COST-EFFECTIVENESS EVALUATION METHODOLOGICAL REPORT
SEPTEMBER, 2001

The cost-effectiveness evaluation has four separate but interrelated components:
- Analysis of the cost-effectiveness of the implementation
- Analysis of the cost-effectiveness of the impact
- Cost-benefit analysis of the impact
- Support for local evaluators on cost-effectiveness issues.

To a large extent, they will draw on the same data, but the different theoretical and analytical frameworks for each are set out in the relevant sections below.

THE PURPOSE OF ECONOMIC EVALUATION

Resources are almost always scarce. There are generally a number of alternative ways in which a given volume of scarce resources can be used. Within a market environment, prices act as a mechanism for allocating resources between competing uses, but in the absence of markets, alternative mechanisms need to be applied to ensure that resources are allocated to the uses that derive the greatest benefits to society taken as a whole.

Economic evaluation seeks to ask three questions:
- How much did a particular intervention cost?
- What did that use of resources actually achieve?
- Did the benefits from that use of resources exceed the costs?

There is then a fourth question that is generally asked by those responsible for allocating resources, if the answer to the third question is yes:
- Would an alternative use of the resources have achieved either a larger number or a higher quality of outcomes?

The systematic recording and comparing the costs of an intervention with the outcomes achieved provides a valuable analytical framework to guide decision making by those who are responsible for allocating resources, at both a local and a national level (HM Treasury 1997). The difference between economic evaluation and standard evaluations of process and impact is the stress on the importance of measuring costs as well as benefits.

There are two broad approaches to economic evaluation. They both use the same information about costs, but they focus on different outcomes. Generally speaking, cost-effectiveness evaluation looks at intermediate outcomes over the short term, while cost-benefit analysis looks at final outcomes and spillover effects over a longer time period. Cost-effectiveness is easier to measure when an intervention is aiming to produce a single outcome, which is measurable but difficult if not impossible to translate into monetary values (for example achieving a particular health status, or a reduction in the level of an indicator such as child abuse). It is also particularly useful when there is more than one way of achieving the same outcome so that the costs per measured outcome of the different

methods can be compared. This explains its growing importance in the field of health care. Where interventions have multiple goals and no one goal has clear priority, then cost-effectiveness analysis may be much less revealing, and cost–benefit analysis is likely to be very much more important (Plotnik and Deppman 1999; Layard and Glaister 1994).

Cost-benefit analysis should include all outcomes, both positive and negative, direct, indirect and spillover, anticipated and unanticipated. The experience of evaluating early childhood interventions in the United States has shown that unanticipated and spillover effects have produced the majority of the benefits (Karoly et al 1998, Barnett 1996, Olds et al 1993, 1998b). Sure Start is likely to include both unanticipated effects and a large number of spillover effects.

Theoretical Framework

Sure Start involves the expenditure of resources on services for young children and their communities in the expectation that this will lead to improvements in their social and economic outcomes in later life. It is essentially a programme designed to improve the human capital of the children, their parents and their wider communities in the expectation that the increased human capital will yield a future stream of benefits. The analysis of human capital falls into the theoretical framework originally developed by Becker (1993). Within this framework, individuals who invest in their human capital improve their productivity and receive a return in the form of increased probability of being employed and higher earnings in employment. Society as a whole earns a return from the investment in an individual's human capital from the increased overall productive potential of the economy, from the ability of more highly skilled workers to improve the productivity of their less skilled colleagues and from the reduced dependence on state benefits, increased taxes and profits generated by the higher level of output. It is this broad framework that provides one of the key arguments for public expenditure on education. (See Dutta et al 1999, Harmon and Walker 2001 for a discussion of this.)

Economic theory suggests that returns to human capital investment are greater the younger the age at which the investment takes place. This is for two reasons. First, the earlier the investment takes place the longer the potential payback period and therefore the more likely that cumulative benefits will be positive. Secondly, later learning has to build on the foundations supplied by early learning. If that early learning is not in place then it is not possible to develop higher-level skills that generate higher returns. Success or failure in infancy may determine whether or not there is a foundation for later learning (Heckman 1998, Heckman and Lochner 2000).

While some of the substantial body of literature by economists attempting to measure the level of human capital and the returns to it has focused narrowly on educational attainments (see Willis 1986 for examples), Becker himself, and the more recent debate has argued that human capital, and therefore earnings capacity, has up to five dimensions: educational attainments, work and other experience, physical and psychological health, social capital and cognitive skills (Becker 1993; Haveman and Wolfe 1995; Heckman and Lochner 2000). Although some of the wider skills and attributes are developed by schools and other

educational institutions, the family and the community play a role in their development which are at least as important, and probably more so especially for social and cognitive skills (Heckman and Lochner 2000; Becker and Tomes 1986; Hill and O'Neill 1994; Feinstein and Symons 1999; Crane 1991; Leibowitz 1974).

However, educational outcomes are themselves influenced by family and community circumstances. Parental education and occupational status, financial resources, housing tenure, family circumstances particularly divorce, separation and family conflict, number of siblings, and parental interest in their children's education all have an effect on children's educational outcomes (Haveman and Wolfe 1995; Feinstein and Symons 1999; Dolton et al 1999; Feinstein 2000; Ermisch and Francesconi 2001; Gregg and Machin 1998; Hill and O'Neill 1994; Shumow et al 1997; Osborn and Millbank 1987; Rodgers and Pryor 1998; Currie and Thomas 1995; Dyson and Robson 1999; Plowden Report 1967). Moreover, many of the same variables also have an effect on earnings outcomes while holding the effects of education constant. In other words if two young adults have identical educational attainments, but one has parents with a higher level of education than the other, then the one with the better educated parents is likely to have a higher level of earnings (Feinstein 2000, Gregg and Machin 1998; Dolton et al 1999; Goldsmith et al 1997).

The neighbourhood also has an effect on educational outcomes. In part, this is because similar families tend to live in similar areas, so it can be difficult to disentangle family and neighbourhood effects statistically. But there is also some evidence that the educational attainments of young people of a given ability who are exposed to peer groups of higher ability are better than those of young people with identical family circumstances and cognitive ability who are mainly exposed to peer groups of low ability. Similar arguments seem to apply to the educational attainments and social aspirations of the adults outside the family group to whom children are exposed. The social capital of a neighbourhood in terms of the prevalence of positive role models and mechanisms of social control or conversely in terms of the level of crime and anti-social behaviour is an important factor in educational outcomes, and is also likely to influence the development of social skills in young people (Feinstein 2000; Feinstein and Symons 1999; Shumow et al 1997; Coleman 1990; Crane 1991; Haveman and Wolfe 1995; Hill and O'Neill 1994).

There are increasing indications that non-cognitive social skills may be more important than cognitive skills in the modern labour market, and in some instances more important than educational qualifications. Thus, programmes that develop socialised behaviour and improve motivation may have an important effect on earnings and other outcomes in adulthood even if they have no impact on IQ or educational qualifications (CBI 1995; Heckman and Lochner 2000; Heckman 1998). Empirical work on human capital and earnings has traditionally focused on qualifications, not least because they are frequently measured and therefore widely available. To a lesser extent, work experience has been taken into account, but the traditional practice of taking number of years since leaving full-time education as a proxy has fallen into disrepute, not least because it is frequently less accurate for women than it is for men. Data which includes measures of family background, health, motivation, actual work experience and labour market information is still relatively rare, although the availability of longitudinal data sets is improving, and more estimation of

this type is likely to take place (see Feinstein 2000, Goldsmith et al 1997, Caspi et al 1997, Currie, and Thomas 1995 for examples).

If human capital is considered in this broader framework, it includes negative as well as positive dimensions. Thus, while work experience generally has a positive effect on human capital, experience of criminal activity or time spent in prison could have a negative effect. Similarly, while good health improves employability, ill health reduces employment prospects, especially where it has come about because of substance misuse.

Farrington (1996), in a review of a large number of studies of youth crime, both British and international, including studies from Canada, New Zealand, and the United States found that involvement in crime by young people is associated with low income, poor housing, living in physically run down and socially disorganised areas, low cognitive ability, poor school attainment, parental conflict and broken families (especially at a very young age), poor parental supervision, harsh and erratic discipline, impulsiveness and hyperactivity and having delinquent friends. Offending at a very young age (ten or younger) is associated with poor child rearing practice, whereas poor supervision is associated with offending among both young people and adults. Harsh parental discipline in childhood is associated with both violent and persistent offending in adulthood.

Graham and Bowling (1995) found that the most important predictors for delinquency were delinquent peers, poor parental supervision, weak attachment to school and family and school exclusion. Moreover, young offenders are often involved in other forms of anti social behaviour including heavy drinking, drug taking dangerous driving and promiscuous sex. Between a quarter and a third of young men in young offender institutions are teenage fathers (Social Exclusion Unit 1999). Other studies find similar relationships (Farrington 1996, Rodgers and Pryor 1996, Yoshikawa 1995). Yoshikawa also found that perinatal difficulties, insecure attachment and parental involvement in criminal activity or substance abuse increased the risk that young people would be engaged in criminal activity themselves. Children exposed to multiple risks are much more prone to delinquency than those exposed only to a few. There are interaction effects so that the effect of a particular factor is magnified in the presence of another (eg parental involvement in criminal activity along with marital conflict) (Yoshikawa 1995). Many of the identified risk factors overlap with the factors that are associated with poor educational attainment and labour market outcomes in adult life, although the evidence suggests that there are clear differences in both education and labour market outcomes at ages 23 and 33 between those from disadvantaged circumstances who are involved in delinquent behaviour and those who are not (Gregg and Machin 1998). The Cambridge Study found that at the age of eighteen delinquents were in better-paid jobs than non-delinquents, who were more likely to be in traineeships or to be students, so that the relationship between delinquency and earnings is complex and likely to change over time (Farrington 1996).

Factors which appear to be able to protect against some of the risks of becoming involved in criminal activity are: having a warm affectionate relationship with a parent; having parents who provide effective supervision, pro-social beliefs and consistent discipline; and having

parents who maintain a strong interest in their children's education and community support (Farrington 1996, Yoshikawa 1995, Social Exclusion Unit 1999).

It is important to keep in mind that part of the outcome for children is explained by their own choices. This means that ensuring they have an educational, cultural and social environment which is supportive of the choices that lead to better outcomes and which discourages choices that lead to worse outcomes can make a significant contribution (Haveman and Wolfe 1995).

Sure Start is intervening in areas where young children are more likely to experience a number of indicators that put them at risk for adverse human capital outcomes. The intention of the programme is either to reduce those risks directly by reducing the level of the risk factors, or to mitigate their effects by increasing the level of and access to the known protective factors.

