



CoLab EVIDENCE REPORT

Early childhood programs:
Supporting a strong start to life



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ABOUT COLAB:

CoLab brings together families, clinicians, educators, policy makers, other practitioners and researchers to provide evidence to improve service delivery and community capacity to meet the needs of children, families and communities who are experiencing vulnerability. Our vision is that young children in Australia develop, learn and thrive so they can build a better future for themselves and their communities. CoLab has three priorities, including: providing better support to families experiencing adversity; advocating for place-based approaches to improve the ways that families, services and communities work together, and; advancing the economic understanding of early childhood, with a focus on where the best early investments can be made. CoLab was launched in 2017 through a partnership between Telethon Kids and the Minderoo Foundation, made possible by Minderoo's founding commitment to ensure every Australian child gets the best possible start in life.



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Early childhood programs: Supporting a strong start to life



RESEARCH HIGHLIGHTS

- **Well-developed early childhood programs** can make a **dramatic difference** in the lives of children experiencing disadvantage.
- A range of well-evidenced early childhood programs exist, including those focused on **maternal** and **child health**, **early learning**, and **positive parenting**. 
- There are **no universally applicable solutions** or programs what works for whom and why will differ substantially across diverse contexts. 
- Early childhood programs need to be embedded within a **well-coordinated service system** with the capacity to respond to the complex needs faced by disadvantaged populations.
- Early childhood programs need to provide **all children** with a strong start in life, with **additional** and **more intensive services** targeted towards **those experiencing the most challenges**. 
- **A suite of programs and approaches** that are **tailored** to the **unique needs of the community** is also recommended, rather than simply implementing individual program/s in isolation of a broader strategy.

Early childhood programs: Supporting a strong start to life



Reflecting a high-level commitment to investing in the early years, in 2009 the Council for Australian Governments (COAG) imparted a shared vision of the Commonwealth and state and territory governments “to ensure that by 2020 all children have the best start in life to create a better future for themselves and for the nation”^[1]. Among the priority areas for change outlined by this COAG-endorsed initiative were the strengthening of universal maternal, child and family health services, and providing support for vulnerable children. However, despite Australia’s dedication to improving the provision and quality of early childhood education and care, significant challenges remain that demand immediate attention^[2]. According to the 2015 Australian Early Development Census (AEDC), young children living in the most socio-economically disadvantaged areas of Australia are twice as likely to be developmentally vulnerable than children in the least disadvantaged areas. Specifically, around 33% of children in the most disadvantaged areas were classified as being at high-risk on one or more developmental domain(s), with some 18% of those considered to be developmentally vulnerable on two or more domains of the AEDC^[3].

Growing up amidst disadvantage also represents an immense personal burden for the children who experience it in the context of their daily lives. Indeed, children are not just passive recipients of their experience of living in poverty, but rather are actively involved in processing and responding to the challenges they face^[4, 5]. As this Evidence Report describes, there is a moral and economic imperative to improve the conditions under which young children, particularly those from low socio-economic backgrounds, develop. In doing so, we can make some progress towards addressing the social and health inequalities that are apparent in the earliest years of life, and help break the cycle of disadvantage^[6].



This Evidence Report provides a selection of early childhood programs that are well-supported by evidence, to indicate the scope and integral components of quality programs that could be considered for implementation. Such programs can help ensure all children have a strong start to life and the opportunity to reach their full potential.



The formative role of early childhood

There is growing recognition that what is experienced during a child's earliest stages of life, and the first thousand days in particular, can have potentially profound consequences throughout their life course^[6]. During early childhood, the foundations for lifelong health and wellbeing are being established, with the quality of a child's relationships and experiences integral to creating the core 'building blocks' for healthy development^[7, 8]. This represents a time of great adaptability for the developing child, yet also a time of great vulnerability^[6]. For instance, both positive and negative experiences in this sensitive period can dramatically influence how a child's rapidly developing brain is shaped, enabling a sturdy or weak basis for later skill development^[9]. A positive start to life can enable children to reach their full potential by providing optimal conditions for healthy brain development^[8]. However, when young children are exposed to consistently

negative experiences, including the lack of responsive care, and stressful environments, such as those characterised by significant adversity, their developing brain architecture is weakened, with far-reaching consequences throughout the lifespan^[10, 11]. The early years are the first and best chance we have to build the conditions for children's optimal development and help ensure their future health and wellbeing, by improving the quality of their environments and experiences^[6].

