Australian Government

Australian Institute of Health and Welfare

Australian Institute of Family Studies

Closing the gap
clearinghouse

Early learning programs that promote children's developmental and educational outcomes

Summary

What we know

The early years are a critical period where the pathways to a child's lifetime social, emotional and educational outcomes begin. Although early experiences do not determine children's ongoing development, the patterns laid down early tend to be very persistent and some have lifelong consequences.

- Australian and international studies have shown that children's literacy and numeracy skills at age 4–5 are a good predictor of academic achievement in primary school.

- Social gradients in language and literacy, communication and socioemotional functioning emerge early for children across socioeconomic backgrounds, and these differences persist into the school years.

- According to Australian Early Development Index (AEDI) data for 2009, the majority of Australian Indigenous children are developmentally *on track* on the AEDI domains, with the exception of the language and cognitive skills domain.

- Indigenous children and economically disadvantaged families are less likely to attend an early childhood program than their non-Indigenous and more advantaged peers.

- Indigenous families want a culturally safe environment for their children in the years before school education and care programs.

What works

- Children at risk of poor developmental and educational outcomes benefit from attending high-quality education and care programs in the years before school.

- Early learning programs that are supported by the community, provided by educators who are qualified, well-attended, well-resourced, and evidence-based are a key contributor to good early childhood outcomes.

- Helping families and communities to be supportive and effective in their roles in children's lives is a key protective factor for the early years and a key component in the design and delivery of high-quality, effective early years programs.

- Uptake of early learning programs by Indigenous families is enhanced by community partnerships, culturally relevant practice that values local Indigenous knowledge, and appropriate teacher training and support.

What doesn't work

- Children attending early learning programs of poor quality show poorer outcomes at school entry, particularly when poor quality programs are combined with long hours of attendance or poorer home learning environments.

- Service delivery approaches that are too narrowly targeted can miss many of the children and families who need support.

- Programs that lack stability and continuity of staffing, and/or do not integrate families' access to programs, reduce the potential benefits for children.

- Early learning programs that do not reflect the culture and knowledge of the Indigenous community are not seen as culturally safe and tend not to be used by families in that community.

What we don't know

- While there are some data available on enrolment, there are limited publicly available national data on the attendance rates of children in early learning programs in the years before entering formal schooling. Data on children in remote locations are particularly problematic.

- There have been no rigorous trials or evaluations of early childhood programs in Australia, particularly programs for Indigenous and at-risk children.

- There is no Australian research that has examined:
  - the relative benefits of targeted and universal programs for early learning
  - the long-term effects of attending an early learning program through a cost-benefit analysis.

- Due to the problematic definition and measurement of quality, there is little cohesive and definitive Australian or international research that has evaluated the components, characteristics and determinants of high-quality early learning programs for young children.

- There is limited Australian research on how to address the challenge of low use of early learning programs by Indigenous and disadvantaged families.

Introduction

The early years of life are the best opportunity to lay the foundations for a child's future. By getting it right in early childhood, we plant the seeds for tomorrow's engaged and active student, productive and skilled worker, and confident and loving parent (COAG 2009b). Investments of time and money in the early years have been shown to be far more cost-effective than investments made at any other time (Heckman & Masterov 2004; Keatsdale Pty Ltd 2003).

The skills children develop as infants, toddlers and preschoolers are cumulative and form the basis for later skill development (Cunha et al. 2006). Early learning contributes to a chain of effects that either reinforces initial achievements or exacerbates initial difficulties (Stipek 2005). As a result, children enter school with marked differences in the cognitive, emotional, attention-related, self-regulatory, learning and social skills needed for success in the school environment (Murray & Harrison 2011; Raver & Knitzer 2002), and these differences are predictive of later academic success (Bowes et al. 2009; Claessens 2009; Duncan et al. 2007; Stipek 2001).

Progress during the school years depends partly on early levels of functioning and partly on family socioeconomic status. Throughout the early years, socioeconomic disadvantage is associated with poorer outcomes in language and literacy, communication, socioemotional functioning and early learning skills (Edwards et al. 2009; Nicholson et al. 2012). Attending an early learning program in the years before school has been shown to have significant benefits for children's development, particularly for children growing up in situations of socioeconomic disadvantage or special need (Bennett 2007; Boyd et al. 2005; Cunha & Heckman

2006; Lally 2007; OECD 2006; The Future of Children 2005). However, many of these children miss out due to problems of access and uptake (Bowes et al. 2011) or cost and quality (Ryan 2011).