The relationship between cost-effectiveness and the other parts of the evaluation

The evaluation of the cost-effectiveness of Sure Start is fully incorporated into the other dimensions of the evaluation from the beginning. The data collection for the implementation, impact and local context evaluations will include items of data which are neither central to nor of a high priority for those themes in themselves, but which are vital for the calculation of the potential rate of return to the Sure Start programme. This statement may seem commonplace, but it is a common feature of the evaluations of early childhood interventions that have taken place mainly in the United States that important factors such as parental employment or health were not measured in the early stages because they were not regarded as relevant to the immediate objectives for the children. Yet, for those programmes where they were measured, these elements made an important contribution to the overall cost-effectiveness of the programme. The methodological innovation of including cost-effectiveness from the Start in the evaluation of Sure Start makes it less likely that important benefits will be missed. We also have the advantage of knowing the factors that have been found by previous research to contribute significantly to the cost-effectiveness of a range of early childhood programmes (Karoly et al 1998).

Sure Start has a broader purpose (to overcome or mitigate the effects of biological, cognitive, emotional and resource limitations) so that from the start a broader range of outcomes will need to be measured in all elements of the evaluation. It accepts that some of the potential positive impacts on the subsequent lives of the children may come about indirectly because of improved community functioning or because of improvements in the circumstances of their parents. They may also come about because of changes in the circumstances of other children with whom they subsequently socialise and go to school.

The counterfactual

In order for an evaluation to assess the costs and benefits of an intervention, an estimate needs to be made of what would have happened in the absence of the programme. The classical experimental approach using random assignment implicitly assumes that the outcomes for the control group would have been the outcomes for the experimental group in

the absence of the programme. However, this may not always be the case. In particular, six key conditions need to be met which are not always met in practice:

- Random events may have affected one or the other group differently which might distort the results. For example, two of the female members of the control group for the Perry Preschool experiment were murdered in their early twenties. The calculation of the earnings differences between the two groups included the victims with zero earnings (Schweinhart et al 1993, Barnett 1996). Although it is reasonable to conclude that participation in the Preschool may have made it less likely that young women would find themselves in circumstances where they increased their risk of being murdered, given the relatively low incidence of homicide among women even in high risk groups, it is not immediately obvious that it is reasonable to assume that two female members of the treatment group would have been murdered if they had not had the Preschool experience. Yet, that is what is being done by treating the control group as an accurate representation of the counterfactual.
- The existence of the experiment does not in itself alter the behaviour of members of either group (Heckman and Smith 1995). In particular, people who are being monitored may change their approach to child rearing even if they are not receiving any support.
- The control group should receive no help of any kind which they would not have received if the programme had not existed. In other words, the control group should not receive any additional help in terms of additional information about sources of help, preferential access to other services etc. If they are given any help, then the introduction of substitution bias means that a evaluation using a control group can be *worse* than using a comparison group in terms of scientific accuracy (Heckman and Smith 1995).
- The treatment received by the treatment group must have no impact on the outcomes of those in the control group (Blundell and Costa Dias, 2000).
- There is no differential refusal or drop out between the two groups during the course of the evaluation. In reality, the commitment and enthusiasm of those receiving treatment is likely to be greater on average than they are for those who have not received any services, and this means that statistical adjustment is likely to be required even with a strictly experimental design. (Blundell and Costa Dias 2000) This is the case even though not all families take up all the services for which they are eligible.
- Those responsible for selection for the programme do not consciously of unconsciously manipulate eligibility criteria to reduce the probability of assignment to the control group of "deserving" cases (Heckman and Smith 1995 cite examples from Norway and the US where this has happened).

The counterfactual for measuring the cost-effectiveness of Sure Start will have three broad strands.
- The implementation evaluation will aim to estimate the level of services that would have been delivered to children and families in the absence of the programme. This will be assessed using information on resource inputs from other services supplied by Sure Start programmes supplemented by material from the national surveys and case studies and from national sources (for example CIPFA).

- The impact evaluation will draw on the community context information from the Sure Start areas and the comparison (to be Sure Start areas) for social capital and environmental issues.
- Outcomes for children and families will be compared with those of children in the Millennium Cohort using statistical comparison methods. Moreover, because we will have longitudinal information for both groups, rather than having to use a snapshot for the comparison group, statistical comparisons can be the most accurate way of assessing the counterfactual (Blundell and Costa Dias 2000, Heckman 1979, Heckman and Hotz 1989, Heckman and Smith 1995, Hasluck et al 2000).
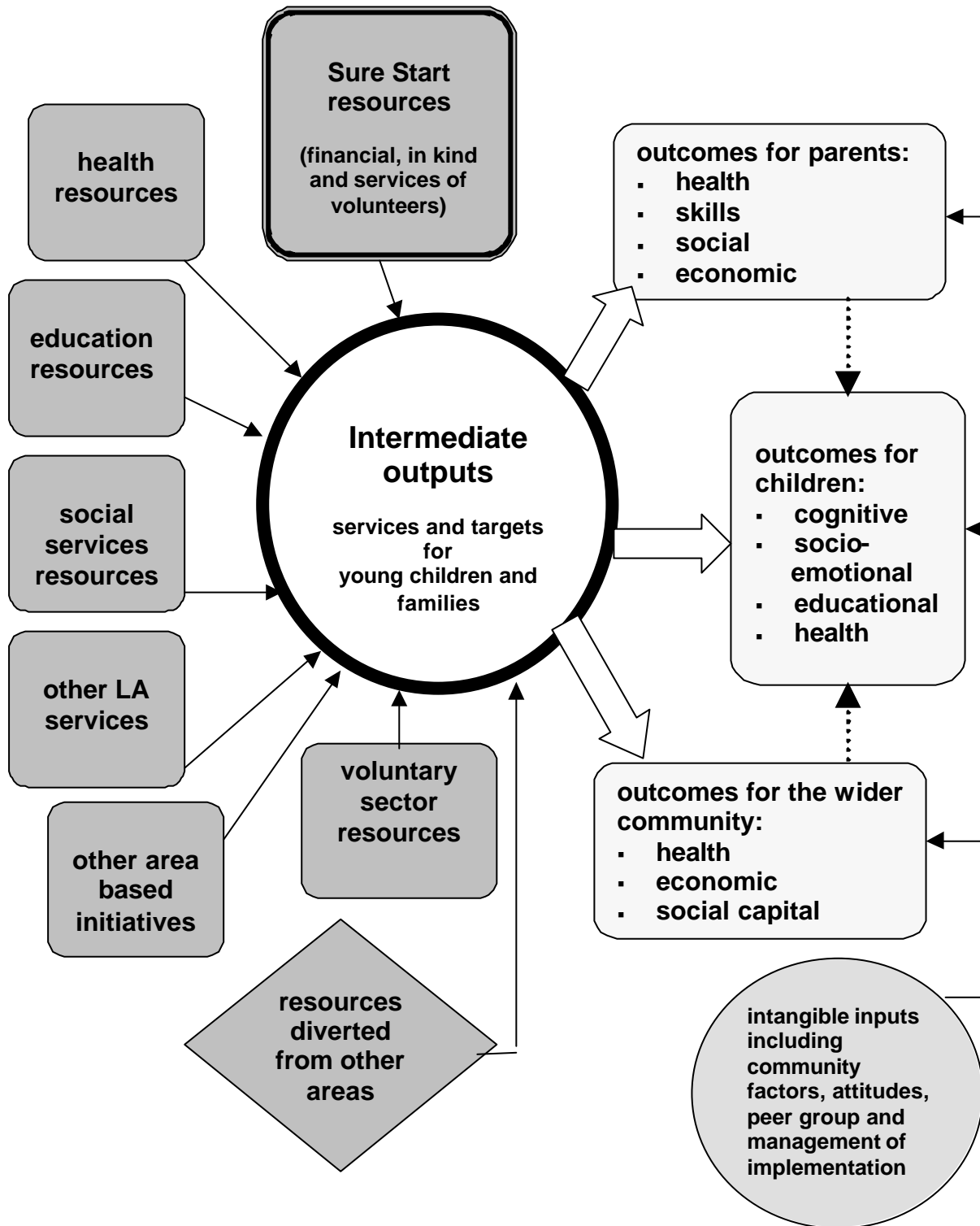
Additionality

Part of the measurement of the counterfactual is the issue of additionality. The use of a comparison group means that the main part of the impact evaluation has been structured to take account as far as possible of the *deadweight* effect.

However, there will also be a need to estimate the potential effect of *displacement* on the outcomes achieved in Sure Start communities. For example, school attainments could improve because schools in the area were refusing to admit potential low achievers, with a consequential negative effect on schools in neighbouring areas.

Similarly, measures to tackle offending behaviour or drug use in Sure Start communities could lead to the displacement of those activities into neighbouring areas. The local context analysis will collect data which should enable some estimates to be made of the potential effects of such movements.

Figure 1

SERVICES FOR CHILDREN AND FAMILIES: INPUTS AND OUTCOMES

Substitution presents a certain amount of difficulty in this kind of evaluation. For example, if part of the purpose of the initiative is to ensure that resources are directed towards children and families in the greatest need, who may not previously have been aware of the possibility of getting a particular service, there may be fewer resources available to other children. This is more likely to affect specialist services than it is to affect the services provided within the Sure Start programme itself. For example, a small number of children may be referred to mental health services, where children from Sure Start areas will be receiving services from the same sources and within the same budget constraints as children from other areas.

In addition, there is the potential for substitution in inputs, which will be measured as part of the assessment of the cost-effectiveness of the implementation. In particular, this will attempt to measure whether resources and expertise used by Sure Start directly are concentrated in Sure Start communities to the detriment of nearby communities, who thereby experience a reduction in the volume or quality or the services they receive. For examples professions where there are widespread labour shortages, which include midwives, health visitors and speech and language therapists, may be diverted from other areas to work in Sure Start areas.

To some extent this is a distributional question. Where part of the purpose of a policy is to improve fairness in access to resources there may be a redistribution from less needy to more needy groups. This carries the risk that outcomes will be worsened for children in other areas. It is unlikely that it will be possible to measure this directly. However, the best means of estimating substitution is likely to come from the community informant interviews.

A further complication is that Sure Start is not intended to operate in isolation. Although funding is only available within defined Sure Start communities, improvements in co-ordination between professional service providers and in the management of services for young children are likely to inform and influence practitioners in non-Sure Start areas. By spreading the message about what can be achieved, it is likely that non-Sure Start areas, particularly, but not only, those in the same local authority or health authority area as a Sure Start experiment, will be influenced by Sure Start practices. This means that in assessing the cost-effectiveness of Sure Start, some of the changes that occur in non-Sure Start areas will not be independent of Sure Start. The effect of this potential source of bias is likely to be an increase in the apparent costs and a reduction in the apparent benefits of Sure Start.

