Methods Systematic review of quantitative observational studies of an interaction, or effect modification, between preterm birth and SEC. Searches were conducted from five databases between January 2000 and June 2020, and all were identified for dual screening based on title and abstract review. Inclusion criteria was comparison across SEC and gestational age, interaction between the two, or stratification by either, and health or education as outcome. All included studies were citation searched. All studies were narratively synthesised and quality assessed.

Results After searches, 52 studies were identified for full text screening, of which nine met inclusion criteria. Citation searching produced ten more studies. The final sample (19) covered eight countries (all North America and Europe). Forty outcomes were identified, split into four categories; pre-school, primary school (5–11), secondary school (11–18), and post-school (18–29). Outcomes for pre-school was development/cognitive, school was cognitive/performance, and post-school was socioeconomic status. Health outcomes were neonatal mortality, ADHD medication prescription, and psychiatric diagnosis or disability post school. Varied measures of socioeconomic status were used as exposure. The majority (16) categorised preterm birth. Of the 18 studies that examined interaction, seven studies found there was a statistically significant interaction between measure of SEC and preterm birth. All interactions found demonstrate that the negative influence of preterm birth was stronger for those in low SEC. Outcomes which provide significant interaction included; cognitive outcome at 18, prescription of ADHD medication in childhood and adolescence, educational attainment at all levels, and psychiatric admissions in 23 to 29.

Discussion There is some evidence of an interaction between preterm birth and SEC on outcomes for children and young people; the negative effects of preterm birth were exacerbated by low SEC. The remaining evidence suggests the effects accumulate; this is potentially due to underpowered studies. A limitation of the evidence is reporting, some studies only reported whether interaction was significant. This evidence has important policy implications; the potential exacerbation, added to the socioeconomic inequalities in preterm birth, means there is a cohort of children with increased vulnerability, with specific needs that require further investigation.

P60 COMPARING LIFE COURSE AND CURRENT SOCIAL GRADIENTS IN GENERAL HEALTH AT AGE 50: A SIMPLE MEASURE OF INEQUALITY OF OPPORTUNITY FOR HEALTH

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Background Sophisticated measures of inequality of opportunity for health require the empirically challenging and ethically controversial task of disentangling causal networks between circumstances and choices throughout an individual's life. 'Life course' gradients – bivariate associations between childhood social circumstances and adult health – may provide a simple indicator of societal lifetime inequality of opportunity for health, since there is widespread ethical agreement children cannot be held responsible for their social circumstances. We compare conventional 'current' social gradients in adult health with 'life course' gradients, representing a simple inequality of opportunity metric.

Methods We use data from the UK 1958 National Child Development Study, applying multiple imputation methods to account for attrition. The primary health variable is SF-36 general health score (0–100) measured at age 50, with dichotomised self-assessed general health included as a robustness check. The primary SES variables are income, social class, and education measured at age 50 and age 16. SES variables at age 16 are measured by parental proxy and several alternatives are explored in robustness checks, including parental SES earlier in childhood. Gradients are calculated using the slope and relative indices of inequality (SII, RII) for SF-36 general scores and risk differences and ratios for self-assessed health.

Results Life course income gradients in SF-36 scores are 4.53 and 5.22 for women and men, respectively, using the SII ($p<0.001$) and 1.07 and 1.08 for women and men, respectively, using the RII ($p<0.001$). Life course gradients in SF-36 scores are also found using mother's education (SII: 11.32/10.84 for women/men, $p<0.001$; RII: 1.19/1.18 for women/men, $p<0.001$), father's education (SII: 9.97/7.75 for women/men, $p<0.001$; RII: 1.16/1.13 for women/men, $p<0.001$) and household social class (SII: 11.60/7.11 for women/men, $p<0.001$; RII: 1.19/1.12 for women/men, $p<0.001$). Life course gradients are approximately half the size of current gradients for parental education and women's parental social class and one third the size for parental income and men's parental social class. Results are robust across inequality measures, adult health variables, childhood SES variables, and missing data assumptions.

Discussion Children in the most socioeconomically disadvantaged households at age 16 tend to experience substantially worse general health at age 50 than children in the most advantaged households. This trend is more pronounced when using static SES markers such as education. Lifecourse social gradients provide a simple indicator of inequality of opportunity for health, which are 31–56% the magnitude of health inequality measured using conventional current social gradients.

P61 REGIONAL INEQUALITIES IN MULTIMORBIDITY WITHIN ENGLAND BETWEEN 2004 AND 2019: A DESCRIPTIVE EPIDEMIOLOGY STUDY USING THE CLINICAL PRACTICE RESEARCH DATALINK

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Background An estimated 25% of GP patients within the UK have multimorbidity (two or more chronic conditions), a large proportion of which is attributable to non-communicable diseases, many of them preventable. There are known regional inequalities in health across England, including for chronic diseases. This study aimed to describe regional inequalities in multimorbidity incidence and prevalence.

Methods We selected a random sample of 1m adults from the Clinical Practice Research Datalink (CPRD Aurum database) registered at participating GP practices within England between 2004 and 2019. Regions were defined by 2010 Strategic Health Authority boundaries as per the location of the participant's general practice. Participants were linked to

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