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Framework for the Cost Benefit Analysis of the NSW Department of Community Services Brighter Futures Program

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Abbreviations

ATSI	Aboriginal and Torres Strait Islanders
CALD	Culturally and linguistically diverse
CBA	Cost Benefit Analysis
CEA	Cost Effectiveness Analysis
CHERE	Centre for Health Economics Research and Evaluation
CPR	Centre for Parenting and Research
CSC	Community Services Centre
Department	NSW Department of Community Services
DoCS	NSW Department of Community Services
ICS	Indigenous communities study
IOS	Intensive Outcomes Study
LA	Lead agency
MDS	Minimum dataset
Program	Brighter Futures early intervention program
SPRC	Social Policy Research Centre

Contents

1. Background

Brighter Futures is the NSW DOCS early intervention program targeting children aged 0 to 8. The program is designed to "support pregnant women and families with young children aged 0-8 years who require long-term support (up to two years) by a range of services. The program gives particular priority to those families with children under three years." (Department of Community Services, 2007). To be able to access the Brighter Futures program, parents must also have a vulnerability that is likely to worsen if not addressed with the services and support available to the parents and children which include home visits, quality children's services and a parenting program (Department of Community Services, 2007).

A Consortium led by the Social Policy Research Centre, and including the Centre for Health Economics Research and Evaluation (CHERE) at UTS and Pamela Meadows from the National Institute of Economic and Social Research, has been commissioned to undertake the evaluation of all aspects of the program. An important component of the evaluation process is economic evaluation. This paper is set out as follows; Section 2 provides a brief introduction to economic appraisal in relation to the Brighter Futures program and sets out the links between the envisaged cost-effectiveness analysis (CEA) and cost benefit analysis (CBA). It also outlines the broad challenges faced when undertaking economic appraisals in the field of program such as Brighter Futures. Section 3 sets out a methodological framework for undertaking the CBA of the Brighter Futures program, including methods for addressing key evaluation challenges and Section 4 outlines the main tasks for the CBA work.

2. Economic Appraisal

Economic appraisal is a technique that systematically analyses all the costs and benefits associated with the various ways of meeting an objective (NSW Treasury, 2007). The distinction between standard evaluations of process and impact and economic appraisal or evaluation lies in the importance of measuring costs as well as activities and benefits (Meadows, 2007).

To ensure a consistent approach to economic analysis, the document *NSW Government Guidelines for Economic Appraisal* (NSW Treasury, 2007) has been referred to in developing the framework for the economic evaluation of Brighter Futures.

There are two main types of economic appraisal relevant to the Brighter Futures program: cost benefit analysis (CBA) and cost effectiveness analysis (CEA). Both use the same information about costs, but focus on different outcomes (Meadows, 2007: 114). This paper focuses on the CBA of the Brighter Futures program. CBA methodologies are well developed, widely tested and broadly accepted by economists and policy makers. Numerous texts have been written on how to conduct CBA. For the purposes of the Brighter Futures program evaluation, standard CBA methods such as those espoused by Drummond et al. (2005) and Zerbe and Bellas (2006) will be employed.

Petrou and Gray (2005), however, noted that early childhood intervention programs create particular challenges for economic analysis that need to be considered in the design of an economic evaluation framework. The purpose of this paper is to review those particular challenges and outline how these will be overcome in the CBA for the Brighter Futures program.

2.1. Cost Effectiveness Analysis (CEA)

CEA compares alternative programs to examine the least expensive way to produce a particular outcome, or, what is equivalent, maximise a particular type of outcome from a given expenditure. CEA is appropriate for projects for which the major benefits cannot be valued in dollar terms, or when it would be unduly expensive to

undertake the valuation (NSW Treasury, 2007a). This technique compares the costs of different initial project options with the same or similar outputs. The key element of CEA is the careful identification and analysis of all the effects and costs[1].

According to Warfield, CEAs "are designed to assess the relative efficiency of different interventions" (Warfield, 1994: 87) by taking account of the costs and the effects of different interventions. CEA examines intermediate outcomes over the short term (Meadows, 2007: 114). Cost effectiveness is easier to measure when an intervention aims to produce a single outcome that is measurable but is difficult to translate into monetary values. It is useful when there is more than one mode of intervention to achieve the same outcome so that the costs per measured outcome of the different methods can be compared. Furthermore, CEA can provide useful information to decision-makers about the most efficient means to implement complex interventions such as the Brighter Futures program.

