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Fuse - Centre for Translational Research in Public Health

- A partnership of public health researchers across the five universities in North East England
- Focused on working with policy makers and practice partners
- A founding member of the NIHR School for Public Health Research (SPHR)
- A UK Public Health Research Centre of Excellence

How do public health policies affect socio-economic inequalities in health?

Socio-economic inequalities in health are widespread amongst high-income countries. Public health policies aim to improve the health of populations as a whole but little is known about their effects on health inequalities.

A team of Fuse researchers completed a 'review of reviews' looking at the existing research literature to summarise the evidence on which public health policies are effective at reducing socio-economic inequalities in health. Twenty-nine systemic reviews (comprising 150 unique primary studies) were identified that explored health inequality effects of public health policies. These policies may influence health inequalities by reducing the gap between the least and most disadvantaged (gap approach) or by improving health along the entire social gradient (gradient approach).

Evidence was identified across five policy areas: fiscal (government revenue), regulatory, education, preventative treatment and screening. Thirteen key interventions were found that were effective in reducing health inequalities, these are summarised in the diagram on page 2.

Taxes on unhealthy food and drinks, food aid programmes for low-income women, and government incentive schemes for childhood vaccinations were found to be effective in reducing health inequalities – largely by improving the health or health behaviours of the most vulnerable.

Successful regulatory interventions included controlling tobacco advertising, water fluoridisation, requiring proof of immunisation for school entry, and regulating traffic speeds to reduce inequalities in child accidents (but not cycling accidents). In terms of mass education interventions, a national tooth brushing education programme was found to be effective in improving dental hygiene amongst children from poorer backgrounds and a nutrition programme, targeted at low-income families, was shown to increase fruit and vegetable consumption. Reproductive cancer screening information campaigns were also demonstrated to decrease health inequalities.

Concerning preventative treatment, universal and targeted vaccinations to indigenous youth were effective in improving uptake amongst ethnic minorities. Population-wide screening programmes for reproductive cancers increased screening uptake across all socio-economic groups.

The researchers also found evidence of interventions which have no effect on health inequalities or where review evidence is unclear. Examples include tobacco taxes, legislative salt reduction, trans-fat bans, and calorie labelling in restaurants. Furthermore, evidence was found of interventions that were shown to increase health inequalities – potentially leading to so-called 'intervention generated inequalities'. Lowering alcohol tax by 33% was shown to increase inequalities in rates of death amongst disadvantaged groups in Finland. Environmental interventions including 20mph and low emission zones were shown to increase inequalities in cycle accidents and rates of death between more and less deprived neighbourhoods.

Key Findings

- Interventions which might improve overall population health are not necessarily always successful in simultaneously reducing health inequalities. The review level evidence for some interventions remains unclear and requires further evaluation.
- This work identifies potentially promising interventions that policy makers could consider implementing – along with simultaneous evaluation.
- Review evidence varied by policy mechanism and topic. Successful public health policies include whole populations and were shown to be effective at reducing health inequalities.
- Public health policies that are targeted at disadvantaged groups were also shown to be effective at reducing health inequalities.
- The review did not demonstrate a clear relationship between different policy mechanisms and their impact on health inequalities.
- No reviews were located that explored health inequality effects of public health policies targeting mental health and there is very little evidence relating to alcohol public health policies.

Policy relevance and implications

- Policy makers and commissioners should be cautious in implementing approaches such as 20mph and low emission zones, as well as education interventions specifically in regards to increasing folic acid intake until further evaluations are conducted and the effects on health inequalities are more fully understood.
- Much evidence was excluded as it failed to examine the health effects by socio-economic groups, and research going forward should always include how interventions affect different groups of people.
- Many of the primary studies were conducted in the US, which has a different welfare system to European countries. Consequently, the effective interventions identified here may not be easily transferable from one country/system context to another.
- For some policy areas, the evidence base was small or uncertain. This included the role of some regulation interventions – specifically smoking bans, and the effects of the privatisation of industries on occupational health inequalities as well as some education campaigns – specifically in regards to campaigns to reduce smoking. These interventions need further investigation to ascertain why they are positive for overall population health, but ineffective in terms of reducing inequalities in health.

"the public health research community should start to more thoroughly apply an equity lens to evaluations"
(Thomson et al. 2018: p. 18)

BRIEF DESCRIPTION OF THE RESEARCH

A team of Fuse researchers based at Newcastle University, led by Professor Clare Bambra, completed an umbrella systematic review ('review of reviews') which aimed to understand the effects of public health policies in high-income countries.

