Quantifying health impacts of government policies

The summary of:
A how-to guide to quantifying the health impacts of Government Policy

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Health Impact Assessment of Government Policy: A guide to carrying out a Health Impact Assessment of new policy as part of the Impact Assessment process

Health Impact Assessment – case studies from government departments

Health Impact Assessment – evidence on health

Cross Reference:

Quantifying Health Impacts of Government policies – A how to guide to quantifying the health impacts of Government Policy

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First published by Department of Health in 1996 as "Policy Appraisal and Health".
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1. Introduction

1.1 Health Impact Assessment (HIA) forms part of the mandatory 'Impact Assessment' required by Government for all relevant policies. It is a means of developing better, evidenced-based policy by careful consideration of the impact on the health of the population.

1.2 A good health impact assessment will guide policymakers to consider the positive and negative impact of their proposed policy on health. It will identify any unintended health consequences that may either lend support to the policy or suggest improvements to it. It will also contain a clear analysis of whether the health of the whole population or just certain sections within the population will be affected.

1.3 This document offers practical guidance to policy-makers and analysts in Government Departments and other public sector agencies on how to quantify the expected impact of their policies on health. It is intended to be useful to both the policy lead and the lead analyst on how quantification of health impacts might be undertaken.

1.4 For the policy lead:

- When designing policies, programmes and projects, it may be necessary to think about possible implications for health. The amount of effort this requires will vary according to the magnitude of any likely effects and the difficulty of assessing them. You may need advice from health experts and economists. In general, the procedure to follow is:

  i) identify any health impacts;

  ii) assess their magnitude and distribution (Chapters 2 and 3);

  iii) value them in monetary terms where this is helpful (Chapters 4 and 5);

  iv) identify the main sources of uncertainty risk and third party issues (Chapters 6 and 7);

  v) present the results clearly for decision makers (Chapter 8).

- Stage (i) will at least initially be the responsibility of the policy lead (in consultation with stakeholders and specialists), whereas Stages (ii) to (iv) are more likely to involve specialists and analysts.
- These Stages are helpfully and simply described in the publication in this series *Health Impact Assessment of Government Policy: A guide to carrying out a Health Impact Assessment of new policy as part of the Impact Assessment process.*

1.5 For the lead analyst/specialist:

- Special problems can arise in identifying and weighing up the impacts on health and health services, of policies, programmes and projects. This guide provides specific advice in the health field to add to that contained in the more general HM Treasury guidance (HM Treasury's *Green Book: Appraisal and Evaluation in Central Government* 2003)[1].
- You may be a government analyst (economist, operational researcher or statistician) or belong to a different profession. You will need some analytical capabilities. This guide is aimed at providing the specific technical, information that is needed to assess the health impacts of a government policy in line with good practice from the Department of Health and HM Treasury. Some background in economics is desirable, but not essential.
- You will need to draw on advice from a range of others such as stakeholders, epidemiologists, economists, clinicians, safety experts, toxicologists, researchers and others.

1.6 Also available are a number supporting publications that provide more detailed advice on specific aspects of HIA. These include:

- *Health Impact Assessment of Government Policy: A guide to carrying out a Health Impact Assessment of new policy as part of the Impact Assessment process.*
- *Health Impact Assessment – case studies from government departments.*
- *Health Impact Assessment – evidence on health.*

These are referred to at appropriate places within this guidance.

1 Available at: http://www.hm-treasury.gov.uk/data_greenbook_index.htm See also and *'Managing Risks to the Public: Appraisal Guidance'* (2005): http://www.hm-treasury.gov.uk/consult_greenbook_index.htm

2. Summary of the Guidance

This summary sets out in brief the key steps in quantifying health impacts. These are set out in much greater detail and depth in the chapters that follow.

SUMMARY OF CHAPTER 2: QUANTIFYING HEALTH EFFECTS

It is important to acquire a central estimate of the number of people affected by each health impact and their likely demographic characteristics. At this point, the policy-maker or analyst will consider what form of quantification is available.

There are different currencies in which health effects might be quantified. For most policies it will make sense to use one of the following measures:

- Increase/decrease in the number of incidents of disease.
- Total number of lives lost.
- Total number of years of life lost.
- Quality Adjusted Life Years (QALYs), a measure which combines the impact on total life years and on quality of life into a single measure.

Getting information

There are a number of types of health evidence to consider:

- Expert opinion, including in the policy-maker's or analyst's own department.
- Controlled trials or observational studies.
- Epidemiology or other statistical data, including DH statistics.
- Published reports.

The publication in this series *Health Impact Assessment – evidence on health* offers a good starting point for finding evidence.

