

aims to assess which factors moderate the effect of youth unemployment on mental health measured in the mid-twenties.

**Methods** We use data from Next Steps (formerly the Longitudinal Study of Young People in England) a cohort of secondary school children recruited at age 14 and followed up to age 25. We measure youth unemployment as six or more months worklessness between ages 18–20 (2008–2010), a period which includes the high youth unemployment rates which followed the global financial crisis. Our measure of mental health is the 12-Item General Health Questionnaire (GHQ) Likert score collected at age 25. We use multivariate OLS regression and add interaction terms to models to assess whether the association between youth worklessness and GHQ scores differs by: gender, locus of control (measured at age 15), parental socioeconomic class (age 14), and adolescent neighbourhood characteristics.

**Results** Our sample consists of 4,047 individuals, 14.4% of whom experienced six or more months worklessness between ages 18–20. Preliminary results show youth worklessness is associated with worse GHQ scores at age 25 (beta=0.13, 95% CI=0.043–0.218), an association which is somewhat attenuated adjusting for GHQ scores at age 15 (beta=0.08, 95% CI=-0.006–0.168). Comparing across groups, a significant association is only found amongst males (beta=0.18, 95% CI=0.056–0.309) and individuals from low socioeconomic class backgrounds (beta=0.13, 95% CI=0.043–0.218). (Corresponding figures for females (beta=0.017, 95% CI=-0.103–0.137) and those from higher socioeconomic class backgrounds (beta=0.012, 95% CI=-0.098–0.122).) There is little evidence that locus of control moderates the association between youth worklessness and later mental health (F-test for difference in coefficients for above vs below median locus of control: p=0.839).

**Conclusion** These results suggest the scarring effects of youth unemployment may be confined to certain groups. Future research should examine why youth unemployment may signal future difficulties amongst some individuals and not others. Policymakers looking to improve the long-term outcomes of unemployed young people may consider focusing on particular groups.

OP15

#### A LONGITUDINAL STUDY ON THE ASSOCIATION BETWEEN PERCEIVED NEIGHBOURHOOD CONDITIONS AND DEPRESSION IN 10,487 AGING EUROPEAN ADULTS: DO THE ASSOCIATIONS VARY BY EXPOSURE TO CHILDHOOD STRESSORS?

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**Background** Emerging literature emphasises the association between neighbourhood conditions and late life depression. Childhood experiences, crucial for life course development of mental health, may modify how neighbourhood affects subsequent depression. This study assessed the longitudinal associations between perceived neighbourhood and depression among older adults, and tested whether these associations varied by exposure to different childhood stressors.

**Methods** Data were drawn from the cross-national SHARE Survey, a 10-year probability sampled cohort study, representative for European adults aged 50 and over. Non-institutionalised respondents were included, if they provided answers on neighbourhood and depression at baseline (waves 1 or 2), participated in the life history assessment (wave 3), and had at least one assessment of depression during the follow-up (waves 4–6). Neighbourhood was assessed with four binary questions, capturing the subjective perception of access to services (public transportation, neighbourhood amenities) and neighbourhood nuisance (crime, air pollution and environmental problems) in the area surrounding the place of residence. Childhood stressors, defined as socioeconomic conditions, adverse experiences and health problems, were derived from retrospectively collected questions. Depression was measured with the EURO-D scale; the cut-off score of  $\geq 4$  indicated clinically significant levels of depressive symptoms. Multilevel logistic regression estimated the risk of depression. We conducted sensitivity analyses by using continuous EURO-D scores in multilevel linear regression and adjusting final models for urban-rural difference. All models were conducted in R Studio.

**Results** The final sample comprised 10,487 participants with 18,899 observations during follow-up, living in 13 European countries. After controlling for sociodemographic and health covariates, as well as baseline depression, access to services were negatively (OR=0.81, 95% CI 0.71–0.93) and neighbourhood nuisance positively (OR=1.29, 95% CI 1.12–1.47) associated with depression during follow-up. We found interactions between neighbourhood and childhood socioeconomic conditions, but not with adverse experiences and health problems. While older adults who grew up in better childhood socioeconomic conditions benefited more from living in a residential area with good access to services, they were at higher risk of developing depression when residing in areas with more neighbourhood nuisances.

**Conclusion** Older adults' mental health can benefit from better access to services, while neighbourhood nuisance increase the risk of depression. Importantly, socioeconomic circumstances in early life may influence vulnerability to neighbourhood effects. Limitations, concerning self-reported measures and retrospectively collected childhood indicators warrant for cautious interpretations. Future research on neighbourhood effects should prioritise the implementation of the life course approach, while policy should consider neighbourhood as a public health opportunity supporting healthy ageing.

## Cardiovascular Disease

OP16

#### ASSOCIATIONS OF CHOLESTEROL TARGETS AND MORTALITY WITH STATIN ADHERENCE IN NHS GREATER GLASGOW & CLYDE'S POST MYOCARDIAL INFARCTION POPULATION

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**Background** Under SIGN cardiovascular disease guidelines (2007, 2017), patients >40 years in Scotland are classified as being at high or low risk of a CVD event in the next ten

years, with secondary prevention patients automatically considered high risk. The guidelines in Scotland, and elsewhere, state that statins should be offered in secondary prevention regardless of their plasma lipid concentration and that annual monitoring of lipid concentration represents good practice. This descriptive analysis investigated the demographics of a secondary prevention population, their estimated adherence to statin medication and whether targets for cholesterol reduction were achieved.