COST-EFFECTIVENESS

A standard cost-effectiveness analysis requires:
- Definition of the objectives of the intervention
- Identification and costing of all inputs
- Identification of outcomes
- Quantification of outcomes
- Comparison of costs with outcomes

In the light of resource constraints, it identifies those uses of resources which succeed in meeting their objectives with:
- Economy – that is by making the least possible demand on overall resources (in some cases irrespective of the impact on outcomes)
- Efficiency – that is the use of the least inputs to achieve a particular output. This term is used here in its economic sense of achieving a given level of effectiveness at lowest cost. But the term is often mistrusted in the social policy field as a synonym for cuts even though in economic terms the achievement of efficiency may require spending more rather than less. It may be necessary to have a minimum threshold of spending to achieve any outcome at all.
- Effectiveness - that is the achievement of improved outcomes. Improved outcomes could take the form of improved levels of particular indicators (the number of admissions to hospital, say). But they can also take the form of slowing down the growth rate of an undesirable indicator (crime rates, say).

These concepts will be familiar in local government and the health service as they are used by the Audit Commission as part of its approach to measuring best value.

In the case of Sure Start the main challenge facing the cost-effectiveness evaluation (as opposed to the cost-benefit evaluation, see below) is the multiple objectives of the programme. It can be particularly challenging to relate costs to outcomes when the attribution of costs to particular outcomes is not necessarily clear-cut. Evaluations of similar programmes have encountered the same problem (Bertram and Pascal 2001).

For this reason, the cost-effectiveness (as opposed to cost-benefit) analysis will focus on the achievement of performance targets and the costs of achieving them. However, to the extent that the achievement of these targets can in itself be indicative of savings generated in other types of expenditure, then these will also be taken into account, but the analysis is likely to be partial. In essence, the cost-effectiveness analysis will focus on the efficiency and effectiveness in the use of resources in the implementation of Sure Start.

The main information will be drawn from the monitoring and financial information supplied by programmes to the Sure Start Unit, although the information will be checked and any unusual figures will be queried. This information will be considered alongside implementation and local context indicators, including the level of services being delivered by mainstream programmes which help to clarify the nature of the challenge being faced by each programme. In other words, it will concentrate on how well the implementation of the

programme uses its resources. This information will be relevant in the evaluation of outcomes as well, since few studies have considered whether effectiveness varies according to the attributes of the implementation (Reynolds et al 1997, St Pierre et al 1997).

Figure 1 indicates the key information needs for establishing the cost-effectiveness of the programme. It is important to remember that some outcomes cannot be quantified, or indeed identified, but they are nevertheless important. One of the objectives of Sure Start is to generate improved levels of social capital and self-confidence within deprived neighbourhoods. While it can sometimes be possible to capture evidence that an improvement (or deterioration) has taken place, there is no obvious scale on which the extent of the improvements can be measured objectively. Moreover, while efforts should be made to identify non-monetary opportunity costs (in this instance the diversion of resources from other areas into Sure Start areas, so that children in other areas receive a lower level of services), it is not always possible to do so with accuracy or at all.

Costs

In the case of Sure Start, the measurement of the full cost of services targeted at children under four and their families in the Sure Start areas has to include not only the activities supported by the Sure Start grant, which are fairly straightforward to identify, but also six other strands:
- Resources used or controlled by the Sure Start programme funded from other sources (for example the use of accommodation or payroll services for which no charge is made)
- The costs of mainstream services that are provided for young children and their families.
- The costs of other government initiatives based in the area that have aims which are shared with Sure Start (for example a Health Action Zone initiative on teenage pregnancy).
- Services provided by volunteers
- Central costs of the Sure Start Unit and staff employed by other organisations working on Sure Start.

The mainstream services are diverse. They include routine health visitor services, social services for children in need, family centres, hospital admissions, GP services, drop-in centres, parent support services, specialist health services, library services, parent and toddler swimming sessions, nursery school, child care and similar services. In many cases, these will be provided by organisations that are part of the Sure Start partnership, but sometimes voluntary organisations will also be involved. Sure Start is intended to be a means of ensuring that these mainstream sources of support for young children are acting in concert. Sure Start expenditure is on a much smaller scale than these other services, and is therefore at best a supplement to them. As a consequence, it is important to establish the scale of the task that Sure Start has to tackle in any particular area. In some areas, some of these other services will already be well established (for example books for babies or a family centre with a drop-in service). In these cases, Sure Start funding is able to concentrate on other services such as childcare or community-based parent support. In other cases, Sure Start funds will be supporting more basic services. In the latter areas the Sure Start programme may be facing a greater challenge than in the former.

In order to minimise the burden on programmes, in most cases these costs will be taken from the information that Sure Start programmes supply to the Sure Start Unit. As far as the Sure Start grant itself is concerned, these figures are likely to be reasonably accurate. An approximate allocation of inputs to particular output targets is already done by the Sure Start Unit as a matter of routine. To the extent that local evaluations address this issue, these estimates can be used as a cross-check on the allocations. More generally, while no allocation is likely to be fully accurate, approximations with cross checks are a reasonable way to proceed. Moreover, the number of programmes is large enough to accommodate the estimation of reliable standard errors for the expenditure estimates.

In addition, as part of the implementation evaluation, programmes will be asked about resources that are made available to the programme by partnership or other organisations for which no charge is made. Some programmes are charged for central services (accounts and payroll for example) whereas others have these provided free. Some programmes have free premises whereas others are paying for them. Whether or not there is a monetary cost, there is a claim on resources that could be used in another way, and so it is important that such resources should be properly identified.

In reality, some of those costs will not prove to be effective in influencing the outcomes at which they are targeted, while others will in fact be achieving improved outcomes in other areas that are not among the explicit targets. In the cost-benefit analysis, this will be taken into account, because a wide range of outcomes will be considered, but in the straightforward cost-effectiveness stage, we need to consider only the intermediate objectives of the programme. Although all programmes are obliged to address all objectives, some of them will be less important in some areas because they start from a better baseline. Moreover, those that do address common objectives will not all do so in the same way, so that in addition to the costs of services provided, the cost-effectiveness evaluation will need to include information from the implementation evaluation about they types of intervention. This should provide some indication of the cost-effectiveness of particular types of services, although it should be stressed that not all services will be appropriate in all areas. Thus in isolated peripheral estates a community bus might be cost-effective if it allows children and families greater access to services available within the town but outside the Sure Start area. In areas with minority ethnic populations, the availability of interpreters to work with the existing midwives and health visitors might be the most effective way of improving the outcomes for infants.

Local evaluations are also expected to look at cost-effectiveness issues, and we would hope to be able to incorporate some of this information in the national evaluation. However, the approach we are taking to the implementation evaluation will enable us to establish the key delivery features that are most likely to lead to success or failure.

As Sure Start is an initiative that is aimed at communities as much as individuals, individual children and families within the community will not necessarily receive defined and specific "treatments" (other than an initial early visit from a health visitor). The objective of the policy is that there will be an improvement in the functioning of and outcomes for the whole

community. Therefore, everyone in the community (children under four in particular, but indirectly all local residents) receives some sort of treatment even if they do not directly receive any services as an individual. The programme is intended to generate externalities and spillover effects.

This means that there will inevitably be interaction effects between the outcomes for different members of the community. But Sure Start has achieved the improvements for all of them. These potential effects mean that the standard statistical rules for analysis at the level of the individual are violated. Once one individual's outcome is dependent on someone else's treatment it is statistically impossible to attribute particular outcomes to particular interventions. In the example above, the neighbouring child's improvement would be assumed to have taken place in the absence of any intervention, and the outcome for the child who received the intervention would be the only benefit attributed to the treatment.

Under these circumstances in order to assess the cost-effectiveness of the intervention, the outcomes have to be measured at a community and not the individual level. We are dealing, in the terminology of Harris (Harris 1985) with a social macroexperiment. Many of the issues that will be central to the assessment of the cost-effectiveness of the initiative, for example a reduction in offending behaviour or teenage pregnancy, should be influenced as much, if not more, by changes in community culture and ethos as by the experiences of particular individuals taking part in any particular prevention programme.

Hitherto, the information provided by programmes to the Sure Start Unit about the value of mainstream services and other area-based initiatives has been variable. However, the evaluation team have now provided guidance to programmes on what information should be provided and this is attached at Annex 1. Provided programmes follow the guidance, this should produce sufficiently accurate estimates for evaluation purposes. Where there are doubts about a particular programme's return, this can be double-checked against CIPFA information or other national estimates of unit costs if necessary

All costs need to be held constant in real terms. The translation of current costs into real costs will be done using the GDP deflator. In addition, capital costs will be attributed to the lifetime of the project, while future costs and benefits will be discounted (see below on cost-benefit analysis for a fuller discussion of discounting).

Achievements of the programme

In the cost-effectiveness analysis, the programmes will be evaluated against the targets that have been set for them. These are what the programmes are spending their resources trying to achieve, and these are therefore the basis on which they should be assessed. The data for this are available from the programmes' monitoring returns to the Sure Start Unit.

The targets have been chosen by the Government as indicators that have been shown in previous research either in Britain or elsewhere to be associated with improved longer-term outcomes for young children. While the impact evaluation will assess whether or not they genuinely do lead to better long-term outcomes, programmes are not at this stage being

asked to concentrate their efforts on potential long-term indicators. It will be for the cost-benefit analysis outlined below to assess whether achieving those targets will lead to improved outcomes and wider benefits.

The achievements will have to be considered in context. In the same way that the performance of a school should be assessed on the basis of the outcomes it achieves, in the context of the abilities and circumstances of its pupils, so a Sure Start programme should be assessed on the basis of its starting point and the local community context.

While we do not propose to adjust achieved targets in the light of local circumstances, it is probable that we will be able to group programmes to indicate the costs of achieving particular outcomes for groups of programmes in different circumstances. Since this element of the analysis will be driven by the actual data, it is difficult to commit ourselves, at this point, to exactly what we will do. However, the overall aim will be to measure efficiency and effectiveness in achieving targets while taking account of the degree of difficulty faced by individual programmes.

Savings

There may be some short-term savings in the provision of other services in Sure Start areas as a result of the programme. However, as a long-term investment programme it is unrealistic to expect that the savings will exceed the costs until the children reach adolescence. The outcomes of early childhood interventions are inevitably long-term in that the purpose of the intervention is to improve their life chances as adults. To the extent that we are able to identify savings, these will be taken into account in the cost-benefit analysis as outlined below.