SUMMARY OF CHAPTER 3: ASSESSING DISTRIBUTION OF EFFECTS AND EQUITY

The HIA requires consideration of whether the policy will impact differently on the health of different groups in society, i.e. because of:

- Age
- Gender
- Race
- Socioeconomic group
- Where people live.

All public bodies have a legal duty to promote equality and eliminate discrimination, as well as specific duties with regard to equality by race, gender and disability. Health impacts assessed as affecting these groups will need to be covered additionally in the Equality Impact Assessment.

For many policies one of the most important distributional effects will be by socioeconomic group. Research suggests that people's socioeconomic position affects health indirectly, by influencing intermediary factors that take a more direct toll on health. These can be environmental or to do with health-damaging behaviours.

It is important to quantify the impact on health inequalities if there is a direct impact on health.

Distributional weights by socioeconomic group

There are two sets of distributional weights to consider:

1. The individual's valuation of a commodity.

2. Society's valuation of reduced health inequalities.

The first is considered in the Green Book which states that 'the impact of a policy, programme or project on an individual's wellbeing will vary according to his or her income; the rationale being that an extra pound will give more benefits to a person who is deprived than someone who is well off'.

In relation to health these weights can only be applied where there is a financial impact on citizens, for example a policy that has some fee for usage or where there is an indirect cost on, for example, out-of-pocket costs for a health patient.

Health Gains cannot be looked at in the same way. These are valued at the same level for every individual, whatever their income.

The exception is Equity Weights, which look at the value society places on a reduction in inequality. However, these are at an early stage of development and careful judgement is needed in deciding whether they deliver useful quantification information.

SUMMARY OF CHAPTER 4: VALUING HEALTH EFFECTS – RESOURCE COSTS

Valuing health impact in terms of the costs or savings to health services should be included in the HIA. Valuing health benefits to individuals in money terms will help policymakers and analysts to compare it to other impacts, but in practice, this may not be possible.

The Green Book gives guidance on handling resource costs.

The first step is to estimate the number of people affected by a health impact and at what level of severity.

The next step is to estimate the average cost to health services of treating more, or fewer, people with the condition under consideration.

For each person affected the cost could involve:

- a GP consultation
- an out-patient consultation
- an in-patient day
- drugs or medical aids and appliances
- other health care, for example ambulance trips

Other costing criteria:

- all resource costs should be included regardless of who incurs them;
- the costs included should be marginal costs;
- the relevant concept of cost is 'opportunity cost';
- money transfers do not constitute costs;
- inflation must be taken into account;
- today's costs are given greater weight than future costs.

SUMMARY OF CHAPTER 5: VALUING HEALTH EFFECTS – THE VALUE OF A LIFE

The recommended approach is to:

- estimate the average money value of the health care resources required (or saved) for each person affected. Multiply by the number of people affected and include any other resource costs, such as those falling on employers, social services or other sectors of the economy;
- make an estimate of the likely loss of quality/duration of life for each person;
- explore the possibility of including the monetary value of pure health effects in the analysis, to enable the purely health consequences of the policy to be weighed against the other costs and benefits.

SUMMARY OF CHAPTER 6: QUANTIFYING UNCERTAINTY AND RISK

Key potential areas of uncertainty in health impacts should be identified within a framework that looks at:

- circumstances;
- timing;
- behaviour;
- scientific uncertainty;
- natural variability.

The term 'risk' is used to describe situations where it is possible to estimate probabilities with reasonable accuracy. In most appraisals the best approach is to estimate plausible ranges for important uncertainties.

The aim will be to:

- identify the major uncertainties and estimate the range of outcomes together with a best central estimate;
- perform sensitivity analysis to reveal the consequences of varying the main assumptions on which the appraisal is based.

SUMMARY OF CHAPTER 7: THIRD SECTOR

HM Treasury recognises the potential benefit from third sector involvement in, and delivery of, services. Third sector organisations can include voluntary and community organisations, social enterprises and mutuals. These benefits may arise from:

- knowledge and expertise on particular issues;
- capacity to build trust;
- greater community ownership.

It is unlikely that third party organisation will change the recommendations of whether or not the policy under consideration within the impact assessment is a good or a bad idea. However it can have an effect on the implementation of a policy and whether the benefits identified in the assessment are materialised.

CHAPTER 8: REPORTING THE RESULTS

The results of the HIA should include:

- the policy options considered;
- the health impacts identified;
- the costs and benefits of each option and their distribution;
- the sensitivity of these results to changes in key assumptions;
- how the results of the options compare with each other;
- monitoring required to enable the health impacts of the policy that is adopted, to be monitored.

The reasons for the recommended course of action should be stated clearly along with the most important facts and assumptions on which it rests. The assumptions behind any given values, should be clearly and openly described. Any qualifications should be included.

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