This resource sheet reviews international and Australian research evidence for the characteristics of early learning programs that are effective in promoting developmental and learning outcomes. The bulk of this research is not Indigenous-specific. The review focuses on centre-based or school-based education and care settings; universal and targeted approaches to program delivery; and Australian studies that address the needs of Indigenous children.

Early learning programs in Australia

Early learning programs encompass early childhood education and care programs for children aged from birth until they enter the first year of formal schooling. In Australia, this is usually at the age of 5. In general, early learning programs are formal, government-regulated, non-compulsory programs provided or supervised by an early childhood qualified educator in a location away from the child's own home. Early learning programs are delivered by a range of government and non-government organisations through a variety of settings, including schools, dedicated community-based and privately owned centres, mobile or outreach programs held in shared or temporary premises, and family or home care settings.

The programs aim to promote children's early development and enhance their long-term educational outcomes by addressing key areas that make long-term contributions to learning, development and wellbeing. They also aim to support parents in their role as a child's first teacher.

In Australia, early learning programs are informed by a pedagogical framework, *Belonging, Being and Becoming: the Early Years Learning Framework for Australia* (COAG 2009a). This framework focuses on broad determinants of learning, such as equity and respect for diversity, responsiveness to children, intentional teaching, secure relationships, and the physical and spatial characteristics of the environment.

Australian families' use of early learning programs

Attending early learning programs has been shown to have a beneficial effect on children's development in the long term; however, surveys of utilisation rates have consistently shown that many Australian children miss out. Enrolments in an early learning program for the year before school range from more than 95% in Victoria, Western Australia and Tasmania, to 81% in New South Wales, and 32% in Queensland, based on 2009 data collected under the National Partnership Agreement on Early Childhood Education (DEEWR 2011a).

Low uptake of early learning programs by Indigenous families has been a particular concern (AIHW 2009; Perry et al. 2007). However, while previous research has noted decreases in enrolment and attendance (de Gioia et al. 2004; NSW AECG & NSW DET 2004), more recent figures suggest a stabilising or increasing trend (DEEWR 2011b):

- The National Report to Parliament on Indigenous Education and Training (DEST 2005) reported an increase in preschool enrolments of 22% from 2001 to 2003, but estimated that about half of eligible 4 year olds were missing out.

- The National Preschool Census data (DEEWR 2011b) for enrolments of Australian Indigenous 4 year old children show an increase from 66% in 2009 to 67% in 2010.

- Enrolment figures for Indigenous children are higher in *Remote* and *Very remote* areas (90% in 2010) compared with metropolitan (53%) and *Regional* areas (65%) (DEEWR 2011b).

- Enrolment rates are considerably higher in services that are Indigenous-focussed compared with mainstream early childhood education and care services (Productivity Commission 2011); for example, the majority of children attending Multifunctional Aboriginal Children's Services childcare centres are Indigenous (83% of 1,278 children) (DEEWR 2008).

The low participation of Indigenous families in early learning programs is influenced by socioeconomic factors, history and cultural issues, staffing and program quality, and availability of services (DEEWR 2011a; D'Souza 1999; Productivity Commission 2011). Some examples are provided on the next page.

- Financial constraints relate to lack of transport and service cost, payment of fees, and meeting other costs such as food, appropriate clothing, and shoes (Bowes et al. 2011; Grace & Trudgett 2012).

- Historical factors and community divisions relate to a sense of mistrust of mainstream early childhood education programs and some targeted Indigenous programs (de Gioia et al. 2004; Grace & Trudgett 2012).

- A lack of cultural understanding and respect for culture on the part of non-Indigenous early childhood staff discourages participation (Bowes et al. 2011; Colbung et al. 2007; Sims 2011).

Early learning programs— effects on children's learning and development

Key findings from a review of international and Australian research and program evaluations of early learning programs are outlined below:

- **Exposure to an early learning program in the year before school entry has a positive effect on children's school readiness** (Sammons 2010; Sylva et al. 2010; Wong et al. 2008). In Australia, results from the Longitudinal Study of Australian Children (LSAC) have shown that children who attended preschool have higher receptive vocabulary scores than children in exclusive parental care or attending informal care settings or long day care centres (Harrison et al. 2009).

- **There are few differences in school readiness achievement (that is, pre-reading and early number concepts) for part-time compared with full-time preschool attendance** (Sammons 2010; Sylva et al. 2010) **or for full-day compared with half-day programs** (Aos et al. 2007). LSAC children's early literacy and numeracy scores did not differ by weekly hours of childcare, preschool or school (Harrison et al. 2009).