**Methods** Data was extracted from the NHS Greater Glasgow and Clyde (NHS GGC) Safe Haven for all patients with a record of a non-fatal myocardial infarction (MI) occurring between 1st March 2008 and 1st March 2014, together with their demographics, lipid concentrations, and statin dispensing records up to 1st March 2017. Estimated adherence for each year post MI was calculated from the dispensing records using the Medication Possession Ratio (MPR) and averaged across the years available for each patient. Descriptive statistics were presented using raw counts and percentages, and means and standard deviations, for categorical and continuous variables respectively. Logistic regression examined associations between adherence and cholesterol targets, and adherence and mortality, and were also adjusted for age, sex, year of MI and deprivation quintile, with results presented as odds ratios (OR).

**Results** In the population, 11,568 patients had a previous non-fatal MI, and were predominantly male (7,002, 60.5%), had a mean age at admission of 66.9 years (SD: 13.9), and approximately a third died before 1st March 2017 (4,053, 35.0%). 10,469 patients had at least one year's follow-up allowing average adherence to be estimated and one third (3,360, 32.1%) had an average statin adherence <80%. Patients with <80% adherence were associated with lower odds of achieving target 40% non-HDL reduction (OR: 0.387 [95% CI: 0.336, 0.446]), which were unaltered after adjustment (OR 0.392 [95% CI: 0.339, 0.452]). These patients were also associated with higher odds of mortality (OR: 1.717 [95% CI: 1.571, 1.877]), with some attenuation following adjustment (OR: 1.653 [95% CI: 1.486, 1.839]).

**Conclusion** In the NHS GGC post MI population, patients with lower statin adherence were associated with lower odds of achieving cholesterol targets set by current guidelines and higher odds of mortality. However, a large proportion of patients achieved targets and had excellent adherence, questioning the need for regular lipid monitoring.

OP17

#### BIOPSYCHOSOCIAL DETERMINANTS OF CARDIOVASCULAR AND DEMENTIA RISK: AN EXAMINATION OF DIFFERENTIALS IN A REPRESENTATIVE STUDY OF THE ENGLISH POPULATION

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**Background** Growing evidence supports a strong and likely causal association between cardiovascular disease (CVD) and dementia incidence. Several cardiometabolic risk factors including smoking, sedentary behaviour, hypertension, and diabetes are common to both conditions, but less clear is the predictive value of inflammatory markers, alcohol consumption or depression. We investigated the congruity and difference across 10 CVD and dementia risk factors in a representative cohort of the English population.

**Methods** Data come from the English Longitudinal Study of Ageing, an ongoing, open, prospective cohort study. CVD was defined as the fatal and non-fatal myocardial infarction, angina pectoris and stroke. Dementia was determined using doctor-diagnosis combined with a score above the threshold of 3.38 on the Informant Questionnaire on Cognitive Decline in the Elderly. A triangulation method was also used to derive these outcomes using the Hospital Episode Statistics (HES) records. We investigated 10 risk factors: alcohol, smoking, sedentary behaviour, hypertension, diabetes, depressive symptoms, obesity (defined as  $\geq 30$  body mass index (BMI)), HDL/total cholesterol and inflammatory markers (serum fibrinogen and C-reactive protein [CRP]) in 3,981 men and women, free of CVD or dementia and aged 50+ at baseline (2008–09). Multinomial logistic regression models were fitted to estimate the relationship (relative risk ratios [RRR] and 95% confidence intervals [CI]) between each factor, and the risk of CVD, dementia or both.

**Results** From the analytical sample, 13% developed CVD, 4% dementia and 1.5% both CVD and dementia during the eight-year follow-up period. After controlling for sociodemographic factors (age, sex, education and wealth), we found that hypertension (RRR=1.66, 95% CI 1.35–2.04), depressive symptoms (RRR=1.55, 95% CI 1.15–2.08), and obesity (RRR=1.37, 95% CI 1.03–1.83) were predictive of an increased risk of CVD; smoking (RRR=2.04, 95% CI 1.14–3.65) was associated with a higher risk of dementia; whilst smoking (RRR=2.34, 95% CI 1.03–5.27) and depressive symptoms (RRR=4.03, 95% CI 2.12–7.66) were predictive of developing both CVD and dementia. We found no associations between inflammatory markers, alcohol consumption or sedentary behaviour and these outcomes.

**Conclusion** Our findings indicate that smoking and depressive symptoms are associated with an increased risk of developing both CVD and dementia in later life, while obesity and hypertension are specific to CVD. There is relatively limited congruency across the predictive values of the 10 biopsychosocial risk factors investigated for these conditions. However, larger studies with longer periods of follow-up are necessary to extend these findings.

OP18

#### WHAT EXPLAINS THE EFFECT OF EDUCATION ON CARDIOVASCULAR DISEASE? APPLYING MENDELIAN RANDOMISATION TO IDENTIFY THE CONSEQUENCES OF EDUCATION INEQUALITY

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**Background** Studies have demonstrated causal effects of educational attainment on cardiovascular disease (CVD). We aimed to investigate the role of body mass index (BMI), systolic blood pressure (SBP) and smoking in explaining the effect of education on risk of CVD outcomes triangulating across multi-variable regression analysis of observational data and one- and