



SCIE's approach to economic evaluation in social care



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Executive summary

This report forms part of SCIE's wider work on economic evaluation in social care. The work has been developed with colleagues from the Matrix Knowledge Group, the Campbell and Cochrane Economics Methods Group and the EPPI-Centre and Social Science Research Unit at the Institute of Education, University of London.

It sets out SCIE's view of how economic evaluation should be undertaken in the social care sector. Five key statements are listed below, with detailed discussion about each in the main body of this report.

1. Economic evaluations of social care should adopt a broad analytic perspective, examining the impact of an intervention on all relevant stakeholders, including people who use services and their families.
2. An economic evaluation in social care should measure outcomes that are defined from the perspective of people who use services and their carers. Few single-index, preference-based outcome measures currently exist in social care. Those that do are relatively new and validity and reliability are still being tested. In the meantime, evaluators should demonstrate how, when measuring outcomes, they have taken account of the views of people who use services and their carers.
3. Economic evaluations in social care should always value the cost of unpaid care associated with the services or interventions under evaluation. A range of methods for valuing unpaid care exist and SCIE advocates the chosen valuation method should be clearly justified and, given ongoing debates, the sensitivity of the results to alternative methods should be tested. If a decision is taken not to value unpaid care, this should be clearly justified.
4. When synthesising results from economic evaluations it may be necessary to consider studies in different settings to the one being evaluated, and in doing so, evaluators should demonstrate how they have taken account of transferability issues between and within countries. Resource use data should be extracted from relevant studies at the synthesis stage, even if they do not constitute full or partial economic evaluations.
5. To address equity implications of resource allocation, economic evaluation should describe the costs and benefits of interventions for different subgroups of the population and present the findings separately.

1 Introduction

The purpose of this report is to present SCIE's position on how economic evaluation should be undertaken, and the results used, to inform decision-making in the social care sector.

The Social Care Institute for Excellence (SCIE) was established by government in 2001 to improve social care services for adults and children in the UK. Specifically, SCIE's mission is to identify and spread knowledge about good practice to the large and diverse social care workforce and to support the delivery of transformed, personalised social care services (see www.scie.org.uk/about/index.asp).

To deliver on this mission, SCIE has developed a number of approaches for identifying, synthesising and disseminating knowledge about good practice. These approaches include systematic mapping, systematic knowledge reviews and user and carer involvement in systematic reviews. SCIE continues to develop its methods and approaches. One way in which SCIE is improving its ability to generate knowledge for good practice is by developing work on economic evaluation in social care.

2 Context

SCIE's work on economic evaluation includes:

1. Incorporating economic evaluations in SCIE's knowledge production processes through revision of the mapping and systematic review guidelines (Rutter et al, 2010). Additions to the guidelines include searching, coding and quality appraisal for economic evaluations and a method for extracting resource use data from relevant studies.
2. Developing a methodology for the identification and presentation of the costs of implementing practice recommendations.

SCIE also commissioned work (Matrix Knowledge Group, 2008) to explore how economics methods should be applied in the social care field. Drawing on this work, the purpose of this report is to present SCIE's position about the kind of economic evaluation that should underpin evidence-based policy and planning in social care.

SCIE's approach, described in this report, differs from SCIE's costing methodology in that it recognises the often complex interaction between social care policies and other public services. SCIE's costing methodology focuses only on the financial implications of implementing practice recommendations and does not yet encompass consideration of the impact of these recommendations on other parts of the social welfare system, such as the health service. In this sense SCIE's approach can be seen as an aspiration, or goal, for the social care sector, underpinned by the development of SCIE's methodologies to support economic evaluation in the social care field.

This report starts by providing an introduction to economic evaluation, considering what it is and why it is important for policy-making. It then explains some of the important features of social care that require a distinct approach to the application of economic evaluation methods, and what those methods should be.

3 An introduction to economic evaluation

3.1 Defining economic evaluation

In the social care context, full economic evaluation is the comparative analysis of alternative social care interventions in terms of both their costs (resource use) and their consequences (beneficial and adverse effects) (Drummond et al, 2005). Types of full economic evaluation include cost-effectiveness analysis (CEA) and cost-benefit analysis (CBA), described below, as well as cost-utility analysis (CUA).

Partial economic evaluations are a class of economic analyses that only partially meet the definition of full economic evaluation given above, either because they compare alternatives but focus on costs only (cost analysis), or because they focus on costs only and do not compare alternatives (a cost description), or because they focus on both costs and consequences but do not compare alternatives (a cost-outcome description).

