Economics of prevention

NHS Health Scotland is a national Health Board working with and through public, private and third sector organisations to reduce health inequalities and improve health. We are committed to working with others and we provide a range of services to help our stakeholders take the action required to reduce health inequalities and improve health.

Key messages

- Many preventative measures have been shown to be cost-effective.
- Some forms of prevention, in particular those addressing the social and economic determinants of health, are likely to reduce health inequalities.
- Some interventions will reduce the future demand for health and social care and will be cost-saving, although most will generate additional health (and other) benefits for additional costs.

Key actions

- Invest in programmes that address the social and environmental determinants of health.
- Where universal services are provided, invest more in services for vulnerable groups.
- Promote actions and policies that make it easier for everyone to adopt healthy behaviours by increasing the price and/or reducing the availability of products that are damaging to health.

What is this briefing about?

This briefing highlights cost-effective preventative measures to improve health and reduce health inequalities. It is aimed at organisations responsible for developing policies and providing services that can help to reduce health inequalities.

What are health inequalities?

Health inequalities are the unfair and avoidable differences in people's health across social groups and between different population groups.

They represent thousands of unnecessary premature deaths every year in Scotland. For example, for men in the most deprived areas, they mean nearly 24 fewer years spent in 'good health' than men in the least deprived areas.

Health inequalities are caused in part by inequalities in income, power and wealth across the population.[1] Preventative measures that directly reduce these inequalities are therefore important in reducing health inequalities.

The first briefing in this series[2] provides more information on health inequalities and the broad range of actions that can be taken to reduce them.

What are the aims of prevention?

The Scottish Government is committed to improving health and reducing health inequalities. It also faces high demands on public services while public spending is being squeezed.[3, 4]

Investment in prevention ('preventative spend') can have a range of impacts that help meet these goals while managing these pressures (see examples in Figure 1 and Box 1 on page 3).[5]

Prevention can **improve population health** by:

- preventing health problems developing in the first place (primary prevention)
- stopping health problems from getting worse (secondary prevention)
- reducing the impact of disease on people's health and wellbeing (tertiary prevention).

Current pressures on public spending mean that it is particularly important that prevention improves health in a cost-effective way.

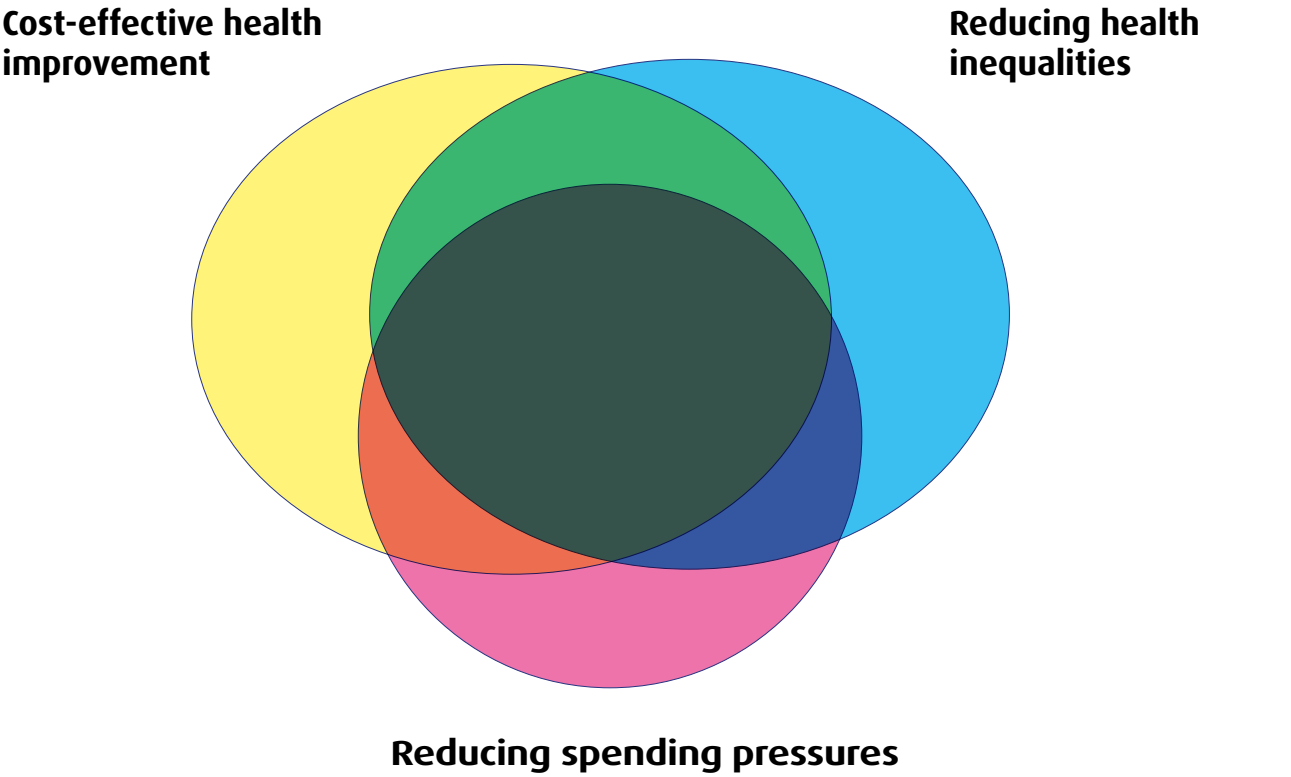
Prevention can help to **reduce health inequalities**. For this to happen, prevention needs to be at least as effective in groups of the population with the worst health.

