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Three techniques to support option appraisal and evaluation

Briefing paper

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1 Introduction

At a time of fiscal constraint, rising expectations and growing demographic pressures, commissioners of public care need a variety of methods which can help them to decide how best to allocate resources efficiently and effectively in order to achieve positive outcomes for service users and carers. Central government is keen to ensure that no policy, programme or project is adopted without first having answered two questions: are there better ways to achieve this objective? And are there better uses for these resources? These are key questions for commissioners.

The process of setting objectives, generating options, and deciding on the 'best' option is commonly described as option appraisal. Option appraisal should help to develop a value for money solution to meet the objectives of a project. An effective option appraisal will usually include an assessment of: project costs, benefits and risks; whether the project benefits are worth the cost and the risk; the best option that will deliver the desired outcomes, at the right time and at an acceptable cost and level of risk; whether there is adequate baseline information to allow a post-project evaluation to be carried out; and the future of the project[1]. The Treasury Green Book[2] recommends that option appraisal should take place wherever practical, but that it should be proportionate to the proposals in question.

Common weaknesses of option appraisal which have been identified by the National Audit Office range from appraisal of too few options, and exclusion of some relevant costs, to discounting costs over an inappropriate period, and inadequate sensitivity analysis[3].

This paper provides an introduction to three techniques which can be used by commissioners and managers to support and strengthen option appraisals, decision-making and evaluation: cost benefit analysis (CBA); social return on investment (SROI); and multi-criteria analysis (MCA).

[1] RICS (2009) *Local Authority Asset Management Best Practice: Making the Right Choices*.
[2] HM Treasury (2003) *The Green Book: Appraisal and Evaluation in Central Government*, London:TSO
[3] Sensitivity analysis is used to look at how a projected outcome varies along with changes in the key assumptions on which the projections are based, for example, volume of demand, inflation etc.

2 Cost benefit analysis

2.1 Description

Cost benefit analysis is a useful approach for anyone required to do a basic option appraisal, allocate resources or evaluate a policy, project or programme. It is a key tool for policy decision-makers in relation to drawing up strategic business cases and deciding how to redesign systems to:

- Reduce inefficiencies.
- Improve quality.
- Decommission services.

Cost benefit analysis (CBA) quantifies and expresses the costs and benefits of a service or programme in the common metric of today's money, including items which do not normally have a monetary value. Decisions are based on whether there is a net benefit or cost to the service, i.e. total benefits, less total costs.

CBA can be essential in setting out the costs and benefits associated with different options, and in making a rigorous choice between them. However, it is rarely sufficient on its own, because other, often more nebulous, factors will also need to be taken into account. The option identified as 'best' from a CBA does not always need to be chosen - but any departure from the 'best' option needs to be very carefully justified.

2.2 Basic steps

The key stages of CBA are:

- Establish rationale for action (understanding the need for the intervention and what would happen if it wasn't put in place).
- Set the objectives for the intervention.
- Identify options drawing on best practice, demographics, market context and consultation, including a 'do minimum' option.
- Estimate costs including fixed, variable and external costs. Estimate the value of benefits (and external benefits).
- Value costs and benefits where there is no market value.
- Adjust for distributional impacts, eg, inequality of impact on vulnerable groups.
- Adjust for relative price changes, eg, technology, fuel prices. Adjust for bias, risk, and uncertainty.
- Compare costs and benefits of different options.
- Present the results.

2.3 Resources required

The resources required for a CBA may vary according to scale and complexity of the service or intervention and the level of detail needed. A degree of financial expertise is

needed to carry out some of the financial calculations, for example, net present value of investment and other aspects of the valuation process.

2.4 Examples

Many examples of CBA relate to large-scale capital projects, however there are a growing number from the world of public care:

- Research into the financial benefits of investment in specialist housing for vulnerable and older people by Frontier Economics for the Homes and Communities Agency in 2010[4] concluded that the total benefit of specialist housing was about £1.6bn. The researchers identified a £990m incremental cost of providing that housing, over-and-above the alternative. This suggested a net benefit of about £640m. The largest single benefit was estimated for the older people client group. There were also significant positive benefits for people with mental health problems and people with learning difficulties.

2.5 Strengths

As a means of supporting an option appraisal, CBA has a number of strengths. A CBA:

- Forces disciplined consideration of choices, including the status quo option.
- Recognizes that each choice has a cost (however unpleasant that admission might be).
- Makes hidden costs and benefits explicit.
- Is objective in the sense that it follows an established and open methodology.
- Forces more detailed consideration of what we mean by the adjectives placed in front of the word 'value' (e.g. societal, cultural, etc.)
- Overcomes 'program optimism' – the tendency of project appraisers to be over-optimistic.