The objective of a full economic evaluation is to inform the efficient use of resources. An intervention may be effective in meeting people's needs but it is not *cost-effective* if similar outcomes could be achieved at less cost, or if better outcomes could be achieved for the same cost (Sefton et al, 2002).

All approaches to full economic evaluation are concerned with the identification, measurement and valuation of the costs and effects of alternative interventions. The incremental effects of the alternatives are compared against their incremental costs to determine which of the interventions under consideration is most likely to represent the most efficient use of resources ('incremental cost' is the difference between the cost of a service or intervention and the cost of the comparison service or intervention). However, approaches differ in terms of how they measure and value effects. This can be seen by comparing two approaches to full economic evaluation: CEA and CBA.

CEA identifies and measures the primary impact of an intervention, and estimates the cost of achieving a *single unit of change in this impact*. For instance, a CEA of a criminal justice intervention might estimate the cost of achieving an avoided burglary. This cost can then be compared against alternative means of achieving this outcome to identify the most efficient way of reducing burglaries. The disadvantage of CEA is that the need to focus on a single measure of impact means that CEA may overlook other effects of an intervention. It is also impossible to make comparisons with other potential uses for the same resources where the primary impact differs.

CBA values the impact of an intervention in monetary units. This overcomes the limitation of CEA as it is possible to capture all the effects of an intervention in a single index and results can be compared more broadly. The effects are valued in monetary units, aggregated and compared with the cost of the intervention. In the example above, the avoided burglary would be valued in terms of the costs saved to the public sector and to crime victims. Any intervention for which the costs are less than the value of its benefits is an efficient use of resources.

3.2 The importance of economic evaluation

The analysis of both the costs and benefits of interventions provides important information for decision-makers. In the current financial context, there is increased pressure on local authorities that were already required to make unprecedented efficiency savings (HM Treasury, 2007). They are being forced to consider 'upstream' investment that has the potential to make 'downstream' savings. Services such as reablement have attracted policy support (DH, 2010) since evidence from research and practice suggests they are effective in reducing costs through improving outcomes and preventing, reducing or delaying the need for ongoing social care support (Glendinning et al, 2010).

So, more than ever, we cannot afford to ignore value-for-money considerations in the provision of publicly funded welfare. Using resources for a particular intervention means fewer resources will be available for other social care services or services outside the social welfare system. Therefore policy-makers need to choose the most efficient intervention to maximise the overall societal benefit generated by these resources. The effectiveness of an intervention alone is insufficient evidence on which to base these decisions, as the costs of an intervention might outweigh its benefits, or an alternative intervention may achieve the same outcome for a lower cost. In the case of reablement, for example, research suggests that the higher upfront costs are outweighed by the significantly better outcomes achieved, compared with conventional home care (Glendinning et al, 2010).

Economic evaluation has become widely applied in government appraisals of public projects and policies. So much so that HM Treasury has for many years provided guidance on how economic evaluation should be undertaken – *The Green Book*, which is 'designed to promote efficient policy development and resource allocation across government [by] performing an assessment of the costs and benefits for relevant options' (HM Treasury, 2003).

The need to ensure that social care resources are used to maximise the benefits to service users means that as we develop our approach to economic evaluation, SCIE's recommendations for good practice should take into account evidence on both the costs and benefits of services or interventions.

3.3 The need for a different approach to economic evaluation

The development of approaches to economic evaluation for decision-making is more advanced in the field of healthcare than it is in social welfare. Perhaps the best known proponent of the use of economic evaluation to inform decision-making is the National Institute for Health and Clinical Excellence (NICE). NICE's aim in the use of economic evaluation methods is the maximisation of health gain from limited resources (NICE, 2004).

SCIE is responsible for making recommendations across a range of social care interventions. Important differences between social care and health organisation and provision means that health economics methodologies cannot simply be transferred.

A different approach to economic evaluation in social care is required so that the evidence can be reliably used to inform decision-making at policy and practice level.

SCIE's approach to economic evaluation needs to reflect specific features of the UK social care context, including the:

- mix of funding streams and decision-makers
- range of provider agencies
- personalisation agenda
- importance of equity
- predominance of unpaid care
- extent of potential impacts of social care interventions.

4 Undertaking economic evaluation in social care

This section, the main body of SCIE's approach, describes important features of the social care system and explains how economics methods should be applied in that context.

4.1 The complexity of social services funding and provision

The delivery of social care services involves a range of funders and decision-makers. Funding comes from a combination of central government grants, local tax revenues and user charges. Social care policy also involves a number of stakeholders. Furthermore, investment made by social services may achieve benefits that would normally be the responsibility of other parts of the health or welfare system. For example, social services investment in support for people leaving hospital could improve rates of hospital discharge and ease resource pressures on the health service. At the same time, it could increase pressure on people using services and their families.

