this study we assess the contribution of early adulthood trajectories through education, employment or inactivity (age 16–24y) to cardiovascular health in mid-adulthood (age 46y).

Methods Participants are from BCS70 (n=7,061) with data on education participation and economic activity during early adulthood and cardiometabolic outcomes at age 46y. Longitudinal latent class analysis was used to identify groups following different socioeconomic trajectories across ages 16–24y, based on participation in education, employment within different occupational classes, unemployment or inactivity. Cardiometabolic outcomes (waist circumference, systolic blood pressure (SBP), log-HDL cholesterol, log-triglycerides, HbA1c) at age 46 were regressed on early adulthood socioeconomic trajectory class, with and without adjustment for adult socioeconomic position (SEP) (age 46). All models were adjusted for sex, childhood SEP, adolescent health and early adulthood partnership and parenthood.

Results Six classes of early adulthood socioeconomic trajectory were identified, and labelled according to the primary activity engaged in: (1) Continued education, (2) Managerial employment, (3) Skilled non-manual employment, (4) Skilled manual employment, (5) Partly skilled employment, (6) Inactive. There was an increasing trend in waist circumference and triglycerides across classes 1–6 at age 46. Compared to the 'Continued education' class, waist circumference showed an increase of 1.87 cm (95%CI 0.84,2.91) in class 2, to 3.94 cm (95%CI 2.35,5.52) in class 6, and triglycerides an increase of 9.69% (95%CI 3.26,16.53) in class 2 to 14.27% (95%CI 3.88,25.7) in class 6. Compared to the 'Continued education' class, SBP was higher in classes 2–5, e.g. an increase of 1.18 mmHg (95%CI 0.06,2.29) in class 2, and HDL cholesterol lower in classes 2–6, e.g. -3.51% (95%CI -5.71,-1.25) in class 2. No difference was seen in HbA1c levels across classes. Adjustment for occupational social class at age 46 resulted in only a small attenuation of these coefficients.

Conclusion Identification of socioeconomic trajectories allows assessment of socioeconomic exposures across the transitional period of early adulthood. These findings support the hypothesis that these exposures of early adulthood may contribute to development of behaviours or psycho-social factors which persist through adult life; further research is needed to understand these pathways, and the extent to which early adulthood socioeconomic trajectories are mediated by SEP in later life.

OP74

ASSOCIATIONS OF FREE-LIVING SITTING TIME AND PHYSICAL ACTIVITY WITH GRIP STRENGTH AND STANDING BALANCE PERFORMANCE IN THE 1970 BRITISH COHORT STUDY

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Background Many physical activity (PA) guidelines now include recommendations on strength and balance training, reflecting growing recognition of the importance of maintaining physical capability for healthy ageing. However, these recommendations are not widely communicated and are often targeted at older adults where most research evidence has

been generated. Less well understood is whether there are benefits of greater levels of participation in physical activity and of reducing sedentary time for strength and balance earlier in adulthood. We therefore aimed to examine the associations of sitting time and time spent physically active with grip strength and standing balance performance in middle-age.

Methods A total of 4,726 men and women from the 1970 British Cohort study, with data on free-living sitting and activity (ascertained over 7 days using a thigh-mounted accelerometer (activPAL3 micro)), grip strength and standing balance performance at age 46 years were included in analyses. Linear and multinomial logistic regression models were used to test associations of sitting time, time spent in moderate-vigorous physical activity (MVPA) and total PA time with maximum grip strength and standing balance performance, respectively. Models were adjusted for wear time, sex, body mass index, height, disability, self-rated health, malaise, smoking and education.

Results Greater time spent sitting was associated with weaker grip strength in both sexes and this was maintained after adjustment for potential confounders and MVPA time (fully-adjusted regression coefficient: -0.51 kg (95% CI: -0.63, -0.39) per 1 hour of sitting per day). Positive associations between total PA time and grip strength were observed in confounder-adjusted models but were fully attenuated after adjustment for sitting time. There was only weak evidence of an association between sitting time and balance performance. However, there was evidence to suggest that participants who spent more time in MVPA and total PA had higher relative risks of successfully balancing for 30 seconds with their eyes closed (vs poor balance performance). However, these associations were not maintained after adjustment for potential confounders.

Conclusion In a national sample of middle-aged adults there was a robust association between greater time spent sitting, measured using a gold-standard assessment, and muscle weakness. Associations of PA time with grip strength and balance performance were attenuated in fully-adjusted models. This highlights the potential importance of promoting less sitting and activities that specifically benefit muscle strength and balance performance in midlife to ensure that people maintain all important aspects of their physical capability as they age.

Friday 11 September

Non-Communicable Disease: Treatment

OP75

THE POTENTIAL IMPACT OF COGNITIVE REHABILITATION ON THE FUTURE BURDEN OF POST-STROKE COGNITIVE IMPAIRMENT IN IRELAND TO 2035: PRELIMINARY RESULTS USING A MODEL-BASED APPROACH

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Background Post-stroke cognitive impairment (PSCI) is a frequent consequence of stroke, and reduces quality of life and

increases care needs. We aimed to evaluate the impact of a hypothetical cognitive rehabilitation intervention on PSCI outcomes using the StrokeCog epidemiological model.