The rationale for early childhood programs

The harmful consequences of growing up amidst adversity provide a compelling reason for intervening to improve young children's outcomes. Specifically, the health and development gaps among disadvantaged children and their more affluent peers that first emerge in early childhood can have far-reaching effects, affecting their educational attainment, work productivity, future earnings and risk of chronic disease in adulthood^[10]. To this end, the experience of poverty in the early years can create a cascade of negative outcomes for children, severely limiting their opportunities for full social and economic participation later in life^[10].

It is not economic hardship as such, but the accompanying poverty of relationships and experiences in early childhood that profoundly influences health and developmental outcomes^[12, 13]. Encouragingly, however, the provision of high-quality education and care in the early years has demonstrable benefits among such at-risk populations, and is linked to a range of favourable outcomes for children in later life, including educational success, cognitive development, social-emotional development and health behaviours^[14, 15]. These programs can also benefit society at large, by minimising the likelihood of children's future contact with the justice system, while also increasing their levels of social participation^[14]. Through a reduced need for expenditure on remedial-stage education, health and criminal justice services, as well as by promoting children's greater economic productivity in adulthood, investing in such programs can yield substantial returns, over and above their initial costs^[16, 17]. Aside from the economic benefits, there is also an ethical imperative; ensuring children are provided with a good start in life is a worthwhile goal in its own right^[6, 18-20].



Early childhood programs recognise how development is reciprocally influenced by characteristics of the multiple environments and settings in which a child participates. These influences can exert their effects both directly and indirectly, and include the more proximal impacts of family, school, and community settings, as well as the more distal influence of broader cultural, economic and political systems^[21]. Essentially, early childhood programs aim to build protective factors and mitigate risk factors, in order to positively influence young children's developmental outcomes^[22]. There are a number of hypothesised pathways through which early childhood programs can grow and strengthen protective factors among young children, leading to positive effects in later life. Such programs can:

- 1) provide children with a cognitive advantage through developing their literacy and numeracy skills;
- 2) facilitate children's better social development and adjustment;
- 3) encourage quality parent-child interactions and family support for learning;
- 4) offer a motivational advantage through improved self-efficacy, competence and persistence in learning, as well as;
- 5) enhance the quality of the school environment that children experience^[23].

Types of early childhood programs

This section describes a selection of well-evidenced early childhood programs and, while not an exhaustive list, aims to illustrate the diversity of approaches that have been used nationally and internationally in developed countries. The following programs differ in terms of their key components (e.g. consisting of one or several modules), mode/s of delivery and settings (e.g. early childhood centres, home-visitation, or community-based), as well as the main outcomes measured (e.g. cognitive development, health and wellbeing, social and emotional skills, parenting behaviours). Programs have been grouped into three categories based on the primary focus of the program:

- 1) maternal and child health;
- 2) early learning, and
- 3); positive parenting.

Maternal and child health programs

The critical influence of the pre- and post-natal environment on multiple aspects of child development justifies the need to address recognised risk factors through maternal and child health programs. Two early childhood program examples focusing on maternal and child health are considered here, including a home-visiting program and a nutrition-focussed program.

Nurse Family Partnership (NFP) program

The Nurse Family Partnership (NFP) program was developed for first-time mothers facing overlapping risks (e.g. low-income, adolescent, unmarried) during pregnancy and for the first two years of their child's life^[24, 25]. This model of home-visitation was designed to prevent maternal and child health problems, including: a) poor birth outcomes; b) child abuse and neglect, and injuries, and; c) compromised parental life-course. Correspondingly, three broad domains of modifiable risk and protective factors were targeted: a) prenatal health-related behaviours; b) sensitive competent care of the child, and; c) early parental life-course^[25]. The NFP program was delivered to eligible women by trained nurses or paraprofessionals, with the frequency of home visits differing according to the different stages of pregnancy, and the specific needs of parents^[25]. Evaluations of the NFP program in three different regions of the USA found commonly reported benefits of: reductions in child abuse/neglect and injuries, fewer unintended subsequent pregnancies, and children's better intellectual and language development^[26, 27]. Longer-term (adolescent) benefits for the children involved in the program were also found at the follow-up stages, including reduced substance use and less internalising mental health problems at age 12, and fewer arrests and convictions at age 15 and 19^[26, 28]. To sustain a high quality, home-visiting model such as NFP, careful consideration should be given to program structure and content, including clear program protocols and detailed visit-by-visit guidelines^[25, 28]. The likelihood of success will be enhanced by: ensuring community and organisational knowledge and commitment to the program; providing well-trained and well-supported staff, and; continuously evaluating the program to guide quality improvement^[25, 28].

