

were 0.82 (0.73, 0.90) and 0.99 (0.89, 1.08) respectively. Responses were consistent across vignette gender and most respondent characteristics. However, the relative importance given to different dimensions varied with respondent's age. Differences for social engagement remained fairly constant at all ages, while the relative importance of disease decreased somewhat with increasing age. In contrast, differences for physical function, cognitive function, and productive engagement increased with increasing age.

**Conclusion** Clinical definitions of successful ageing that focus on longevity and disease do not reflect the views of the general population. In order to support and promote successful ageing, practitioners and policy makers should be aware of older people's priorities for ageing and, in particular, understand how these differ from their own.

OP83

### #IS VOLUME OF PHYSICAL ACTIVITY MORE IMPORTANT THAN PATTERN OF ACCUMULATION FOR ONSET OF CARDIOVASCULAR DISEASE? A PROSPECTIVE STUDY OF OBJECTIVELY MEASURED PHYSICAL ACTIVITY INTENSITIES AND SEDENTARY BEHAVIOUR IN OLDER MEN

<sup>1,2</sup>BJ Jefferis\*, <sup>1,2</sup>TJ Parsons, <sup>1,2</sup>C Sartini, <sup>1,2</sup>S Ash, <sup>1</sup>LT Lennon, <sup>1</sup>O Papacosta, <sup>1</sup>SG Wannamethee, <sup>3</sup>IM Lee, <sup>4</sup>PH Whincup. <sup>1</sup>Primary Care and Population Health, University College London, London, UK; <sup>2</sup>Physical Activity Research Group, University College London, London, UK; <sup>3</sup>Harvard Medical School, Brigham and Women's Hospital, Boston, USA; <sup>4</sup>Population Health Research Institute, St George's University of London, London, UK

10.1136/jech-2018-SSMabstracts.82

**Aim** To understand how device-measured sedentary behaviour and physical activity are related to cardiovascular disease (CVD) events in older men, an age-group with high levels of physical inactivity and sedentary behaviour. Activity monitors permit investigation of different activity intensities, (including light activity which is hard to recall) and the pattern of accumulating activity, (such as doing moderate to vigorous physical activity (MVPA) in 10 min bouts) or breaking up periods of sedentary behaviour.

**Methods** Prospective population-based cohort study of 7735 men recruited from 24 UK General Practices in 1978–80. In 2010–12, 3137 surviving men were invited to complete a questionnaire about medical history and health behaviours and to wear an Actigraph GT3x accelerometer over the hip for 7 days. Physical activity intensity was categorised as sedentary: <100 counts/minute, light: 100–1040 counts/minute and moderate to vigorous PA (MVPA): >1040 counts/minute. A sedentary break was the interruption of a sedentary bout lasting >1 min by ≥1 min of activity >100 counts/minute. Men were followed up for CVD morbidity (ICD9 410–414 and 430–438) and mortality from 2010–12 to 1 st June 2016. Cox proportional hazards models estimated Hazard Ratios (HRs) for CVD according to physical activity measured in 2010–12, controlling for confounders.

**Results** 1,566/3137 (50%) men returned an accelerometer with data and 1528 (49%) had ≥600 minutes/day wear time on ≥3 days. 254 men with pre-existing CVD were excluded, leaving 1274 men. Participants' mean age was 78.4 (range 71–92) years. After median 4.6 years follow-up, 82 first CVD events occurred in 1181 men with complete covariate data. For each additional 30 min in sedentary behaviour, light physical activity, 10 min in MVPA, or 1000 steps/day, hazard ratios for CVD mortality were 1.08 (95% CI 0.98, 1.18), 0.96

(95% CI 0.85, 1.08), 0.89 (95% CI 0.81, 0.98) and 0.86 (95% CI 0.77 to 0.96) respectively. Adjustments for confounders little changed the estimates. The hazard ratio for accumulating 150 min MVPA/week irrespective of bout length (achieved by 66% of men) was 0.54 (95% CI, 0.34 to 0.87) and for accumulating 150 min MVPA/week in bouts lasting ≥10 min (achieved by 16% of men) was 0.49 (95% CI, 0.21 to 1.13). Sedentary breaks were not associated with CVD events.