Prevention can help **reduce public spending pressures** by:

- reducing the length of time people spend in ill health rather than just increasing life expectancy
- reducing demands for public services
- freeing up resources for other uses.

Figure 1: Identifying best buys in prevention

Preventative interventions that meet all three aims are represented in the darkest area in the centre of Figure 1 below. The diagram suggests that although many of these interventions will meet all three aims, some will only meet one or two. For example, the economic evidence below identifies a number of cost-effective preventative interventions that are unlikely to reduce health inequalities (the yellow area). But the available evidence also suggests that many interventions would be both cost-effective in improving health and effective in reducing health inequalities (the green area).



Box 1: Three aims of preventing smoking

Cost-effective health improvement: Preventing people taking up smoking (primary prevention) avoids smoking-related illness. Smoking cessation clinics that are effective in stopping smoking reverse the risks of smoking-related disease in current smokers (secondary prevention). The health improvements that come from investing in preventing smoking are large relative to their cost (cost-effectiveness).

Reducing health inequalities: Smoking is more common in more deprived populations so effective preventative measures also have the potential to narrow smoking-related health inequalities. But this requires them to be at least as effective in more deprived populations.

Reducing spending pressures: Preventing smoking may reduce demand for treating smoking-related diseases, but making savings to reinvest in other forms of health or social care requires the release of resources locked up in treatment services.

What does the evidence say?

Economic evaluation measures the impact of health improvement interventions on health or other outcomes, relative to their cost. There is a substantial and growing body of evidence from economic evaluations of interventions delivered to individuals to change their behaviours. There is less evidence on the cost and impacts of interventions that address the underlying inequalities in society, the economy and the physical environment that drive health inequalities, such as changes to income tax and benefits or investment in housing improvements. There is also a lack of evidence on the costs of prevention relative to its impact on health inequalities and on the actual savings that have been made from prevention. However, the evidence is growing and there is enough evidence to support a preventative approach to improving health and reducing health inequalities.

Prevention can be cost-effective

Evidence from economic evaluation of interventions delivered to individuals to change their behaviour, such as smoking cessation services or brief advice to reduce alcohol consumption, suggests that many of these interventions are cost-effective.

Emerging evidence also suggests that interventions using taxes, regulations or legislation are particularly cost-effective. They require fewer resources to deliver and they have wide reach. They also rely less on individuals' capacity to take on board and act on messages than services providing advice to try and change behaviours. However, they may have wider economic consequences, both positive and negative, that are not usually measured in cost-effectiveness studies.

Recent reports from the World Health Organization (WHO) identify preventative programmes that are likely to be cost-effective, effective in reducing health inequalities and have the potential to make savings.[6, 7, 8] These include programmes to change behaviours and programmes addressing the social and environmental determinants of health. The WHO concludes that prevention, on the whole, is cost-effective, with some interventions providing quick returns on investment.

The economic analyses carried out to inform the public health guidance issued by the National Institute for Health and Care Excellence (NICE) suggest that preventative public health interventions are generally good value for money. Interventions aimed at the population as a whole, such as legislation to reduce young people's access to cigarettes, were among the most cost-effective looked at by NICE. Many of the interventions were also likely to be cost-saving. A review of these analyses suggested it was likely that we are not yet investing enough in them.[9]

What are the best ways to reduce health inequalities?