Data from the minimum dataset, results and process evaluation running until 2010 (as described in the SPRC Consortium's Evaluation Plan) will be used to underpin this part of the economic analysis (Fisher, 2006).

For programs such as Brighter Futures where interventions have multiple goals and no single goal has clear priority, CEA techniques are inappropriate to ascertain the full economic impact. For this reason CEA will be used only to answer questions on efficient service delivery. A cost-benefit analysis (CBA) is required to assess the overall economic implications of the Brighter Futures program (Meadows, 2007; Plotnick and Deppman, 1999).

2.2. Cost Benefit Analysis (CBA)

The purpose of CBA of early childhood interventions is to assess their social benefits relative to their social costs, with the ultimate consideration being whether the program is worth replicating in similar or broader context, or is worth expanding (Wise et al., 2005). "Cost-benefit analysis entails comparing a program's benefits with its costs to all stakeholders" (Karoly et al., 2001). The practice of CBA is to

[1] It needs to be noted that there has been one Australian cost-effectiveness study conducted on the positive parenting program (see Turner, et al., 2004).

monetise costs and benefits recognising that, regardless of the activity chosen, there are opportunity costs and forgone benefits to other stakeholders. CBA is generally conducted from the perspective of society at large; that is, the benefits and benefits forgone affecting not only the children and families participating in the Brighter Futures program but also the whole of society (Karoly et al., 2001; Wise et al., 2005). The hidden, implicit and indirect benefits to different members of society need to be considered not only over the life of the program but also into the future; that is over the expected timeframe for which the program is anticipated to have an impact on participants. Evidence from previous early intervention programs have shown effects spanning more than forty years (Karoly et al., 2001:60). The longevity of program benefits needs to be taken into account when designing the framework for the Brighter Futures economic evaluation

The experience of evaluating early childhood interventions in the United States has also shown that unanticipated effects have produced the majority of economic benefits (Meadows, 2007: 114). Thus, the Brighter Futures evaluation framework has been designed to capture program benefits as widely as possible and retain some degree of flexibility in the evaluation process to capture potential unanticipated benefits.

Table 1 lists many of the potential benefits that may accrue from programs such as Brighter Futures. It also recognises that those benefits may flow to a wide group of stakeholders including children and their families involved in the Brighter Futures program as well as the wider community through spill-over effects.

In terms of the impact on children themselves, the main framework for the economic evaluation would be considered in the same way as education in school: investment takes place over a period of years during childhood and returns emerge once children enter adult life and start earning an income (Meadows, 2007; 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 likelihood that

the person with additional human capital will be dependent on the out-of-work benefits.

The reasons for focusing on human capital investment[2] in early childhood are as follows:

- The earlier the investment takes place, the longer the potential payback period and therefore the more likely it is that cumulative benefits will be positive.

- Later learning builds on the foundations supplied by early learning. If early learning is not in place, then it is more difficult to develop higher level skills after the age of 16 that generate higher returns. Success or failure in the first years of life may determine whether or not there is a foundation for later learning, and therefore, a person's lifetime earnings potential.

There is a growing recognition that the level and quality of early childhood investments are not solely determined by the inputs from educational institutions, but that the family and community have central roles to play too (Meadows, 2007).

Table 1 also shows that potential benefits may accrue over varying lengths of time. Some of the potential benefits will accrue only over a short time frame and others types of benefits will continue to flow over longer periods.

In many ways the long timeframe over which benefits may accrue, as well the broad group of stakeholders who may receive those benefits present the primary challenges in designing an economic evaluation framework. This is particularly true when the data collection - running until 2010 - can only deliver evidence about the short-term outcomes of the Brighter Futures program. Essentially, this means that the economic evaluation will need to extrapolate from the short-term results reported by the Brighter Futures data collection to the longer term, requiring careful amalgamation of evidence from international studies of the long-term results of similar early intervention type programs. We return to the issue of how to best extrapolate benefits to the longer term in Section 3.2.