Women Infants and Children (WIC)

The US-based Special Supplemental Nutrition Program for Women, Infants and Children (WIC) was targeted at pregnant women, breastfeeding and non-breastfeeding women during the post-partum period, infants up to 1 year of age, and children aged 1-5 years. The programs aimed to ameliorate the risk posed to low-income individuals through inadequate nutrition during pregnancy, infancy and early childhood, through the use of: 1) supplemental foods designed to provide specific nutrients needed at different stages of growth and development; 2) nutrition education, including promoting the benefits of breastfeeding; 3) referrals to health care and social services^[29]. Supplemental foods were made accessible to participants through provision of a voucher, check or electronic benefit along with a list outlining the quantities of specific food (including iron-fortified formula) that can be purchased from specified food vendors and pharmacies. In addition, by teaching participants the key concepts of good nutrition and food preparation, the WIC program aimed to improve dietary quality and nutritional status over the short-term and long-term. The referral services included as a key component of the WIC program act as a gateway to service systems, specifically routine preventative healthcare, as well as social services such as housing assistance, mental health and substance abuse programs. Most of the evaluations of the WIC program have focused on birth outcomes, and have found that prenatal WIC participation was associated with increased birthweights, and reduced rates of low and very low birthweights, providing substantial cost savings for governments^[29]. Several studies on the effects of WIC participation among infants and children have revealed generally positive outcomes on anaemia and iron status, weight and height, nutrient and food intakes, as well as access to and use of health care^[29].

Early learning programs

Early learning programs include those primarily directed at improving educational opportunities, thus laying the foundations for young children's cognitive and social development and promoting school readiness. This encompasses programs targeted at improving the home learning environment, as well as structured centre-based preschool programs.



Home learning environment

Home Instruction for Parents of Preschool Youngsters (HIPPY)

The Home Instruction for Parents of Preschool Youngsters (HIPPY) program was targeted at improving parents' capacity to create an enriching home learning environment for their child in the two years in the transition to formal school entry (i.e. age 4-5 years)^[30]. It was aimed at communities experiencing social disadvantage and parents with limited formal education. At the core of this empowering community-based home visiting program was the recognition of the powerful role that family can play in supporting young children's learning^[30, 31]. It encouraged a positive parental influence in developing foundations for children's learning by building on parents' strengths, and providing them with the necessary confidence and skills to make beneficial changes. This two-year program comprised a curriculum of learning activities (weekly activity packets and storybooks) for parents and children to work through together at home, and to be integrated into daily life for around 15 minutes a day. These activities aimed to assist children to develop age-appropriate skills they need to succeed in school, including language, sensory, visual-motor and problem-solving skills, and critical thinking skills such as listening and asking questions^[30]. The curriculum was supplemented with fortnightly home visits by a home tutor, who models the learning activities through role-playing. Tutors were parents in the program and lived in the same neighbour as the parent they were tutoring. They were trained and supported by a professional coordinator^[30]. Fortnightly parent meetings aimed to encourage shared social support and reduce isolation. Enrichment group activities were also incorporated into meetings, focusing on parenting practices, child development and reinforcing links with the community^[30, 32]. Participation in the HIPPY program has been associated with parents' greater social inclusion and wellbeing, such as: their improved confidence in parenting and in being their child's first teacher, considering themselves a 'good' parent, feeling more supported in raising their child, and reporting better access to relevant information and services^[31]. The HIPPY program was also associated with less hostile or angry parenting, and parents reporting more in-home and out-of-home activities with their child, more reading with their child, being more involved with their child's learning and development, and having greater contact with the school. Benefits of the HIPPY program were also found among children, including improved numeracy and early literacy skills, pro-social behaviour, and fewer problems with their peers^[31]. Improved outcomes for children were also found in relation to cognitive skills, standardised reading and achievement, school readiness, and classroom adaptation^[30].