Policies and interventions which directly address the social and economic inequalities that drive health inequalities are likely to be most effective.[10, 11] Examples include the introduction of a living wage,[12] the introduction of higher standards for privately rented accommodation and measures to improve the physical environment.

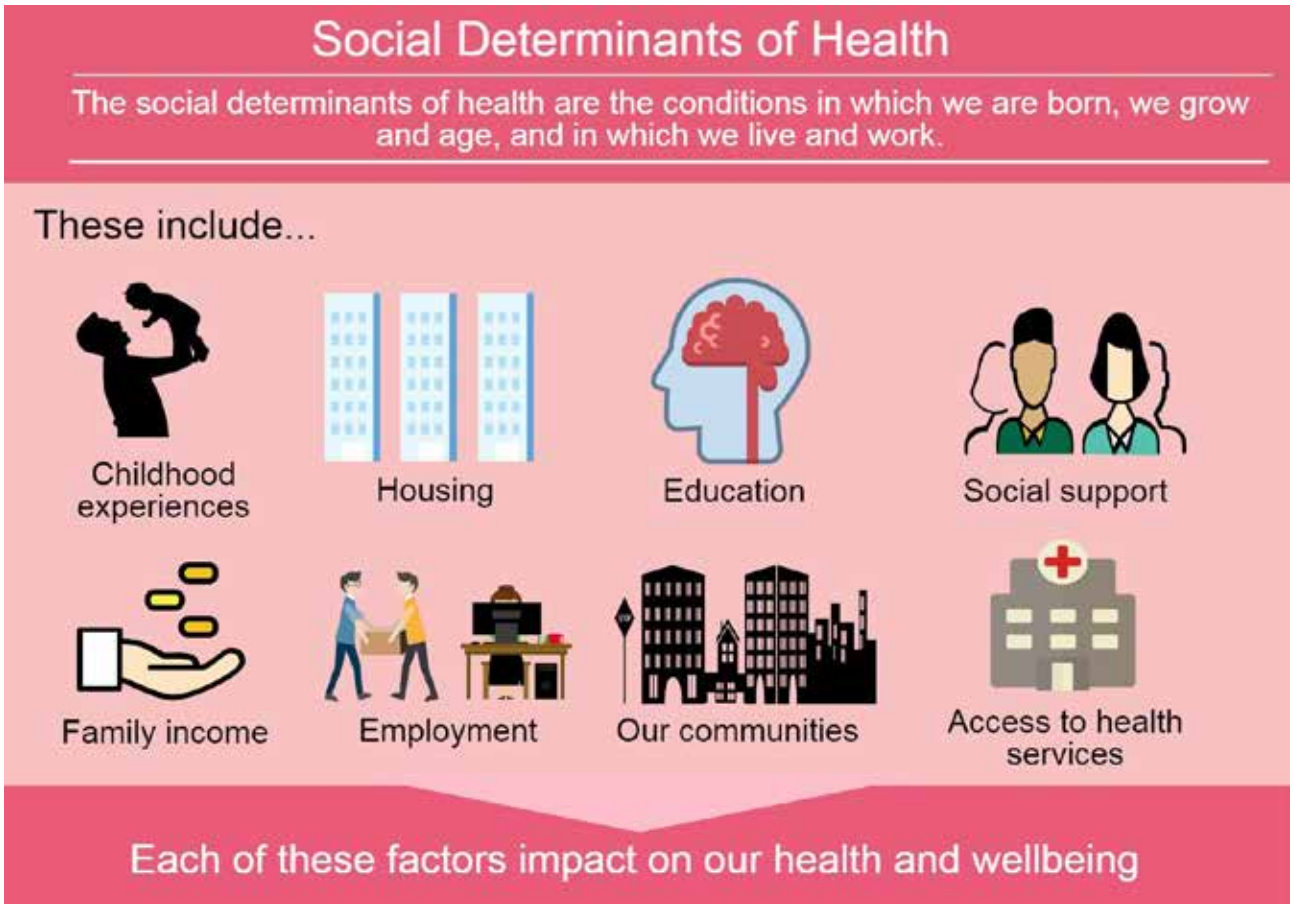
Evidence from the King's Fund[13] and Public Health England, in collaboration with the Institute for Health Equity,[14, 15] highlights the economic case for investing in programmes tackling the social determinants of health, such as programmes helping people find good jobs and stay in work. Many of the examples are programmes that would be delivered by local authorities or

other community planning partners, rather than the health service. Nonetheless, the NHS is a major employer and it sources goods and services from others.

