

public policies and treatments on socio-economic gradients in health is poorly quantified. Understanding the separate contributions of prevention and treatment to recent trends is thus crucial to planning the most effective and equitable future strategies.

Methods Using a previously validated epidemiological model, we estimated the contribution of uptake of 40+ evidence-based treatments in nine patient groups and changes in seven major cardiovascular risk factors to the reduction of CHD mortality between 2000 and 2007 in England. The analysis was stratified by deprivation quintiles and included adults aged 25+. Results were confirmed using multi-way sensitivity analyses.

Results Nationally, CHD mortality fell by 35% (from 219 to 142 deaths per 100 000), resulting in 38 070 fewer deaths in 2007 compared with 2000. Rates fell fastest in the most affluent (38%) and slowest (29%) in most deprived quintile. Treatments accounted for approximately –52% of the mortality decline across all social groups. The largest contributors were medical therapies in community settings for hypercholesterolemia (–14%), chronic angina (–13%) and secondary prevention (–11%). Decreases in risk factors accounted for approximately –37% of the overall CHD mortality decrease. This ranged from –50% in the most deprived quintile to –30% in the most affluent. The biggest contribution came from substantial falls in systolic blood pressure (–33%). Other mortality gains were more modest: total cholesterol (–6%), smoking (–4%) and inactivity (–2%). Furthermore, these benefits were negated by socially patterned increases in obesity and diabetes (+11%). About 11% of the CHD mortality fall remained unexplained by the model: more in affluent (–19%) than deprived (+2%) quintiles, and more in men (–29%) than women (+14%).

Conclusions This is perhaps the first study to quantify the contributions from specific evidence-based treatments and risk factor trends, stratified by underlying socio-economic circumstances. Approximately half the recent mortality fall was attributable to medical therapies, evenly distributed across social groups. This is welcome, and suggests relative equity in NHS treatment provision. However, risk factor changes accounted for barely one third of the CHD mortality fall. This was unexpected, and probably reflects frustratingly small recent decreases in cholesterol and smoking, compounded by continuing rises in obesity and diabetes. Coronary mortality fell by 35% in just 7 years: but large social gradients persisted. Powerful and equitable evidence-based population-wide policy interventions exist; these now need to be urgently implemented.

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EXPLAINING RECENT CORONARY HEART DISEASE MORTALITY TRENDS IN ENGLAND BY SOCIOECONOMIC CIRCUMSTANCES, 2000–2007

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Background The continuing fall in coronary heart disease (CHD) mortality is widely celebrated. However, the impact of