Because of these complexities, economic evaluations of social services need to adopt a broad analytic perspective, examining the costs and outcomes of interventions accruing to different stakeholder groups. Adopting this broad perspective will also help to detect cost shifting between sectors, the importance of which is illustrated when one sector incurs costs or benefits as a result of interventions in another sector (Byford and Raftery, 1998).

'Analytic perspective', in the context of economic evaluations, refers to whose point of view is being adopted in the identification of costs and outcomes. The kind of broad perspective, which SCIE advocates, is grounded in the theory of welfare economics which argues that we should be allocating resources in a way that maximises the benefits to society, rather than just the individuals involved (Byford, 2009). Social care funding is limited and thus the decision to provide a service to one individual necessarily means denying those resources to someone who might benefit more.

An economic evaluation in social care which adopts a broad perspective should incorporate all elements, including the costs and consequences that accrue not only to the provider (for example, the Council with Social Services Responsibility, CSSR), but also those costs that fall on the person who uses services and their family and other agencies (such as primary health). In this way such a broad analytic perspective responds to the complexities of the social care system.

If a narrower analytic perspective were taken (for example, confining it to the provider organisation), then the relevant costs and consequences included in the analysis would also be confined. The result would be an incomplete picture of the true costs and a lack of understanding about the effectiveness of the intervention.

In health and welfare economics there is more than one approach to evaluation that ensures the broad spectrum of costs and benefits are included in analysis. The *societal* approach is the ideal because it includes all relevant costs to all stakeholders,

or 'interest groups', and is concerned with the impact of an action on the wellbeing of the whole of society. However, in practice it will not always be possible to adopt this perspective which inevitably makes for a more expensive and time-consuming evaluation (Byford et al, 2003).

A more pragmatic approach might be to take a *multi-sector* perspective, evaluating cost-effectiveness for those involved in the delivery of social care, but also assessing any impact on the resources of certain other sectors such as the health service or education department. Taking this approach, it is not imperative to assess the costs and benefits that accrue to *all* sectors, just those deemed by the evaluator to be relevant. It is SCIE's view that in this context a broad approach to inclusion should be taken and the rationale for excluding certain sectors should be clearly presented. Certainly one 'sector' or interest group that SCIE believes should always be included is people who use services and their carers, although they are more accurately described as a stakeholder group; so in this sense it would seem more appropriate to view this as a *multi-stakeholder* approach.

In taking this approach, SCIE suggests that wherever possible, the costs and benefits to relevant stakeholders involved in the delivery of social care services should be assessed and also presented separately. As discussed here, the range of stakeholders relevant to the provision of social care may include health services, housing, the non-statutory sector and people who use services and their families.

In practical terms taking a multi-sector – or multi-stakeholder – approach in an economic evaluation means an intervention should be recommended if the benefits are greater than the costs from the perspective of all stakeholders necessary to deliver the intervention, or if 'inter-stakeholder transfers' of funds can be made to ensure that this is the case (Claxton et al, 2007).

There are further issues around the role of people who use services and carers as stakeholders in the planning, delivery and funding of social services and these are explored in the following two sections.

SCIE's position: Economic evaluations of social care should adopt a broad analytic perspective, examining the impact of an intervention on all relevant stakeholders, including people who use services and their families.

4.2 The centrality of people who use services and carers

People who use services are at the centre of the social services system, particularly in the context of personalisation and the rise in the number of self-funders. According to the spirit of personalisation (HM Government, 2007), people will be supported to have more control over their own care, becoming commissioners of their own services.

It is therefore critical that economic evaluation of social services should include the costs to people who use services and their families and that the outcomes of interventions should be identified from their perspective. The issue of including the costs to people's families is examined in the next section. The remainder of this

section looks at work to develop a suitable outcome measure for adult social care, particularly one that reflects the perspective of people who use services.

Health economics has an established unit of measurement, known as the 'QALY' (quality-adjusted life year), which is founded on the principle that health outcomes should be valued in a way that reflects the preferences that the general population attaches to domains of outcomes. A number of preference-based, single-index outcome measures capable of generating QALYs have been developed, tested and applied within the health sector. In contrast, there is no such universally accepted unit of measurement in the social welfare field, and the few preference-based outcome measures that currently exist are relatively new, with validity and reliability still being tested.