Other policies that evidence suggests will help to reduce health inequalities:

- Actions and policies that make it easier for everyone to adopt healthy behaviours by increasing the price and/or reducing the availability of products damaging to health such as minimum unit pricing for alcohol; tobacco taxes; or licensing legislation that affects the number of outlets selling such commodities.
- Providing universal services but investing more where they are most needed. This involves policies such as providing greater resources to nurseries and schools in the most deprived areas.

The WHO concludes that investing in population-based prevention tackling the underlying causes of health inequalities is more effective at reducing health inequalities than actions focused on behaviours such as smoking cessation programmes.[16] The available evidence suggests that although many individual-level interventions that aim to change behaviours are cost-effective, such as smoking cessation programmes, they are less likely to be effective in tackling health inequalities.[17, 18, 19] This is because they will not necessarily be equally effective across all groups or communities. They may actually widen health inequalities because they are likely to be more accessible and effective in healthier groups or communities.



Prevention focused on the social determinants of health, is likely to be both cost-effective and reduce health inequalities.

Potential savings from prevention

Many preventative actions have been found to be cost-saving[20] but most will generate additional health (and other) benefits for additional costs.[21] The Christie Commission report[22] highlighted the potential for prevention to make savings across health and social care. The Scottish Parliament Finance Committee Report on Preventative Spend[23] also highlighted potential savings. Examples included savings to the NHS from investing in preventative measures to reduce the prevalence of smoking, obesity and excessive alcohol consumption or savings on the cost of long-term care through preventative activity in this area. However, the report stressed the uncertainty about the level of savings that can be made in practice and the difficulties of making them. The WHO also identified several areas in which prevention has the potential to achieve wider economic benefits, while reducing health inequalities and making savings, although this will not always be the case.[24]

To make financial savings when prevention reduces demand for services – for example, where smoking prevention reduces demand for cardiac surgery for smokers – the resources invested in these services need to be released. This is usually difficult because there are fixed costs to running services and because other demands continue to grow. Most studies that identify potential savings from prevention do not specify whether or how these savings can be made. In practice, prevention may ease pressures on the system in some areas, enable higher quality services to be provided, or enable other people to be treated, rather than enabling capacity and costs to be reduced overall. Improving service quality in this way is a good thing for patients and staff, but it reduces the scope of prevention to make savings that can be reinvested elsewhere in the health or social care systems.

The lack of evidence on the actual savings made in practice should not stop investment in prevention. Treatment programmes are not expected to demonstrate that they save money before they receive funding.[25] A good case for many forms of prevention can be based on their cost-effectiveness, their potential to reduce health inequalities, and other benefits to the wider economy due to reduced sickness absence, increased labour market participation and higher productivity. It does, however, highlight the need:

- to be realistic about the scale of potential savings from prevention: some will be cost-saving, but most will generate additional health (and other) benefits for additional costs
- to evaluate and learn lessons from the extent of any savings made.

Actions that evidence suggests could improve health and reduce health inequalities:

1. programmes that ensure adequate incomes, reduce debt and reduce income inequalities
2. programmes that reduce unemployment in vulnerable groups or areas and that promote physical and mental health in the workplace
3. programmes that improve physical environments, such as traffic calming schemes and the creation of greenspace
4. programmes that target vulnerable groups by investing in more intensive services and other forms of support for such groups, in the context of universal provision
5. early years programmes
6. policies that use regulation and price (for example, minimum unit pricing or taxes) to reduce risky behaviours.

These are programmes that operate across the whole population. Where appropriate, the scale or intensity of those actions should be proportionate to need.