Methods We developed a probabilistic Markov model to project and track incidence and prevalence of PSCI in the Irish population aged 40–89 years to 2035. Data sources included official population and hospital episode statistics, and longitudinal cohort studies. Drawing on available systematic review evidence, we hypothesized that cognitive rehabilitation would reduce the risk of cognitive impairment no dementia (CIND) at 1 year post-stroke by 18% (scenario 1, S1, small effect) or by 54% (scenario 2, S2, medium effect) relative to usual care.

Results In usual care, the projected prevalence of post-stroke CIND in Ireland in 2035 was 6.7 per 1000 general population (95% CI 5.6–7.8), or 35% of stroke survivors (95% CI 30.5–38.8) (n=21026 prevalent cases). In S1 (small effect) the projected prevalence was reduced to 32.0% (95% CI 28.6–36.4) of stroke survivors (n=19652), and in S2 (medium effect) to 29.1% (95% CI 25.2–33.2) of stroke survivors (n=17672). The number of years of life lived free of cognitive impairment were increased by 6.3% in S1 (small effect) and 15.1% in S2 (medium effect).

Conclusion The StrokeCog model provides a tool for policy-makers and researchers to evaluate the potential impact of cognitive rehabilitation at different levels of intervention effectiveness. The model was based on conservative assumptions, and a less conservative approach could lead to a greater projected reduction in burden. Our next steps include analysis of quality of life outcomes and costs.

OP76

CHRONIC KIDNEY DISEASE IN CHILE: FINDINGS FROM THE CHILEAN NATIONAL HEALTH SURVEYS 2009–10 AND 2016–17

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Background Chronic kidney disease (CKD) is a leading global public health problem, with a substantial burden on healthcare systems; decreased quality of life, and poor prognosis for patients. In Chile, there is limited data on CKD prevalence and its distribution across population subgroups that impedes effective decision-making in the healthcare sector. The objectives were to estimate the prevalence of CKD among Chilean adults and examine its associations with sociodemographic characteristics, health behaviours, and comorbidities.

Methods Analysis of cross-sectional data from the two most recent large, nationally-representative Chilean Health Surveys (ENS) 2009–10 and 2016–17. The participants were individuals aged 15+ years with serum creatinine data (ENS 2009–10: n=4777; ENS 2016–17: n=5279). The primary outcome was reduced kidney function (CKD Stages 3a–5) based on estimated glomerular filtration rate (eGFR <60 mL/min/1.73 m²). Increased albuminuria (≥30 mg/g), the secondary outcome measure, was determined using the urine albumin-to-creatinine ratio (ACR) ascertained among adults aged 40+ years with diabetes and/or hypertension. Both

outcomes were analysed using logistic regression and the combined two-survey dataset, with results summarised using odds ratios (OR). CKD prevalence (Stages 1–5) among adults aged 40+ years was estimated using an expanded definition including participants with a reduced eGFR or an eGFR of at least 60 mL/min/1.73 m² but increased albuminuria (Stages 1–2). Analyses were adjusted for non-response and complex survey design.

Results Overall, 3.0% (95% CI: 2.4–3.8%) of adults in ENS 2016–17 had reduced kidney function. After full adjustment, participants with hypertension (OR 2.12; 95% CI 1.08–4.16) and those with diabetes (OR 1.66; 1.04–2.65) had significantly higher odds of reduced kidney function. 15.5% (13.5–17.8%) of adults aged 40+ years with diabetes and/or hypertension had increased albuminuria in 2016–17. Being obese versus normal weight (OR 1.66; 1.08–2.54) and having both diabetes and hypertension versus diabetes alone (OR 2.30; 1.34–3.95) were significantly associated with higher odds of increased albuminuria in fully-adjusted analyses. At least 15.4% of all adults aged 40+ in ENS 2016–17 had CKD (Stages 1–5) according to the expanded definition, including 9.6% of adults with CKD Stages 1–2.

Conclusion There is a high prevalence of Chilean adults at CKD Stages 1–2 that should be considered in the prevention strategies and Chilean healthcare guidelines.

OP77

THE PREVALENCE AND CHARACTERISTICS OF ADVERSE DRUG REACTION-RELATED HOSPITAL ADMISSIONS IN OLDER PATIENTS

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Background Older people experience greater morbidity with a corresponding increase in medication use resulting in a potentially higher risk of adverse drug reactions (ADRs). The aim of this study was to determine the prevalence and characteristics of ADR-related hospital admissions among older patients (≥ 65 years).

Methods A cross-sectional study of ADR prevalence in patients aged ≥ 65 years admitted acutely to a large tertiary referral hospital in Ireland over a 7 month period (November 2016–June 2017). A multifaceted review of each hospital admission was undertaken to assess the likelihood of an ADR being a reason for admission (cause of admission or contributing to admission) in the context of the patient's medication, clinical condition, medical history, comorbidities and investigations. A number of decision aids were also applied by two independent reviewers to assess ADR causality (Naranjo criteria, WHO criteria, Liverpool Algorithm). The avoidability (Hallas criteria) and severity (Hartwig severity assessment scale) of the ADR were also assessed. Differences in causality, preventability and severity were reviewed by a third reviewer.

Results In total, 3760 hospital admission episodes (in 3091 patients) were screened and 377 admissions were ADR-related (10.02%, 95% CI 9.06%, 10.98%); 43 admissions were due to ≥2 ADRs (N=424 ADRs). 360 (11.64% 95% CI 10.51%, 12.77%) patients had at least one ADR with 50 (16.18%) patients experiencing ≥ 1 ADR-related admission. In summary,