The fact that social care economics has been without a universally accepted single-index outcome measure relates to the complexities associated with establishing effectiveness. The issues include the following:

- The effectiveness of social services interventions could take years to achieve, although of course the same could be said for some healthcare interventions. Consider, for example, a service or intervention in the field of child welfare where quality of life (or indeed, health) improvements could conceivably be identified over a lifetime.
- Effectiveness is subjective and therefore, as discussed in this report, should be based on the views of people who use services. However, they are often poorly placed to express their views reliably due to inexperience, mental state or lack of supportive opportunity.
- Social services interventions have a diversity of users and this raises questions about whose perception of effectiveness should be used and whose perspective should inform the construction of outcome measures.

Despite the absence of a universally accepted single unit of outcome measurement in social care, there has been some methodological development that reconceptualises 'wellbeing' (Sen, 1993) and also a growing body of evidence about what outcomes people who use services judge to be most important.

In terms of work to establish an outcome measure that reflects the preferences of people who use services, this work has mainly been carried out in two UK research units: the Social Policy Research Unit (SPRU) in York and the Personal Social Services Research Unit (PSSRU) in Kent and London. The work is based on the importance of measuring service outcome according to the priorities of people who use services. The SPRU work has largely been used for testing the quality of service provision in the context of regulation and inspection (see the Outcomes in Community Care Practice Series at www.york.ac.uk/inst/spru/pubs/occp.htm). However, work at PSSRU has taken outcome measurement a step further by developing a tool for use in the evaluation of social care in service and research settings including economic evaluations.

The Older People's Utility Scale for social care (OPUS) is a measure of outcome of social care that reflects older people's preferences. The OPUS work took a top-down

perspective to identify objectives of social care for older people but closely correlated these with domains of outcome identified by people who use services. Using an approach known as 'discrete choice conjoint analysis', the researchers investigated the relative importance of the core domains of social care, from the point of view of older people.

The OPUS work developing a measure of outcome clearly has implications for the development of economic evaluation in social welfare. In a subsequent project, PSSRU built on OPUS to attempt to finally address the methodological gap between health and social welfare economics (Netten et al, 2008). The main aim of the project, known as OSCA (Outcomes of Social Care for Adults), was to develop a gold standard preference weighted measure of social care outcomes that could be used in a range of circumstances including social care evaluations and a specific type of economic evaluation known as 'cost-utility analysis' (Drummond et al, 2005). Crucially, the OSCA work has developed a measure of social care outcomes for adult service users in all social care settings that captures all relevant domains:

- control over daily life
- personal cleanliness and comfort
- food and drink
- personal safety
- social participation and involvement
- occupation
- accommodation cleanliness and comfort
- dignity.

Early versions of ASCOT (Adult Social Care Outcomes Toolkit) focused on levels of functioning ('Being well fed' or 'Being safe') within each domain. However, later versions have been designed to capture people's capabilities, or *potential* to function, an approach that is more closely aligned with the social model of disability and based on Sen's capabilities approach.

Sen's approach assesses individual wellbeing in terms of 'capability sets' (as opposed to quantity and quality of life, as with the QALY) that describe what individuals are free to do or to be (Cookson, 2005). The objective is to assess an individual's freedom to achieve a particular level of functioning, for example, mobility or the ability to pursue an interest or activity. In this sense the approach fits well within the context of personalisation because it measures the individual's freedom to achieve desired outcomes and places value on an autonomous life over a controlled one.

Coast and colleagues at the University of Birmingham have been leading the way in developing this approach for assessing the impact of health and social care interventions (Coast et al, 2008). Three measures are being developed: two measures of capability – one for older people (ICECAP-O, ICEpop CAPability measure for Older people) and one for the general adult population (ICECAP-A) – and in addition, a measure of care-related wellbeing (the carer experience scale). As with ASCOT, the ICECAP-O measure uses attributes of wellbeing that reflect the views of people who use services:

- attachment (love and friendship)
- security (thinking about the future without concern)
- role (doing things that make you feel valued)
- enjoyment (enjoyment and pleasure)
- control (independence).

Notably, these attributes are aspects of wellbeing in a broad sense, as opposed to the ASCOT domains which are domains of *social care-related* quality of life. So although there are similarities between ICECAP-O and ASCOT, the former is conceived as a general quality of life measure while the latter is designed to capture improvements in quality of life attributable to the provision of social care services. Both measures have been designed for use in economic evaluations although ASCOT is unique in anchoring the '0' score to 'Being dead' (in other words, a negative social care-related quality of life score is so bad it is considered to be worse than death) (Netten et al, 2011).

In theory this means that ASCOT could be used to derive a (social care) QALY and is likely to gain favour for its comparability with the existing health-related QALY.