Parents as Teachers (PAT)

The Parents as Teachers (PAT) program aimed to support parents to provide a quality home learning environment for their child in the first three years of life, thus helping to ensure they enter school ready to learn^[33]. The specific goals of PAT were to: increase parent knowledge of their child's development and improve parenting practices; prevent child abuse and neglect; enable early detection of developmental delays and health issues, and; increase children's readiness for school and school achievement^[33]. A comprehensive curriculum was delivered by trained professionals (parent advisors) during home visits occurring on a regular basis (usually monthly) and lasting approximately one hour^[34]. The child was an active participant in each home-visiting session and parents were asked to undertake a specific follow-up activity in between home visits. A range of topics were addressed by the program, such as language development, active play, fine and gross motor skills. Other components of the PAT program included periodic developmental screenings, referrals to community services as needed, and parent group meetings to discuss child development and foster informal social support networks.^[35] Evaluation of the PAT program in the USA revealed that the program increased school readiness and later school achievement both directly, through better parenting practices, and indirectly, through parents' reading to their children more at home and being more likely to enrol them in a preschool program^[33, 36]. When the three-year PAT program was combined with two years of quality preschool education, it was shown to improve school readiness scores of low-income children relative to those of their more advantaged counterparts^[33, 36]. Feedback from parents of vulnerable children who participated in the PAT program in Australia revealed a high level of satisfaction and many perceived benefits. These included: addressing their feelings of isolation, improving their confidence and skills in parenting, and supporting their access to other services^[34]. Among the most valued aspects of the program reported by parents were the non-judgemental way in which the program was delivered, and the relationship of trust established with the parent advisor^[34].



Preschool programs

The Abecedarian Preschool Program

The Abecedarian Preschool Program provided an intensive and enriching early childhood environment for children from low-income, high-risk families, beginning soon after birth and continuing until five years of age^[37]. The preschool stage of this program consisted of year-round, full-day attendance at a child-care setting for five days a week. Many children growing up in families affected by poverty may need full-time, out-of-home child care from infancy, and this provides a vital opportunity to enrich their learning and alter their environmental trajectory into adulthood^[37].

^{38]}. The Abecedarian program emphasised individually-tailored, age-appropriate adult-child interactions, comprising educational games for infants and progressing to more conceptual and skill based educational curriculum, and more group oriented activities for older pre-schoolers. The teaching and learning strategies emphasised in this program (i.e. The Abecedarian Approach), consist of: learning games, conversational reading, language priority, and enriched caregiving^[39]. A nutritional and healthcare component to the program incorporated periodic medical check-ups and daily screenings, and the provision of two meals and an afternoon snack for children at the centre^[40]. African American children who participated in the Abecedarian program demonstrated significantly better cognitive development, reading and mathematics skills as young adults (age 21), as well as better educational attainment also observed at age 30^[37, 38]. These participants had significantly better physical health outcomes and healthier lifestyle behaviours in their mid-30s, hence indicating the use of such programs to prevent costly chronic diseases such as hypertension, heart disease, diabetes and obesity^[40].

HighScope Perry Preschool Program

The Perry Preschool program originally targeted African American children aged 3-4 years from low-income families, who were selected into the program based on low cognitive performance^[41]. The program involved children's half-day attendance at preschool (2 ½ hour classes on weekdays), supplemented with weekly (1 ½ hour) home visits over the school year. The classroom and home visits utilised the High Scope early childhood educational model; an open framework of ideas stemming from child development theory, designed to explicitly support the development of young children's cognitive and social skills, though an individualised program of teaching and learning^[41]. The HighScope Perry Preschool Program participants were tracked to age 40, to determine the impacts of program participation on developmental outcomes. While only short-term impacts were observed on children's intellectual and language performance (suggesting a fadeout in effect), the program was found to have important long-term effects on high school graduation, adult earnings and employment, and reduced crime. Notably, the primary mechanism through which the Perry Preschool program resulted in better life outcomes was through developing participants' social and emotional skills (rather than cognitive skills), thus suggesting the need for a greater emphasis on socioemotional development in future early childhood education programs^[42]. The superior success of the Perry Preschool program was also attributed to the involvement of highly qualified teachers, extensive engagement of parents, as well as a valid child development curriculum, and ongoing assessment of children's development and program implementation^[41].

