

and whether these have implications for mental and sexual wellbeing.

We aimed to identify different clusters of adverse outcomes, to investigate associated socio-demographic and lifestyle factors, and to compare risk of depression and low sexual wellbeing (dissatisfaction and distress with sex life) between groups.

Methods We used data from the British National Surveys of Sexual Attitudes and Lifestyles (NATSAL 3, 2010–2012; men $n=5113$; women $n=7019$; ages 16–74). Latent Class Analysis (Mplus, version 8) used 16 variables relating to sexually transmitted infections (and associated sexual risk behaviours and attitudes), sexual coercion and sexual function problems, with men and women analysed separately. Multinomial logistic regression (Stata/SE14.2) assessed factors associated with class membership.

Results We found four groups for men, and six for women. Male groups were: *low risk/problems* (81%), *sexual function problems* (9%), *worried risk-takers* (5%) and *unworried risk-takers* (5%). Female groups were: *low risk/problems* (60%), *sexual function problems* (7%), *worried risk-takers* (3%), *unworried risk-takers* (8%), *sex-avoiding* (20%) and *high vulnerability* (2%). *Unworried risk-takers* did not perceive themselves as being at risk, whereas *worried risk-takers* did. *Unworried* were more likely than *worried risk-takers* to be older (men: OR 2.2; 95% CI 1.1 to 4.2), or smokers (women: OR 1.7, 95% CI 1.1 to 2.6). The *high vulnerability* group (found in women only) reported sexual risk, sexual function problems and coercion, and was characterised by drug and alcohol use (compared to *low risk/problems* group, OR 3.5, CI 1.5–8.3). Compared to *low risk/problems* groups, other groups were more likely to be depressed, distressed and dissatisfied with their sex life, with odds ratios (all $p<0.05$) for different groups ranged as follows: depression: men 2.1–3.5, women 2.9–8.4; distressed: men 1.5–4.9, women 3.2–13.9; dissatisfied: men 2.6 (only sexual function problems group $p<0.05$), women 2.1–11.9. The highest odds occurred among women in the *high vulnerability* and *sexual function problems* groups.

Conclusion Identification of different sexual risk/problem groups, all at risk of depression and low sexual well-being, is helpful for planning sexual health policies and services. Of particular interest are two distinct groups of risk-takers (worried and unworried), and a group of women (but not men) who are vulnerable to a range of adverse sexual health outcomes and warrant particular public health attention.

RF6

INEQUALITIES IN NON-INITIATION OF HPV VACCINE: CROSS-SECTIONAL FINDINGS FROM A UK COHORT

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10.1136/jech-2018-SSMabstracts.95

Background HPV vaccination (HPVv) was introduced in the UK in 2008; currently 87%–93% of teenage girls receive at least one dose in school. Uptake is lower in more deprived areas, and, small regional studies report, among Black and minority ethnic groups. Associations with parental and household factors, and school attendance are less clear. Using data

from a UK prospective cohort we tested the hypothesis that HPVv initiation is lower among those with parents from Black and minority ethnic groups, living in low income households, and not attending school.

Methods We estimated the percentage of 5690 14 year-old girls participating in the Millennium Cohort Study whose parent reported HPVv initiation. We used logistic regression to calculate crude and adjusted odds ratios (OR) of HPVv initiation and examined associations with parental ethnic group (baseline White), school type (non-fee-paying (baseline)/fee-paying/no school), history of school exclusion (baseline no exclusions), and household income (OECD quintile (baseline highest quintile)). Analyses were weighted for survey design (Stata: Release 15; StataCorp LP).

Results 5265 girls (weighted percentage: 92.3w%; 95% CI 91.3, 93.2) received at least one dose of HPVv; 399 (7.2w%; 6.4, 8.1) no doses; 26 (0.5w%; 0.3, 0.9) not known. Parents from Bangladeshi (86.1w%; 80.3, 90.4), Black African (84.9w%; 75.7, 91.0) and 'other' ethnic groups (81.0w%; 70.4, 88.4) were less likely to report HPVv initiation compared to those of White ethnicity (93.6w%; 92.5, 94.5). HPVv initiation was lower in girls not attending school (61.1w%; 32.5, 83.7) and those previously excluded from school (85.2w%; 78.9, 89.9). After adjusting for age, ethnicity, school type, exclusions and household income, girls with parents from Bangladeshi (OR: 0.57; 0.35, 0.93), Black African (OR: 0.43; 0.23, 0.80) or 'other' ethnic groups (OR: 0.30; 0.16, 0.58), those not attending school (OR: 0.11; 0.04, 0.34), with a history of school exclusion (OR: 0.48; 0.30, 0.78), or living in low income households (lowest two OECD quintiles OR: 0.46; 0.31, 0.67 and OR: 0.51; 0.34, 0.76), were less likely to initiate HPVv.

Conclusion In the UK, there are marked inequalities in HPVv initiation, with lower uptake among children from poorer households, with parents from Bangladeshi, Black African or other ethnic groups, and those previously excluded or not currently in school. This is the first report of HPVv initiation using a nationally representative cohort. Further work is needed to evaluate interventions for HPVv catch-up in the groups we have identified, who may also be at greater risk of missing cervical screening. Understanding reasons for non-initiation and developing interventions to engage parents from these groups is central to reducing inequalities in HPVv uptake.

RF7

PREVALENCE OF CHRONIC OBSTRUCTIVE PULMONARY DISEASE (COPD) IN GREATER GLASGOW AND CLYDE: AN ECOLOGICAL STUDY BY AGE, SEX, SOCIOECONOMIC AND SMOKING STATUS

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10.1136/jech-2018-SSMabstracts.96

Background Previously it was estimated that Greater Glasgow and Clyde (GGC) had a COPD prevalence of 2.4%. COPD has traditionally been associated with males and those from deprived areas. Socioeconomic inequalities in COPD have been largely linked to socioeconomic inequalities in smoking, the most important risk factor for COPD in high income countries. This study aims to calculate the prevalence of COPD in GGC by age, sex, and SES adjusting for smoking status.

