family and caregivers, can contribute to eating together via communication technology, and decrease malnutrition and loneliness for home-living older adults. **Material and methods:** A web-based survey was distributed to 3500 relatives that are users of the app. connected to KOMP. The survey had three main themes: (1) current use of KOMP; (2) whether sharing a meal through KOMP would increase appetite and reduce loneliness; (3) interest in using KOMP for shared meals in the future. We received 748 responses from relatives representing 599 women and 148 men. **Results:** Connected to COVID-19, 65% said that they used KOMP more frequently than before, but only 5% of current use were for eating meals together. 54% indicated that this could be a future activity. 88% thought KOMP could contribute to more socializing through shared meals. **Discussion:** The study elicited almost 2000 constructive comments on experience, use, and recommendations. The study identified technological solutions that could provide a shared meal experience and help reduce malnutrition and loneliness.

*The IPIC-Study: Implementation of Patient Participation in Intermediate Care Services among Older People*

**Linda Aimée Hartford Kvæl**

Oslo Metropolitan University

Category: Health Sciences/Morbidity, medical treatment and ageing processes

Introduction: Intermediate care (IC) services bridges the pathway for older people between hospital and home. Despite that patient participation is a democratic right and a political goal, research shows that older persons and their relatives often do not experience sufficient involvement. Healthcare professionals also report that patient participation is difficult to achieve in clinical practice. Thus, the aim of this study is to develop, process evaluate and estimate the effects of an educational learning program for healthcare professionals in IC-services. Material and methods: The learning program will be grounded within the initial family meetings framing the question "What is important to you" using the well-known four habits model to understand the interrelated sequence of events that typically takes place during a family meeting and the relevance of communication skills (1). The intervention will be organized as interprofessional simulation in line with Dieckmann's four pillars: (1) Introduction: from a facilitator; (2) Theory input through a teaching activity (3) Case scenarios based on real life situations; and (4) Simulation-based training and debriefing through group work and plenary discussion. Results: We will test out the educational learning program in one IC-department and evaluate the intervention using the MRC process evaluation for complex interventions (2). In addition, we will assess the effect on patient participation, physical function, patient satisfaction and relative burden and compare it to another similar IC-department as a control receiving usual care. Conclusions: Increased knowledge and awareness among clinical staff is an important implementation strategy. Implementation of user participation is associated with positive rehabilitation outcomes, patient satisfaction, strengthened autonomy and quality of life.

*The Literary Old Age at The Intersection of Medical Practice and Public Health—A Cross-Disciplinary Reading of Ane Riel's 'Clockwork'*

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Danish Ageing Research Center, University of Southern Denmark

Category: Humanities/A good life and a good death

Introduction: The emergence of the elderly as subject matter for literature has led to research interests in exploring novels related to old age. Literature may provide insight into our cultural and clinical understanding of people in their last years of life and elderly people in general. In combination with disciplinary approaches from the health sciences, unique opportunities exist to rethink the ways in which we organize public health initiatives and primary care. Methods and Materials: Researchers representing literature, anthropology, history, public health and medicine, took part in an exploratory collaboration between disciplines: A joint reading and discussion of Danish author Ane Riel's novel, 'Clockwork' (Danish: 'Urværk'), a work of literary fiction depicting the protagonist reconciliation with ageing and death [1]. Results: A joint reading and discussion of a literary artistic representation of old age and dying, suggested dual dimensions of insight: A realistic dimension, which may be interpreted as a confirmation of the existing knowledge of ageing and well-being, characterized by physical and cognitive challenges; and an 'imagined' dimension, a type of knowledge distilled in the interaction between the reader and the literary work: The reader can be seen to be tasked with identifying with the protagonist, and through this process providing us with a hitherto unknown perspective on how ageing is experienced, how it feels and what it means. Conclusions: The study exemplifies an approach that underpin the ambition of cross-disciplinary fertilization, which may stimulate novel research hypotheses and ultimately inform public health thinking and medical practice.

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*The Live and Learn Project for Meeting New Knowledge Needs at Old Age***Nanette Westergård and Annika Wentjärvi**

Novia University of Applied Sciences

Category: Social Research, Policy, and Practice/Education and competences in ageing societies

Introduction: Getting older is associated with change, in life situation, in social life or in the state of health. It's important to acknowledge the need for knowledge. To support home living and to provide tools and knowledge to cope with the changes, the Live and Learn project was introduced. Methods and material: A network was initiated, including the target group (older adults living at home) and stakeholders who focuses on or provides services for older adults. The network co-created activities with focus on inclusion, social relations, and knowledge. As a result of evaluation new ideas for activities have emerged. Results: The activities filled a need for knowledge in changing living conditions for seniors. During the project time, the corona pandemic occurred, and restrictions affected the target group's opportunities to meet in person. New methods were developed in the form of interactive and activating films, digital lectures and cognitively stimulating activities that could be performed despite restrictions. The activities were partly moved to the Internet and to Local TV. Within the project, lectures, study circles, theme days, city orientation, dancing and singing events, discussion groups and dog-assisted activities were arranged. The project has activated over 900 older adults. Conclusion: The need for knowledge does not decrease with age. An independent life requires knowledge and insights into the changing society and changing life situations. The project has shown that togetherness and small-scale activities are of use to the elderly population. Learning new things together is a good way of answering the need for knowledge in new or changing life situations.