Cost-effectiveness summary

The cost-effectiveness analysis will involve building a database of all Sure Start programmes which includes:
- Information about the baselines from which the Sure Start programme is starting
- Information about costs of Sure Start services derived from the Sure Start Unit database
- Information about costs of other services in the Sure Start area derived from the Sure Start Unit database
- Information about intermediate outcome targets derived from the Sure Start Unit database
- Information about the method and nature of the implementation derived from the implementation evaluation
- Information about the operating environment derived from the Community Context evaluation

This database will then be analysed to derive performance indicators for the efficiency and effectiveness of Sure Start in terms of delivering services. The aim will be to recognise that in some areas the achievement of targets will require a greater input of resources than in others. It is likely that this will require programmes to be grouped so that the use of

resources and the achievement of targets by programmes in similar circumstances can be considered together.

COST-BENEFIT ANALYSIS

Cost-benefit analysis differs from cost-effectiveness analysis in that instead of comparing target outcomes with their costs and the relationship between the two, it considers the whole range of benefits achieved and attaches monetary values to them. These benefits include those the programme is intended to achieve (which in the case of Sure Start are quite wide) including those to the participants, their families, the local community, other third parties and the wider community. It also includes other incidental and potentially unintended benefits if these can be identified. The cost-benefit evaluation will also take account of additional costs which are incurred as a result of the programme. For example, if young people who have experienced Sure Start are more likely than otherwise similar young people in other areas to go into higher education, they will incur a higher educational cost than otherwise, although the benefits in terms of their future productivity and earnings are likely to be higher as well.

In theory the cost-benefit analysis can adopt a black box approach, and need not attempt to evaluate which parts of the intervention are most likely to produce benefits. Although in practice, the cost-effectiveness element of the evaluation will have produced some indicators of which kind of intervention appears to be generating greater savings, the US experience is that the timing of the benefits of different kinds of programme appears to differ. The benefits of nursery education tend to emerge in adolescence and early adulthood, whereas health interventions can produce benefits more quickly. (Karoly et al 1998)

There are seven steps involved:
- Measure the costs
- Measure the effects
- Estimate the monetary value of the effects
- Adjust for the effects of inflation by placing all costs and benefits in terms of constant values
- Discount future costs and benefits to take account of the opportunity costs of the use of the original resources
- Identify the distribution of costs and benefits across different groups (children, their families, the local community and the wider public)
- Undertake sensitivity analysis

Not all outcomes will have identifiable financial values which can be attached to them. For example community perceptions of the desirability of the area, or the active engagement of members of the community in civil society are both desirable outcomes, but are not readily translated into monetary values.

Time and discounting

It is likely that the timing of costs and benefits will differ. Generally, the costs will occur sooner and the benefits will occur later. As with all experimental programmes, there is likely to be an element of front-end loading in the costing, in terms of staff training and the development of systems and facilities. Many projects are building new centres for example. These costs will need to be identified and where appropriate spread over the intended lifetime of an individual project. Otherwise there is a risk that short-term costs will be over-

estimated. Although in the long-term cost-benefit analysis these factors will be taken into account by discounting both costs and benefits to a single year, this will not be true for the early years. We believe that it will be important for the Government to have information about the short-term cost-effectiveness of the programme. However, unless start-up costs are spread over the intended life of the programme, there is a risk that the costs will be overstated, and therefore the cost effectiveness understated.

Generally, a benefit nearer in the future is valued more highly than one which does not take place until many years hence. There are a number of theoretical discussions around this issue, but the central feature is quite simple: investing money in a programme producing future benefits means a reduction in consumption now. Generally, people are only willing to reduce their current consumption if the value of the potential future benefits is greater than the value of the present consumption which is being foregone. For this reason, it is standard practice in cost-benefit evaluation to apply a discount rate to future costs and benefits (see Layard and Glaister 1994 or Gramlich 1990 for a fuller discussion of the principles). The discounting formula is:

$$\text{constant prices value of cost or benefit occurring in year n} \div (1 + r)^{n-1}$$

where r is the discount rate.

There is a long-standing and continuing debate about the appropriate level of the discount rate. The standard rate for UK government spending is a real (that is after taking account of the effects of inflation) rate of 6 per cent a year. This is chosen as an approximation to the target rate of return on investment in the private sector less the risk premium that private investment is confronted with. Other projects competing for Government funds will have to apply this rate, and it is therefore correct to apply it to Sure Start.

It is within the standard range of 4 to 10 per cent applied by most practitioners. A higher rate is justified if there is an immediate scarcity of funds and where the rate of return in alternative uses of those funds is high. An example might be in a country like China where the economy is growing quickly and there is a shortage of funds for investment to fuel that growth. In the USA, where capital shortages are less of a problem, rates of 4 or 5 per cent are not uncommon. The cost-benefit analysis for the Perry Preschool project used a rate of 3 per cent, which exaggerated the benefits because many of them took many years to become apparent. (Weber et al 1978, Barnett 1996, Karoly et al 1998). The value of the benefits up to the age of 28 would be $60,000 at 4 per cent, but only $20,000 at 6 per cent. The cost-benefit analysis over the first ten years had an internal rate of return of 3.7%. In other words, the costs outweighed the benefits at 4% while the benefits only outweighed the costs at 3% (Weber et al 1978).

The effect of discounting is to reduce future costs and benefits compared with the same amounts today. Using the above formula, we can deduce that a cost of £5000 incurred in year 2 would have a discounted (ie base year) value of £5000 ÷ 1.06 = £3125. Similarly, increased earnings of £1500 a year in year 25 would be worth £1500 ÷ 1.06^{24} = £370 in base year terms.

There is a certain amount of controversy over discounting in cost-benefit analysis in some areas, particularly when it involves depleting the assets available to future generations, or

long-term environmental degradation. (See for example the discussion in Boardman et al 1996) The argument that a pound now is worth more than a pound in the future implicitly places benefits to the current generation at a higher value than benefits to future generations. In an intervention such as Sure Start which is designed to improve the long-term outcomes for children by spending money in the short term, discounting is less controversial. Indeed, since it implies that the sooner some benefits are realised the more valuable they are, it may be working to their advantage, since there is some evidence that positive outcomes at earlier stages are positively associated with positive outcomes at later stages in life. (Feinstein et al 1998; Schweinhart et al 1993; Olds et al 1998b; Currie and Thomas 1995)

Figure 2 summarises the likely sources of additional costs and benefits which arise for children, families, the local community and the wider public in the short, medium and long term. In some instances a cost to one group (for example parents' loss of social security benefits) is a benefit to another group (savings to taxpayers). It should be noted that table is presented for ease of understanding, not to facilitate calculation of the overall benefits. Thus, for example benefits to children include lower use of health services although the savings from that benefit, and therefore the monetary value of the benefits actually accrue to the wider community as taxpayers. As a result the cells as they stand cannot be summed across and down to produce an overall figure because that would involve double counting. In the cost-benefit analysis itself benefits are only counted once, and where a benefit to one party results in a loss to another (as in the case of taxes paid on higher earnings) the two are offset. (Gramlich 1990; Layard and Glaister 1994)

The distribution of benefits matters in two ways. Conventional evaluation considers the differences between the mean outcomes for those in receipt of services and those who do not get them. However, if in reality the mean in the treatment group is driven upwards by the outcomes for a small number of people, and in most cases the treatment has no effect at all, then there may be doubts over the value of the programme even if it passes a conventional cost-benefit test. (See Heckman et al 1997, Dreze and Stern 1987)

In addition equity is an issue because a programme could pass a full-cost benefit test, but might only benefit the better off, so would involve regressive financial transfers. It is therefore important to establish where the costs and benefits fall for different groups in society. Traditional theory of economic welfare would require that nobody is made worse off by an intervention, in other words the benefits exceed the costs for all parties, including taxpayers. This is known as the Pareto rule. In practice the Pareto rule is very rarely met, and it is more usual to apply an alternative formulation known as the Hicks-Kaldor rule. This says that if the net benefits to the gainers are such that they could compensate the losers and still have net gains, there is a net benefit to society as a whole and the project could proceed. Of course in practice the gainers rarely do compensate the losers because there are not often mechanisms available to secure this. Thus a consideration of the distributional effects of an intervention remains important. Moreover, it is not clear that we would count Sure Start as a success if there were no long-term benefits to the children themselves, even if there were benefits for the wider community.

Costs

For the most part the information about costs from the database for the cost-effectiveness analysis will be used for the cost-benefit analysis. However, information collected during the course of the implementation evaluation will be particularly important in the estimation of opportunity costs, that is non-monetary costs which need to be taken into account because they represent losses in the availability of resources for other uses.

Sure Start communities could be receiving support at the expense of other neighbouring communities (substitution in economic terms). This could be deliberate - a local authority could reduce the number of staff supporting provision in a neighbouring area if they thought that there might be scope for families from that area being able to use Sure Start funded provision instead. An example might be a toy library. But it could be inadvertent. For example, professional posts in Sure Start teams could be filled at the expense of vacancies and reduced services to other neighbouring communities because of shortages of professional staff and difficulty in attracting people to work in neighbouring areas compared with the challenges and opportunities of working with a Sure Start team. Health visitors are a long-standing skill shortage profession, and there are shortages of social workers, speech and language therapists, nursery nurses and childminders in many areas. Midwives, who play a key role in antenatal care, and hence the low birth weight targets, are also subject to shortages. Information about unfilled vacancies in the wider locality will therefore need to be collected.

In addition, the pattern of referrals of young children in Sure Start areas to specialist services, especially health related services might change. It is likely that there will be more referrals of younger children. While this may result in savings later on, the effect is to increase expenditure in the short-term. Information collected in the course of the case studies and thematic studies, as part of the implementation evaluation will be used to estimate the potential scale of these additional costs.

However, most of the costs of the services which children in Sure Start areas are likely to consume over and above what they would have done in the absence of the programme will be included in the costs of Sure Start or other related services, particularly nursery education and child care. This information will be available from the Sure Start Unit.

Benefits

Sure Start funding provides support and services to individual families over a four-year period, while the children are under school age. However, the intervention is designed to improve the functioning of communities over a lifetime, and to reduce the intergenerational transmission of social exclusion and disadvantage. This implies that the period over which the benefits are expected to be seen is very long indeed. Over the long term it is clear that the evaluation must address these long-term issues, and the information required for the measurement of relevant outcomes for the initiative must be built into the design of the cohort study and for comparative purposes by the national Millennium cohort.

Savings can only be measured as part of a well-established (or at least reasonably plausible) counterfactual. Estimates of savings as well as costs will be subject to measurement error,

and to the extent that savings are estimated, there will need to be sensitivity analysis around them.