[2] See Heckman (2000) or OECD (2007) for a further discussion of human capital

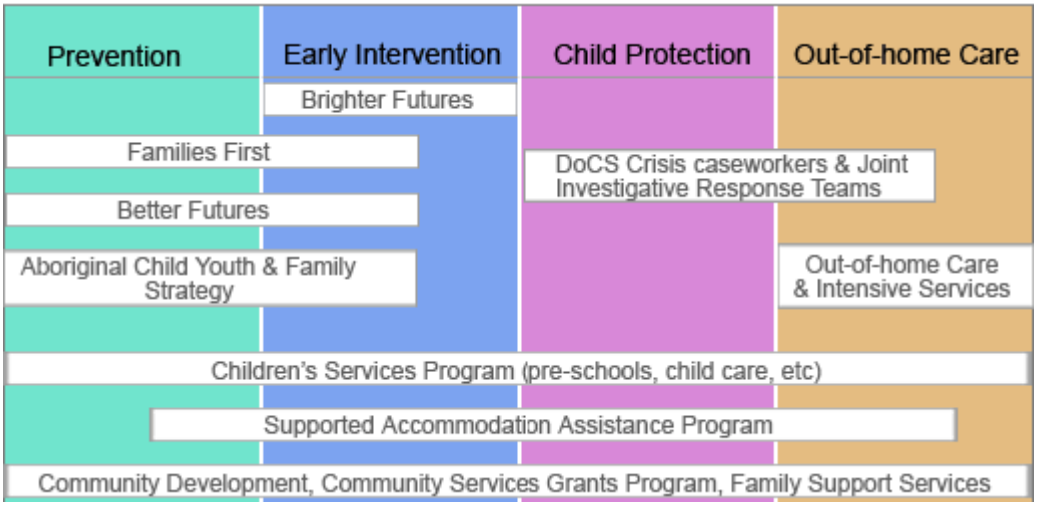
Table 1: Potential benefits of early intervention programs by beneficiary and timeframe

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 services 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 and employment Improved access to public services	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	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

Source: Meadow (2007)

A key component of the evaluation of Brighter Futures is the question of attribution. The outcomes for children and families in the program are not determined solely by the activities of the program, but must rather be presumed to be the result of a combination of the Brighter Futures program, other DoCS Services and mainstream services. There is a recognition that "Brighter Futures is part of a continuum of integrated service provision to children and families in NSW" (Department of Community Services, 2007: 4), as illustrated in Figure 1.

Figure 1 Brighter Futures in relation to other DoCS programs



Source: NSW Department of Community Services (2007: 4).

The NSW Treasury's *NSW Government Guidelines for Economic Appraisal* (NSW Treasury, 2007) specifies the need to establish whether a project or program is providing additional services, "how the project relates to other projects or programs within the agency and with respect to other agencies" (NSW Treasury, 2007: 29). As well, in the description of the benefits expected, it is necessary to specify "qualitative terms the level and type of benefits and their distribution" (NSW Treasury, 2007: 29). This framework will comply with the guidelines through the use of comparative analysis of children and families who entered Brighter Futures with similar families who did not. For more information about the envisaged contrast groups in the Brighter Futures program evaluation see Fisher et al. (2006). In addition, the framework is designed to allow sub-population analysis to examine distributive consequences. These issues will be returned to in Sections 3.1 and 3.2.

2.3. Linking the CBA, CEA and the broader Brighter Futures evaluation

The CEA and CBA components are linked in two ways. Firstly, the costs associated with implementing and running Brighter Futures services will be used in both the CEA and CBA. Secondly, the results from the CEA (and broader evaluation), as reported through intermediate outcome measures,[3] will be extrapolated beyond the evaluation time frame of 2010 and converted to monetary units. It is intended that the CBA will incorporate the results from the CEA and extend the analysis through three steps:

i. Link the intermediate outcome measures derived from the Brighter Futures data collection to the final outcome measures derived from national and international evidence (e.g. the number of re-reports to the child protection service prevented, as reported in the Brighter Futures data collection, linked to international evidence on the number of crimes/arrests prevented)

ii. Convert the final outcome measures to a financial measure (for example, every crime prevented saves society $x); and

iii. Project anticipated benefits over time and adjust for time preferences.

These three steps will be described in more detail in Section 3 below.

[3] Intermediate outcome measures should have a direct and well established link to the final measure of interest.

3. Framework for undertaking a CBA of the Brighter Futures program

This section is divided into two parts. In section 3.1, the key principles for undertaking the CBA of the Brighter Futures program will be set out for those aspects of the evaluation that do not deviate from standard CBA approaches. Section 3.2 describes the more complex methodological challenges created by early intervention type programs including the specific challenges presented by the Brighter Futures program. Importantly, this section also sets out a framework on how the challenges are to be addressed.