*The Merry Widows: Lived and Gendered Experiences of Widowhood in The Danish Welfare State***Stine Grønbaek Jensen**

Category: Humanities/A good life and a good death

In recent decades, numerous quantitative studies have explored the effects of widowhood in old age. The majority of these studies show that the loss of a spouse is a life-changing event associated with pain, grief and stress, which can lead to severe adverse health effects. However, the studies also illuminate gender differences and indicate a more adverse effect on men than women. Surprisingly a few studies even show that some women become measurably happier. In this paper I go behind the statistics and bring some of the widows behind the figures to life. Empirically I draw on life story interviews with 15 widowed women from Sorø, a small municipality in Denmark. Analytically I use "the life course perspective" [1] to bridge individual experiences of widowhood with the historical context. Also, I use "the anthropology of ethics and morality" [2] to illuminate the moral work involved in becoming a widow. The paper illustrates that the dealing with loss is affected by historical conditions and social pathways in the Danish welfare state that have given shape to social roles, duties and virtues linked to family and gender. The loss of a spouse therefore especially for women gives new possibilities for personal and moral reorientations and engagements. The overall argument is that experiences of widowhood are historical shaped, gendered and often ambiguous—involving pain and distress, but also relief, potentials and hope.

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*The Positive Impact of Social Support on Life Satisfaction in Older Vulnerable People in Germany*  
**Volker Cihlar, Frank Micheel and Andreas Mergenthaler**

Federal Institute for Population Research

Category: Behavioural and Social Sciences/Lifestyle, engagement and transition

**Introduction:** Vulnerability in older adulthood occurs in several life domains. Cumulative vulnerability, indicated by low levels of individual resources (health and socio-economic status) has been insufficiently studied so far, but could show risks for low life satisfaction. Social support is assumed as a protective factor, which might buffer material and health-related vulnerability in older adulthood. **Method:** Empirical analyses are based on the German Health Update dataset (GEDA 2014/2015-EHIS), a nationwide health survey in Germany (n = 24,016). The analytic sample includes persons  $\geq 65$  years. Respondents with low socio-economic status and poor health (vulnerable group; nvul = 136) and persons with a medium or high socio-economic status and medium, good or very good health (non-vulnerable group; nnvul = 3693) form the study groups. Respondents with gradual vulnerability, i.e., health-related or socio-economic vulnerability are analyzed to examine differences and commonalities with the two main study groups. Linear regression models examine the connection of social support, self-efficacy, marital status and depressive symptoms with life satisfaction in all groups. **Results:** Social support is a positive predictor of life satisfaction in all groups. However, the strongest effect shows in the vulnerable group. Vulnerable persons who experience high social support show a more than doubled effect on life satisfaction compared to low social support than the non-vulnerable group (Bvul = 2.11;  $p < 0.001$ ; Bnvul = 0.84;  $p < 0.001$ ). **Conclusions:** Vulnerable older people with a small, unreliable social network and for whom it is difficult to access practical help due to physical and socio-economic disadvantages need additional external social support to achieve a high level of life satisfaction.

*The Relationship between Body Mass Index, Metabolic Health and Biological Age*

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Category: Biological and Medical Sciences/Morbidity, medical treatment and ageing processes

**Introduction:** Higher midlife body mass index (BMI) and unfavourable metabolic health (UMH), characterised by the presence of metabolic syndrome [1], risk late-life diseases and mortality. Biological age measures (BAM) can capture physiological changes occurring during aging [2]. We examined the relationship between BMI, UMH and four BAM: functional aging index (FAI) and epigenetic age acceleration (Horvath, PhenoAge and GrimAge epigenetic clocks). **Material and methods:** We applied linear regression models to test the association between BMI and, or UMH (defined as having  $>1$  of the following: hypertension, hyperglycemia, hypertriglyceridemia and low high-density lipoprotein) and BAM, using data from 1690 Swedish twins. Models were stratified into midlife and late-life (cut-off at age 65) and adjusted for age, sex, education and smoking. **Results:** In late-life, BMI [ $\beta$ :  $-0.04$ ; confidence interval(CI):  $-0.06, -0.01$ ] and UMH (0.57; 0.36, 0.79) were independently associated with FAI, but not epigenetic age acceleration. Both associations

(BMI:  $-0.05$ ;  $-0.07$ ,  $-0.02$ ; UMH:  $0.64$ ;  $0.43$ ,  $0.86$ ) remained robust in a joint effect model. When including an interaction, BMI was associated with FAI among individuals with UMH ( $-0.08$ ;  $-0.07$ ,  $-0.005$ ) and preserved MH ( $-0.04$ ;  $-0.07$ ,  $-0.005$ ), and the main effects of UMH ( $0.64$ ;  $0.43$ ,  $0.86$ ) persisted. In midlife, UMH, but not BMI, was associated with FAI in the independent effect ( $0.42$ ;  $0.005$ ,  $0.85$ ), joint effect ( $0.46$ ;  $0.01$ ,  $0.90$ ), and interaction models ( $0.54$ ;  $0.06$ ,  $1.02$ ). No associations were seen with epigenetic age acceleration in midlife. Conclusions: UMH, both in midlife and late-life, was associated with an increased FAI, while a higher BMI in late-life was associated with a decreased FAI, regardless of metabolic health status. Furthermore, there were no associations with epigenetic age acceleration, indicating that UMH may accelerate functional but not epigenetic measures of aging.