2.6 Weaknesses

The weaknesses or pitfalls of CBA are:

- The possibility of missing out some key options, or some key costs and benefits. If this occurs, the results of the analysis can be significantly skewed away from the actual 'best' option. This underlines the need to take time to make an exhaustive list of the options, and all the different costs and benefits that could arise - even if some are later excluded.
- An over-reliance on the quantitative data. In practice, CBA rarely gives proper recognition to qualitative and non-market factors, such as equity, quality of life, etc.

[4] Frontier Economics (2010) *Financial benefits of investment in specialist housing for vulnerable and older people*, London: HCA.

- Valuation techniques are imperfect and loaded with assumptions. The parameters and any underlying assumptions about costs, benefits, risks and discount rates need to be clearly defined and transparent.
- Information on costs, benefits and risks is rarely known with certainty, especially when one looks to the future. This makes it essential that sensitivity analysis is carried out, testing the robustness of the CBA result to changes in some of the key numbers.
- Wherever possible, CBA should be carried out collaboratively across agencies in order to assess fully the benefits and costs to different stakeholders. In the case of health and social care, this can be difficult.

2.7 Sources of further information

For further information about the approach, see the following web links and literature.

- HM Treasury (2003) The Green Book: Appraisal and Evaluation in Central Government, London:TSO.

http://www.hm-treasury.gov.uk/data_greenbook_index.htm
The Treasury Green Book provides clear guidance on the conduct of CBA.

- Prime Minister"s Strategy Unit (2004) *Strategy Survival Guide*,

http://interactive.cabinetoffice.gov.uk/strategy/survivalguide/skills/ao_cost.htm

- Fujiwara D (2010) The Department for Work and Pensions Social Cost-Benefit Analysis framework: Methodologies for estimating and incorporating the wider social and economic impacts of work in Cost- Benefit Analysis of employment programmes, DWP Working Paper No. 86, London: DWP.

http://research.dwp.gov.uk/asd/asd5/report_abstracts/wp_abstracts/wpa_08 6.asp

3 Social Return on Investment (SROI)

3.1 Description

Social Return on Investment (SROI) has its roots in cost-benefit analysis and social accounting. The approach (which was brought to the UK by the new economics foundation – nef) can be used by private, public sector and VCS organisations and is appropriate for both large and small organisations to improve performance, inform expenditure and highlight the value they add. Commissioners and funders may use the approach to secure value for money by using it during strategic planning, to assess tenders, and for contract management.

SROI is a framework for measuring and accounting for a much broader concept of value than just money. It incorporates social, environmental and economic costs and benefits, and helps organisations to understand better the economic value that they create by assigning a monetary value to all these factors. For example, nef research on the value created by a training programme for ex- offenders revealed that for every £1 invested, £10.50 of social value was created.

SROI is underpinned by seven principles that are core to the approach - the principles are:

- Involve stakeholders
- Understand what changes
- Value the things that matter
- Only include what is material
- Do not over claim
- Be transparent
- Verify the result

There are two types of SROI:

Evaluative SROI: undertaken retrospectively and based on actual outcomes that have taken place over a given period. This approach is best used when a project has been set up and good data on outcomes are available.

Forecasted SROI: predicts how much social value will be created if planned activities meet their intended objectives. Forecasted SROIs can be used at the planning stages of a project to assess its likely impact, or for projects where there is a lack of outcomes data.

A forecasted SROI can be followed by an evaluative SROI once the project has been implemented to assess the accuracy of the predictions.

3.2 Basic steps

There are six stages to SROI:

- Establish scope and identify stakeholders and how to involve them.
- Map outcomes– linking the relationship between inputs, outputs and outcomes.
- Evidence outcomes and give them a value – find data to show what outcomes have been achieved and decide what value they have.
- Establish impact - and clarify which aspects are directly related to the project/programme.
- Calculate the SROI – consider both negative and positive benefits to arrive at a total value.
- Reporting, using and embedding the results.

3.3 Resources required

The length of time and resources it takes to carry out an SROI varies significantly depending on the scope of the analysis and the extent to which outcomes data are already available. SROIs can be done in-house or the SROI Network has details of accredited SROI practitioners.