Monetary values will be attached to savings using one or more of three methods:

- Savings based on increased income will wherever possible be based on direct measurement of the income of families
- Savings based on lower service usage will be estimated using locally estimated unit costs for the services in question wherever possible
- Where local estimates do not exist, savings will be estimated using national estimates of average costs

This recognition about the potentially long timescale before benefits exceed costs is important. The two cost-benefit evaluations of early childhood interventions in the United States which were assessed as being methodologically reliable by the RAND study (Karoly et al 1998) (the Elmira nurse home visiting programme and the Perry Preschool) had very different timescales for the achievement of net savings. The Elmira programme produced small net savings for high risk children by the age of four, mainly as a consequence of improved infant health because of better care in pregnancy and reduced prenatal smoking among single teenage mothers, and a lower incidence of child abuse because mothers were better able to read the signals from their babies. Longer-term savings, however, were due to improved life chances for young single mothers leading to lower welfare and crime costs for them rather than for their children. Moreover, for lower risk children costs exceeded benefits up to the most recent assessment at the age of 15. Furthermore, the replication of the Elmira programme in Memphis did not produce savings, even among high-risk groups, possibly because smoking rates were much lower among women in Memphis (Olds et al 1993, 1997 1998b). The Perry Preschool programme, which will have underestimated some benefits because it did not measure any outcomes for parents or any health outcomes, first reached the point where the benefits exceed the costs when the children were aged 20 (Karoly et al 1998). In the case of the CCDP where measurement only took place over the first five years, there were no effects on children and families at all (St Pierre et al 1997). In the case of Early Head Start, there have been no benefits for child or parental health or for parental employment (Early Head Start 2001).

A recent UK evaluation of early years provision, which produced an estimate of a very rapid payback period, is acknowledged by the authors not to be based on firm evidence about the alternative services that families would have consumed in the absence of the programme. The view of the evaluators is that the payback could be as high as they estimate, but they are not yet in a position to judge that it actually is. In particular, they base their estimate on savings in social services provision (Pascal et al. 2001). It is our experience that social services departments are currently concentrating their resources on child protection cases, and that relatively few services are being provided to other children in need.

In our design for the cost-benefit evaluation of Sure Start we have the advantage of being able to draw on the experience of others, particularly the Perry Preschool evaluation and the evaluation of the Elmira home visiting programme. Each of these programmes collected

evidence on issues that the other ignored, and in each case there were some important benefits under these headings. It is our intention to ensure that as far as possible we do not fail to collect information which might be important in the calculation of financial benefits, particularly in the short-term, that is the period covered by this evaluation contract. Generally speaking the benefits from any human

SOURCES OF POTENTIAL QUANTIFIABLE BENEFITS AND ADDITIONAL COSTS

BENEFICIARY	SHORT TERM	MEDIUM TERM	LONG TERM
CHILD	Lower use of health services Greater use of specialist health services (-) Greater use of nursery education (-) Greater use of child care (-) Greater use of play and library facilities (-) Lower use of social services	Lower use of health services Lower use of special education Lower use of social services Less involvement with criminal justice system Lower level of teenage pregnancy	Higher earnings Lower use of health services Increased time spent in full-time education (-) Reduced receipt of social security benefits (-) Less involvement with criminal justice system Lower level of early or unwanted pregnancy
PARENTS	Fewer unplanned pregnancies Lower use of health services Lower level of domestic violence Lower use of child protection services Increased earnings Improved skill levels Lower use of criminal justice system Lower receipt of social security benefits (-)	Fewer unplanned pregnancies Lower level of domestic violence Lower use of health services Lower use of child protection services Increased earnings Improved skill levels Lower use of criminal justice system Lower receipt of social security benefits (-)	
LOCAL COMMUNITY	Improved access to public services Lower rates of crime Greater quality of daily life Improvement in property values Greater commitment to education and training	Improved access to public services Lower rates of crime Greater quality of daily life Greater commitment to education and training Improvement in property values Higher levels of economic activity and employment	Improved access to public services Lower rates of crime Greater quality of daily life Greater commitment to education and training Improvement in property values Higher levels of economic activity and employment
WIDER SOCIETY	Lower expenditure on health and social services Lower expenditure on social security Lower expenditure on criminal justice system Increased tax revenue	Lower expenditure on special education, Lower expenditure on social services Lower expenditure on health services Lower expenditure on social security Lower expenditure on criminal justice system Lower costs to victims of crime Increased tax revenue	Lower expenditure on health Higher expenditure on education (-) Lower expenditure on social security Lower expenditure on criminal justice system Lower costs to victims of crime Increased tax revenue

capital investment are of two kinds: positive outcomes which generate increased output, income and tax payments, and a reduction in the level of negative outcomes which generates savings of resources in dealing with the consequences of those outcomes.

Potential short-term benefits

To the extent that short-term positive outcomes which can be translated into monetary terms are likely, these will relate to factors which generate improved earnings capacity in the parents rather than improvements in the well-being of the children themselves, which will be a stepping-stone to later benefits. As far as the children are concerned, the most likely source of potential benefits is from savings in expenditure in other areas.

In the first five years of the programme, cost savings are likely in the following areas:
- Reduced health care costs for parents and children as a result of reduced emergency admission to hospital, lower levels of smoking, improved mental health of parents, lower levels of domestic and child abuse, fewer low birth weight babies and lower levels of substance misuse
- Reduced costs of social services interventions for child abuse and children in need
- Lower social security payments and increased taxes paid by parents (although these represent a loss to parents)
- Reduced criminal justice system costs as a result of reduced involvement in criminal activity on the part of parents

Benefits to parents

Children's life chances can be improved if some of the risks associated with their parental environment can be reduced. The development of adults' skills can lead to improved longer-term outcomes for children because it leads to higher income and greater self-esteem, which are known to have an effect on children's outcomes at school.

Sure Start can produce short-term benefits for parents through three main routes:
- Higher employment rates as a result of improved health, increased self-confidence, greater availability of child care, or improved skills
- Improved health through access to better advice
- Reduced crime, domestic violence and substance abuse

We know that families in the Sure Start areas will be disproportionately drawn from groups with a high incidence of poor qualifications, lone parenthood, and dependence on state benefits. We know, for example, that three-quarters of adults dependent on income support smoke, compared with under a tenth of the population as a whole. Smoking both increases the poverty of these families and damages their health (Dorsett and Marsh 1998).

British poor families, especially lone mothers who are not working, face a spiral of hardship, poor health and low morale. Those in severe hardship are three to four times more likely to suffer low morale compared to those not in hardship. The incidence of depression is higher among less skilled social groups, people who are unemployed and people who look after the home. A third of out of work lone mothers reported a long-standing illness or disability in

1999 and a third have children with health problems. (Howarth et al 1998; Finlayson et al 2000) US evaluations that have measured mothers' mental health have found high rates of depression and low self-esteem (see for example, St Pierre et al 1995).

Out-of-work lone parents have few qualifications. Only 54% have any academic qualifications and only 38% have vocational qualifications. A third have none at all. (Bryson, Ford and White 1997) Improved self-esteem among lone mothers has been shown to increase their participation in vocational training which in turn is likely to improve their job prospects (John et al forthcoming). However, even quite low paid work can produce significant net benefits. Hasluck et al (2000) estimate that the overall economic benefit from the part-time employment of a lone parent is around ££8,700 a year.

A reduction in either smoking or the incidence of depression can produce relatively rapid savings in health costs as well as increasing the probability that a parent will be able to work. We know from other research that one of the reasons for the low employment rate of lone parents is their own poor health (including stress-related illness), or that of their children (Ford, Marsh and McKay 1995).

The breakdown of marital and cohabiting relationships is associated with a high level of costs, particularly social security costs for lone mothers and their children. Those who have children at an early age (especially premaritally), who marry young, or who have had a previous relationship break down are at the highest risk of relationship breakdown (Clarke and Berrington 1999). There is also evidence that low income is associated with a higher risk of marital breakdown. (McAllister 1999) These influences are likely to be relatively common in Sure Start areas. To the extent that Sure Start helps young parents to cope more effectively with their young children, it is possible that their relationships will have a higher chance of survival than those in other areas.

Domestic violence is expensive as well. It imposes costs in terms of health services, housing, social security and the criminal justice system. Nationally between one in every ten and one in twenty women experience domestic violence in any one year, and around 1 in 4 at some point in their lives. (Mirrlees-Black 1999; Stanko et al 1998: Mooney 1993; Dominy and Radford 1996; Henderson 1997) One in five lone parents had been injured by a partner in the last year of their relationship. (Finlayson et al 2000) Generally, the incidence is higher among younger women and those who have children. Women living in social housing are twice as likely to be victims of domestic violence as those living in owner occupied housing. Those whose household incomes were under £5000 a year were three times more likely to be victims than those in higher income groups (Mirrlees-Black 1999).

Given the age, income and housing circumstances of mothers of young children in Sure Start areas it is likely that up to one in five of them is likely to have recent experience of domestic violence. In a quarter of cases, her children will also have been victims, and in three-quarters of cases, their children will have witnessed at least one violent incident (Abrahams 1994). The cost of providing crisis services for victims of domestic violence has been estimated to be £7.5 million a year in Hackney alone (Stanko et al 1998).

Benefits to children

As far as children are concerned it is important to evaluate not only benefits to the children whose families are direct recipients of intervention or support from Sure Start. It is also important to evaluate the benefits to other children as well. Sure Start is intended to improve the functioning of whole communities as well as help to overcome individual disadvantage. Other children can be expected to benefit both because parents share information with each other (for example about accident prevention techniques or ways of dealing with tantrums) and because children interact with each other. For example, if Sure Start intervention improves children's ability to concentrate, to share or to listen, that will be of benefit to other children in the same group at nursery school, who have already developed those skills as individuals, but whose ability to benefit from them would otherwise have been limited either by the diversion of adult attention onto more difficult children, or by the distractions to their attention created by those children.

In the short-term the likely benefits to children which can be quantified fall into two main groups are mainly related to health and social services usage. For instance, we know that half of all child admissions to hospital are a result of accidents (Botting 1995). We also know that a paediatric in-patient hospital day costs £310 (Netten and Curtis 2000), so it should be possible to estimate the savings generated by a reduction in hospital admissions. Currently most of those seen by specialist child and adolescent mental health services are over the age of twelve, but some are under four, and there are marked variations between areas in terms of the level of service available (Audit Commission 1999b). It is possible that Sure Start will increase the number of early referrals, which may have the effect of reducing the number of later referrals by which time problems have become more difficult to treat.

Children who are looked after by local authorities are disproportionately drawn from families dependent on social security benefits and those with teenage mothers. Bebbington and Miles (1989) found that the risks of entering local authority care are three times greater for children from families on income support, and at least twice as high for those whose mothers were under 21. To the extent that there can be a reduction in looked after children drawn from the Sure Start area there are likely to be savings generated. For example, 9 per cent of children with mental health problems are looked after (Audit Commission 1999b).