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*The Role of Adolescent Lifestyle Habits in Biological Aging: A Prospective Twin Study*

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Category: Biological and Medical Sciences/Morbidity, medical treatment and ageing processes

Introduction: Adolescence is a stage of fast growth and development. Exposures during puberty may have long-term effects on health in later life. In this study, we aimed to investigate the role of adolescent lifestyle in biological aging. Material and methods: Study participants were young adult twins (21–25 years,  $n = 5114$ ) from the longitudinal FinnTwin12 study. For a subsample, blood-based DNA methylation (DNAm) was used to assess epigenetic aging by DNAm GrimAge estimator ( $n = 824$ ). Adolescent lifestyle-related factors, including body mass index, leisure-time physical activity, smoking, and alcohol use were based on self-reports and measured at ages of 12, 14, and 17 years. First, latent class analysis was conducted to identify patterns of lifestyle behaviors in adolescence. Second, the mean differences across the subgroups in later biological aging were studied using the Bolck-Croon-Hagenaars approach. Third, genetic and environmental influences on biological aging in common with lifestyle behavior patterns were studied using quantitative genetic modelling (154 monozygotic and 212 dizygotic pairs). Results: We identified five subgroups of participants with different lifestyle behavior patterns. The groups with the healthier lifestyle behaviors were biologically younger compared to the groups with unhealthy habits (Wald test:  $p < 0.001$ ). The mean difference between the extreme lifestyle groups was 3.2 years (95% CI 2.3, 4.1 y). About 11% of the variation in biological aging was explained by genetic and 3% by environmental influences in common with adolescent lifestyle behavior patterns. Conclusions: These findings suggest that adolescent lifestyle may contribute to biological aging process. Both genetic and environmental factors underlie the association.

*The Role of Supported Housing for Older People in Addressing Loneliness and Social Isolation: Findings from a UK Mixed-Methods Study*

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Category: Social Research, Policy, and Practice/Housing, generations and mobility

Introduction: As an ageing society increases pressures across public policy including housing and social care, there has been growing interest in the United Kingdom in different models of housing with care and support (HCS) for older adults. The Diversity in Care Environments (DICE) project is a three-year mixed-methods study (2019–2021) examining social inclusion practices in HCS for older people across England and Wales. We concentrate here on the role of HCS schemes in preventing social isolation and addressing loneliness. Materials and methods: We distributed a bespoke questionnaire to approximately 3700 residents across three housing providers, collecting responses across indicators in the English Longitudinal Study of Ageing (ELSA). Our analyses—using propensity score matching—offer insights into how these residents’ experiences differ from older adults in general housing (i.e., ELSA members). Qualitative findings draw on semi-structured interviews with 72 residents (aged 54–95, mean age 72) across 26 schemes between 2019–20. Results: Analyses find that HCS models are successful in reducing average levels of loneliness and maintaining residents’ levels of social connections. However thematic findings suggest social isolation is amplified for residents with a minority status (e.g., ethnic minority groups, LGBT+, living with dementia or disability). A key theme is the ways in which residents create identity boundaries that inhibit the inclusion of residents belonging to minority groups within schemes. Conclusions: Our findings suggest HCS schemes generally work well in fostering social inclusion, but more attention is needed on active engagement and inclusion of residents belonging to minority status groups.

*The Semantic Language Features of People with Dementia Displayed during Reminiscence Therapy*

**Kyongok Park** and **SeolHwa Moon**

Category: Behavioural and Social Sciences/Morbidity, medical treatment and ageing processes

Background: Verbal communication to people with dementia (PWD) is essential for activities of daily living. The communicative features of PWD tend to maintain the lexical ability but presents impaired semantic or pragmatic ability. Understanding these communicative features is important for providing appropriate care to PWD. Therefore, this study aimed to understand the communicative features of PWD and identify the relationship between the patient characteristics and their linguistic features. Methods: This study included secondary data analyses of a report that identified the reminiscence therapy (RT) effect on 41 PWD in 2019. Patient characteristics, including cognitive and affective functions and behavior, were measured. The Holden communication scale (HCS) and the number of correct information units (CIUs) of utterance were also measured using video scripts and files which were recorded for 10-min RT. CIU is defined as intelligible and informative words during the participants’ utterance/conversation. Descriptive statistics and an independent *t*-test were performed. Results: The mean age of participants was  $83.46 \pm 6.06$  years. The mean number of words was  $502.61 \pm 175.56$ , and the number and ratio of CIUs were  $445.15 \pm 160.94$  and  $88.42 \pm 6.56$ , respectively. The mean Holden communication scale was  $6.85 \pm 4.38$ . Concerning the relationship between the patient characteristics and linguistic features, participants with depression less used number of words ( $t = 2.95, p = .005$ ) and CIUs ( $t = 3.07, p = .004$ ). Conclusion: RT is known to reduce depression in PWD. Therefore, understanding linguistic features and RT can contribute to developing person center communication strategies for PWD with depression.

*The Sex Gap in Vision and Hearing Impairment: Universal Findings across Age Groups and European Regions*

**Linda Juel Ahrenfeldt, Rikke Syrak Hansen and Lasse Lybecker Scheel-Hincke**

Category: Health Sciences/Morbidity, medical treatment and ageing processes

Introduction: Although sensory impairments are common conditions among the elderly [1,2], few studies have investigated the direction and magnitude of sex differences in vision impairments (VI) and hearing impairments (HI). Material and methods: We performed a large cross-national study including 65,653 women and 54,909 men aged 50+ years participating in the Survey of Health, Ageing and Retirement in Europe from 2004–2020. Logistic regression models with robust standard errors were used to examine sex differences in VI and HI across age and European regions. Results: Women reported higher odds of VI than men. This was the case for both close VI (OR 1.07; 95% CI 1.03–1.12) and distant VI (OR 1.48; 95% CI 1.40–1.56). Contrarily, women reported lower odds of HI (OR 0.71, 95% CI 0.68–0.75). However, sex differences varied by age and regions. Sex differences in VI increased with advancing age, whereas the sex gap in HI decreased. For close VI, a disadvantage for women was found from age 65 in Western, Southern and Eastern Europe and from age 80+ years in Northern Europe. For distant VI, the female disadvantage was more pronounced and persisted in all age groups in the four European regions, whereas a sex gap favouring women was found for HI, except from ages 80+ years in Northern and Southern Europe. Conclusions: European women have more VI but less HI than European men; however, for both sensory impairments, we found an increasing disadvantage for women with advancing age, lending support for the male-female health survival paradox.