Nevertheless, as ASCOT and ICECAP-O (or ICECAP-A) continue to be validated, it would arguably be most useful to administer both measures in an evaluation to understand how they complement each other. Using both would also enable policy-makers to make within-sector (using ASCOT) and between-sector (using ICECAP) comparisons.

SCIE's position: An economic evaluation in social care should measure outcomes that are defined from the perspective of people who use services and their carers. Few single-index, preference-based outcome measures currently exist in social care. Those that do are relatively new and validity and reliability are still being tested. In the meantime, evaluators should demonstrate how, when measuring outcomes, they have taken account of the views of people who use services and their carers.

4.3 The role of unpaid care

It is generally accepted that, in economic evaluations, resource use (the provision of a service or intervention) should be valued at opportunity cost – the opportunities that are lost by not directing those resources to their best alternative use. The existing literature provides estimates of the cost of delivering a range of health and social services interventions (Curtis, 2010). However, a key gap in the existing literature is estimates of the costs of people who use services and carers time. In this section of the report, the focus is on the issue of costing carer time, known as informal or 'unpaid care', by which we mean care provided by friends or family members for which no payment is made.

The inclusion of unpaid care impacts can have a major bearing on the potential cost-effectiveness of social care interventions. Unpaid care plays a substantial role in the total care provided, particularly in cases of care for older people, people with chronic diseases and those with a terminal illness. Carers UK reports that over six million

people are carers. They estimate that if all these caring responsibilities had instead to be met by the state, the additional costs to the public purse would be £119 billion per year, an average of £18,473 per carer per year (Buckner and Yeandle, 2011).

So, at a societal level, compounded by demographic developments which suggest both a continued ageing of the population and a reduction in the availability of unpaid care, there is a clear incentive to support the sustainability of such unpaid care (Francis and McDaid, 2009). However, there is also longstanding concern at the individual level about the ability of unpaid carers to maintain their involvement. In response, strategies have been developed to support unpaid care, for instance through legislation (DH, 2000, 2005) for the protection of carers' rights and campaigning and support organisations such as Crossroads and The Princess Royal Trust for Carers.

At the societal and individual levels, therefore, we need to place a value on unpaid care; although no wage payment is made for unpaid care, this does not mean that no cost is involved. Caregivers devote (among other resources) time to provide care so it is generally accepted that there is an opportunity cost for the provision of unpaid care just as there is for resourcing any formal service. The opportunity cost in this case is primarily, but not exclusively, time that could have been used for some alternative purpose. The problem is that valuing the lost opportunity is not straightforward because the alternative activity is not always obvious. Furthermore it is difficult to distinguish between unpaid care provided due to health or social welfare needs and care provided because of the relationship between carer and recipient.

Acknowledging these complications, a number of methods to value the cost of carers' time have been developed (see Koopmanschap et al, 2008, for a useful summary). The proposed methods can be grouped into two broad types: methods that value the opportunity cost and those that use a proxy to value the time of unpaid care.

One way of valuing the opportunity cost is the 'reservation wage' method. This involves valuing time spent caring at the wage rate the unpaid carer *would* otherwise have been earning. Of course this assumes the carers' time would alternatively have been spent in paid employment and raises questions about valuing people's time when they would not otherwise have been employed. We need to ask ourselves whether we are going to attach a lower value to the cost of an older, retired person's time than we would to the time of a working-age adult providing the same level of unpaid care. We should also question any assumptions made in applying this method, for example, whether retirement age should be used as a strict cut-off for economic productivity. It seems unrealistic and inequitable to do this, particularly as we know that over one million people are in paid employment beyond state retirement age (Work and Pensions Committee, 2007). Van den Berg and colleagues (2004, 2006) identified a further problem with valuing the opportunity cost in this way. They point out that using the reservation wage can lead to different values being applied to the same commodity dependent on one's position in the labour market.

The problems associated with identifying an opportunity cost in this context lead some to question whether this is the best way to reflect the costs of providing unpaid care. For instance, when providing care in the home environment, carers could

conceivably 'multi-task'; they could be supervising the person who uses services while at the same time pursuing leisure activities such as reading or performing regular household chores such as cooking or cleaning. In this sense it could be said there is no lost opportunity because the carer is doing an alternative activity at the same time as providing care.

An alternative approach is to use a proxy for the value of unpaid care hours. This involves valuation of time at the market price that would have to be paid if the care was undertaken by a formal caregiver, for example, care worker, nurse, cleaner or gardener. The problem is that using a market price assumes that formal care (provided by a nurse or care worker) and informal care (provided by an unpaid carer) are perfect substitutes. It assumes no differences in quality or efficiency whereas in reality an unpaid carer might use their time quite differently to how a nurse or care worker might use theirs during time-limited visits. This method also poses measurement problems because it will be necessary to know not just how much time is spent caring but also what proportion of time is spent delivering different types of support (for example, nursing, personal care or domestic help).

