

# The potential impact of policies and structural interventions in reducing cardiovascular disease and mortality: a systematic review of simulation-based studies

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## Disclosure of interests

**Full disclosure of interests:** Completed ICMJE forms for all authors, including all related interests, are available in the toolkit on the NIHR Journals Library report publication page at <https://doi.org/10.3310/NMFG0214>.

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## Plain language summary

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## Plain language summary

This study aimed to explore the potential effects of various policy changes on the prevention of heart disease. By searching two large medical databases, we identified studies that employed computer models to estimate the impact of these policies on heart disease rates. In total, 54 studies matched our criteria. These studies considered a diverse range of policy interventions. Some delved into food and nutrition, investigating aspects like unhealthy food taxes, healthy food subsidies, stricter food regulations, and nutritional assistance programs. Others examined the impact of policies targeting tobacco and alcohol, encompassing smoking bans, nationwide tobacco control measures, and alcohol taxation. Further policies assessed included routine health checkups, global health goals, and measures to enhance air quality.

One significant challenge lies in the varied approaches and models each study employed, making direct comparisons difficult. Furthermore, there's a gap in understanding how these policies might influence one another, as the studies did not consider potential interactions between them. While these policies show promise in the computer models, more comprehensive research is needed to fully appreciate their combined and long-term effects on heart health in real-world scenarios. As of now, we recognize the potential of these interventions, but further studies will determine their true impact on reducing heart disease rates.