

area level measure of relative deprivation. Life tables by year, sex and deprivation quintile were constructed. Lifespan variation was calculated using  $e^{\dagger}$ . The magnitude of inequalities were estimated using the slope and relative indices of inequality. 95% confidence intervals were produced using Monte-Carlo simulation. The lifespan variation gap between the most and least deprived at (1) the same time point and (2) a comparable level of life expectancy was decomposed. The sensitivity of the results to starting at age 0 were tested by repeating the analysis starting at age 35.

**Results** Lifespan variation for males from the most deprived quintile was 12.2 years (12.1 years–12.3 years) in 1981 and increased to 12.3 years (12.1 years–12.4 years) in 2011. For the least deprived lifespan variation decreased from 11.2 years (11.0 years–11.3 years) to 10.4 years (10.3 years–10.6 years). This caused the socioeconomic gap to widen over time in absolute and relative terms. In 2011 there was a 2.1 year (1.9 year–2.4 year) difference or a 19% (17%–21%) difference. The gap widened because of increasing differences in mortality rates across working ages from external causes. In 1981 external causes explained 55.1% of the gap and by 2011 they explained 69.5% of the gap. Deaths from circulatory disease explain less of the lifespan variation gap over time. At a shared level of life expectancy the most deprived quintile experience higher mortality rates from external causes of death despite arriving at this life expectancy thirty years later in time. Substantive conclusions were unchanged during sensitivity analysis.

**Conclusion** The lifespan variation gap widened because of deaths across working ages from external causes. Scotland must reduce deaths across working adult ages from external causes if it is to reduce the gap and improve its ranking within Western Europe. Routinely monitoring lifespan variation inequalities is valuable for extending our understanding of the changing nature of mortality inequalities and is relevant for countries considering which public health strategies will reduce mortality inequalities.

OP06

#### SOCIO-DEMOGRAPHIC INEQUALITIES IN CARDIOVASCULAR RISK MANAGEMENT AND EARLY DETECTION OF VASCULAR CONDITIONS BY THE NHS HEALTH CHECK: A DIFFERENCE-IN-DIFFERENCES MATCHING ANALYSIS

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**Background** England's National Health Service (NHS) Health Check is a nationwide cardiovascular risk assessment and management programme implemented with aims to prevent cardiovascular disease (CVD), type 2 diabetes mellitus (T2DM) and chronic kidney disease, as well as to reduce inequalities in health. We aimed to compare the impact of the NHS Health Check on: i) Early detection of vascular conditions among population subgroups of age, sex, ethnicity and deprivation; and ii) The management of cardiovascular risk among high-risk population subgroups of age, sex, and deprivation.

**Methods** We obtained retrospective electronic medical records from the Clinical Practice Research Datalink for a randomly selected sample of 1 38 788 patients aged 40–74 years,

without known CVD or diabetes, and were registered with 462 English general practices between 2009 and 2013. We estimated programme impact for each subgroup using a difference-in-differences matching analysis that compared changes in outcome over time and between Health Check attendees and non-attendees.

**Results** 21.4% (29,672/138,788) of the study population attended a Health Check. The programme was associated with increased detection of hypertension and T2DM among Health Check attendees. A significantly greater number of hypertension and T2DM incident cases were detected in male than female attendees (e.g. an additional 4.02%, 95% CI: 3.65% to 4.39%, and 2.08%, 1.81% to 2.35% male and female attendees were detected with hypertension respectively). A significantly greater number of T2DM incident cases were detected among attendees living in the most deprived area (1.60%, 1.23% to 1.97%) compared with those living in the least deprived area (0.79%, 0.52% to 1.06%).

The programme was associated with significant reductions in 10 year CVD risk scores, total cholesterol and systolic blood pressure while statin prescribing increased among high-risk attendees. However, no major differences in programme impact on cardiovascular risk management were observed between subgroups (e.g. programme impact on 10 year CVD risk score was –1.13%, –1.48% to –0.78% in male and –1.53%, –2.36% to –0.71% in female attendees).

**Conclusion** The NHS Health Check may have narrowed inequalities in the diagnosis of hypertension and T2DM but inequalities in the management of CVD risk remained unchanged. Proactive strategies may be required to address known inequalities in CVD outcomes.

OP07

#### IMPACT OF AN INTEGRATED HEALTH AND WELLBEING APPROACH TO ADDRESSING MULTIPLE LIFESTYLE RISKS AND REDUCING HEALTH INEQUALITIES: A MIXED METHODS STUDY

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**Background** The return of public health to local government in England in 2013 created an opportunity to integrate preventive services with agencies that act on the wider determinants of health. A number of local authorities subsequently developed integrated health and wellbeing approaches, in recognition that the previous 'silo' approach to the provision of single-issue lifestyle services had made little impact on inequalities. These integrated services often involve targeting the most disadvantaged geographical and non-geographical communities locally. One example is the Wellbeing for Life (WFL) service in County Durham.

**Methods** The impact of WFL was evaluated using a mixed methods study design, involving: i) ethnographic observations plus interviews and focus groups with clients (n=58), staff (n=47), volunteers (n=15) and external stakeholders (n=10); ii) secondary analysis of intervention monitoring data at baseline (n=1461 clients), three (n=1201), six (n=380) and 12 months (n=133); and iii) a value for money assessment. Primary outcome measures were the EQ-5D and short Warwick