Although the proxy and opportunity cost methods differ conceptually, van den Berg and colleagues found that in practice they do not differ much with respect to valuation. Where differences do exist they can be explained by the relatively low price of housework. Nevertheless, we have seen that there are drawbacks with both approaches and in response, other methods of valuing unpaid care have been adapted, including 'contingent valuation' and 'conjoint analysis'. Both methods express the effect of an intervention on an individual's wellbeing in a money metric.

In this context, the contingent valuation method involves asking unpaid caregivers or the general population what they would be willing to pay in return for no longer having to perform unpaid care activities. This provides an overall estimation of the costs of unpaid care but the method has limitations relating to validity and consistency. It could also be seen as unseemly or even unethical to engage carers in an exercise in which they are invited to imagine the conditions in which they would give up caring.

Conjoint analysis involves eliciting people's preferences for a number of multi-attribute alternatives through techniques including ranking, rating and discrete choice experiments (van den Berg et al, 2004, 2006). Respondents are asked to rate different states – often vignettes – to reveal their preferences. The states can differ according to dimensions, called attributes. If one attribute is a price, then implicit prices can be derived for the other attributes and a monetary value for providing unpaid care can be identified. There are clearly drawbacks to all the approaches discussed here, with conjoint analysis attracting criticism for its complexity as respondents need to consider a number of attributes simultaneously.

Despite the challenges associated with valuing unpaid care, SCIE's view is that the cost of unpaid care should be incorporated in an economic evaluation, which takes, as we advocate, a broad analytic perspective. Our concern if this does not happen is that unpaid care will continue to be considered a 'zero cost' substitute for formal care, leading to potentially undesirable outcomes from the point of view

of society. However, of the range of methods available for valuing unpaid care, SCIE does not currently endorse one specific approach. Instead, SCIE advocates that the chosen valuation method should be clearly justified and, given ongoing debates, the sensitivity of the results to alternative methods should be tested. If a decision is taken not to value unpaid care, this should be clearly justified.

SCIE's position: Economic evaluations in social care should always value the cost of unpaid care associated with the services or interventions under evaluation. A range of methods for valuing unpaid care exist and SCIE advocates the chosen valuation method should be clearly justified and, given ongoing debates, the sensitivity of the results to alternative methods should be tested. If a decision is taken not to value unpaid care, this should be clearly justified.

4.4 Working with a limited evidence base

A key challenge facing economic evaluation in social care is that the relevant evidence base is lacking and that which does exist is often of low quality or generated outside the UK. A review by Sefton and colleagues (Sefton et al, 2002) identified, over a five-year period (1991–96), an annual average of 450 economics studies in health and around 30 such studies in social welfare, the majority of which were concentrated in areas most closely related to mainstream health. The authors also identified that the dominance of studies from the US (compared with the UK and the rest of the world) is even greater in social welfare than it is in the health sector. Approaches to economic evaluation in social care therefore need to be adapted to compensate for this. These include drawing evidence together from a range of sources, using modelling techniques and extracting resource use data from studies that do not constitute full economic evaluations. This section describes SCIE's position on using evidence from other settings, assessing the quality of economic evaluations and extracting resource use data from non-economic studies.

4.4.1 Dealing with a dearth of evidence

The increased need for economic evidence to inform resource allocation decisions coupled with the dearth of relevant evidence means heightened interest in the generalisability of economic evaluations. Faced with little or no evidence on the specific intervention in question, decision-makers need to form a view about whether the results of a study in another context will hold true in the context or population they are concerned with. Using evidence from other settings seems a sensible response to a lack of directly relevant evidence but care should be taken in doing so. One of the problems is the fact that the results of CBA and CUA depend on how outcomes of interventions are valued by the general population and this could conceivably vary from place to place. There are other contextual issues such as differences in the funding of welfare, and often significant differences in the nature of 'care as usual' (the service the control group might receive) between one country and another. The latter issue can also be relevant between different areas within the same country.

Despite these and other issues of transferability, there are methods of adapting results from one setting to another. They mainly consist of various modelling techniques that are described in detail in Drummond and Pang (2001) and Goeree et al (2007).

The paucity of economics evidence in this sector contributes to the problem of not being able to state the costs and benefits of an intervention with much accuracy. Uncertainties in estimates arise from this lack of data and from inaccuracies in the data. It is important that this uncertainty is reflected in the assessment of costs and benefits. First, the sources of data, and the uncertainties and assumptions in the analysis, should be reported in a transparent manner.