*The Voice of Experience: Exploring Creativity and Old Age through the Ageing Actor Figure*  
**Núria Casado-Gual**

Category: Humanities/Lifestyle, engagement and transition

In her foreword to a recent special issue on performance and age, Valerie Barnes Lipscomb recognizes the fruitful intersection between the fields of ageing and theatre studies in new research developed a decade after her seminal paper on theatre as ideal site for the study of ageing [1,2]. Despite these thriving academic interconnections, the presence of an explicit age-focused discourse that places old age at the same level than other identity markers and which, by doing so, helps develop a critical gaze around ageing remains infrequent at both artistic and social levels. In an attempt to contribute to the materialization of a richer theatrical discourse around old age, and as part of a larger study of creative research, I resort to the experienced voice of ageing actors as a potential source of inspiration for future dramaturgies of ageing. In contrast to fictional narratives where the ageing actor figure has been associated with decline, in this presentation I analyse the more complex discourse of ageing derived from surveys responded by a group of 12 older professional actors who were asked to reflect on their age and profession between 2020 and 2021 (an especially critical period under the COVID-19 pandemic). Interpreting their answers in the light of theatre and ageing studies, the main thematic clusters and perspectives observed become associated with theatrical dramaturgical mechanisms whereby one-dimensional narratives of ageing may be counteracted from the stage. \*\* The paper presented at the 26th Nordic Congress of Gerontology is part of a larger practice-as-research project. Its results are to be published in the form of a book chapter in the forthcoming Palgrave Handbook of Literature and Aging co-edited by Valerie Barnes Lipscomb and Aagje Swinnen.

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*Three Caregiver Profiles: Who Are They, What do They Do, and Who Are Their Co-Carers?***Magnus Jegermalm**<sup>1,2</sup> and **Cristina Joy Torgé**<sup>3</sup>

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Category: Social Research, Policy, and Practice/Lifestyle, engagement and transition

Introduction: In Sweden, a country with one of the highest public spending on long term care, there is also extensive informal care by family, friends, or neighbours. Methods and materials: We explored the spectrum of informal caring using data from a nationally representative survey of caregivers in the Swedish population. Results: We were able to identify three different caregiver profiles and analysed the extent to which informal caring was shared with other formal- and informal co-carers. The first profile, "co-habitant family carer", provides help for someone with care needs in the same household and were mostly alone in intensive caregiving. This group was the oldest among the profiles, with a quarter between 75–84 years old. The second profile, "the care network", are caregivers who, together with other informal and formal co-carers, provides help to someone with care needs in another household. 54% of these carers are older than 60 years old and took care of another older person. Finally, "the helpful fellowman" consists of caregivers providing help for someone without special needs in another household. They were the youngest of the profiles, with 63% under 60 years. Conclusions: Our data shows the extent of older people's contributions to informal care. It also shows that caregivers are not a homogenous group. Although policy and practice need to have a diverse group of carers in mind, the results also suggest that it is the oldest group of carers that need the most support.

*To Be Diagnosed with Dementia—A Turning Point?***Inger Molvik**

Category: Health Sciences/A good life and a good death

Introduction: Knowledge of how to organise health and social care services for people with dementia will have a major impact on persons with dementia, their informal caregivers and care providers. The overall aim of the project is to improve dementia care in Norway by exploring the experience of getting a dementia diagnosis for patients and relatives. Material and Methods: The Trøndelag Health Study 4 (HUNT4 70+) 2017–19 included 11,700 participants aged 70+ in Nord-Trøndelag county and the city of Trondheim in Norway. Participants were re-invited to participate in Ageing in Trøndelag (AiT) initiated in 2021. Participants in AiT are asked if they have a diagnosis of dementia, and the same question is asked to their informal caregivers. Through qualitative interviews in a subgroup (n = 20), we investigate how the dementia diagnosis affects everyday life of people with dementia and their caregivers and whether their health and social care needs are met. A qualitative method with a phenomenological/hermeneutic approach is used, and semi-structured interviews are performed on participants scoring below an age-adjusted threshold on the Montreal Cognitive Assessment Scale (MoCA). Results: Preliminary results from the qualitative interviews suggest that it is possible to live a good life despite a low score at MoCA, and that good, close relationships are important for living good lives with a cognitive diagnosis. Conclusion: One can live a good life despite a cognitive diagnosis.