**Discussion** In older men, a higher number of steps per day or accumulating more MVPA (irrespective of bouts lasting ≥10 min) was associated with reduced CVD risk. Hence, in this population CVD prevention could focus on accumulating time in activities like brisk walking each day. Future studies should replicate analyses in women and younger populations.

OP84

### IS SOCIAL DISADVANTAGE A CHRONIC STRESSOR? SOCIOECONOMIC POSITION AND CHRONIC STRESS AMONG OLDER ADULTS LIVING IN ENGLAND

G Chatzi\*, T Chandola, A Cernat, N Shlomo. *Social Statistics, University of Manchester, Manchester, UK*

10.1136/jech-2018-SSMabstracts.83

**Background** Living in social disadvantage has been conceptualised as a chronic stressor, although this contradicts evidence from recent studies using hair cortisol as a measure of hypothalamus-pituitary-adrenal (HPA) axis activity. The methodological limitations of previous studies investigating the association between socioeconomic position (SEP) and hair cortisol and cortisone are taken into account in this study which examines if lower SEP is associated with higher levels of HPA axis activity as measured by hair cortisol and cortisone among older adults.

**Methods** Cortisol and cortisone levels in hair samples from 2468 participants in the 6th wave of the English Longitudinal Study of Ageing (ELSA) are examined, in relation to educational attainment, wealth, social class, and employment status. Multivariable linear regression models were used to examine the association between socioeconomic position and cortisol and cortisone levels. Inverse probability weighting and multiple imputation were used to compensate for missing data. Interactions between social class and employment status were tested. All models were adjusted for gender, age, interaction between gender and age, ethnicity, marital status, hair treatment, hair colour, nurse visiting month, smoking status, body mass index, self-assessed health, number of medications, and depressive symptoms.

**Results** We found significant differences between the most and least advantaged social classes in their levels of hair cortisol and cortisone. Participants in the lower supervisory social class and retired had increased levels of cortisol (0.71 log(pg/mg), 95% CI 0.14 to 1.28) and cortisone (0.73 log(pg/mg), 95% CI 0.29 to 1.16) compared to participants in the most advantaged social class and those still in work. Among the economically inactive, the most disadvantaged social classes clearly had increased levels of hair cortisol and cortisone. Further analyses that take missing data into account showed that the complete case estimates of hair cortisone in the most disadvantaged groups were underestimated compared to estimates accounting for missing data, such as inverse probability weighting and multiple imputation.

**Conclusion** This study demonstrates that social disadvantage as measured by low SEP is correlated with increased HPA axis activity. The conceptualisation of social disadvantage as a chronic stressor may be valid and previous studies reporting no associations between SEP and hair cortisol may have some methodological limitations. Future analyses using biosocial data may need to take into account and adjust for missing data in biosocial analyses.

OP85

### INVESTIGATING THE HEALTH OF OLDER CARERS WITHIN DIFFERENT SOCIAL CARE SYSTEMS IN IRELAND AND ENGLAND: EVIDENCE FROM THE IRISH LONGITUDINAL STUDY ON AGEING (TILDA) AND THE ENGLISH LONGITUDINAL STUDY OF AGEING (ELSA)

<sup>1</sup>CA McGarrigle\*, <sup>1</sup>S Leahy, <sup>1,2</sup>RA Kenny. <sup>1</sup>The Irish Longitudinal Study on Ageing, Trinity College Dublin, Dublin, Ireland; <sup>2</sup>Mercer's Institute for Successful Ageing, St James' Hospital, Dublin, Ireland

10.1136/jech-2018-SSMabstracts.84

**Background** The continuing social participation of older people through informal caring of family members and friends provides an important economic and social contribution to society. Participation in leisure activities and supportive social ties have been associated with improved physical and mental health. These health effects work through a number of pathways, both behavioural and psychological, which can result in better health behaviours, and buffering of the harmful effects of stress. We investigated and compared the prevalence of the provision of informal caring by the older population in Ireland and England. We investigated predictors of, and health outcomes associated with informal caring and determined whether these are moderated by social participation and receipt of formal care services and support in two different social care systems.

**Methods** We examined measures of physical function (hand-grip strength), mental health (CES-D, CASP-12), economic and social participation, associated with provision of informal care, using multivariate models, in the Irish Longitudinal Study on Ageing (TILDA) (Wave 3, 2014, n=6,649), and the English Longitudinal Study of Ageing (ELSA) (Wave 6, 2012–2013, n=10,372). Caring was defined as having provided care for at least one hour: in the last month, the last week and the numbers of hours of care.