A Department of Health study found that one in six children have been severely punished by their mothers at some time (Department of Health 1995) and three-quarters of them had been hit in the last year. It is known that there is an association between poverty and child abuse, so that the incidence of child abuse in Sure Start areas is likely to be above the national average (Knapp and Lowin 1998). The cost of dealing with the aftermath of child abuse in terms of statutory enquiries etc has been estimated to be around £1 billion a year. (National Commission of Inquiry into the Prevention of Child Abuse 1996) However, for social services costs measurement is currently a relatively underdeveloped field compared with education and the criminal justice system. The current Department of Health initiative on measuring the cost-effectiveness of services for children and young people is likely to produce a large amount of relevant data by 2002. One US estimate puts the cost of each incident of child abuse at $57,000 (Miller et al 1996).

One US programme of nurse home visits reduced the incidence of child abuse and neglect by 46 per cent up to the age of four. This appeared to have come about because parents had become better at reading babies' signals. For mothers most at risk – poor and single – there was 79 per cent less abuse up to the age of fifteen (Olds et al 1993, 1998b). However, these outcomes were not replicated in any other studies (Gomby et al 1999, Karoly et al 1998).

In general, it is likely that the benefits to children in their early years will be cognitive, social and emotional. These are all important – indeed, they are the primary purpose of the programme – but they are not readily amenable to monetary valuation.

Benefits to the local community

The local community should benefit from lower pressure on the local health services and from reduced levels of crime. There are also likely to be important benefits in terms of social capital and community functioning, which will be assessed as part of the community context evaluation, but these are unlikely to be able to be translated into monetary values.

Benefits to the wider public

The wider public will benefit from Sure Start as taxpayers to the extent that there are savings on public services, reduced social security costs and higher tax receipts. There is, however, an important caveat here. It is conventional in evaluations of social interventions to assume that higher rates of employment on the part of parents are not at the expense of the employment of other people. In the evaluation of labour market interventions it is usual for an estimate to be made of substitution, that is the extent to which the employment of one individual means that another person becomes or remains unemployed. In the longer term this is generally acknowledged not to be an issue, as the level of overall economic activity generally adjusts to a higher level of productive potential and more people are employed overall. However, in the short term in a limited geographical area there may be some displacement.

Potential Medium-term Benefits and Costs

If, as seems likely, although not inevitable, the short-term costs are higher than the short-term benefits, the evaluation will estimate the level of savings that must be achieved in the medium and long term in order to achieve a positive balance. There is evidence available from previous studies on the relationship between family circumstances and early childhood outcomes and later outcomes for children and young people. One caveat is that these relationships are associations rather than evidence of causation. This is a particular problem when several factors associated with adverse outcomes are themselves highly correlated. For example, early motherhood, relationship breakdown, lone parenthood, poor educational qualifications, low income, living in social housing and smoking are all strongly correlated. This means it is difficult to estimate the effect of changing any one of these factors in isolation.

The current evaluation of Sure Start is only committed for the first six years, so it will focus on the outcomes for children, families, the local community and the taxpayer set out above and in the first column of figure 2. However, it has been designed in order to enable medium- and long-term evaluation to be built onto the data collected in the initial stages. It is, therefore, useful to look forward to consider what other potential benefits might emerge in the medium term, that is the time during which the children are still of compulsory school age. Their human capital is still being developed in the education system, and they are not yet earning. They are, however, beginning to take actions – both positive and negative - independently of their parents.

In the light of the information currently available about the relative size of the different influences on the outcomes for British children, we do not believe that it is likely that we will be able to produce predictions about the possible medium-term outcomes from the developments we will have seen over the first few years, although if it is possible we intend to do so. (In fact it is only in the last few years since US researchers started to use the National Longitudinal Survey of Youth to analyse some of these questions that there has been any US data other than on small-scale experimental samples, mainly of poor African American children.) In Britain there are currently three potential data sets which are likely to be of use: the National Child Development Study cohort of people born in 1958, whose educational experience took place in the 1960s and 1970s; the 1970 birth cohort whose education took place during the 1980s and 1990s and the British Household Panel Survey.

The last of these three is beginning to have more potential for our purposes since it holds some retrospective information and because it contains children of all ages, there is now some evidence becoming available about the relationships between outcomes at one age and outcomes at a later age. However, because it is a general longitudinal household survey it only contains limited data on children's achievements. The other two have a wide range of appropriate data, but given the growing evidence about the importance of the social capital within the local community context for outcomes such as delinquency and early childbearing, it is not clear that it is reasonable to draw inferences for the potential outcomes for today's young children based on these data. Moreover, predictions derived from one of these surveys (for example on the relationship between nursery education and later educational outcomes (Feinstein 1998) can be contradicted by relationships derived from the other. There have also been significant changes of emphasis in the education system, which may have had differing effects on different groups of children, but about which we still have limited information.

On the basis of currently available data we believe our ability to predict is extremely limited, but we hope that as additional evidence becomes available we will be able to draw on that and make some suggestions about the potential for medium-term outcomes. Nevertheless we believe that there is no real substitute for following children through adolescence to see what their actual outcomes on key educational and social indicators are.

Educational attainment

Some evaluations of early years interventions have shown improvements in cognitive developments, but in relatively few cases have these persisted throughout children's school careers (Barnett 1995; Reynolds and Wolfe 1997; Ramey and Ramey 1992). This was originally thought to point to failure of the programmes, but the consensus now is that early childhood interventions boost children's confidence and social skills, which gives them a better foundation for being successful at school (and subsequently in the workplace). It is the social skills and improved motivation, which lead to lower levels of special education and grade retention and higher rates of high school graduation in children exposed to early childhood programmes. (Schweinhart et al 1993; Heckman 1998; Currie and Thomas 1995; Reynolds et al 1997; Barnett 1995)

If early childhood interventions had been shown to have an effect on IQ, which can be measured, then it would have been possible to estimate the potential effect of that on school outcomes, since there are many estimates of the relationship between cognitive ability and school achievements (see for example Harmon and Walker 2001). However, social skills and motivation are harder to measure. Moreover, the hypothesis that it is social skills and motivation which has the key role to play in boosting school performance has not often been tested against any data. Where it has it has not always been supported. Feinstein (2000) finds that self-esteem at age ten is not associated with school outcomes at age 16 or 18, although anti-social behaviour is. But it is not clear what the direction of causality is here. Do children rated as anti-social do less well at school or do children become anti-social because they are not doing well? Generally, therefore, the social skills argument remains a hypothesis. Therefore, for both these reasons, in terms of predicting medium-term outcomes for children it does not serve any practical purpose.

More encouragingly, the evidence also suggests that school performance is closely related to the level of interest and support that parents show in their children's education, and to the nature of children's peer groups and that parenting education does increase parents' interest in their children's schooling. (Barnett 1995; Feinstein 2000; Haveman and Wolfe 1995; Feinstein and Symons 1999; Ermisch and Francesconi 2001; Hill and O'Neill 1994; Shumow et al 1997; Osborn and Millbank 1987; Rodgers and Pryor 1998; Dyson and Robson 1999; Plowden Report 1967).

If children in Sure Start areas receive on average greater parental interest and encouragement at school than comparison children, they are likely to have better school outcomes. However, the size of the effect is not well established as yet, not least because the studies that have been done often rely on teachers' assessment of parental interest, and these have not been done in consistent ways. In addition, it was unfortunate that the key age 16 sweep of the 1970 birth cohort coincided with industrial action by teachers, so that no teacher assessments were made for that group.

Feinstein et al (1998, 2000) estimated that cchildren of parents who are interested in their education do about 20 per cent better than those whose parents are not interested other things being equal. However, he found that the effects of having attended nursery school

were positive for the 1958 birth cohort and negative for the 1970 cohort, when a wider social mix had nursery experience. As with Sure Start we are likely to be taking into account increased nursery school attendance as well as potentially increased parental interest, we probably do not as yet have a satisfactory basis for projecting school achievements based on children's position at the age of four or five.

There are educational outcomes other than qualifications which can also result in cost savings. These include:

- *A reduction in the number of young people excluded from school.*
  Permanent exclusion from school costs an average of £7420 in the first year (Parsons 1996). Each young person in a Pupil Referral Unit costs £5,000 per year more than a young person in mainstream education, but this underestimates the cost because provision is often only available part-time. A full-time place costs more than £7,000 a year more. At present specialist units and home tuition cost less per head than pupil referral units, but this is likely to be affected by the Government's target for all excluded pupils to have alternative full-time provision. Full-time home tuition would cost nearly £30,000 a year (Audit Commission 1999a). Estimates suggest that between 60 per cent and three-quarters of excluded pupils offend compared with only a third of those who are not excluded (Fletcher et al 1998; Social Exclusion Unit 1998)

- *A reduction in truancy levels*
  Truancy leads to direct costs in terms of follow up and possible prosecution of parents. It also leads to worse educational outcomes compared with pupils of a similar background who do not play truant (Dolton et al 1999, Gregg and Machin 1998). There is also an association between truancy and offending. Half of all truants commit criminal offences, but only a quarter of non-truants (Fletcher et al 1998). Those who have committed truant while at school are more likely to be unemployed in early adulthood (Dolton et al 1999, Gregg and Machin 1998)

- *A reduction in the number of children needing special needs provision.*
  The process of drawing up a statement of special needs costs £2,630 on average (Coopers and Lybrand uprated from 1995 prices). Each hour of individual tuition for a special needs pupil in a mainstream school or home tuition costs £22.

- *A reduction in the number of children requiring remedial teaching.*
  Small group tuition for four children in a mainstream school costs £6 per hour per child.

- *A reduction in vandalism*
  This improves the quality of the educational experience for all children attending local schools.

Crime

Youth crime costs public services £1 billion a year (Audit Commission 1996). To this needs to be added the costs for victims and potential victims in terms of actual losses and costs of protection from crime. 40 per cent of crime is committed in only 10 per cent of areas, and Sure Start areas are more likely to be in high crime than low crime areas.

