

School for Public Health Research

## Public Health Evidence Briefing

Building the evidence for cost-effective public health practice



National Institute for  
Health Research

### Modelling preventative interventions to address inequalities in chronic disease

- Coronary heart disease represents the biggest single cause of death in the UK, and is also the biggest current contributor to inequalities in premature deaths.
- NIHR SPHR researchers used modelling to quantify the potential benefits of healthy eating, smoking and physical activity policy interventions on coronary heart disease and inequalities.
- Population-wide policy interventions to improve diet were more equitable, effective and cost-effective than interventions targeting individual behaviour change.

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# What policies might best prevent premature heart disease deaths, *and* reduce inequalities?

## Key issues

- Coronary heart disease represents the biggest single cause of death in the UK.
- Coronary heart disease is also the biggest current contributor to inequalities in premature deaths.
- Coronary heart disease is eminently preventable; however, many preventive interventions aimed at changing behaviours fail to reduce inequalities, and some may even widen them.

## What we did

NIHR Researchers used the LiLac Modelling programme to systematically review the potential effects of healthy eating, smoking and physical activity policy interventions on cardiovascular disease burden and associated socioeconomic inequalities.

Using this evidence, IMPACT models were further developed to quantify the impact a range of policy options and their effects on inequalities.

## Findings and implications

- Heart attack death rates will continue to decline.
- However, this fall will happen more slowly in socially disadvantaged groups.
- Interventions aiming to improve diet across the entire population tended to be more effective and equitable than those interventions targeting individual behaviour change. Crucially, they also are cost-saving.

## What next?

The LiLac modelling programme is continuing to look at the cost effectiveness and equity effects of food, smoking and physical activity policies. It is important to consider the legal, political and policy constraints and opportunities, especially at local levels.

*“Upstream” policies aiming to benefit the entire population could have the greatest potential to reduce health inequalities*

## References:

Evidence updates: <http://tinyurl.com/j24396g> ;Forecast of future inequalities in CHD: <http://tinyurl.com/zz7d4r4>; Food policy: <http://tinyurl.com/hfhpfdl> and <http://tinyurl.com/gt6npbd>

## SPHR Contact/Find out more about this study at:

<https://www.liverpool.ac.uk/psychology-health-and-society/research/ncd-prevention-and-food-policy/>