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# Return on investment of Public Health

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# Investing in health and well-being is essential

Achieving good health and well-being enables people to lead fulfilling lives, build meaningful relationships, contribute to their communities and enjoy a higher quality of life well into old age. Without it, we struggle to thrive, resulting in significant personal and societal costs.



Benjamin Franklin : “an ounce of prevention is worth a pound of cure”.

Acceptable that its financially preferable for healthcare systems to aim to prevent ill health rather than to treat it after it occurs.

Long-term pressures on public sector costs due to demographic and technological changes and global instability



# Return on investment of public health interventions: a systematic review

Born out of cuts to public sector funding in the UK in 2015, we set out to calculate the ROI of PH

Systematic review, identified ~3000 titles, included 52

Results stratified by public health specialty and by level of delivery

Review



**OPEN ACCESS**

## Return on investment of public health interventions: a systematic review

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**ABSTRACT**  
**Background** Public sector austerity measures in many high-income countries mean that public health budgets are reducing year on year. To help inform the potential impact of these proposed disinvestments in public health, we set out to determine the return on investment (ROI) from a range of existing public health interventions.  
**Methods** We conducted systematic searches on all relevant databases (including MEDLINE, EMBASE, CINAHL, AMED, PubMed, Cochrane and Scopus) to identify studies that calculated a ROI or cost-benefit ratio (CBR) for public health interventions in high-income countries.  
**Results** We identified 2957 titles, and included 52 studies. The median ROI for public health interventions was 14.3 to 1, and median CBR was 8.3. The median ROI for all 29 local public health interventions was 4.1 to 1, and median CBR was 10.3. Even larger benefits were reported in 28 studies analysing nationwide public health interventions; the median ROI was 27.2, and median CBR was 17.5.  
**Conclusions** This systematic review suggests that local and national public health interventions are highly cost-saving. Cuts to public health budgets in high income countries therefore represent a false economy, and are likely to generate billions of pounds of additional costs to health services and the wider economy.

**intervention** against the total costs of its delivery. The CBR is the benefit divided by the cost, and the ROI is the benefit minus the cost expressed as a proportion of the cost, that is, the CBR-1. To help inform the discussion of proposed cuts to public health budgets, we set out to determine the ROI and opportunity cost for a range of public health interventions at the local and national levels. The theory underpinning this review is that, because political backing for public health intervention is often lacking, many interventions with a high ROI are not funded. This is because public health interventions are often opposed by powerful commercial interests, and the health gains for individuals are often perceived as too small to sway their voting intentions, despite adding up to large gains at the population level.<sup>4</sup>

**METHODS**  
 We conducted a systematic review to examine the ROI of public health interventions delivered in high-income countries with universal healthcare. These included the UK, Western Europe, the USA, Canada, Japan, Australia and New Zealand.

**Search strategy**  
 The authors used Acheson's definition of public health when considering our search strategy: "The science and art of promoting and protecting health and well-being, preventing ill-health and prolonging life through the organised efforts of society".<sup>1</sup> This definition is purposefully broad and the authors felt that it would incorporate the various fields of public health. We searched the PubMed, MEDLINE, Scopus, CINAHL, Cochrane, PsycInfo and AMED databases using the following search terms: 'public health' (all fields) AND 'return on investment' OR 'cost benefit analysis' (title or abstract). We also hand searched the references of the included analyses to identify any further studies. A grey literature search was completed using Google, yielding three additional results. Limits were set to publications in the English language, and to interventions targeted at humans (where applicable). Studies with poor generalisability to the UK were excluded, including a number from the USA that may poorly reflect UK health-care systems, structure and demographics.

**Study selection and inclusion criteria**  
 We included studies of any design that reported a ROI of public health interventions delivered in industrialised countries providing universal healthcare.

**INTRODUCTION**  
 Benjamin Franklin once famously stated that "an ounce of prevention is worth a pound of cure". Long-term pressures on public sector costs due to demographic and technological changes and cost inflation in the caring professions have intensified following the 2008 global financial crisis. Public health is often considered a politically soft target for budget cuts, as recently demonstrated by major budget reductions in the UK.<sup>1-3</sup>  
 The benefits of population-level public health expenditure—unlike those of personal healthcare and social care expenditure—tend to be long term, mostly accruing after the current politicians and policymakers have moved on. Though large and certain at the population level, benefits are also seen as small and uncertain for individual voters. It is therefore important to take a hard look at the cost-effective evidence, and move towards more rational decision-making in this politically charged area.  
 Return on investment (ROI) and cost-benefit ratio (CBR) are two forms of economic evaluation that value the financial return, or benefits, of an

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# Results

Legislation – median ROI 46.5

Health protection – median ROI 34.2

Wider determinants – median 5.6

Healthcare public health – median 5.1

Health promotion – median ROI 2.2



# Inequalities in Wales

Good health is a fundamental right, but in Wales, health outcomes vary unfairly across communities.



## Early years and children

The child death rate in Wales is 70% higher for children living in our most deprived communities compared with their most affluent neighbours



## Healthy Adults

People living in the most deprived areas have a much higher chance of death from avoidable causes (3.7 times for males and 3.8 times for females)



## Healthy Ageing

There is a 17-year gap in healthy life expectancy for women living in the most and least deprived areas of Wales. This gap is 13 years for men

# Public Health Challenges

- How can we reduce health inequalities and support our most vulnerable?
- How to enable children to have the best start in life?
- How to best prevent and manage chronic conditions?
- How to better support our growing older population to stay healthy and independent for as long as possible?
- How to prepare ourselves and manage new epidemics, climate change and global threats to our security?



# Why invest in prevention?

Offers value for money, addresses the root causes of health inequalities and help the people of Wales, to live longer, healthier and happier lives now and in the future.

There is a 17-year gap in healthy life expectancy for women living in the most and least areas of Wales. This gap is 13 years for men



The cost of health inequalities to acute NHS services in Wales is £322 million per year



Poverty is a leading cause of health inequalities



# How to make a sustainable impact?

Focus on both long-term programmes and targeted interventions that aim to improve health outcomes, reduce inequalities and lessen the financial impact of poor health on health services and wider society

**Investing in prevention cannot be done in isolation**



**Focus on high impact programmes with significant, scalable potential**



**Long-term commitment to fully realise the impact**

