

## Executive summary

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Interventions in early childhood aimed at improving psychosocial conditions linked to child development have a long history. Evaluations of the impact of early childhood interventions on child and parenting outcomes indicate that they yield positive and substantial short-term effects, but the long-term outcomes have rarely been studied. Studies that have followed children longitudinally have found that cognitive effects tend to diminish over time, but that the interventions have positive long-term effects on crime and delinquency.

Long-term benefits (including cost-savings) of interventions in early childhood continue to be asserted in broad public debates, despite limited empirical support. More extensive examination of the cost effectiveness, or costs and benefits, of early childhood interventions is needed to substantiate claims of effectiveness.

The Australian Government Department of Family and Community Services approached the Australian Institute of Family Studies (Institute or AIFS) and the Melbourne Institute of Applied Economic and Social Research (Melbourne Institute) to conduct the *Effectiveness of Early Childhood Interventions* (EECI) project. Broadly, the goal was to conduct a review of selected early childhood interventions and provide further information about cost-benefit evaluations in a way that is relevant to Australian policy makers. Although there have been substantive reviews of early childhood intervention (for example, Karoly, Greenwood, Everingham, Hoube, Kilburn, Rydell, Sanders and Chiesa 1998; Mrazek and Brown 2002), there has not been an extensive review of the costs and benefits of early childhood interventions.

For the purpose of the EECI project, early childhood interventions were defined as public programs that attempt to improve child health and development during the period from conception to six years of age. In the current review, 108 national and international interventions with published evaluation data were identified from a systematic search of relevant electronic databases, from which 32 were selected for review.

In selecting these 32 programs, priority was given to programs that were well researched, or where a cost-benefit analysis had been conducted. Large-scale, well-established programs were also given priority, as were programs where the ultimate target population was the child. The 32 selected programs were classified into five clusters according to type of program, foci, location and focal child age.

The adequacy of design and implementation of the programs was reviewed according to four criteria: dosage/intensity, participation, implementation and drop-out rates. These reviews indicated that the adequacy of design and implementation was highly variable.

The adequacy of evaluation design was also reviewed according to a number of criteria. The majority of evaluations were at least adequate and often good or excellent in design.

The effectiveness of interventions was reviewed by an examination of effect sizes. Effect sizes were grouped according to their value into one of four categories; negligible, small, medium and large. Of the interventions that provided effect sizes, many had immediate and short-term, albeit often small, effects. As mentioned previously, very few programs have examined long-term effects. The effect sizes found in interventions that did examine long-term effects indicated that cognitive effects diminished over time, but that interventions had positive effects on some late adolescent and adult outcomes.

While these findings provide some basis for estimating likely future benefits of early intervention programs, missing data on the restricted set of programs included in this review means that it is inappropriate to comment on the utility of early childhood interventions as a general strategy to sustain improvements for children in the long-term.

Moreover, of the 108 interventions that were initially identified, only eight programs included a cost-benefit study. There have been no cost-benefit analyses undertaken of Australian programs.<sup>1</sup>

A discussion of the purpose of cost-benefit analyses and the process of conducting a cost-benefit analysis follows the evaluation of the effects of early childhood interventions. A critique of the three main formulae or methodologies used in cost-benefit analyses—Net Present Value, Rate of Return and Cost Effectiveness; and discussion of ways of valuing non-market costs and benefits are also provided. Finally, the eight early childhood interventions with a cost-benefit component are critically reviewed according to the three main steps in conducting a cost-benefit analysis: estimating the net impact of the program, estimation of costs and benefits, and calculating net effects.

Overall, this review of early childhood interventions highlights a definite need for more data on early childhood interventions before conclusions regarding cost-benefits are made. It is recommended that evaluations are planned at the same time as programs are designed, to ensure they are set up to enable cost-benefit analyses. This involves random assignment of the target population, as well as collection of data on participant characteristics, program costs and program effects.

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1 However, it is worth noting that a cost-effectiveness study has been conducted on the Positive Parenting Program (Triple P: Turner, Mihalopoulos, Murphy-Brennan and Sanders 2004).