



Early years intervention:
**THE INVESTMENT AND
THE RETURN**

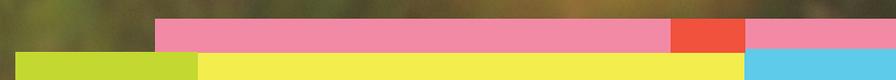


Early childhood interventions have demonstrated benefits for children, including the development of resilience, improved cognitive skills, increases in school attendance and reduction of absenteeism, through to improved professional skills providing higher income; reduction in teenage pregnancy, reduction in crime and promotion of adult health^[1]. It is estimated that individuals who have experienced poor early development earn about a quarter less income a year^[2]. Further, the investment in disadvantaged children has the potential to reduce inequality^[3], and to improve national productivity and gross domestic product (GDP)^[1, 2, 5]. In this way, investment in the early years of a child's life provides benefits to the individual, the family and the community generally. Conversely, the cost of neglecting to provide adequately for children has implications not only for the child and the community, but also in terms of far-reaching social and economic outcomes, including those that extend to the national economy.



Why early childhood?

Much of the research on successful early childhood interventions and programs supports the need to intervene prior to formal school entry. For instance, developmental neuroscience emphasises the optimal timing of intervening in early childhood as being from age 0-3yrs^[3]. Moreover, by the age of three, numerous socioeconomic gradients in health, cognitive skills and socio-emotional function are observable^[6]. This further reinforces the need for interventions early in life, to prevent the health and achievement gaps before they occur. Interventions initiated between the ages of 0 and 3 years have also been found to yield the highest economic returns, particularly for children experiencing adversity^[6]. However there is also evidence to suggest that intervention programs may be ineffective for very young children^[7]. Hence, determining the optimal timing of intervention remains an important focus for future investigation, along with the recommended duration of programs and threshold of intensity.





Maximising the value of early childhood programs to the community

While the benefits of investing in early childhood interventions are now well-established, the remaining challenge is to identify the preferred program priorities for investment. An important component of prioritising resource allocation is the understanding of the comparative 'value' of a program^[4]. This 'value' can be expressed in terms of cost-effectiveness (i.e. the cost required to achieve a given outcome) or, alternatively, as a cost-benefit. Broadly, the aim of cost-benefit analyses is to measure the Return on Investment (ROI). Outcomes are monetised so the 'value' is expressed as a ratio of benefits to costs. This requires computation of the cost of inputs so they can be compared to the total benefits.

The evidence supporting early childhood investment has increased substantially in recent years and in general terms has demonstrated that ROI varies according to age of access to intervention, level of vulnerability, length of follow-up and program components. A review of the literature indicates that benefit:cost ratios differ considerably according to these factors, but that ratios consistently reflect a positive rate of return on initial investment^[3, 4, 8-10].

While the cost-effectiveness ratio is a simple concept, the complexity lies in the enumeration. In particular, because outcomes may occur far into the future (e.g. adult employment), the more immediate benefits of early intervention may be difficult to quantify (e.g. resilience or self-belief). This represents a significant limitation of the benefit:cost ratio. Furthermore, while health and education outcomes are largely measurable, impacts on inequality, intergenerational outcomes and benefits to the national sector are less easily quantified. These outcomes may be addressed using economic modelling with a range of outcomes according to known evidence.



Future directions for evidence-based investment in early childhood

A number of gaps remain in terms of optimising evidence-based investment in early childhood. The following areas require further research to address deficits in current knowledge.

1 Systematic reviews to date have been limited in terms of sectoral approach or specific outcomes. There is currently a need to expand the breadth of review of the published literature and to undertake a systematic review following a paradigm such as a Cochrane or a Campbell review.

2 Economic research in early childhood is typically conducted in a way that is specific to certain sectors, operating as 'silos' (e.g. education, health, labour, and welfare). As a result, very few multi-disciplinary economic analyses have been conducted^[11]. Methodologies vary according to sector, but ultimately the aim is to optimise development of the child including cognition, achievement, resilience and quality of life. There are a number of available indices which incorporate a range of outcomes but, as yet, these have not been adequately utilised to assist policy decisions (with the exception of the quality adjusted life year (QALY) for resource allocation in health).

3 Standardised economic evaluation of programs remains a key challenge. Despite knowledge of the social and educational benefits of early childhood programs, economic evaluations of such programs are rare^[9]. Moreover, predictive studies of the long-term economic benefits of early childhood interventions often rely on adult-outcomes data from programs that were implemented decades ago. While the rate of return was reported to be as high as \$17 for every dollar invested, this would be different in today's context, where a larger proportion of children are attending preschool. As such, a more realistic expectation of returns in today's context is likely to be in the range of \$3 to \$4 for every dollar invested^[9]. Additionally, the potential usefulness of economic evaluations of early childhood programs is limited by having to wait until participants reach adulthood, and the long-term outcomes of program participation can be ascertained. Hence, it is more prudent to calculate the true economic value of such programs' effectiveness in the interim, through measuring short and medium-term effects including improvements in cognitive, social-emotional, and behavioural development^[9].

4 Current data sets and ongoing cohort studies can provide the data necessary for retrospective review. Effectively, these databases can enable us to look back to evaluate where the system has failed to adequately provide for individuals. Analyses may include homelessness, adult education, incarceration, crime and justice, mental health and welfare receipt using the Australian linked data^[12].

Through the work of CoLab, Telethon Kids Institute is committed to addressing these identified gaps and further advancing the agenda for early childhood intervention. This goal is being achieved by bringing together economic experts across the health, education, labour and welfare economic disciplines to identify research priorities and link the currently siloed understanding of return on investment, to provide a comprehensive economic analysis of the early years in Australia. This innovative collaboration will support policymakers and practitioners by helping to prioritise services to achieve the best possible outcomes by investing in early childhood.



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