Chicago Child-Parent Center (CPC) Program

The Child-Parent Center (CPC) in Chicago was a half-day preschool program for 3 and 4-year old children operating throughout the school year, and consisting of language-based instructional activities and an activity-based curriculum. The program was a federally funded, sustained intervention, administered through public schools, with sites typically co-located within, or adjacent to, elementary schools, in districts with high concentrations of low-income children ^[23]. The multifaceted and intensive parent program incorporated parent involvement to strengthen the family-school relationship and participation in educational courses for personal development, and a parent resource teacher to aid family support for children's learning at home.

Comprehensive services and outreach activities were also offered to those most in need by a school-community representative, including home visitation and resource mobilisation. Health screening and nursing services, as well as free and reduced-price meals, also formed part of the CPC program ^[23]. Evaluations of the CPC program found that participants had higher educational attainment and occupational status at age 24, as well as lower rates of criminal behaviour and less depressive symptoms ^[23]. The success of the CPC program was attributed to six main principles of effectiveness, including: 1) a coordinated, integrated system developed in partnership with communities; 2) sufficient program length to strengthen learning gains; 3) well-trained and well-compensated teaching staff; 4) emphasis on cognitive and language skills within a structured but diverse learning environment; 5) the provision of comprehensive family services to meet different and complex needs, and; 6) ongoing evaluations of effectiveness including cost-benefit-analysis ^[23].

Positive parenting programs

The quality of parenting a child experiences is a key factor to be targeted through preventive programs. There are a wide range of Australian and international parenting programs that target various child, parent and family outcomes. The positive parenting programs described below are well supported by evidence, and provide an example of the common components of such programs, and the types of outcomes they can influence.



Triple P-Positive Parenting Program

The Triple P-Positive Parenting Program aimed to enhance the knowledge, skills and confidence of parents to prevent severe behavioural and emotional problems in children aged 0-16 years ^[43]. The program provided education and skill development activities centred on the five core principles of positive parenting, including: providing a safe and engaging environment, ensuring a positive learning environment, using assertive discipline, having realistic expectations, and, partaking in parental self-care ^[43]. Triple P aimed to destigmatise and normalise parenting and family support, and parents were taught less coercive child management skills and received ongoing support to ensure skill acquisition, and to enable them to successfully apply these skills in their home and in the community. In doing so, Triple P comprised universal and targeted intervention, with the targeted intervention components offered at different levels of strength as deemed appropriate to the complex needs of families ^[43]. Evaluation of the Triple P program in Australia delivered to parents of pre-schoolers revealed significant benefits of program participation, including improvements in parent-reported levels of child behaviour problems, as well as lower levels of parent-reported dysfunctional or coercive parenting ^[44]. The program was also associated with improvements in parent mental health, marital adjustment, and parent conflict over child rearing ^[44]. In addition, the program has been consistently found to have positive effects on children's behaviour and adjustment ^[43].



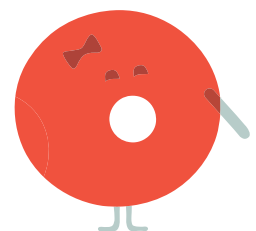
Incredible Years parenting program

The Incredible Years parenting program aimed to strengthen the social and emotional wellbeing of children aged 0-12 years, while also preventing or reducing oppositional, non-compliant and aggressive behaviour ^[45, 46]. It is a group-based training program that comprised weekly sessions (2 hours duration) delivered by trained facilitators and typically held over several months, depending on the program focus ^[46-48]. At these sessions, videotaped vignettes were shown, depicting common problem situations encountered by parents, and demonstrating effective and ineffective ways of responding. These were used as a stimulus for group discussion and role-playing, and participants were provided with homework materials and practice activities