*Tools for Assessing Prolonged Grief Disorder: Development and Validity of the Aarhus PGD-Scale for ICD-11 and DSM-5-TR PGD***Maja O'Connor**<sup>1</sup>, **Maria Louison Vang**<sup>2</sup>, **Katrine B Komischke-Konnerup**<sup>1</sup>, **Christina Buur Steffensen**<sup>1</sup> and **Ask Elklit**<sup>2</sup>

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Category: Behavioural and Social Sciences/Morbidity, medical treatment and ageing processes

Loss, grief, and the life changes that follows are common experiences in old age. Most older people cope adaptively with bereavement, but for a significant minority grief becomes complicated. Prolonged Grief Disorder (PGD) is a newly established diagnosis in ICD-11 and DSM-5-TR that captures disordered grief. Reliable, valid and easy-to-use screening-tools for PGD are needed. However, valid self-report measures that capture both the ICD-11 and DSM-5-TR symptoms of PGD are scarce. The aim of the current study is to develop, test, and validate a self-report scale for ICD-11 and DSM-5-TR PGD. Material and methods: The Aarhus PGD-Scale was developed from ICD-11 and DSM-5-TR PGD criteria through a rigorous process involving clinicians, focus groups of bereaved adults, and clinical interviews. The scale was tested in a sample of 352 spousally (77%) or parentally (33%) bereaved adults (mean age = 66 years, 64% female). Validity of the scale will be evaluated with confirmatory factor analysis, exploratory factor analysis, and item response analysis. Results: We expect that the scale will show good psychometric properties. The results will also address potential challenges in diagnostic criteria of ICD-11 and DSM-5-TR PGD. The data will be analyzed in the spring of 2022. We will present the development and results of the scale at the conference. Conclusions: We expect to present a valid and easy-to-use self-report tool for identifying PGD. This is especially important in relation to older adults who is the age group that experience most losses and therefore may be in special need of identification and treatment.

*Training Program for Formal and Informal Caregivers: CT4SILVERCAREGIVERS Project*

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Category: Social Research, Policy, and Practice/Education and competences in ageing societies

Introduction: The CT4SILVERCAREGIVERS project is being developed by a consortium of 7 partners from 6 European countries: Spain, France, Hungary, Portugal, Greece and Ireland. Objective: Creation of a training program on active and healthy aging for professionals caring for the elderly, within the scope of the European Qualifications Framework; develop an online platform where the content of the training program. Methods: It is a 24-month partnership (2020–22) funded under the Erasmus+ program, coordinated by the Diputación de Zamora (Spain) and with the support of the Association de Gestion des Fonds Européens (France), Dafni (Greece), Rural Hub (Ireland), TREBAG (Hungary), Instituto Politécnico Castelo Branco (Portugal) and University of Almeria (Spain). To this end, European partners will develop innovative training modules that will test with the target audience and create a user community through the platform and the Project Forum and Living laboratories. All resources and materials are developed through a combination of non-formal education, theoretical content and flexible techniques that allow for later adaptation according to needs. Outcomes: promote the employability and mobility of workers who will develop personal, professional and social skills in the context of formal and informal care. It is also intended that young people, women with low qualifications and immigrants or inhabitants of rural areas develop fundamental skills for their personal growth and employability as caregivers for the elderly. Discussion/Conclusion: this project responds to the needs of individuals in different contexts: update training, pre-qualification, qualification or certification.

*Translation and Psychometric Evaluation of the Swedish Version of the University of Jyväskylä Active Aging Scale (UJACAS)*

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Category: Health Sciences/Lifestyle, engagement and transition

Introduction: Active ageing pertaining to individuals can be defined as an individual's striving for activity as per one's goals, abilities, and opportunities. Based on this, the University of Jyväskylä Active Aging Scale was developed (UJACAS; [1]). This self-rating scale comprises 17 activities assessed for subscales of will, ability and opportunity to act, and extent of activity (68 items; score range 0–272). The aim of this study was to establish semantic equivalence and examine psychometric properties of the Swedish version of the UJACAS for use with people aged +55. Material and methods: Semantic equivalence was established in an iterative, qualitative process involving authors with complementary language skills. Representatives (n = 6) for the population at target evaluated content validity. Test-retest reliability was examined in a pre-study (n = 63) using intraclass correlation coefficient (ICC), weighted kappa and percentage agreement. The UJACAS was included in the RELOC-AGE prospective study [2] (n = 824) where internal consistency and internal reliability were evaluated by Cronbach's alpha and Corrected total-item correlation. Result: Attaining saturation, semantic equivalence was considered achieved when all issues were resolved. Content validity was evaluated as good. High ICC (0.88; 95% CI 0.80–0.93) and percentage agreement (86.7%) indicated good test-retest reliability, while weighted kappa was moderate (0.45). Internal consistency was high (Cronbach alpha 0.84–0.91). Corrected total-item correlation showed that 57 items (84%) reached the cut-off value of 0.3. Conclusions: The results indicate that the Swedish version of the UJACAS is reliable and valid for assessment of active ageing among people aged +55.

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*Two Nordic Countries with Different Approaches to Handling The COVID-19 Pandemic—A Comparison of Sweden and Denmark*

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Category: Health Sciences/A good life and a good death

Background: Although Denmark and Sweden share many cultural and societal similarities, they reacted quite differently to the COVID-19 outbreak in 2020. The Swedish approach has been widely debated [1], as they, compared to Denmark, reacted later and relied largely on voluntary measures, which have likely contributed to staggering infection rates and excess mortality [2]. This study investigates short and medium term differences between Sweden and Denmark in relation to mental health, daily activities, and medical care after the COVID-19 outbreak. Did the stricter lockdown in Denmark lead to increased physical inactivity and worsened mental health? Alternatively, did the higher infection- and mortality rates in Sweden impose more mental health problems? Methods: We used data from SHARE wave 8 (2019/2020) and the two SHARE COVID-19 surveys (summer 2020/2021). Multilevel logistic regression models were applied to investigate longitudinal and cross-sectional changes in Sweden and Denmark. Results: Both countries had a decreased risk of depressive symptoms and sleep problems during the summer 2020. For both measures, the short-term decline was largest in Denmark (depressive symptoms: 18.1% vs. 12.8%. Sleep problems: 19.9% vs. 16.7%), but the Danes also had a larger increase a

year later. Swedish participants were more likely to reduce their daily activities on the short term (shopping: OR = 0.45. Visit family: OR = 0.75), and less likely to have medical appointments postponed (OR = 1.80). Conclusion: Only minor differences were identified between Sweden and Denmark in health and daily activities during the pandemic. 50+-year old Scandinavians seem quite resilient, despite major upheaval to their daily lives.