**Results** A higher proportion of the population aged 50 and over reported caring in the last month in England (22.3%) compared to Ireland (8.9%). Caring was associated with similar characteristics (younger age, female, not employed and being married). There were similar health outcomes for both countries. The health outcomes associated with providing low intensity caring (<20 hours/week) were higher grip strength (ELSA  $\beta=1.12$  (95% CI 0.63, 1.61)  $p<0.001$ ), higher quality of life (TILDA  $\beta=1.23$  (95% CI 0.44, 2.03)  $p=0.002$ ; ELSA  $\beta=0.38$  (95% CI -0.01, 0.78)  $p=0.056$ ) and lower depressive symptoms (ELSA  $\beta=-0.11$  (95% CI -0.20, -0.03)  $p=0.007$ ). In contrast, intensive provision of care (50+hours/week), was associated with lower quality of life (ELSA  $\beta=-1.57$  (95% CI -2.19, -0.95),  $p<0.001$ ) and more depressive symptoms (TILDA  $B=1.02$  (95% CI 0.24, 1.80)  $p=0.01$ ; ELSA  $B=0.27$  (95% CI 0.14, 0.41)  $p<0.001$ ). These associations were moderated by active social activities, positive social relationships and access to formal care services ( $p=0.05$ ).

**Conclusion** Across two separate social care systems, the older population contribute substantially to the support and informal care of their family and friends. Overall, informal caring was associated with positive health outcomes, but this depended on both intensity of care provided and accessibility to both social supports and formal care provision.

## Late breaking abstracts

LB1

### IS HIGHER PERCEIVED SOCIAL SUPPORT RELATED TO GREATER PARTICIPATION IN CARDIOVASCULAR DISEASE (CVD) RISK REDUCING BEHAVIOURS FOR PEOPLE WITH SEVERE MENTAL ILLNESSES (SMI)?

<sup>1</sup>A Burton\*, <sup>2</sup>K Walters, <sup>1</sup>D Osborn. <sup>1</sup>Division of Psychiatry, University College London, London, UK; <sup>2</sup>Department of Population Health and Primary Care, University College London, London, UK

10.1136/jech-2018-SSMabstracts.85

**Background** The mortality gap for people with SMI from CVD is increasing. Studies have found a positive relationship between perceived social support and CVD outcomes in the general population; however there has been less research in people with SMI. Social support may influence CVD outcomes through encouraging participation in healthy lifestyle activities. **Aims** To assess whether higher social support as measured by the Medical Outcomes Study–Social Support Survey (MOS-SSS) is associated with greater attendance at primary care intervention appointments. Secondary outcomes included:

- adherence to CVD medications (Morisky Medication Adherence Scale (MMAS)),
- physical activity (International Physical Activity Questionnaire (IPAQ)),
- diet (Dietary Instrument for Nutrition Education (DINE))
- alcohol consumption (Alcohol Use Disorders Identification Test (AUDIT)),
- self-reported smoking behaviour

**Methods** Longitudinal and cross sectional studies involving 326 patients with SMI and raised CVD risk factors. Participants were recruited from 76 GP practices in England to a clinical trial assessing the effectiveness of a behavioural intervention for reducing CVD risk in people with SMI against routine GP practice care. Secondary data analysis used random effects linear regression models for continuous outcomes, logistic regression for binary outcomes, and Poisson/negative binomial regression models for count outcomes.

**Results** A weak association between social support and attendance at primary care intervention appointments was identified. As social support scores increased by one point, the appointment attendance rate increased by 0.5% (IRR=1.0053; 1.0001–1.0105,  $p=0.05$ ). When sex, age, ethnicity, diagnosis and deprivation were entered into the model, this association decreased to 0.3% and was no longer significant (IRR=1.0032; 0.9980–1.0085,  $p=0.23$ ).

A strong association between social support and CVD medication adherence was identified. The odds of being in the moderate/high adherence group compared to the low adherence group increased by 3.9% with a one point increase on the MOS-SSS (OR=1.0385; 1.0176 to 1.0598,  $p<0.001$ ). This association remained significant when sex, age, ethnicity,