Children in Sure Start areas are at greater than average risk of delinquency in adolescence. The risks are increased by low income, poor housing, living in physically run down and

socially disorganised areas. Other risk factors are poor cognitive ability, poor school attainment, parental conflict and broken families, poor parental supervision, harsh and erratic discipline, being the victim of abuse, impulsiveness and hyperactivity and having delinquent friends (Farrington 1996; Rodgers and Pryor 1996; Knapp and Lowin 1998; Yoshikawa 1995, Miller et al 1996; Audit Commission 1996)

The large net benefits from the Perry Preschool evaluation were based on reductions in offending behaviour both in adolescence and adulthood. Some of the assumptions used in the monetary calculations are dubious,[1] but there were clearly significant reductions in frequent offending. (Schweinhart et al 1993) However, other preschool programmes in the US (particularly Elmira and Syracuse University) also had effects on offending. (Olds 1998a, 1998b; Yoshikawa 1995)

It is likely that Sure Start will have an effect on offending behaviour in adolescence by the children living in the area, but the relationship will be difficult to predict because of the multiple pathways through which it is likely to operate. These include:
- Improved parental supervision
- More consistent parental discipline
- Less child abuse
- Lower levels of offending behaviour by parents
- Fewer delinquent peers
- Better attainments at school
- Better community environment
- Better alternative opportunities

None of these factors have clear enough probabilities attached to them for it to be possible to predict how a reduction in one or more elements can pass through into offending behaviour, particularly as they are so closely related so that the different effects are difficult to disentangle statistically without very large samples. Most studies of offenders are small. The Cambridge study led by Professor David Farrington, which is widely quoted worldwide, is based on following up 411 working class boys from Lambeth over a period of more than 30 years.

Thus although at the end of the first stage in the evaluation, it may be possible to point to reductions in risk factors for delinquency, it is unlikely that it will be possible to estimate the size of the effect of the programme as whole.

Crime reduction is likely to play an important role in the cost-benefit calculation for Sure Start. For example, the latest Home Office estimates show that a typical residential burglary

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[1] Because victim surveys indicate that there are five crimes for every arrest, it was assumed that each averted arrest of members of the intervention group resulted in five crimes being averted. It was these five crimes that were used as the basis of the estimates of the costs, both direct and indirect to victims. (Barnett 1996) However, this assumes that those likely to be arrested are "average" criminals, whereas the distribution of offences is known to be heavily skewed. (Yoshikawa 1995) Without evidence about the frequency of offending by those arrested in both groups it is difficult to argue that this estimate can be justified, particularly in view of the magnitude of its impact on the whole calculation.

costs £2300. This includes £1000 loss to the average victim, but a further £1300 in criminal justice system costs and the cost of additional security purchased by potential victims. A typical car crime costs around £1100. (Dhiri and Brand 1999) The processing costs leading up to the conviction and sentencing of a young offender by the courts are £2,500 (Audit Commission 1996).

In the US, crime accounts for 3 per cent of medical expenditure, including at least 10 per cent of mental health expenditure. Moreover, people who were abused as children commit 13 per cent of crime. (Miller et al 1996) Similar estimates have not been made for Britain, although the incidence of violent crime is lower and mental health services are less readily available. Nevertheless, it is likely that crime reduction can lead to reductions in health expenditure as well.

Teenage pregnancy

Social norms within the family, the peer group and the community play an important part in teenage pregnancy. Teenage pregnancy rates are three times higher among those living in social housing than for otherwise similar young people living in owner occupied housing (Evans et al 1992; Botting et al 1998). Recent research has also shown that both poverty and parental divorce are strong predictors of early motherhood, especially where divorce occurs relatively late in childhood and a stepfamily is created (Gregg and Machin 1998; Ermisch and Francesconi 2001; Rodgers and Pryor 1998; Social Exclusion Unit 1999; Haveman and Wolfe 1995).

The avoidance of teenage pregnancy has the potential to generate savings in a number of ways. First, in terms of health spending, teenage mothers tend to have poorer antenatal health, are more likely to smoke, and have lower birth weight babies and a higher risk of infant mortality than older mothers. Their children have a higher risk of dying before the age of three, and of being admitted to hospital as a result of gastro-enteritis or an accident. The mothers themselves are three times more likely to experience post-natal depression. There is also an association between teenage pregnancy and mental health problems more generally. Although the direction of causality is not clear, it is possible that a reduction in teenage pregnancy rates could lead to lower expenditure on mental health services, and also on the potential consequences of mental illness in terms of employment (Social Exclusion Unit 1999).

Second, teenage mothers finish their education early, so that they gain relatively few qualifications, which puts them at a disadvantage in the labour market. Third, teenage parents have an exceptionally high rate of relationship breakdown, so they are generally bringing up their children on their own. This combination makes them disproportionately likely to be dependent on state benefits. Finally, the outcomes for the children of teenage parents are generally worse than those for other children, not least because they are usually brought up in poor households.

Health

To the extent that Sure Start improves children's health in their early years, for example a reduction in the level of asthma, there are likely to be savings running through into later childhood and adolescence. Similarly, the numbers receiving specialist mental health services rise with age (Audit Commission 1999b). Each hour of child guidance costs an average of £34 (Netten and Curtis 2000). Substance misuse is also likely to be an issue with some young people in these age groups and a reduction in the prevalence may result in reduced health costs (for example a reduced likelihood of being involved in a fight and requiring hospital treatment).

Potential costs and benefits in adulthood

Some of the factors which are relevant for the medium term (for example reductions in crime and improvements in physical health) are also likely to be relevant into adulthood. However, the key indicators at this stage will become employment and earnings.

Education

It is likely that between the ages of 16 and 25 education costs for children in Sure Start areas will be greater than those for comparable children from other areas because more of them will choose to stay in full-time education for longer periods. For example, US evidence shows greater rates of high school graduation not only for Perry Preschool children, but also for children who received Head Start which is a mass programme (Schweinhart et al 1993, Currie and Thomas 1995). This is likely to be the largest element of costs which will need to be added to the original costs of services to the children and their families during their early years. However, there is extensive evidence available about the effects of an additional year's education on subsequent earnings (Harmon and Walker 2001 review this). The additional years of education are likely to increase the probability of achieving qualifications from GCSE upwards.

Employment and earnings

It is likely that children living in Sure Start areas are likely to have a higher probability of employment than children drawn from similar backgrounds in other areas. This is likely to come about through several different routes. From the point of view of the individual:
- *They may have better qualifications*
- *They may have better psychological health, social skills and motivation*
  Feinstein (2000) found that many indicators of psychological and social capital at age ten were significantly associated with earnings and unemployment outcomes in early adulthood. However, not all the expected indicators were significant. For example, boys rated as anti-social by their teachers had earnings that were no lower than those of others.
- *They may have better health*
  One in five unemployed people under the age of 25 have an activity limiting health problem, compared with only 3 per cent among the population as a whole; therefore improved health outcomes are likely to affect employment outcomes (Stafford et al 1999).

- *They may have fewer adverse human capital indicators* (eg criminal convictions, record or truancy or time spent in prison) which are known to have an adverse effect on employment prospects (Gregg and Machin 1998; Fletcher et al 1998; Dolton et al 1999).

From the demand side of the labour market, the probability of unemployment is influenced by local labour market conditions. Someone who would have no difficulty getting a job in a tight labour market in say Reading or Cambridge might have greater difficulty somewhere like Merseyside or Tyneside (see, for example, Dolton et al 1999). To the extent that Sure Start improves the social capital of the areas in which it is operating, it should influence the probability of regeneration and economic improvement as well. Thus, even if Sure Start were to have no effect on any of the outcomes for individual children it might still affect their employment and earnings chances via the effect on the community context.

Other social outcomes

Some psychiatric disorders which involve relatively high costs are associated with family poverty in childhood only emerge in adulthood (Knapp and Lowin 1998). A single half-hour session with a psychiatrist costs around £125. (Netten and Curtis 2000) To the extent that children from Sure Start areas have improved mental well-being, there will be savings in these costs.

Similarly, homelessness is associated with family breakdown, experience of having been looked after by a local authority and having been in prison. (Randall and Brown 1999) A reduction in any of these adverse indicators in adolescence is likely to lead to lower rates of homelessness.

GUIDANCE ON COST-EFFECTIVENESS FOR LOCAL EVALUATIONS

Local evaluators are working with programmes to provide information about how well programmes are being delivered at a local level, and whether or not they are meeting their objectives, both those set at a national level and those which are set at a local level.

Many local evaluators will be unfamiliar with the concept of value for money and with the principles of measuring cost-effectiveness. For this reason, as part of the support for local evaluations, we will produce a guide for local evaluators on how to look at the cost-effectiveness of local programmes. This will cover:
- The concept of inputs and their costs, and in particular opportunity costs
- Which costs to include
- Sources of data
- How to measure costs
- Additionality
- Discounting
- How to attribute costs to particular targets
- Looking at the costs of achieving particular targets through different methods of service delivery
- Benchmarking

- Distributional issues
- Measuring outcomes
- References for further reading
- Structure of a model local cost-effectiveness report

The intention will be to produce a guide which is designed for non-economists, and which allows local evaluators to make maximum use of the information they already have available.

RELATIONSHIP BETWEEN THE DIFFERENT PARTS OF THE EVALUATION

The cost-effectiveness and cost-benefit evaluation will draw on data collected as part of the impact, implementation and local context evaluations. In addition, local evaluators using the guidance on cost-effectiveness will be collecting detailed information at a local level and feeding it back to programme managers. There is thus an interactive element to the cost-effectiveness evaluation which has implications for the implementation evaluation.

In summary, the measurement of cost-effectiveness will look at the costs of different ways of achieving the Sure Start programme targets. The cost-benefit analysis will go one stage further and look at the actual outcomes achieved and assign monetary values to them where that is possible.

TIMETABLE

	2001			2002				2003				2004				2005				2006			
	Apr-Jun	Jul-Sept	Oct-Dec	Jan-Mar	Apr-Jun	Jul-Sept	Oct-Dec	Jan-Mar	Apr-Jun	Jul-Sept	Oct-Dec	Jan-Mar	Apr-Jun	Jul-Sept	Oct-Dec	Jan-Mar	Apr-Jun	Jul-Sept	Oct-Dec	Jan-Mar	Apr-Jun	Jul-Sept	Oct-Dec
Writing guidance for local evaluators	x	x																					
Creating, checking and updating database of costs and targets	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x		
Analysing costs data		x	x	x	x	x	x	x	x	x	x									x	x	x	x
implementation: comparison of costs with targets					x	x		x	x		x									x	x	x	x
impact: comparison of costs with outcomes							x		x	x	x									x	x	x	x

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Annex 1

MEASURING THE COST OF OTHER SERVICES PROVIDED IN THE AREA

What services should be included?