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### *Validation of a Wearable Device to Assess Gait among Older People while Walking Outdoors*

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Category: Health Sciences/Digitisation and technology

Introduction: Aging alters spatiotemporal gait parameters. Normally gait is assessed in a laboratory; outdoor measurements are less common mainly because of a lack of suitable tools. GaitPod (GP) is a new lightweight wearable device, which uses sensor fusion technology, enabling gait assessment outdoors [1]. We studied the GP's validity to detect gait parameters (step length and duration, cadence, walking speed) among older people walking outdoors. Material and methods: Fifteen participants (12 women, 3 men) aged over 70 years (mean 75, [70–91]) took part in the study in June 2021. Participants walked on an outdoor sports track at a self-selected speed (16 × 20 meters) with the GP attached to the upper back. Gait was recorded with the GP and filmed with high-speed cameras (ground truth values = GTV). Correlations/mean values between the GTV and the GP values were evaluated. A previously developed MATLAB algorithm [1] for young athletes was used to segment steps from the GP data based on the vertical velocity signal. Correlations/mean values between the GTV and the GP values were evaluated. Results: We found several inconsistencies between the GTV and GP parameters. Specifically, there was no correlation between GTV and GP cadence values. Step duration/length and walking speed were either underestimated (by 0–85%) or overestimated (by 0–1429%) in GP data compared to GTV. Conclusion/significance: Further research is needed to establish the validity of the GP for accurately estimating gait parameters in older individuals. We are currently exploring machine learning approaches to this problem.

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Vitality of Older Adults through Internal and External Connectedness: A Grounded Theory

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Category: Health Sciences/Lifestyle, engagement and transition

**Introduction:** Vitality is a relatively unresearched concept and defined in existing literature either on the premise of one's functioning, or in terms of 'feeling alive'. There is, however, not much known about the significance of a sense of connectedness to life for vitality, especially from the perspective of older adults themselves. This research aims to explore the possible association between the concepts of vitality and connectedness, in order to formulate a theory grounded in the subjective perceptions that older adults themselves hold of vitality. **Material and methods:** Following a constructivist grounded theory approach and theoretical sampling, constant comparative analysis was performed on the transcripts of 15 semi-structured interviews, conducted in the Netherlands with older adults (mean age of 73 years, 8 females and 7 males), regarding their vitality. Concurrently, empirical and theoretical findings were translated into a theoretical conceptualisation. **Results:** According to the older participants, connecting to life itself enhanced their sense of vitality. This connection was achieved through internal connectedness (i.e., connecting to one's own life, intrinsic stimuli and intrinsic goals in an independent manner) and external connectedness (i.e., social connectedness, environmental connectedness, engagement with the external world). Furthermore, our findings revealed distinct interactions between internal and external connectedness and facilitating tools, such as freedom from physical constraints, financial freedom and adaptation. **Conclusion:** Our findings provide a holistic concept of vitality and connectedness and consolidate existing perspectives on vitality into an overarching framework, which contributes to the development of effective care policy, healthcare interventions and welfare services.

*Volunteering in Long-Term Care: Does Context Matter? Volunteering in Nursing Homes and Home-Care Sector*

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Centre for Care Research West, Western Norway University of Applied Sciences

Category: Social Research, Policy, and Practice/Housing, generations and mobility

**Introduction.** Nursing homes and home care services are different spatial contexts, but little attention has been paid to how this potentially may influence the possibilities for voluntary work [1,2]. The aim of this presentation is to discuss the significance of context in volunteering in the LTC. **Material and methods.** The study consisted of a cross-sectional survey conducted among leaders in nursing homes and home services in 50 municipalities in Norway and twenty-one qualitative interviews with managers in LTC and voluntary organizations. **Descriptive and thematic analyses were used.** **Results and discussion.** Home care services had less voluntary work than nursing homes. Nursing homes typically have many residents under one roof following a similar schedule. Thus, volunteer-run activities are held more easily at set times and incorporated into the daily life of the institutions. In contrast, home dwellers stay in a more individualised setting with more autonomy and can opt out of activities that nursing home residents would normally join. Skill acquisition, networking and socializing are common motivations for volunteering, and a nursing home setting may be an easier context to obtain this. **Conclusions.** In the future, volunteers are expected to contribute more in LTC and elderly people to live longer years in their own homes and receive health- and care services. Our conclusion is that context indeed matter,

and more context specific studies are needed to further explore opportunities and pitfalls for voluntary work, especially in the home care sector.