^[46]. Parents were educated about topics such as behavioural monitoring, praise, encouragement, tangible reinforcement, limit setting, time out, and natural and logical consequences, to encourage their child's good behaviour and reduce misbehaviour ^[46, 47]. The program has been found to be consistently successful in improving child behaviour in a diverse range of families ^[49]. For instance, an evaluation of Incredible Years delivered to parents of pre-schoolers at risk of disruptive behaviour problems showed significant reductions in children's externalising behaviours and improvements in their prosocial behaviour and social skills ^[48]. Specific benefits of the program observed among parents included an increase in positive parenting and parenting self-efficacy, and fewer negative parenting practices ^[48]. Moreover, when the Incredible Years program was delivered in the context of a child protection service, it was also found to have a positive impact on parenting practices, such as the use of harsh discipline, physical punishment, praise/incentive, appropriate discipline and positive verbal discipline ^[47]. The program also improved parents' perception of their child's behaviour, including the frequency and number of problem behaviours exhibited ^[47].

A note on the effectiveness of early childhood programs

As described here, a number of promising early childhood programs exist, and the right program, at the right time, can have a positive and lasting impact on children's lives ^[22]. However, there are no universally applicable solutions or "silver bullet" programs, and what works for whom and why will differ substantially across diverse contexts ^[22, 50, 51]. Hence, it is important that programs are adapted to be appropriate and relevant to cultural and local contexts. A suite of programs and approaches that are tailored to the unique needs of the community is also recommended, rather than simply implementing individual program/s in isolation of a broader strategy. Moreover, to effectively address the educational and health needs of young children, early childhood programs need to be high in quality, comprehensive in scope, appropriately timed, and of sufficient duration and intensity ^[52]. They should also be underpinned by a clear program logic model or theory of change outlining the hypothesised causal mechanisms through which the desired outcomes are produced ^[22, 23, 53].



It is critical that selection of programs is informed by a comprehensive understanding of the evidence for their effectiveness, as ascertained through rigorous evaluation methods (e.g. Blueprints for Youth Development, The Nest: What Works for Kids) ^[54, 55]. While the programs detailed above have a solid evidence base, it was beyond the scope of this review to provide a more detailed rating of effectiveness and research limitations, however several quality reviews of this nature have been undertaken in recent years ^[27, 56–59]. Notably, the effectiveness of different early childhood programs is measured against their observed impact on desired outcomes which can include health, cognitive development, and cost-effectiveness. Some program effects are measured in terms of their impact on parenting attitudes and behaviours, and while this is generally expected to have an influence on children, it cannot necessarily be assumed that children will benefit, unless child-specific measures are obtained ^[22]. As such, it is recommended that early childhood programs should aim to address the needs of both children and their caregivers together, through fully integrated, two-generation programs, for the best chance of success ^[60–62].

It should be recognised a weak evidence base for a particular program does not necessarily indicate that it is ineffective; rather, there may simply be insufficient information available at this stage to make a judgement ^[22]. Due to their expense, there are very few scientifically rigorous studies that assess the long-term outcomes (into adulthood) of these programs ^[37]. The random allocation of participating children to a 'program group' or 'no-program group' acts as a control condition. This enables comparisons to be made in such a way that any observed differences between the groups can be reliably attributed to the specific program being studied ^[41]. This type of research design, however, is not always feasible or appropriate for all investigations ^[27]. As an example, in one evaluation trial of the Triple P program, it was important that all families in a socioeconomically disadvantaged region had the opportunity to access the program. This precluded random allocation of participants to a no-program group ^[44].



Although a number of high quality program models have been developed in traditional research contexts, the continuing challenge is the successful expansion of these so they can reach a significant portion of the target population ^[25]. In the process of scaling up these programs there is a risk that the quality may be watered down as it cannot necessarily be assured that evidence-based models will be well implemented in real-world settings ^[25]. For instance, some of the early childhood programs reviewed in this paper have been evaluated with a substantially different population sample, and in a different social, political, cultural and historical context, that may affect the degree to which it could be replicated in present-day, multicultural Australia. So whilst it is important to adhere to the core logic of evidence-based programs, it is also vital to allow enough flexibility so that programs can be adapted to be appropriate and relevant to different cultural and community contexts, and build on their unique strengths ^[27]. This process can be facilitated through genuine and meaningful collaboration and co-design of programs, conducted in partnership with local communities, which is also likely to result in improved take-up of services and more positive outcomes ^[27, 63].