Second, scenario analysis (that is, running economic models and changing assumptions and estimates to reflect different scenarios, real or hypothetical) should be used to reflect the impact of likely variations in costs and benefits on the cost-effectiveness of an intervention. For instance, travel costs of people using services may vary depending on whether the intervention is delivered in an urban or rural setting. Such variations should be captured by running the analysis for separate rural and urban scenarios.

Third, sensitivity analysis (that is, running the same model but varying the assumptions and estimates to reflect the level of uncertainty) should be employed to determine whether a different decision would be made if one or more of the assumptions were allowed to change. For instance, if an intervention is assessed to be cost-effective based on an estimate of effect derived from expert opinion rather than a high quality controlled study, the expert's estimate could be replaced by their upper and lower bounds as two different alternatives within a sensitivity analysis (Matrix Knowledge Group, 2008).

4.4.2 Assessing quality

As Sefton et al found (2002), not only are economic evaluations in social care lacking in quantity, they also tend to be of varying quality. The main problem areas among the studies in Sefton's review are illustrative: few included a comprehensive assessment of costs, many made unsubstantiated claims about cost-effectiveness and many studies failed to discuss, let alone control for, potential bias. Economic evaluations in social welfare also often have small sample sizes and use no formal comparison group. These are the types of issues that quality appraisal (QA) tools are designed to reveal. A number of QA tools exist but SCIE has settled on the use of the *British Medical Journal* (BMJ) checklist (Drummond and Jefferson, 1996) as a means of assessing the quality of studies included in SCIE reviews.

The checklist, comprising 35 questions, examines the following broad aspects: study design, data collection and analysis and interpretation of results. The list is preferred for SCIE's work because unlike others, such as the Quality of Health Economics Scale (QHES), subsets of the full list can be applied to partial as well as full economic evaluations. This is critical in the context of SCIE's work because of the dearth of full economic evaluations in the social care field. A further advantage of the BMJ checklist is that it may be judged more straightforward for non-economists to use, although

at least one of the researchers or information specialists tasked with applying it should have basic training in economic evaluation methods (as well as training in the use of checklists) (Shemilt and Mugford, 2008). Common, core training should also be provided to ensure consistent interpretation and application of checklist items and two or more researchers should apply the checklist, blinded to each other's assessments.

Although for these reasons SCIE recommends the *BMJ* checklist, it does share limitations with other such tools that mainly assess the quality of reporting rather than the evaluation itself. SCIE therefore suggests that the checklist is supplemented with a further set of questions to examine the quality of the study itself. The supplementary questions are derived from SCIE's principles for economic evaluation in social care, discussed in this report. They are as follows:

- Is the perspective of the economic evaluation stated, and if so, what is it?
- Does the study present the costs and benefits incurred by all relevant stakeholders?
- Are the preferences of people who use services included in the measurement of outcomes?
- Is the value of unpaid care included in the analysis?
- If the study is a secondary synthesis, does it take account of issues of transferability within and between contexts?
- Are the findings on cost-effectiveness presented separately for different subgroups of the population? (This is discussed in Section 4.5, 'Fairness and efficiency'.)

A narrative summary of the quality of the evaluation, which is guided by these specific questions, should accompany the tick box assessment of the quality of reporting.

4.4.3 Extracting resource information from other studies

The section of this report that introduced economic evaluation described two main sources of economic data: 'full' and 'partial' economic evaluations. However, there is a third source, the 'effectiveness research study', which, although not an economic evaluation, may still contain important economic data, where full or partial economic evaluations are unavailable or of poor quality. Even without evidence from economic evaluations it may still be possible to develop an understanding of economic aspects of interventions by collecting resource use information from effectiveness studies.

With colleagues from the Campbell and Cochrane Economics Methods Group and the Evidence for Policy and Practice Information and Co-ordinating Centre (EPPI-Centre) at the Institute of Education, University of London, SCIE developed an approach to extracting this type of data from effectiveness research studies (Dickson and Gough, 2008). The 'resource use data coding tool' involves the coding of data collected from studies using closed questions grouped in seven sections. The sections and an example question for each are listed here:

- Intervention and control programme (example question: 'Number of intervention sessions?')
- Practitioner information (example question: 'Main type of practitioner providing the intervention programme?')
- Practitioner training – intervention programme (example question: 'Number of intervention programme training sessions?')
- Practitioner training – control programme (example question: 'Duration of each control programme training session?')
- Additional resource information – intervention programme (example question: 'Amounts of each type of equipment and other materials used?')
- Additional resource information – control programme (example question: 'Service recipient/family resources?')
- Cost data and cost-effectiveness (example question: 'Does the study include any information on cost-effectiveness?')