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*Vulnerability for Perceived Unsafety among Older Adults: A Latent Profile Analysis*

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Category: Behavioural and Social Sciences/Lifestyle, engagement and transition

Introduction: Feeling safe in the daily environment is an important component of well-being in later life. The Generalized Unsafety Theory of Stress posits that perceived unsafety arises from various compromised life domains. However, empirical research considering various configurations of vulnerability in these important life domains is scarce. The current study aimed at identifying latent subgroups of older adults based on such configurations of vulnerability for perceived unsafety while applying the person-oriented approach. Material and methods The data from a cross-sectional questionnaire study collected in 2019 in a mid-sized Swedish municipality were analyzed (n = 622, response rate 49.5%,  $M_{age} = 77.6$ ; 60.9% female). We performed a latent profile analysis with frailty, fear of falling, social support aspects, perceived neighborhood problems, and trust to others in the neighborhood as indicator variables for identifying the profiles. Results: The three-profile model was selected as optimal based on model fit indicators. The three profiles were labelled as (1) compromised body and social networks (7.2%); (2) compromised context (17.9%); and (3) non-vulnerable (74.9%). Profile membership could be statistically predicted by age, gender, and family status, but not by education, financial situation, or previous victimization. The profiles significantly differed in perceived unsafety in the neighborhood and at home, worry about crime, life satisfaction, and anxiety. Conclusions: The study findings extend the knowledge on configurations of vulnerability factors for perceived unsafety and suggest a substantial heterogeneity among older adults in terms of their vulnerability for perceived unsafety.

*Wandering The Wards: Ward 'Rules' and The Consequences for People Living with Dementia*

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Category: Behavioural and Social Sciences/Morbidity, medical treatment and ageing processes

This paper examines everyday cultures of care in hospital wards and the consequences for both people living with dementia (PLWD) and ward staff. It explores institutional and ward strategies in the care of this significant patient group at the bedside. Across these wards, the rehearsal and duplication of a remarkably stable interactional performance was observed during the routines of bedside care. Across these encounters, ward staff communicated and reinforced the 'rules' of the ward. This hospital ethnography draws on two projects examining specific features of everyday care for PLWD (the phenomenon of "resistance" to care and continence care) within acute wards (16) in eight hospitals across England and Wales. This paper illustrates key findings within the monograph *Wandering the Wards* [1]. Drawing on Goffman's examination of the "total institution" the paper explores institutional expectations and interactional patterns of care at the bedside to provide ways of uncovering aspects of the social standing and understandings of PLWD, and the recognition and attribution of this diagnostic category during an acute admission. We

identified “tightening” of the rules for PLWD and the practices of containment, restriction, and restraint in their care, which were associated with patterns of distress and “collective disturbance”. The interaction between the patient and the organisation and delivery of care at the bedside, supported and reinforced staff recognition and understandings of dementia, and in turn, informed what constituted appropriate care for individuals within these wards. We conclude that this produced dynamic and powerful patterns of what Goffman identified as “institutional looping”.

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*What Changed—If Anything? Everyday Life of People Aged over 65 during the Coronavirus Pandemic*

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Category: Behavioural and Social Sciences/Lifestyle, engagement and transition

**Introduction.** COVID-19 pandemic and the measures countries have carried out for it have influenced older adults’ lives worldwide. We examined how the pandemic has affected older people’s lives and well-being in Finland. **Materials and methods.** Our main data come from telephone interviews with 31 people (aged 64–96) conducted during summer 2020. The data were analysed using content analysis. In addition, we use first results of a nation-wide survey (n = 3088) conducted in winter 2020–2021. **Results.** The period of restrictions imposed during the pandemic particularly affected the lives of older people in many ways. Yet they were willing to accept (85%) these restrictions. Many felt that their everyday lives had remained the same or changed only a little. Some felt that their lives had become worse, and some that they had become better. For many, life before the pandemic had been so challenging, and social contact so rare, that the pandemic restrictions did not make their situation any worse. Many had developed innovative new ways to behave safely, and this enabled them to continue their everyday lives almost unchanged. Walkways and green spaces had become more important for well-being. Connecting with other people by telephone was important. New technologies to support meetings online played no significant role, except for the few who were familiar with them. **Conclusion.** Older people were adaptive and flexible in their everyday lives, and their life experience influenced their ability to face various challenges during the pandemic.

*What’s Pension Got to Do with It? Mortality Inequality at Older Ages*

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Category: Social Research, Policy, and Practice/A good life and a good death

**Introduction** The potential role of social protection systems and welfare states for population health and mortality has attracted increased interest in recent decades but mostly focused on overall characteristics or clusters of countries, and often neglecting older people. We focus on the key social protection scheme for old adults: the level of pension generosity. Our study is novel as it examines not only life expectancy (LE), but the association to variation in LE [1] across countries and over time. **Methods and Materials:** Our sources of data are from the Human Mortality Database and the Social

Policy Indicator Database. Data for OECD countries are matched and analysed by pooled time-series regression analyses with fixed effects. Results: The results indicate that the generosity of pension based on work history is positively associated with remaining LE at age 65 for men but not for women. Minimum pension, on the other hand, shows positive associations to LE for women as well for men. Concerning the variation in LE (65+) we find that more generous minimum pensions are associated with reduced variation for women. Conclusions: We provide new insights in how pension policies potentially influence mortality among older persons especially by extending our analyses to inequality. These results points to the importance of basic pensions. The gendered division of labour is a plausible explanation for the importance of non-contributory or minimum pensions for women, while for men also pension based on previous work history is of importance.