3.1. Key principles for undertaking CBA of the Brighter Futures Program

Perspective

It is anticipated that potential Brighter Futures program benefits will accrue to various stakeholders. It is useful to think of Brighter Futures benefits flowing to any of the following groups:

- Benefits to government through changes in program resource requirements. The different types of benefits that may be relevant here are:
    - Savings and avoided costs – verifiable reductions in existing levels of expenditure or additional costs averted if a program proceeds.
    - Revenues – incremental revenues which result directly or indirectly from a particular program (NSW Treasury, 2007a).
- Benefits to the participating families (i.e. children, their siblings, and carers) through improvements in welfare.
- Benefits to the broader society. For example, benefits associated with living in a community with less crime.

The CBA of the Brighter Futures program will take a broad perspective that incorporates the widest possible range of potential benefits accruing to stakeholders.

Incremental analysis

The CBA will evaluate the incremental cost and benefits of the program compared to an alternative strategy. In the case of this analysis, incremental differences between the intervention group and the control group(s) will be analysed. The control group include Brighter Futures eligible but non-participating families as well as a historical cohort (for more details, see the Brighter Futures Evaluation Plan).

Extrapolation of significant findings

It is envisaged that (i) positive and statistically significant results from the Brighter Futures evaluation running to 2010 will be extrapolated to long-term outcomes, (ii) any non-significant results will not be extrapolated and (iii) any potential significant negative results will be analysed as part of a sensitivity analysis.

Uncertainty

There are three potential sources of uncertainty that need be dealt with in this part of the evaluation:

- The distribution around the mean found in the Brighter Futures evaluation measures;
- The degree of uncertainty around the strength of evidence from the literature; and
- The degree of generalisability of study results to sub-populations and/or areas.

A number of strategies will be used to deal with these uncertainties. Firstly, statistical data from the broader NSW DoCS Brighter Futures evaluation will be used to estimate confidence intervals for the intermediate outcomes. These data will be used in a subsequent sensitivity analysis to test robustness. Where there is uncertainty around some of the evidence found in the literature, the project team will develop scenarios to determine whether changing one or more variables will alter the economic results substantially. The evaluation will also conduct analysis at the level of sub-populations to determine whether the economic case for the Brighter Futures is equal across population

groups. Sub-populations to be considered for this part of the analysis will include geographic location of the family and family vulnerabilities. This will generate information on the generalisability of the study and create greater certainty for future resource allocation decisions.

Program costs

Consistent with other aspects of the economic evaluation, the unit of analysis for estimating Brighter Futures program costs should be based on individual families. Estimating program costs will involve gathering data on (1) resource use, including the type and number of services used by families and (2) the unit cost associated with each type of service. The MDS is the primary source of data.

The MDS is expected to provide indicative per client costs for case management, parenting programs (high and non-high need), playgroups, home visits (high and non-high need), child care as well as expenditure on brokerage type services. Some of the required information has to some extent already been gathered through the NSW DoCS Costing Manual initiative. We note that this Manual is intended to be updated and reviewed. This information will be used to inform and complement data from the MDS for the purposes of estimating the unit cost of Brighter Futures services. These estimates will be used for both the CEA and CBA.

Note that any off-setting savings derived from the Brighter Futures program are treated in this analysis as benefits and are discussed in greater detail in Section 3.2. below.

Task i

Commence work on the monitoring, testing, analysis and reporting of resource use data contained in the MDS. With input from the Department of Community Services compile appropriate costing information for Brighter

Discounting

The costs and benefits associated with the Brighter Futures program will occur over different time periods. NSW Government Guidelines for Economic Appraisal (NSW Treasury, 2007b) state that quantifiable costs and benefits should be expressed in constant

terms and not include nominal increases due to inflation (NSW Treasury, 2007a: 9). In the case of the Brighter Futures program, this will also entail adjusting future benefits to take into account the positive societal time-preference rate. The methodology for making the adjustment is straightforward. For the purposes of this evaluation, we envisage using the NSW Treasury real discount rate of 7%, with any sensitivity testing using discount rates of 4% and 10%. We also intend to stay abreast of developments in the theoretical and empirical field more broadly and incorporate such developments where appropriate.

