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Rapid fire programme

RF1 THE IMPACT OF FISCAL POLICIES ON POPULATION HEALTH AND HEALTH INEQUALITIES IN SCOTLAND: A MODELLING STUDY

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Background Improving health and reducing health inequalities are important joint policy objectives. Income is a key social determinant of health, but robust evidence about the relative impacts of redistributive policies is rare. Our study aimed to estimate the potential impacts on health (premature mortality) and health inequalities of 15 fiscal policies in Scotland, including changes to income tax, council tax, and benefits, and two Universal Basic Income (UBI) schemes.

Methods EUROMOD, a detailed tax-benefit microsimulation model, was used to estimate changes in household income for each quintile of the Scottish Index of Multiple Deprivation (SIMD). Parametric survival models were used to model baseline mortality rates, and log-log models were used to estimate policy effect sizes. We estimated the impacts of each policy on premature mortality across the Scottish population after 3 years of follow up, compared to the baseline no-policy scenario, and assessed inequalities between SIMD quintiles. Data processing and modelling was conducted in R, Stata and Excel.

Results Policies predicted to both improve health and reduce health inequalities included one UBI scheme (while the other UBI scheme worsened health), replacing council tax with a local income tax, increasing Job Seeker's Allowance and Income Support, increasing tax credits, and increasing the Carer's Allowance. The health-beneficial UBI scheme would result in a 0.2% reduction in premature mortality for the whole Scottish population, a 6.1% reduction for the most deprived quintile, and a 24.7% reduction in relative inequality (as measured by the relative index of inequality). Policies that were less targeted to deprived communities either worsened health but reduced inequalities, or improved health while worsening inequalities.

Conclusion Fiscal policies have the potential for substantial effects on health and health inequalities in Scotland. The most effective policies for reducing health inequalities were those that disproportionately increased incomes in the most deprived areas. The modelling is subject to various assumptions and sources of uncertainty, but nonetheless highlights the importance of applying an inequalities lens to economic policy options.

RF2 DO PEOPLE IN MORE DEPRIVED AREAS HAVE A HIGHER RISK OF ALCOHOL-RELATED HOSPITAL ADMISSION, AFTER ACCOUNTING FOR INDIVIDUALLY RECORD-LINKED DATA ON ALCOHOL CONSUMPTION AND SMOKING?

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Background Greater area deprivation is associated with a higher risk of alcohol-related harm. Few studies have investigated longitudinal patterns of harm using record-linked alcohol consumption, and none considered drink type which is associated with deprivation. This study aims to investigate whether the type of drink is associated with the observed higher risk of alcohol-related hospital admission (ARHA) in people living in deprived areas.

Methods A total of 11 229 people aged 16 and over responded to the Welsh Health Survey in 2013 and 2014, consenting to data linkage. Responses were record-linked within the Secure Anonymised Information Linkage Databank (SAIL) to wholly attributable ARHA (defined by Public Health England) 8 years before the survey month until the end of 2016. They were censored for death or leaving Wales using the Welsh Demographic Service. To each lower super output area (LSOA) at survey month we linked the Welsh Index of Multiple Deprivation 2011, grouping the two more deprived quintiles and three less deprived quintiles. Alcohol consumption and smoking status throughout the study period were estimated from survey responses.

We estimated hazard ratios (HR) with 95% confidence intervals (95% CI) for the risk of (multiple) ARHA for deprivation groups using age-based recurrent-event models. The study period started 3 years before the survey. The first model adjusted for sex, time since the last and number of historic ARHA during 5 years before study start. The second model also adjusted for the number of units reported by drink type (beer and cider; wine and champagne; spirits including alcopops) on the heaviest drinking day in the past week and smoking status.

Results 131 respondents had at least one ARHA. People living in more deprived areas had a higher risk of ARHA (HR 1.52; 95% CI 1.08 to 2.14) compared to less deprived. In model 2, adjustment for units of alcohol drunk and smoking reduced the risk of ARHA for more deprived areas (HR 1.29; 95% CI 0.90 to 1.84) with smoking and historic admission having particularly strong effects. Unit increases of spirits drunk were positively associated with increasing risk of ARHA (HR 1.05; 95% CI 1.01 to 1.10), higher than for other drink types.

Conclusion Respondents living in more deprived areas had only a slightly higher risk of alcohol-related hospital admission, considering similar unit consumption, smoking and historic admission. Although significant, adjusting for units by type of drink did not markedly change the socioeconomic pattern of alcohol-related harm.