Early childhood programs should be embedded within a well-coordinated and responsive service system, which is a central objective of place-based approaches^[27]. Indeed, there is a growing awareness that early childhood services are often struggling to meet the complex needs faced by disadvantaged populations^[64]. Moreover, these much-needed services can be difficult for the most vulnerable families to navigate. To address these issues, place-based approaches function as community-level-collaborations, and emphasise a co-ordinated and cohesive approach to service delivery^[64]. Within these communities, wrap-around services are openly accessible, and may be offered as a 'one-stop-shop' in a location that already acts as a site of community engagement, such as a school^[22].

Overall, there is adequate evidence to justify the "effective, efficient and clever use" of early childhood programs to promote a healthy start in life^[22]. In doing so, it is important that the funding of programs is directed towards those with demonstrable benefits, particularly to ensure they do not cause harm or unintended negative (iatrogenic) effects^[27]. Nevertheless, the unequivocal endorsement of early childhood programs is constrained by a lack of high-quality research, particularly in the Australian context^[22]. Thus, there is a clear need for an ongoing commitment to future research investigating the effectiveness of early childhood programs, including trialling and evaluating new program models through rigorous research designs, as well as better quality evaluations of universal health and education programs^[22]. One of the high priorities for future research is the identification of the key 'active ingredients' of early childhood programs, as well as the differential effects of programs due to various child and family characteristics, and program attributes^[23]. Determining the optimum 'dose' of early childhood programs necessary to achieve positive outcomes is also a critical goal of research efforts, to enhance the efficiency of delivery and impact of investment^[27]. Advancing the field of early childhood development also necessitates the bringing together of diverse sources of knowledge and expertise, and valuing practical, on-the-ground insights from service delivery systems, communities and families^[51]. Through these concerted efforts, we can help fulfil the moral and economic imperative to make a dramatic difference in the lives of young children, particularly those experiencing disadvantage, with far-reaching benefits for both the individual and society at large.

Targeted and universal approaches

As described in this Evidence Report, some early childhood programs focus on improving outcomes for children and families identified as being at risk, due to economic disadvantage or other adversity. Programs may also be specifically targeted towards families who have been identified by child protection services, to prevent the escalation of further problems^[22]. However, targeting programs towards at-risk groups can have the unintended effect of stigmatising disadvantaged populations, thus acting as a barrier to service use^[22]. Alternatively, universal approaches emphasise making programs openly accessible to all children and families who would like to participate^[22]. However, by making intensive programs available on a universal basis, it may serve to dilute services for families most in need, and is also a less productive investment from an economic standpoint^[25]. Moreover, universal early years services such as preschool and childcare are, on their own, likely to be insufficient to address the complexity of issues faced by children and families experiencing vulnerability^[22]. Some early childhood programs can be offered universally, with the inclusion of additional, more intensive services targeted towards those experiencing disadvantage. This principle is known as proportionate universalism, and advocates that "actions must be universal, but with a scale and intensity that is proportionate to the level of disadvantage"^[65]. In this way, the delivery of early childhood programs reflects a commitment to improving outcomes for all children, but particularly those experiencing the most challenges^[6].

Summary

This Evidence Report has sought to illustrate the landscape of early childhood programs by describing a range of selected programs, including those with a focus on: maternal and child health, early learning, and positive parenting. The programs outlined here all have a sound evidence base and could be considered for implementation in communities, particularly among children and families experiencing disadvantage. Indeed, the research presented here suggests that high-quality early childhood programs should be made accessible to all young children living in low-income families, such that they are provided with the opportunity to reach their full potential to contribute to society ^[41]. Yet, while much progress has been made in understanding the benefits of early childhood programs, questions remain about the long-term effectiveness of large-scale programs, and whether the remarkable effects observed in original intervention studies can be replicated on a broader scale in typical early childhood settings ^[23]. Nevertheless, the success of such programs points to the power of prevention, and demonstrates the powerful and lasting impact that quality early childhood education can make in the lives of disadvantaged children ^[37, 40]. Essentially, we know what can be accomplished, and now the challenge that remains is to enact these proven strategies with effective implementation at scale in real-world settings, without compromising on quality ^[23, 41].

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