expenditure, also experienced more adverse trends in premature mortality.

Methods We carried out a longitudinal ecological analysis using data on housing services net expenditure in 146 upper tier local authorities in England between 2013 and 2018, linked to all-cause premature mortality rate (deaths under 75 years) for males and females. To analyse local authority expenditure on housing services we utilised Revenue Outturn data provided by the Ministry of Housing, Communities & Local Government; data on premature mortality was acquired from Public Health England. We used an instrumental variable approach to investigate this relationship to address model endogeneity. We used central government funding allocated to local authorities as an instrument because we expect it to influence health through its impact on levels of service expenditure but not influence health outcomes directly. We analysed the relationship between housing services spending and mortality using two-stage least squares linear regression with robust clustered standard errors and fixed area and time effects. We also adjusted for time-varying confounding effects of local economic conditions. We calculated our models with alternative specifications to test the robustness of our findings.

Results Average expenditure per person on housing services decreased from £41 in 2013 to £30 in 2018. Each £10 per person reduction was associated with a 17.6 increase in premature mortality rate for males (95% CI: 2.1 to 33.0) and 12.6 in females (95% CI: 2.1 to 23.1). Over the six-year period, reductions in spending were associated with 8,900 additional premature deaths (95% CI: 1,200 to 16,500).

Conclusion Reduction in spending for housing services may in part explain recent adverse trends in mortality in England. Investment in housing and homelessness support is likely to have a positive impact on health outcomes. Limitations of this study include restricting the time period of analysis to after 2013 due to changes in local government funding policy, and the reliance on area-level mortality data calculated over 3-year periods.

OP74 WHAT CAN THE HEALTH OF NURSES TELL US ABOUT INEQUALITIES?

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Background Unfair and avoidable inequalities in health, observed for decades, are pervasive and persistent in the United Kingdom and beyond. Policies that aim to reduce inequalities, or at least improve population health in the last decade have focused disproportionately on individual or behavioural factors, with little positive effect. Studying the health of a socioeconomically homogenous sample of Nurses, with intuitively preferential individual characteristics like high levels of education, can serve as a counterfactual – what would our health, and inequalities by deprivation, look like if we all had similar characteristics?

Methods Individual-level records (n = 478,802) from the nationally representative ONS (England & Wales) and Scottish Longitudinal Studies, linked to an adjusted UK-comparable measure of small-area deprivation have been used to compare self-rated health and inequalities in samples of economically active Nurses and Non-Nurses. Descriptive and correlational statistics have been used to assess the relative homogeneity of Nurses to Non-Nurses as well as wider trends in self-rated health and inequalities based on small-area deprivation. In addition, a logistic regression model was built to estimate the effect of Nurses status on self-rated health whilst adjusting for area deprivation and other potential confounders.

Results Nurses are older, predominantly female and are more socioeconomically homogenous than Non-Nurses measured on individual characteristics such as occupational social class or highest level of education. Nurses are more likely than Non-Nurses to live in the least deprived areas (45% vs. 41%) and report *Very Good* Self-Rated Health (59% vs. 52%). A social gradient by area deprivation exists for those reporting *less than good* health in both Nurses (Least deprived – 8%, Most deprived – 10%) and Non-Nurses (Least – 9.9%, Most – 18.4%). However, at each level of deprivation Nurses are less likely to report *less than good* health than Non-Nurses. A logistic regression model, adjusting for demographic characteristics & area deprivation found that the odds of reporting *good or better* health for Nurses was 1.33 (SLS - 95% CI 1.19 – 1.49) and 1.41 (ONS LS - 95% CI 1.32 – 1.52) times that of Non-Nurses.

Conclusion Nurses report better self-rated health than Non-Nurses and this persists even after adjustment for socioeconomic and demographic differences. This finding is consistent with analysis showing preferential health behaviours in UK Nurses. However, a social gradient by area deprivation still exists, even for a population with preferential individual socioeconomic characteristics.

OP75 MAPPING UK POLICIES AND STRATEGIES RELEVANT TO CHILD AND MATERNAL HEALTH TO IDENTIFY OPPORTUNITIES FOR UPSTREAM EVALUATIONS: INITIAL FINDINGS FROM THE MATERNAL AND CHILD HEALTH NETWORK (MATCHNET)

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Background Interventions to tackle the social determinants of health can improve outcomes during pregnancy and early childhood, leading to better health across the life-course. Variation in content, timing, and implementation of policies across the 4 UK nations holds great potential for quasi-experimental evaluations. We aimed to adapt systematic review methods to identify UK policies that potentially affect maternal and child health across the social determinants of health framework; and determine suitable candidates for quasi-experimental evaluation using administrative data.