Sure Start is a supplement to the mainstream services which are already operating in Sure Start areas as well as to other Government area-based programmes such as Health Action Zones, Housing Action Zones or New Deal for Communities. It is not intended that the existence of a Sure Start programme should provide the opportunity for services to reallocate resources to other areas. Moreover, the ultimate outcomes for children and families is likely to be influenced as much by the availability and use of mainstream services as it is by the services they receive from Sure Start. It is both because we know that access to and use of other services varies from area to area, and because we want to ensure that the level of such services is not falling with the arrival of the Sure Start programme, that we attach considerable importance to the provision of reliable estimates of expenditure on other services. A Sure Start programme's ability to tackle the complex needs of young children in its area is likely to be determined as much by the other sources of support available as it is by the programme itself. However, we do recognise that exact costing may sometimes be impossible. For this reason we suggest what you might do if the information is not available in your area.

Mainstream services which are specifically provided for young children and their families should be included. The main ones are:
- social services (including family centres, parent and toddler clubs, nurseries, registration of and support for childminders, monitoring and inspection of private and voluntary nurseries as well as direct work with clients)
- health services including GP, health visitor and other primary care services, community health services and hospital services
- early years, childcare and education provision for under fours (and their parents where relevant)
- housing improvements (but not rent support through housing benefit)
- some other services especially targeted at children under four, for example special library facilities or parent and toddler swimming sessions

Where a voluntary organisation provides services in the area, or which people in the area use, such as a family centre or a parenting advice line, these should also be included in the same way.

It is not necessary to provide cost information for services which are consumed by under fours along with other members of the community. Thus, services such as refuse collection or road maintenance need not be included even though young children benefit from them.

Which expenditure to include?

The costs need to be calculated from the perspective of the service user rather than that of the provider. All the services should be costed at their full costs, not just the salaries of the staff directly involved in delivering the service. The underlying principle is to measure the level of resources that would be freed up for other uses if the service were no longer provided. In order for a service provider (a health visitor, for example) to spend half an hour with a family, she may spend a similar amount of time in the office and travelling. Her office itself will have a cost in terms of rent, heating, lighting, telephone, computers, health and safety, maintenance etc. Even where the health visitor service is not charged for these accommodation costs, they are being borne elsewhere within the health service and should be included. She is also supported by whoever manages the health visitor services. Some services also have receptionists and clerical staff, and their costs have to be shared. Some central costs (eg payroll and personnel services) will also relate to the employment of the health visitor, and will need to be spread across all her working activities.

You will need to collect the relevant information from the service providers. In many cases you will find that the service providers have themselves calculated the costs of a unit of service (such as a visit from a health visitor, or an hour of a social worker's time). For example Social Services Departments calculate the unit costs of different kinds of services for children other than those who are looked after for the Children in Need database held at the Department of Health. It should be possible to use these figures to provide estimates of the costs incurred in providing services to young children and their families who live within the Sure Start area.

The starting point for any costing exercise for services to individuals is to calculate the full cost of a professional's time. The following example is adapted from a costing model for a child care social worker taken from the Department of Health's guidance on calculating unit costs for children's services.[2] This guidance provides more details of the underlying principles involved, and although it is aimed at social services departments, the principles can be followed for other services as well and you may find it useful to have for reference.

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[2] Beecham, Jennifer (2000) *Unit Costs – not exactly child's play: a guide to estimating unit costs for children's social care,* published jointly by the Department of Health, the Personal Social Services Research Unit at the University of Kent and the Dartington Social Research Unit. Available free from PSSRU (01227 827773).

Cost of social work with families

Annual salary	£20,140	*Use the actual salaries of the staff employed in delivering the services, or if not available, the average cost for that grade of post for the particular employer (eg basic grade social worker for that local authority, or health visitor for that health authority).*
National Insurance and superannuation	£2,416	
Overheads	£ 3,383	*15% of salary costs for management and administrative overheads.* *Based on study in Suffolk*
Premises costs	£ 1,898	*These are based on standard building costs, but some premises will be rented. The finance departments of most organisations will have estimates of their underlying premises costs even where they own the buildings.*
Total annual costs	**£27,837**	

You will see from the above example that the total cost of employing somebody to provide social services is around 40 per cent greater than the salary cost. This is not an untypical estimate, although in some cases the costs will be higher, and in a few cases they will be lower.

There are now two different possible ways to proceed. If the person or people providing the service you are costing spend a significant part of their working time with Sure Start target groups within the area, then you can do a relatively simple calculation.

Option A

Total annual costs	£27,837	*from above example*
Proportion of client contact time spent with under fours and their families in Sure Start area	65%	*This must be a proportion of client contact time __not__ total working time, since all the costs of non-client time (eg meetings, liaison with other agencies, discussions with managers, training, sick leave) need to be apportioned across all clients*
Cost of providing services to Sure Start clients	**£18,094**	

The alternative approach (which can be used in all cases, if you prefer) should be used where someone spends a relatively small proportion of their time with Sure Start clients (for example a child psychologist who sees children from a wide area and across a large age

range). You need to find out how many hours per week the person concerned spends on activities related to under fours and their families who live in the Sure Start area in order to establish the level of resources which are devoted to those clients by mainstream agencies or other special programmes.

Option B

Total annual costs	£27,837	*from above example*
Working hours per year	1554	*42 weeks x 37 hrs. Allows for 20 days holiday, 10 days bank holidays, 10 days sickness and 10 days study/training on average*
Cost per hour	£18	*£27837 ÷ 1554*
Proportion of working hours spent with clients or on client-related activities	77%	*This figure is based on a research study*
Cost per hour of client related activities	£23	*£18 ÷ 0.77*
Number of hours per year spent with Sure Start clients	100	*2 hours a week, 50 weeks a year on average*
Cost of providing services to Sure Start clients	**£2,300**	*£23 x 100*

Early years and education services

For early years and childcare services we are interested in the expenditure per child under four resident in the Sure Start area who receives services. For nursery education it is acceptable to use the average figure for your LEA from the CIPFA publication *Education Statistics Actuals[3],* which provides unit costs per pupil by authority. (Your local authority education and finance departments are likely to have copies.) The most recent national average cost of a full-time place for a nursery pupil is £1880, so a typical part-time place would cost around £950. You will need to multiply this figure by the number of children under four from the Sure Start area who have places in maintained schools.

You have several further sets of important costs to include.
- Childcare (by statutory, voluntary and community sectors)

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[3] CIPFA (2000) *Education Statistics Actuals 1998-99: incorporating the Handbook of Unit Costs,* published by the Chartered Institute of Public Finance and Accountancy price £85. The unit costs of a full-time primary and nursery place for each LEA are shown in graphical form on the Institute of Public Finance website www.ipf.co.uk/sis/education/educationactuals/1998-99/commentary.pdf. This source is fine to use for mainstream maintained schools, bearing in mind that most nursery places are half time, so the unit cost should be halved.

- Early years provision: e.g. playgroups, parent toddler groups, play sessions (by statutory, voluntary and community sectors)
- Nursery education grant funding for three year olds whose pre-school education is in voluntary or private nurseries or playgroups. The LEA should hold information about the children in respect of whom the grant is paid.
- The costs incurred by the local education authority in undertaking the assessments and drawing up statements of special education needs for children under the age of four. Although most statements are not drawn up until children are in the compulsory school age groups, the process tends to start earlier for children who have already been identified as having special needs, for example those who are disabled.
- Any special funding to develop nursery provision within the Sure Start area via Early Years Partnerships or Early Excellence Centres.

Other area-based programmes

Some programmes and other expenditure, which have objectives which relate to social exclusion, regeneration or other improvements in the functioning of communities, are aimed at a wider client group that includes the under-fours and their families. Some have the same objectives as Sure Start, including a reduction in crime (the Crime Reduction Programme and some regeneration programmes) and teenage pregnancy (in some Health Action Zones).

What expenditure to include from these programmes is really a matter of common sense. If a new building is being jointly funded by Sure Start and the New Deal for Communities, then the other partner's share of these costs should be included. If a programme has objectives which are entirely unrelated to those of Sure Start, and where the client groups do not include young children and their families (for example a Health Action Zone focused on cancer in the over 50s) then you do not need to include it. Generally you should include a share of the expenditure on other area-based programmes which relate to Sure Start clients or objectives based on the share of the target population for that programme who live in the Sure Start area. The imaginary example below illustrates the point.

Health Action Zone

Total annual expenditure of programme	£3 million
Expenditure related to reducing teenage pregnancies	£500,000
Proportion of population within HAZ who live in Sure Start area	12%
Expenditure on this objective ascribed to Sure Start area	**£60,000**

The HAZ will have apportioned its budget by objective

You know the population in your area, and they should know what it is in theirs

£500,000 x 0.12

The expenditure figure that should be reported is therefore £60,000.

Other local initiatives aimed at improving the area

Sometimes there are other local initiatives which are aimed at some of the same issues as some Sure Start programmes are working on. An example might include a project to improve home insulation and cut heating bills. Such projects can have multiple purposes. For example they may be offering job opportunities to people who are long-term unemployed. They often bring together funding from a variety of sources such as the European Social Fund and environmental trusts. Where some of the costs are going to improve the living conditions of families with young children living in the Sure Start area these costs should also be included.

If you cannot get the information

Most public bodies and voluntary organisations should have the information that enables the unit costs of services to be calculated. However, if there are gaps in your information, then there are two ways to proceed. One is to assume that the total cost of providing a service is 1.5 times the salary costs of the staff concerned. Otherwise you could use national unit costs. National costs should only be used as a last resort, since costs vary between parts of the country. Moreover, some authorities find that using more senior staff than others and hence having higher unit costs can lead to better outcomes. Others find the reverse. It depends crucially on the local client base and the other services available within the area. There is no right and wrong approach to providing a particular service, which means that decisions taken at a local level will influence the amount spent on it.

If you have no option other than to produce estimates based on national costs then there are two main sources. The most useful is likely to be *The Unit Costs of Health and Social Care 2000* by Ann Netten and Lesley Curtis.[4] This provides average costs for a visit to a GP or a hospital paediatric in-patient day as well as a range of social work costs. There is also a CIPFA publication for social services, but interpretation is more difficult because its definition of the client groups is more restricted (children in need who are not looked after may be excluded) which may mean that services provided to Sure Start clients are not necessarily clearly costed.

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[4] Netten, Ann and Curtis, Lesley (2000) *The Unit Costs of Health and Social Care 2000,* published by the University of Kent Personal Social Services Research Unit (01227 827773) price £15.

General Principles

We recognise that this information is unlikely to be exact. However, something that is 80 per cent accurate is better than nothing at all. The information tells us how important the Sure Start contribution is to the well being of an area in the context of other services which are already being provided. If in doubt use your common sense. Any service has direct and indirect costs and the underlying principles are the same in all cases. All capital projects have identifiable costs. Do not assume that because no money changes hands a service is "free". Use of resources is never free. Somebody is always paying. We want to identify all the resources used in providing the whole range services to families with young children in your area, whoever ultimately pays the bill. If you keep that principle in mind, you cannot go too far wrong.