Methodological challenges and ways forward for the CBA

Identifying Brighter Futures program benefits for the CBA

The potential benefits of early intervention type programs are widespread and the way these impacts are measured is even more diverse (Watson et al., 2005). For example, a reduction in child abuse may have an impact on health, educational attainment and, ultimately, overall welfare for the child and their family.

Identifying and choosing the most appropriate outcome measure will be guided by:

1. the availability of intermediate outcome measures captured as part of the evaluation of the Brighter Futures program running until 2010, including the results from the MDS; and

2. our ability to map these intermediate outcome measures to a set of benefits identified through the best available national and international evidence (discussed in more detail below).

The minimum dataset (MDS) contains a number of measures indicative of the benefits of the Brighter Futures program. These are listed in Table 2 and categorised on the basis of whether these are intermediate or final outcomes. The variables listed in MDS will provide the evaluation with sufficient flexibility to analyse the broader benefits of the Brighter Futures program. On the basis that the Brighter Futures data collection provides high quality and statistically significant incremental results, these outcome measures can provide a basis for estimating the short and intermediate term impact of the Brighter Futures program and can also be used to extrapolate longer term benefits.

Table 2: outcome measures from the Minimum Dataset

Intermediate	Child's health and development (e.g. Eyberg Child Behaviour Inventory)
	Parenting practices (e.g. self-rating as a parent,)
	Family and relationships (e.g. family warmth or hostile parenting)
	Health and lifestyle (e.g. carer assessment of child health status)
	Child protection reports
Final	Net household income
	Government benefit received

Task ii:

Identify and categorise potential intermediate and final outcome measures contained in the MDS as well as any additional measures contained in the results, intensive, process evaluation for CBA valuation and extrapolation.

Mapping intermediate outcomes to final outcomes

In line with the results of many of the early intervention programs reported in the research literature, the full impact of the Brighter Futures program is unlikely to be observed within the timeframe of the evaluation running until 2010. Thus, one of the challenges in estimating the long-term benefits of the Brighter Futures program will be to choose the most appropriate intermediate outcomes that can be mapped to long-term measures.

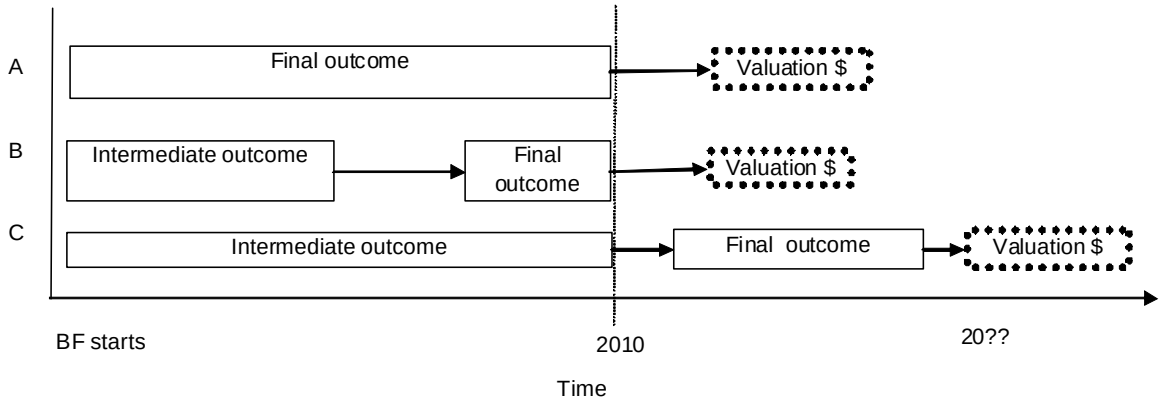
There are three potential pathways by which to value outcomes. Firstly, some short-term outcome measures will have a direct monetary impact that can be valued and entered directly into the model. For example, the number of re-reports prevented will have a direct financial impact on the resources used by the DoCS. This is represented as pathway A in Figure 2. Alternatively, some short-term outcomes may need to firstly be mapped onto final outcome measures prior to assigning a monetary value to these benefits. For example, an improvement in *child health* may be hard to value directly but could, at a minimum, be mapped to health care costs saved. This is represented in pathway B. For

other outcome measures, the monetary value of some intermediate measures will not become apparent until well beyond the conclusions of the Brighter Futures data collection in 2010. For example, the Brighter Futures evaluation may show that the Brighter Futures program results in improved scores for child development but these would have to be mapped to, for example, improved *school completion rates* and then be valued through potential higher earnings in future years. This is represented as pathway C in Figure 2.