Thomson K, Hillier-Brown F, Todd A et al. The effects of public health policies on health inequalities in high-income countries: an umbrella review. *BMC Public Health* 2018; 18: 869.

Web: https://rdcu.be/2VWp

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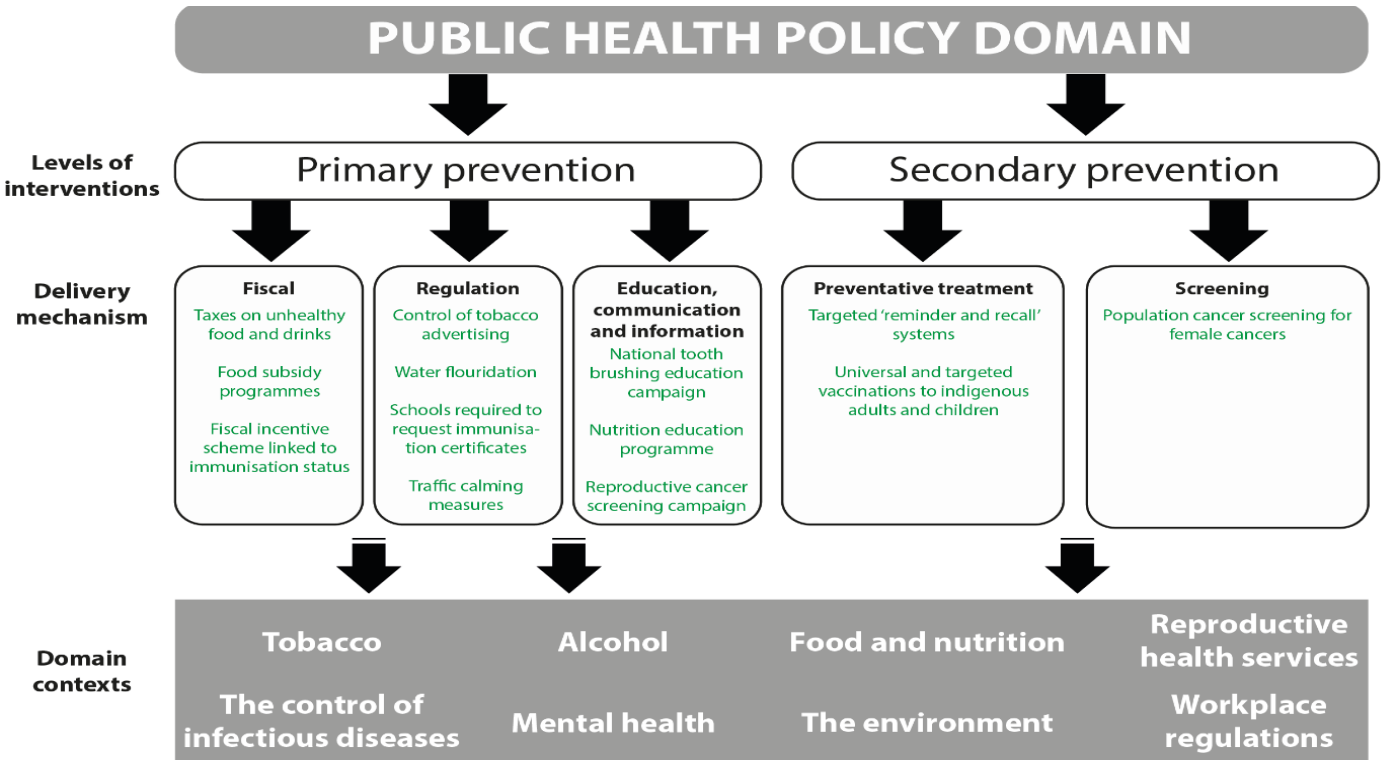
FURTHER INFORMATION

Dr Katie Thomson / Professor Clare Bambra
Email: katie.thomson@newcastle.ac.uk
Telephone: +44 (0) 191 208 2290

Fuse is one of five UKCRC Public Health Research Centres of Excellence. It brings together public health researchers from across the five universities in North East England.

Website: fuse.ac.uk/research/briefs
Blog: fuseopenscienceblog.blogspot.co.uk
Facebook: facebook.com/fuseonline
Twitter: @fuse_online
Email: info@fuse.ac.uk
Telephone: +44 (0) 191 208 7296



Population-level preventative public health policies to reduce health inequalities

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All Fuse briefs produced by Mark Welford, Fuse Communications Officer, in conjunction with the academics involved in the research. Email: m.welford@tees.ac.uk or Tel: 01642 342987 for details.