Methods A systematic search strategy comprised open keyword (i.e. 'child', 'child health', 'child and maternal health') and category searches of UK Government websites (e.g. Children and Families, Education, Health and Social Care, Welfare) and extensive hand searching of existing policy reviews until

saturation was reached. We extracted information on geographical coverage and time periods. Quality assessment was carried out to rate and filter policies according to five criteria: 1. Potential for policy to affect maternal and child health outcomes; 2. Implementation variation across the UK; 3. Population reach and expected effect size; 4. Ability to identify exposed group in administrative data; 5. Potential to affect health inequalities. Finally, a consensus workshop was undertaken with experts to prioritise the included policies based upon existing knowledge.

Results The systematic search found 335 policies and 306 strategy documents. After filtering, 88 policies were found to vary across the 4 UK nations. Domains include: 32 welfare, 23 education, 20 health, 7 environment, 4 housing and 2 employment policies. Policies were mainly excluded due to criteria 2, 3 & 4. The consensus workshop identified three policies as suitable candidates for quasi-experimental evaluation using administrative data: Pregnancy grants (welfare), Early Years Childcare (education) and Universal Credit (welfare). These policies are broadly similar across countries but differ in timing of implementation and details of target populations, offering opportunities for evaluation of effectiveness. For example, pregnancy grants are given to first born children in all UK countries, but only to second and subsequent children in Scotland.

Conclusion Through applying systematic review methods to a policy search, we identified some valuable opportunities to evaluate upstream impacts on mother and child outcomes. However, many potentially impactful policies did not meet the criteria for quasi-experimental evaluation, which could lead to the inverse evidence law. This could be ameliorated by better access to administrative data (e.g. on eligibility criteria), staged implementation of future policies (affording greater cross-country variation) or alternative evaluation methods (e.g. simulations).

OP76 HOSPITAL-BASED PREVENTATIVE HEALTH SERVICES FOR PEOPLE EXPERIENCING HOMELESSNESS: SYSTEMATIC REVIEW AND NARRATIVE SYNTHESIS

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Background Preventative health services, such as screening, vaccinations, and referrals to health and social services, improve health outcomes and reduce healthcare utilisation, costs, and inequities. People experiencing homelessness have significant unmet needs, but data are lacking on preventative health service provision. We aimed to review literature on hospital-based preventative health services for people experiencing homelessness.

Methods We systematically searched MEDLINE, Embase, PsycINFO, HMIC, CINAHL, Web of Science, and The Cochrane Library. We hand-searched the bibliographies and citing references of included studies. We included experimental and observational quantitative studies involving preventative health services in emergency departments or inpatient hospital settings from 1999–2019. The population included adults experiencing homelessness in high income countries. We included outcomes for health, social factors, healthcare utilisation, and healthcare costs. We managed studies in Endnote and extracted data using a standardised spreadsheet. We assessed quality and bias using the 'Quality Assessment Tool for Quantitative Studies' and narratively synthesised findings.

Results We identified 7935 articles from searches and reviewed 149 full text articles. Thirty-two met our eligibility criteria and were conducted in the USA (n=15), UK (n=9), Canada (n=4), and Australia (n=4). Sixteen studies were undertaken in emergency departments, 13 in inpatient wards, and 3 were conducted in both settings. We identified eight intervention categories: 1) homelessness screening, 2) case management, 3) screening, treatment initiation and referrals, 4) vaccinations, 5) discharge planning, 6) assistance with social needs, 7) pharmacological treatment, and 8) psychosocial services. Most studies described multi-component interventions. Results showed improvements in housing status, mental health, quality of life, and uptake of vaccinations and screening. Some studies reported successful integration with follow-up services, while others reported poor rates of onward care. Studies tended to report reductions in unplanned healthcare utilisation and costs, though not consistently. None showed harms. The overall strength of the evidence was weak to moderate with few randomised controlled trials.

Discussion Hospital-based preventative health services can improve housing status and health and may reduce unplanned healthcare utilisation and costs for people experiencing homelessness. Definitive data are lacking for effective integration across healthcare systems. Policy-makers and practitioners should consider providing hospital-based preventative services to tackle unmet needs and health inequities. Our study is limited by the lack of qualitative, grey literature, and non-English studies. Future research should investigate barriers and levers for successful implementation of hospital-based preventative health services and the integration of hospitals with primary care and other services.

OP77 SOCIOECONOMIC DISADVANTAGE AND ETHNICITY ARE ASSOCIATED WITH LARGE DIFFERENCES IN COGNITIVE ABILITIES THAT UNDERLIE CHILDREN'S EDUCATIONAL OUTCOMES: ANALYSIS OF A PROSPECTIVE BIRTH COHORT STUDY

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Background Working memory (WM) is the ability to store and process information over short time periods. WM is a strong predictor of educational attainment; which is important for health and wellbeing across the lifecourse. There is controversy about whether or not different aspects of WM are affected by socioeconomic position, and very little known about how ethnicity may shape these relationships. We studied these interrelationships in a longitudinal study of children in Bradford, a multi-ethnic city with high levels of deprivation.

Methods Born in Bradford (BiB) is a prospective birth cohort study following the lives of over 13,500 children and their