Setting timeframes for estimating benefits

The various benefits of early intervention (including the Brighter Futures program) can occur over diverse periods of time. This means that a time dimension needs to be identified for the pathways in Figure 2. Pathways A and B are for those outcome measures where it is anticipated that all benefits will have been accrued by the time the Brighter Futures evaluation is completed in 2010. Pathway C, on the other hand, allows for the benefits to accrue beyond that of 2010 when the data collection is set to conclude.

Figure 2: Possible scenarios for mapping and valuing outcomes over time



The MDS instruments are designed to provide us with final outcome measures, such as household income (akin to pathway A in Figure 2) as well as intermediate outcome such as the number of child protection reports and child development scores akin to pathways B and C respectively.

Tasks iii and iv:

Map relevant outcome measures identified (i) above and map these to final outcome measures. The mapping exercise will involve a detailed review of the literature to estimate relationships between intermediate and long term consequences of early intervention type programs. A literature assessment tool has been developed to aid reviewing relevant studies for this exercise. The assessment tool is listed in Appendix A.

Assessing the evidence for quality and relevance

Extrapolating long-term benefits from existing studies, especially those from overseas, presents some methodological challenges. Not only do we need to be confident about the quality of the studies but also about the validity of transferring results from the study setting to the NSW setting. The literature assessment tool developed for this evaluation (Appendix A to this document) will help in this task. The emphasis of this tool is to document the results of studies and, importantly, to assess the quality of the research, and its relevance to the NSW DoCS Brighter Futures program.

Valuation of outcomes

Transferring study results from one context to another requires careful scrutiny. For example, the estimated costs avoided that are associated with preventing crime are likely to be vastly different in the US compared to Australia. In undertaking the valuation part of this CBA we intend to use locally relevant evidence and data to the greatest possible extent. This includes using results from previous local studies that have estimated some of the values required for the CBA. Use will be made of the recently developed DoCS benefit estimation database to help identify the wide range of benefits associated with Brighter Futures and to assess the monetary value of these benefits. This may also require examining a broader range of literature than the early intervention literature/data. For example, to estimate the societal value of an outcome relevant to Brighter Futures, such as reduced crime rates, all studies that have estimated a value for this outcome will be examined.

In the event that the existing research literature is judged to be irrelevant, Australian administrative and survey data will be investigated and may be used to value long-term impacts. For example, it may be possible to estimate the impact of high school completion on wages using panel data from the Household Income and Labour Dynamics in Australia (HILDA) or examine the impact of child development on intra-household wellbeing using the Longitudinal Study of Australian Children (LSAC).

Task v:
Estimate the monetary relationship between the intermediate and final outcome measures, including use of external administrative and survey datasets.

Finally, in a situation where there is no appropriate data to value the consequences of Brighter Futures, the feasibility will be investigated of undertaking additional small-scale surveys using techniques such as stated preference to value some of the intermediate outcomes and program attributes.

Task vi:
Identify appropriate methods to examine the long-term impact for those outcomes that are deemed to be important but for which no appropriate evidence or dataset have been found for extrapolation.

4. Tasks

A number of tasks need to be completed for the CBA:

i. Compile appropriate costing information for Brighter Futures services and estimate program costs including sub-group cost analysis.

ii. Identify all available outcome measures available from the minimum dataset as well as any additional measures contained in the results, intensive, process and evaluation for CBA valuation and extrapolation[4].

iii. Conduct a literature review to:

   a) Identify the best and most relevant evidence to map the intermediate measures in (ii) above to long-term measures.

   b) Identify the appropriate time span over which benefits are expected to occur

iv. Identify relationship between the intermediate and final outcome measures

v. Estimate the monetary relationship between the intermediate and final outcome measures, including use of external administrative and survey datasets.

vi. Identify appropriate methods to examine the long-term impact for those outcomes that are deemed to be important but for which no appropriate evidence or dataset have been found for extrapolation.

We intend to commence task i (estimating program costs) as soon as data from the MDS becomes available and continue to monitor, test and improve estimates throughout the evaluation.

