

Supporting local investment in public health

Using evidence on cost effectiveness, cost impact and return on investment to inform local commissioning

Introduction

There is a growing demand for methods and evidence to support the case for investing in public health interventions by demonstrating the potential returns on that investment for the public sector.

This paper summarises a recent project carried out by NICE to develop potential new methods for determining the cost impact of – and returns on investment (ROI) from – public health interventions.

Subject to Board approval, NICE could introduce these new methods and tools to provide GP consortia, local authorities and directors of public health with:

- Broad, value-for-money calculations for each public health topic covered by NICE public health and social care guidance (and any accompanying quality standards)
- detailed calculations for specific interventions within each topic.

The new approach will enable local decision-makers and commissioners to consider the short, medium and long-term financial consequences (including likely savings) of investments, alongside a range of other criteria that reflect national and local priorities.

The project

The following activities were undertaken between April and October 2010 to help develop NICE's methodology for determining cost effectiveness and cost impact:

1. Three workshops – two with commissioners and local decision-makers in the NHS and one with local government representatives. The local government workshop was held jointly with Local Government Improvement and Development (LGID).
2. An analysis of NICE's current approach to assessing the cost effectiveness and cost impact of public health interventions.
3. A review of return on investment (ROI) methods and tools.
4. Analyses of a number of public health interventions using a range of ROI metrics methods.
5. Interviews with commissioners and decision-makers to determine which ROI metrics are most useful – and what other criteria are used when making investment decisions.

Key findings from the workshops

Who decides about investing in public health interventions?

The range of people currently involved in decision-making varies considerably. For example, in the NHS it might come down to one person (for example, a director of public health) or it might involve the whole primary care trust (PCT) executive management team.

What data and tools are used?

Multiple datasets and sources are used as a basis for decision-making. The main ones are: NICE guidance, public health observatory websites, the NHS Evidence website and Cochrane reviews. The local joint strategic needs assessment is often the starting point.

Participants mentioned using the following tools to help determine priorities: programme budgeting marginal analysis, multi-criteria decision analysis, the Health England Local Prioritisation (HELP) tool, consensus teleconferencing and 'score cards'.

Sometimes the decision is based on an ad hoc or historical approach (that is, the commissioning plans for the previous year largely determine what is commissioned in the current year, with only incremental adjustments).

What are the challenges?

There was perceived to be a lack of relevant data which made it difficult to present a business case for investing in public health interventions. Workshop participants wanted to be able to cite concrete outcomes from an intervention over a period of 1 to 5 years. (Examples of ‘concrete outcomes’ for the NHS might be the number of cases of myocardial infarctions avoided, the number of hospital admissions avoided and reductions in the number of ‘bed days’.)

Other difficulties included the:

- challenges arising from the political environment
- tension between the need to realise quick savings and the fact that public health interventions usually have longer-term goals
- absence of information to support disinvestment, including information on which interventions can be replaced when NICE recommends ‘new’ ones
- problems involved in assessing the impact of public health interventions outside the NHS
- tension that arises where costs and savings cross organisational boundaries (such as when spending in the education sector results in benefits for the health or criminal justice sectors).

What are the most important criteria for decision-making?

During the workshops, participants were asked to rank which criteria, out of a list of 14¹, provided the most useful basis for making a decision on public health investment. Although sample sizes were small, views differed both within the NHS and local authorities – and across both sectors. The following criteria were ranked among the most useful: effectiveness, cost effectiveness, burden of disease, health inequalities and affordability.

¹ The 14 criteria assessed were: effectiveness, cost effectiveness, affordability, impact on health inequalities, burden of disease, quality of evidence, cost of intervention, population eligible, cost saving in less than 5 years, feasibility, acceptability, cost saving in more than 5 years, certainty, non-health effect.

Key findings from the review of ROI methods and tools

What ROI methods are currently used?

The review identified a variety of methods that are used to assess returns on investment. The most common were:

- cost–benefit analysis
- cost–consequence analysis
- cost–utility analysis
- multi-criteria decision analysis.

In addition, a number of other related projects and tools were identified. These included:

- the results of work on 'the business case for health' carried out by Local Government Improvement and Development
- several projects carried out by the Public Health Observatory (PHO) in Yorkshire and Humber
- the Health Inequalities Intervention Tool and several other related initiatives by the London PHO
- the Health England Local Prioritisation (HELP) tool
- the Portsmouth scorecard.

The review also identified a number of methods and tools used to measure the cost savings generated by public health interventions.

The main methods were:

- direct measurement
- static and dynamic modelling
- care pathway simulations.

The tools identified included the Department of Health's (2010) tool for alcohol interventions (the 'ready reckoner' version 5) and NICE's costing templates for smoking cessation. (Both use static models to allow decision-makers to estimate the cost savings that would be generated in their localities.)

Does the choice of ROI make a difference?

The analyses of a selection of public health interventions showed that different ROI methods produce different rankings which, in turn, can result in different investment decisions.

It also showed that many of the public health interventions assessed would generate only small cost savings in the short term – in most cases, both the cost savings and health gains would be much greater in the longer term. That said, significant variations were observed between interventions.

It should be noted that the use of ROI metrics to measure only short-term gains would, in some cases, lead to investment in interventions that would not provide the best returns in the medium to longer term.

There was little evidence that decision-makers prefer certain ROI metrics. When presented with an intervention and a single cost-effectiveness estimate, most said they would require additional information **before** they could make a decision. They also expressed the need for benefits to be reported in ‘natural units’, such as life years saved and reductions in hospital admissions.

A new approach

Subject to Board approval – and following public consultation – NICE proposes the following, three-step approach to assessing the returns on investment generated by public health interventions.

1. A cost–consequence analysis (CCA): all the key costs and consequences would be displayed in a comparable, disaggregated form. Outcomes would be measured in ‘natural’ units. This would enable a ‘fine grained’ assessment of the intervention. It would also provide data for calculating a variety of ROI metrics including the cost–utility analysis in step two below.
2. A cost–utility analysis (CUA): the outcomes would be expressed in one measure that combines information on life expectancy and health-related quality of life (quality-adjusted life years or ‘QALYs’). The CUA would allow comparisons across different programmes, for example, prevention and treatment. (In the health sector, which has an agreed ‘cost-effectiveness threshold’, a CUA

indicates whether an intervention represents good value for money.) Note: CUAs are not always appropriate for a public health intervention and other methods, such as cost-benefit analysis, may be used.

3. The information gathered in steps one and two would be available to local decision-makers for them to combine with implementation costs and other details, such as eligible population size and the outcome of an assessment of local need. The resulting analysis would help them to decide which interventions are a priority.

Each step should also capture the timing of the costs and benefits – and the sectors in which they fall.

Conclusion

Based on findings from the workshops and analysis, NICE is proposing a new, three-step approach to determine the benefits of public health interventions. If approved by the NICE Board, it should enable decision-makers to consider the short, medium and long-term financial consequences (including likely savings) of implementing such interventions. At the same time, it should also allow them to take into account a range of other criteria including national and local priorities.

Further information

If you would like further information on this project (when it becomes available), or would like to provide feedback on this paper, please email us at:

publichealthcostimpact@nice.org.uk