

Falls in blood pressure and cholesterol have saved 20,000+ lives in England

Impact of statins greatest among most affluent but drugs only accounted for 14% of total fall in deaths

[The contribution of primary prevention medication and dietary change in coronary mortality reduction in England between 2000 and 2007: a modelling study doi10.1136/bmjopen-2014-006070]

Falls in blood pressure and total cholesterol staved off more than 20,000 deaths from coronary heart disease in England between 2000 and 2007, shows a mathematical analysis published in the online journal **BMJ Open**.

The impact of statins was greatest among the most affluent in the population, suggesting that these drugs have helped maintain health inequalities between rich and poor, say the researchers.

The researchers wanted to quantify the contributions made by drug treatment (primary prevention) and changes in population risk factors (blood pressure and total cholesterol) to the falling rates of coronary heart disease deaths, stratified by socioeconomic background.

They used trial data, analyses of published evidence, national surveys, and official statistics to calculate the number of deaths postponed or prevented across the population of England.

The analysis showed that between 2000 and 2007 deaths from coronary heart disease fell by 38,000, of which 20,400 lives were saved as a direct result of reductions in blood pressure and total cholesterol.

In absolute terms, a higher proportion of lives were saved among the least affluent sectors of the population, which is to be expected given their much higher prevalence of risk factors, say the researchers.

The substantial fall in blood pressure accounted for well over half of the total, the calculations indicated, with around 13,000 deaths prevented or postponed.

But only a small proportion (1800) of these were attributable to drug treatment, with the rest accounted for by changes in risk factors at the population level.

Falls in blood pressure prevented almost twice as many deaths among the population's poorest as among the richest.

Falls in total cholesterol accounted for some 7400 deaths prevented or postponed, of which (5300 or 14% of the total) were attributable to statins, with the remainder attributable to changes in risk factors at the population level.

Statins prevented almost 50% more deaths among the richest compared with the poorest, whereas changes at the population level prevented three times as many deaths among the poorest as among the richest.

The researchers were not able to account for 14% of the total fall in coronary heart disease deaths between 2000 and 2007 (17,600 lives saved). These might be attributable to other risk factors for heart disease, such as stress, they suggest.

They conclude that population-wide approaches, focusing on prevention, such as public health initiatives to curb salt and trans fat levels in processed and take-away foods may have more of an impact than prescribing drugs to individuals.

"Targeting high-risk individuals with medication appears less effective and may also widen socioeconomic inequalities in [coronary heart disease] mortality," they write.

"Any intervention that requires people to mobilise their own resources (material and psychological) will understandably favour those who have greater resources, and thus widen social inequalities," they add.

When healthcare budgets are stretched, as now, preventive approaches are a better way to get results, they suggest.