Questions to consider when establishing the resource requirement includes:

- Is the analysis is for external publication or to inform management decisions?
- What is the size of the project or organisation?
- What is the availability of data and research on outcome?
- Is a forecasted or evaluative SROI required?
- What skills do staff have to undertake an SROI?

3.4 Examples

There has been an increased interest in the approach since it was introduced to the UK and there are many examples of where SROI have been used. Two examples are out lined below:

- Family Pathfinders - York Consulting undertook an assessment for DfE of the early impact of the family-focused models used by the pathfinders working with families with multiple problems, and found a range of positive outcomes. An SROI analysis of 53 families found that focused support generates net programme benefits. One million pounds of investment was estimated to generate savings of £2.5m at a society level by avoiding adverse outcomes for family members, such as custodial sentences or unemployment; a net benefit saving of £1.5m.

For more information, see:
https://www.education.gov.uk/publications/standard/publicationDetail/Page1/DF E-RR046

- NOW Project, Northern Ireland - The NOW project provides high quality training and support to enable people with learning disabilities to get the job they want and keep it. Every year the project carries out an SROI analysis and the reporting is embedded within the organisation and is used to inform senior managers and stakeholders of the impact of the project. For example the approach helped to avoid a financial crisis by providing funders with information that in monetary terms showed the impact the project has on people's lives. For example the SROI helped them to identify that forevery £1 invested in their project, £3 would be derived in social return.

For more information about this project and other examples of where SROI has been used, see: http://www.thesroinetwork.org/case-studies

3.5 Strengths

SROI has many uses and some of the strengths of the approach can be described as follows:

- Can be used to develop public policy when social value is important (e.g. see examples above).
- Facilitates decision-making and strategic discussions and helps to identify the social value of activities.

- Demonstrates the importance of partnership working and that the impact of change may be much wider than an individual project.
- Aids strategic planning by allowing a wider view to be taken of the potential impact of projects or activities.
- Encourages engagement and commitment by a wider range of stakeholders.
- Highlights both potential negative and positive outcomes so that corrective action can be taken.
- Can improve the case for funding and investment and make tenders more convincing by creating a wider interpretation of 'return on investment' and provides a better understanding of value for money.

3.6 Weaknesses

The limitations of using SROI include:

- It is very difficult to translate some benefits and outcomes into a monetary value, for example, increased self esteem.
- If an organisation seeks to monetise its impact, without having considered its mission and stakeholders, there is a risk of choosing inappropriate indicators. As a result, the SROI calculations can be of limited use and miss the real difference that a service makes to people's lives.
- The approach can be very resource intensive when used for the first time, particularly if outcomes data are not available. It is most easily used when an organisation is already measuring the direct and longer-term results of its work with people, groups, or the environment.
- The focus of the methodology is on outcomes and therefore may ignore processes which affect the quality of the user experience.
- A diverse skill set is required from staff using the methodology.

3.7 Sources of further information

For further information about the approach please see the following web links and literature.

Nicholls J, Lawlor E, Neitzert E, & Goodspeed T (2009) *A guide to Social Return on Investment*, Cabinet Office, http://www.neweconomics.org/publications/guide-social-return-investment

Heady L (2010) Social Return on Investment position paper, New Philanthropy Capital, http://www.philanthropycapital.org/publications/improving_the_sector/charity_analysis/sroi_position_paper.aspx

Cabinet Office (2011) *Measuring what matters: A guide for overview and scrutiny committees about using 'social return on investment' to measure social value*, http://www.cfps.org.uk/what-we-do/publications/cfps-general/?id=148

nef (the new economics foundation) http://www.neweconomics.org

Social Return on Investment Network http://www.thesroinetwork.org/

Social Impact Scotland http://www.sroiproject.org.uk/

European sroi network http://www.sroi-europe.org/

Proving and Improving http://www.proveandimprove.org/new/tools/sroi.php

SROI primer http://sroi.london.edu/

Local Government Improvement and Development
http://www.idea.gov.uk/idk/core/page.do?pageId=23233317

4 Multi-criteria analysis

4.1 Description

Multi-criteria analysis (MCA) provides a framework to enable decision-makers to overcome difficulties in handling large amounts of complex information in a consistent way. It provides a structured process for determining both the criteria by which a range of options will be assessed, and the relative importance of each of the criteria. This enables a single preferred option to be identified. The judgement of the decision-making team in establishing explicit objectives and criteria, scoring, and weighting is a critical feature.

MCA and Multi-criteria decision analysis (MCDA) provide a way of looking at complex problems that have a mixture of monetary and non-monetary objectives, where defining monetary values for costs and benefits is impractical or not very robust, and where there are non-monetary items that may be of major importance.