References

1. Beeston C, McCartney G, Ford J et al. Health Inequalities Policy Review for the Scottish Ministerial Task Force on Health Inequalities. Edinburgh: NHS Health Scotland; 2015. Available at: www.healthscotland.com/documents/23047.aspx
2. NHS Health Scotland. Health Inequalities: What are they? How do we reduce them? Edinburgh: NHS Health Scotland. Available at: www.healthscotland.com/documents/25780.aspx
3. Scottish Government. Scottish Budget: Draft Budget 2015-16. Edinburgh: Scottish Government. October, 2014. Available at: www.gov.scot/Publications/2014/10/2706
4. Scottish Government. Government Expenditure & Revenue Scotland 2013-14. Edinburgh: Scottish Government. March, 2015. Available at: www.gov.scot/Publications/2015/03/1422/downloads#res-1
5. Commission on the Future Delivery of Public Services. Report on the Future Delivery of Public Services by the Commission. Edinburgh: Scottish Government; 2011. Available at: www.gov.scot/Publications/2011/06/27154527/0
6. World Health Organization. The economics of the social determinants of health and health inequalities: a resource book. Geneva: WHO; 2013. Available at: www.who.int/social_determinants/publications/9789241548625/en/
7. World Health Organization. The Case for Investing in Public Health. Copenhagen: WHO Regional Office for Europe. 2014.
8. Merkur S, Sassi F, McDaid D. Promoting health, preventing disease: is there an economic case? Policy Summary 6. Copenhagen: World Health Organization, 2013, Available at: www.euro.who.int/__data/assets/pdf_file/0004/235966/e96956.pdf
9. Owen L, Morgan A, Fischer A et al. The cost-effectiveness of public health interventions. Journal of Public Health 2012; 34(1): 37–45.
10. Beeston C, McCartney G, Ford J et al. Health Inequalities Policy Review for the Scottish Ministerial Task Force on Health Inequalities. Edinburgh: NHS Health Scotland; 2015. Available at: www.healthscotland.com/documents/23047.aspx
11. Frank J, Bromley C, Doi L et al. Seven key investments for health equity across the lifecourse: Scotland versus the rest of the UK. Social Science and Medicine, 2015, 140:136-146.
12. NHS Health Scotland. Inequality briefing: Good work for all. Edinburgh: NHS Health Scotland, August 2015. Available at: www.healthscotland.com/documents/26039.aspx?utm_source=publication&utm_medium=tweet&utm_campaign=Good%20Work
13. Buck D, Gregory S. Improving the public's health. A resource for local authorities. London: The King's Fund; 2013. Available at: www.kingsfund.org.uk/publications/improving-publics-health
14. Institute for Health Equity/Public Health England. Local action on health inequalities: understanding the economics of investments in the social determinants of health. London: Public Health England; 2014. Available at: www.gov.uk/government/uploads/system/uploads/attachment_data/file/356051/Briefing9_Economics_of_investments_health_inequalities.pdf
15. Institute for Health Equity/Public Health England. Local action on health inequalities: evidence papers. London: Public Health England; 2014. Available at: www.gov.uk/government/publications/local-action-on-health-inequalities-evidence-papers
16. World Health Organization. The Case for Investing in Public Health. Copenhagen: WHO Regional Office for Europe. 2014.
17. Beeston C, McCartney G, Ford J et al. Health Inequalities Policy Review for the Scottish Ministerial Task Force on Health Inequalities. Edinburgh: NHS Health Scotland; 2015. Available at: www.healthscotland.com/documents/23047.aspx
18. Macintyre S. Equally Well: Report of the Ministerial Task Force on Health Inequalities – Volume 2: Briefing Paper on Health Inequalities. Edinburgh: Scottish Government; 2007.
19. Smith KE, Kandlik Eltanani M. What kinds of policies to reduce health inequalities in the UK do researchers support? Journal of Public Health, 2014, 36(3): pp1–12. Doi:10.1093/pubmed/fdu057.
20. Vos T. Carter R, Barendregt J et al. for the ACE Prevention team. Assessing Cost-Effectiveness in Prevention. Final Report. Melbourne: University of Queensland, Brisbane and Deakin University; September 2010.
21. Merkur S, Sassi F, McDaid D. Promoting health, preventing disease: is there an economic case? Policy Summary 6. Copenhagen: World Health Organization, 2013, Available at: www.euro.who.int/__data/assets/pdf_file/0004/235966/e96956.pdf
22. Commission on the Future Delivery of Public Services. Report on the Future Delivery of Public Services by the Commission. Edinburgh: Scottish Government; 2011. Available at: www.gov.scot/Publications/2011/06/27154527/0
23. Scottish Parliament Finance Committee. Report on Preventative Spend, SP Paper 555, 1st Report 2011, Session 3. Available at: http://archive.scottish.parliament.uk/s3/committees/finance/reports-11/fir11-01.htm
24. World Health Organization. The Case for Investing in Public Health. Copenhagen: WHO Regional Office for Europe. 2014.
25. Rappange DR, Brouwer WFB, Rutten FFH, et al. Lifestyle intervention: from cost savings to value for money. Journal of Public Health, 2009; 32(3):440-447.

Collaboration with NHS Health Scotland

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