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*When You Are Elderly, Where Would You Like to Live?*

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Category: Social Research, Policy, and Practice/Housing, generations and mobility

Introduction: When asked where they want to age, older people express the desire to stay in their homes. Giving individuals the opportunity and conditions to age where they want is a fundamental goal of social policies for ageing. Ageing in Place should be understood not as a resource but rather as the first option due to the advantages of social inclusion and emotional reward that, in most situations, are associated. The main objective of this study is to analyze the sociodemographic characteristics and factors that justify the choice of the elderly and future elderly in a region of the interior of Portugal to age at home. Materials/Methods: Data were collected through two questionnaire surveys, applied to people aged 55 and over living in the community (n = 484), in municipalities in the Portuguese interior, within the scope of the PerSoParAge Project. Descriptive statistics were used to explore the sample characterization variables and to verify the existence of a relationship between the option of residence and the sociodemographic characteristics, and between the option of residence and the support networks, the housing conditions and health, ANOVA analysis of variance was used. Results/Conclusions: Age and education are related to the option of being aged at home, especially at younger ages (lower levels of disability) and higher levels of education (better financial conditions). Health is an essential factor when choosing a future residence, and individuals with a better perception of their health status and with lower levels of disability prefer to stay at home.

*Who Benefits Most of a Cognitive Behavioural Group Programme to Manage Concerns about Falling in Older Adults?*

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Category: Behavioural and Social Sciences/Housing, generations and mobility

Introduction: Concerns about falling are common in older adults and can lead to a decrease in physical activity, social engagement and quality of life. In a randomized controlled trial (RCT), a cognitive behavioural group programme showed effective in reducing concerns about falling, increasing daily activity and reducing the number of recurrent fallers. This study explored who benefited most from the programme regarding concerns about falling. Material and methods: Secondary data analyses of the RCT concerning the 8-week cognitive behavioural group programme were performed (n = 540). Linear mixed models (intention-to-treat and on-treatment analyses) were applied to explore whether participant characteristics moderated the programme effect on concerns about falling directly after the programme. Nineteen demographic, health and socio-cognitive characteristics were taken into account. Results: Most participant characteristics did not moderate the programme effects on concerns about falling directly after the programme. In the intention-to-treat analysis, symptoms of depression significantly moderated the programme effects. This implied that older adults with more symptom of depression benefited more from the programme, i.e., their concerns about falling barely increased due to the programme's buffering effect. In the on-treatment analyses, symptoms of depression, ADL (activities of daily living) disability, perceived consequences of falling (loss of independence subscale), and perceived general health significantly moderated the effects. Conclusions: Older adults with more symptoms of depressions, more ADL disability, more perceived consequences of falling (loss of independence) and fair perceived general health may benefit more from a cognitive behavioural group programme regarding concerns about falling.

*Will Your Child Take Care of You in Old Age? Unequal Caregiving from Adult Children to Older Parents in Sweden*

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Category: Social Research, Policy, and Practice/Housing, generations and mobility

Introduction: Informal care provided by adult children is an important and increasing part of the care received among older parents in need of care. While caregiving can be a positive experience, it is also associated with poor health and negative financial outcomes among intensive caregivers. Though intensive care provision is known to differ by child gender little is known about the meaning of both gender and socioeconomic position in relation to overall care and care intensity. Material and methods: Data from the nationally representative 2011 SWEOLD survey was used, including child specific information from parents aged 76 years and above. Analyzes were performed with ordinal logistic regression, presented as average marginal affects and predicted margins. Results: Around one third of all children provided care to a parent; most commonly transportation often in combination with other practical tasks of a relatively low-intense character. Nearly ten percent provided two or more tasks including personal care tasks. Adjusting for child and parental characteristics as well as geographical proximity stratified social class analyses revealed gender differences among working-class children where daughters provided more care than sons. Patterns across caregiving groups suggested that this relative difference increased with amount of care tasks provided. Overall, regardless of care intensity, working-class daughters were more often caregivers than any other children. Conclusion: There are gender and social class inequalities in intra-family intergenerational care, even in a strong welfare state and equality conscious country as Sweden. Knowledge about levels and patterns of family care transfers has important implications for how to reduce unequal caregiving in present and future generations.

*Years with and without Home Based Services for The 70+ Population in Norway. Trends over Three Decades 1995–2016*

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Category: Social Research, Policy, and Practice/Morbidity, medical treatment and ageing processes

**Introduction:** Life expectancy (LE) is increasing worldwide, while there is lack of information on years of formal care use among the aging population. The current study examined the trend of LE for formal care use among Norwegian older adults over three decades 1995–2016 in Norway. **Methods:** A total of 25,263 participants aged 70+ were included in the Trøndelag Health Study (HUNT) survey 2 (1995–97), 3 (2006–08), and 4 (2017–19). Participants reported the use of formal basic help and nursing in the home. Prevalence of home based services were standardized to the Norwegian population by age, sex and education using post stratification weights. Finally, LE was estimated using National mortality data by age, sex and education combined with the formal service use data using the Sullivan method to estimate expected years with and without basic services and nursing services in Norway. **Results:** During 1995/97–2017/19, the service use decreased from 22.6 to 6.2% for basic help care, and 6.4 to 5.5% for receiving home nursing. LE at age 70 from 1995 to 2016 increased 3.4 years in men, and 2.4 years in women. Expected years receiving basic help decreased by 1.1 years (2.6 to 1.5 years) in men and 1.6 years (4.5 to 2.9 years) in women, while LE for home nursing increased from 0.7 years (0.7 to 1.4 years) in men and 1.3 years (1.4 to 2.7 years) in women. **Conclusions:** Years receiving home nursing increased during 1995–2016, while years receiving basic help care decreased in the older Norwegian population.

**Conflicts of Interest:** All abstracts and information are published as submitted by the authors, but figures and tables are removed, and are not the responsibility of the Journal of Aging and Longevity or the meeting organizers.

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