They can be used to:

- identify the single most preferred option
- prioritise or rank options
- clarify the differences between options
- indicate the best allocation of resources to achieve objectives
- improve communication between stakeholders.

Multi-criteria analysis establishes preferences between options by reference to an explicit set of objectives agreed by the decision-making group, and for which the group has agreed measurable criteria to assess the extent to which objectives have been achieved. Typically there may be 6 to 20 criteria – which may be grouped. Criteria need to capture the key aspects of the objectives and be operationable, relevant and discrete.

The key tool is the development of a ‘performance matrix’ – each row describes an option, and each column the performance of the options against each criterion (like a *Which* magazine table). This can be the final product of the analysis, leaving the

decision-makers to assess the extent to which their objectives are met by the entries in the matrix.

When the performance matrix is completed, any options which perform weakly can be ruled out. There may be trade-offs between different criteria, so that good performance on one criterion compensates for weaker performance in another.

4.2 Basic steps

There are five key steps in MCA:

- Establish the decision context: what are the aims of the analysis, who are the decision makers, and other stakeholders?
- Identify the options.
- Identify the objectives and criteria to be used to compare options, eg, coverage, cost, availability of alternative service.
- Describe the expected performance of each option against the criteria.
- Examine the results, make choices.

Multi-criteria decision analysis (MCDA) involves two further stages:

- Scoring expected consequences of each option on a scale, often from 0 to 100.
- Weighting the relative value of each criterion (and how much the difference matters).

One overall value is obtained by multiplying the value score on each criterion by the weight of that criterion and then adding those weighted scores together. A sensitivity analysis can look at the results of changes to scores or weights.

4.3 Resources required

The resources required for MCA will depend on the scope and complexity of the analysis. Skills in facilitation are need to enable the decision-making team to identify and agree objectives, criteria and how objectives measured at the start of the MCA, and to decide how to apply scores and weight the performance matrix later in the process.

4.4 Examples

The use of MCA in social care is relatively new, however a couple of recent examples are described below:

- Prioritising preventive health interventions – Health England applied an MCA to prioritise a range of preventive health interventions. The study concluded that: increasing tax on cigarettes and alcohol is the intervention that best meets decision makers" objectives; and mass media campaigns and brief interventions delivered by GPs also perform well in meeting decision makers" objectives. In contrast, screening retirees for depression and providing support to carers with depression perform relatively badly at meeting decision makers" objectives. There

was a strong correlation between the overall ranking of an intervention and its cost-effectiveness.

For more information, see Matrix Insight (2009) *Prioritising investments in preventative health*, Health England.

- Identifying and assessing policy options aimed at achieving greater consistency in charging for non-residential social care services in Wales – a report by LE Wales used MCA to look at charging for non-residential social care. Using criteria including consistency, fairness, simplicity and efficiency, the team identified a preferred charging package.

For more information, see LE Wales (2008) A Study into Local Authority Charging for Non-Residential Social Care Services, LE Wales.

4.5 Strengths

MCA has a number of strengths:

- It can incorporate a wider range of criteria (e.g. social, ethical, environmental) than a typical financial analysis, and unlike a cost-benefit analysis, does not require monetisation of all costs and benefits.
- It brings a systematic approach to appraising and comparing options with a wide range of quantifiable and non-quantifiable impacts.
- Open and explicit: the choice of objectives and criteria are open to analysis and change if they are felt to be inappropriate.
- Flexible in terms of: choice of options, criteria, weighting, and who is involved.
- Develops shared understanding among decision-making group of objectives, options, criteria, weighting and scoring.
- Provides an audit trail, especially in situations where decision-making is required to follow rules and to be justified in explicit terms.

4.6 Weaknesses

The weaknesses of MCA include:

- Lacks the methodological rigour of CBA.
- Based on decision makers' own choices of objectives, criteria, weights and assessment of achieving objectives – make them explicit, but embeds subjectivity.
- Cannot show that an action adds more to welfare than it detracts.
- Weighting and scoring introduce additional stages to the process and make it less transparent.
- Weighting may be hard to derive.

4.7 Source of further information

- DCLG (2009) Multi-criteria analysis: a manual, http://www.communities.gov.uk/publications/corporate/multicriteriaanalysis manual
- Prime Minister"s Strategy Unit (2004) Strategy Survival Guide, http://interactive.cabinetoffice.gov.uk/strategy/survivalguide/skills/ao_multi. htm