The work plan will undertake tasks ii, iii simultaneously, and focus on reviewing one particular aspect of early intervention studies at a time. Broadly six aspects of early intervention programs have been identified, defined broadly on the basis of the outcomes of interest (education, health, crime and justice, labour force, and child and family well-being). The relationships between intermediate and final output will be identified (task iv) upon completion of the mapping exercise followed by task v. It should be noted that final estimates can not be calculated until the results from the Brighter Futures program are known and complete, although intermediate results will

[4] Measures from the MDS will provide the basis for this and have already been identified in Table 1 above

be reported on the basis of interim data. Also note that as work progresses, the extent of evidence gaps will become more apparent and it will then be possible to assess the extent of the work required for task vi throughout the project

It is envisaged that the SPRC Consortium will undertake the tasks as outlined above and provide technical information for discussion and decision. Regular reviews will be undertaken of the progress with the tasks and regular reports will be provided to the Brighter Futures Evaluation Working Party.

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Appendix A

LITERATURE ASSESSMENT TOOL

Parameter	Research question/description
Reference:	Authors, title, journal
Name of study	Study name (e.g. Perry Pre-School)
Cross-references	What other papers have reported results from this study, if any?
Setting	Where was the study conducted?
Follow-up:	If follow-up study, what is the length of time between the intervention and follow-up?
Sample size	What was the sample size for the intervention and the control groups?
Actual study period	If the study was empirical, over what period did it take place (e.g. 1995-1998)
Modelled study period	If the study was modelled/extrapolated, for how many years? How was this done?
Study type	Description of the study type. For example, randomized, quasi-experimental, non-experimental with a brief description.
If randomised	How was randomisation done?
If non-experimental	How was potential selection bias taken into account?
Interventions	Which interventions were studied? For example child care, family services.
Target group	Who was the target population? For example: low socio-economic background or age 3-5.
Control group	Who was in the control group? How was it matched to the intervention group?
Was there any economic component?	If so, what type of economic evaluation was conducted? Was the study comparative and did it contain measures of both costs and benefits.
Outcome domains	Broad study interest. For example: health, education, justice.
Main outcome measures	What was the outcome measure per intervention(s)? (Consistent with "interventions" column)
Perspective of the evaluation	What was the perspective of the evaluation? For example, government perspective or societal perspective.
Outcome mapping	Does this study provide detail on how short-term outcome measures are linked to intermediate and long-run measures?
Results	What are the main results of the benefits of the program?

Parameter	Research question/description
Identification of who receives benefits	Does the study identify the distribution of benefits amongst program participants? If so, what are they?
Attribution of benefits to specific interventions	Can the study isolate benefits flowing from single interventions accruing from a program? If so, what are the results?
Data sources used for valuation.	What were the data sources used for valuation? For example administrative records, interviews.
Measurement of identified savings	Were savings identified? How were they measured (marginal costs, average costs, scaling). Were resources reported separately from costs?
Discount rate applied	Yes/no. If yes, what was it, and what was it based on?
Program cost measurement:	What technique was used to measure the costs of the intervention (top down/ bottom-up). Were fixed costs reported separately from variable costs? Was resource use reported separately from costs?
NSW transferability	Comparison of target groups in study vs Brighter Futures (include characteristics like employment, income etc.) Comparison of control groups in study versus Brighter Futures include characteristics like employment, income etc.) Program differences and similarities in study versus Brighter Futures Is the scope for benefits similar between the study and NSW context?
Strengths and weaknesses	Assessment of the quality of the study
Original data request	Based on the above assessment, will it be of value to seek data from this study from the authors?

Glossary

Brighter Futures	Brighter Futures Program
CBA	Cost-Benefit Analysis
CEA	Cost Effectiveness Analysis
DoCS	New South Wales Department of Community Services
Forgone Benefit	Benefit which would have been gained by using the workers, equipment, material and so on for other purposes
Opportunity cost	The cost of resources consumed expressed as the value of the next best alternative (i.e. the cost of doing program A is expressed in terms of not doing program B).
Spill-over effect	The impact of an intervention on stakeholders other than those directly involved in the intervention
Human capital	The combined stock of knowledge, abilities and experience within an individual
Time preference	Relates to the premium a consumer will place on enjoyment nearer in time over those in future years. Measurement of time preferences relate to the discount rate used in converting future costs and benefits to their present value.
Discount rate	The rate used to calculate the costs and benefits of an intervention which occur over different lengths of time. Discounting converts the value of future costs and benefits into their present value