Although the questions are designed to collect all relevant data, it is highly unlikely that the paper describing the effectiveness study will contain the full range of data needed to assess the costs of interventions. One way of supplementing the data is to contact study authors or service providers directly for further information about the intervention that might have been omitted from the published report. This could involve asking them to complete or correct sections of the data coding tool.

It is important to consider at what stage to apply the coding tool. In the context of reviews, SCIE recommends that resource use data be extracted only from studies of high quality and relevance. This means data collection will occur after the decision has been made to include the study in the synthesis stage, following QA discussed above. The volume of studies qualifying for coding is therefore limited to a manageable level and we can be certain that they are directly relevant to the service or intervention in question.

The resource use data coding tool developed as part of SCIE's broader work on economics is available on SCIE's website in the revised mapping and systematic reviews guidelines (Rutter et al, 2010).

SCIE's position: When synthesising results from economic evaluations it may be necessary to consider studies in different settings to the one being evaluated, and in doing so, evaluators should demonstrate how they have taken account of transferability issues between and within countries. Resource use data should be extracted from relevant studies at the synthesis stage, even if they do not constitute full or partial economic evaluations.

4.5 Fairness and efficiency

There is a legal responsibility to take account of the equality and diversity effects of social welfare interventions. Therefore, in economic evaluations in this field, methods are needed which illustrate who benefits and who loses from any gains in outcome. Economic methods do not do this by default; they only normally provide information on how to maximise user outcomes within a given budget, ignoring the equity implications of resource allocation decisions. This is demonstrated in the approach taken by health economics and reflected in NICE's recommendation that health gains to different groups should be valued equally (NICE, 2004), a sentiment neatly captured by the dictum of health economist, Alan Williams, that 'a QALY is a QALY is a QALY'.

Sassi and colleagues (2001) reject this approach for social welfare, pointing out that findings could potentially be generated that lead to an allocation of funds which benefits the rich and not the poor, the young and not the old, or the moderately disabled rather than the severely disabled. Although such resource allocations may maximise the benefits gained to society as a whole, many would argue that such distributions are unfair (Byford et al, 2003).

A number of approaches have been proposed to capture the impact of an intervention on inequalities within an economic evaluation (Sassi et al, 2001). Equity weights are the most commonly advocated approach, involving the adjustment of observed changes in outcome dependent on the relative importance given to the different groups experiencing the outcome changes. Thus, the same benefit could be valued more highly if it accrues to a group in society considered to be more disadvantaged than other groups. These equity weights represent the extent to which society is willing to sacrifice improvements in an outcome in order to ensure a more equitable distribution of resources. While research into the size of equity weights is underway (Dolan and Tsuchiya, 2011), the weights that are currently available are limited and more work is required before they can be meaningfully incorporated into evaluations.

Until further progress on the measurement of equity weights is made, a descriptive approach to the incorporation of equity into economic evaluations is recommended (Sassi et al, 2001), involving the presentation of information on the costs and effects of interventions for different subpopulations.

It is SCIE's view therefore that, where the data is available, economic evaluations should include examination of the costs and benefits of interventions to subgroups of the population, separated by characteristics such as socioeconomic group, age group or ethnic background. Presenting results in this way could help decision-makers to better judge their applicability to local populations.

SCIE's position: To address equity implications of resource allocation, economic evaluation should describe the costs and benefits of interventions for different subgroups of the population and present the findings separately.

5 Conclusion

This report has set out the five main methodological principles characterising the kind of economic evaluation that should underpin evidence-based policy and planning in social care. To summarise, SCIE advocates an approach which takes a broad analytic perspective, measures outcomes which are informed by people who use services, values the contribution of 'unpaid' care, extracts resource use data from studies, even if they do not constitute full or partial economic evaluations, and examines the costs and benefits of interventions for different subgroups of the population.

The approach provides the framework within which SCIE's work on economics will develop. It also gives a clear message about the importance of making value-for-money considerations. Within scarce resources, the effectiveness of a service is insufficient evidence on which to base investment decisions – the costs of an intervention might outweigh its benefits or an alternative service, or intervention, might achieve the same outcome for a lower cost. Analysis of the costs and benefits of social care services is challenging and does require the application of particular economic methods. However, as this report has illustrated, economic evaluation in this sector is feasible, and methods are available and applicable in ways that respond to the complexities of the social care system.

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SCIE's approach to economic evaluation in social care

This report forms part of SCIE's wider work on economics. It presents SCIE's position on how economic evaluations should be undertaken, and the results used, to inform decision-making in the social care sector.

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