Methods Quality and Outcomes Framework (QOF) electronic records until May 2016 were linked to mortality data. COPD Prevalence was calculated by sex, age group (10-year age bands), and SES using SIMD quintiles. Smoking status (ever smoked and current smoker) was also collected by the QOF. Population estimates for smoking status by age sex and SIMD for GGC were calculated using three Scottish Household Survey rounds, 2013, 2014 and 2015. COPD prevalence rates by SIMD quintile were calculated, adjusting for age, sex, and smoking status.

Results Crude prevalence of COPD among all ages in GGC is 2.74% and among those aged 40 years+ in GGC was 5.67%, higher in females 5.95% than males, 5.36%. Comparing prevalence of COPD between males and females, rates were higher for males until age 39 and equivalent for ages 40–49 years. However, for 50–59 year olds prevalence among females was 3.84 compared with 3.15 among males, and for 60–69 year olds, prevalence was 8.15% for females compared with 7.26% for males. Thereafter prevalence was greater among males; for 70–79, 80–89 and 90+ years, prevalence among males was 11.81%, 12.03% and 7.56% respectively, compared with 11.76%, 10.58% and 6.38% among females. Prevalence of COPD in SIMD 1 (most deprived) was almost 3.5 times of that in SIMD 5 (least deprived). Adjusting for age and sex, SES inequalities in COPD increased with SIMD1 prevalence 4.8 times that of SIMD5. After adjustment for age sex and ever smoked, SIMD1 prevalence was 3.1 times that of SIMD5. After adjustment for age, sex and current smoking, SIMD1 prevalence was 2.45 times that of SIMD5.

Conclusion Prevalence of COPD in GGC is higher than previously estimated. It is also higher among females than males at ages 50–70 years. Inequalities in COPD are evident and become greater on adjustment for age and sex. Smoking accounts for around half of the gap in prevalence of COPD between most and least deprived, however inequalities in COPD persist after adjustment for smoking status.

RF8 LIFE COURSE SOCIOECONOMIC CIRCUMSTANCES AND DEMENTIA PREVALENCE: EVIDENCE FROM THE ENGLISH LONGITUDINAL STUDY OF AGEING

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10.1136/jech-2018-SSMabstracts.97

Background Dementia represents a major public health impact. Previous work showed that higher socio-economic status (SES) is protective against dementia, through mentally engaging and socially interactive occupations and activities. However, the associations with childhood SES and social mobility are not well understood. We examined four SES indicators (father's social class, own education, occupational class and wealth) as well as social mobility across life, in relation to dementia prevalence.

Methods The data used are from 2032 men and women aged ≥ 65 years at recruitment, from the English Longitudinal Study of Ageing (ELSA), an ongoing, representative prospective cohort study. Seven waves of data between 2002/03 (wave 1) and 2014/15 (wave 7) were analysed. Dementia was

determined by doctor-diagnosis combined with a score above the threshold of 3.38 on the Informant Questionnaire on Cognitive Decline in the Elderly. Education has been grouped into university degree, A-levels and no education, and occupation into professional, intermediate, routine and manual. Wealth (property, savings, or other financial assets) was divided in quintiles, while social mobility was derived by combining childhood SES and adult occupational class into three stable SES levels (low, medium, high), and upwards or downwards trends. The highest SES indicator or stable-high were used as reference groups. Multivariable logistic regressions were employed to estimate the associations between each baseline SES indicator and dementia prevalence by wave 7, while controlling for age, sex, marital status, long-standing limiting illness, and subsequent gradual adjustment for all other SES markers.

Results During the 12-year follow-up, 25% of sample developed dementia. Lower childhood SES was associated with a higher dementia risk (Odds Ratio (OR)=1.39 (95% Confidence Intervals (CI) 1.02–1.89), but explained by education. Education did not show a protective effect, but the lower occupational class was associated with higher dementia risk (OR=1.39 (95% CI) 1.02 to 1.89). However, this association was subsequently explained by wealth. Lowest wealth was a strong predictor of dementia, independent of other SES markers (OR=2.81 (95% CI) 1.83 to 4.32) in contrast to the wealthiest counterparts. Those in the stable-low category across life showed a higher risk (OR=1.65 (95% CI) 1.01 to 2.68) in contrast with those in stable-high SES. Upward or downward SES mobility trends did not show an impact.

Conclusion In an English, nationally representative sample, the incidence of dementia appeared to be socioeconomically patterned, primarily by the level of wealth and long-term SES disadvantage. Public health strategies for dementia prevention should target the socioeconomic gap to reduce health disparities and protect those who are particularly disadvantaged.

RF9 DOES MOVING INTO SOCIAL, INTERMEDIATE AND MARKET-RENT ACCOMMODATION IN EAST VILLAGE (THE FORMER LONDON 2012 OLYMPIC ATHLETES VILLAGE) IMPROVE SELF-RATED MENTAL HEALTH, WELL-BEING AND NEIGHBOURHOOD PERCEPTIONS? EVALUATION OF A NATURAL EXPERIMENT

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10.1136/jech-2018-SSMabstracts.98

Background Evidence suggests that where we live might be an important determinant of mental health and well-being, especially amongst the more disadvantaged. However, longitudinal evidence is limited. The Examining Neighbourhood Activities in Built Living Environments in London (ENABLE London) study aimed to establish whether mental health, well-being, and neighbourhood perceptions improved among adults relocating to East Village, purposely designed for healthy active living, when compared with a control population who lived outside East Village throughout.