- **Sustained and regular preschool or formal childcare (that is, the more months a child attends) provides greater benefits for children's learning** (Sammons 2010). Every month of preschool attendance after age 2 is linked to better intellectual development, improved independence and improved concentration and sociability in the first years of school (Sylva et al. 2004). Earlier entry

to formal child care (Hansen et al. 2010; NICHD ECCRN 2005) or Early Head Start for children at risk (Burchinal et al. 2009; US DHSS 2010) benefits children's cognitive and language/linguistic achievements.

- **Longer hours of childcare per week may have risks for children's social/behavioural development, language competence and school learning.** Results from the Longitudinal Study of Australian Children indicated that behaviour problems in children aged 2–3 were higher for those receiving 30 or more hours of non-parental childcare per week (Harrison 2008). At age 4–5, 30 or more hours of non-parental care per week was associated with lower language skills regardless of the type of early learning program attended (Harrison et al. 2009). In the United States, findings reported by the NICHD ECCRN (2005), Belsky and colleagues (2007), and Vandell and colleagues (2010) show long-term effects of more hours of childcare on increased problem behaviour. Research from Canada, Australia, Israel and the United States has shown that negative effects are exacerbated in situations of poorer quality programs (Lefebvre et al. 2011; Love et al. 2003) and larger numbers of peers (Harrison, 2008; McCartney et al. 2010).

- **Higher quality programs provide greater benefits for children's social, emotional, and learning outcomes, particularly for children from disadvantaged backgrounds.** Studies from the United States, the United Kingdom and Northern Ireland have reported that children who attended early learning programs that were rated by trained observers as high quality achieved better cognitive and social/behavioural outcomes at school entry (Melhuish 2004a,b; NICHD ECCRN 2005; Sammons 2010; Sylva et al. 2004). Additional evidence showed lasting benefits into the primary school years (Dearing et al. 2009; Sammons 2010; Vandell et al. 2010). These benefits are most evident for children at greater risk of poorer outcomes due to low family income (Dearing et al. 2009), low parental education levels (Watamura et al. 2011), or special education needs (Sammons 2010). 'Larger benefits accrue when quality is in the good to high range' (Burchinal et al. 2009:3).

Universal and targeted early learning programs

This section presents key findings from a review of international research and evaluations of three broad approaches to the provision of early learning programs: universal services that are offered to all children and all populations; targeted services intended to provide intervention for identified at-risk groups; and targeted universal services that are offered to all children in a defined community.

- **Universal programs support children's early learning; potentially conferring a level of benefit to all children and all populations** (CCCH 2006). Universally available programs are less likely to attract the labels or stigma that targeted programs can be subject to and are more likely to be accepted, accessed by, and benefit those most at risk (Barnett et al. 2004; Karoly & Bigelow 2005; Melhuish 2004a; see also Grace & Trudgett 2012).

  Universally available pre-kindergarten programs delivered by degree-qualified teachers have a positive effect on all areas of children's development; gains are most evident for the most disadvantaged children (Gormley & Phillips 2005).

- **Targeted programs for early learning can support at-risk groups and prevent later problems** (CCCH 2006; Shonkoff & Phillips 2000; Williams et al. 2005). This approach can enable particular aspects of universal services to be delivered more intensively to low-income families, high-risk populations, and in disadvantaged geographic areas.

  Targeted programs for preschoolers (age 3–5) show short-term and long-term benefits for all children, but have limited capacity to overcome inequalities for children from disadvantaged backgrounds (Burger 2010).

  Targeted programs for preschoolers associated with parental support and engagement show both short-term and long-term benefits (Wise et al. 2005), with particular benefit for more disadvantaged families (Reynolds et al. 2011). There are similar benefits for these types of programs for younger children (aged 0–3) with additional positive effects on parenting practice (DiLauro 2009; US DHSS 2010).

There have been some promising results from programs targeting social and emotional development and secure attachment in centres with at-risk populations in Australia. This required significant training and support for staff to change practice (Aylward et al. 2010; Valentine et al. 2009).

- **Targeted-universal programs have shown positive outcomes for children in local communities.** Canada (Understanding the Early Years; HRSDC 2011) and the United Kingdom (Sure Start) have invested heavily in place-based approaches to improving early childhood development by providing universal access to education and social services for families and children within targeted communities.

  Short-term (Willms & RA Malatest and Associates 2010) and longitudinal (Peters et al. 2010) evaluations of Canadian programs have demonstrated the effectiveness of this approach.

  Similarly, early results from Sure Start areas show some promise, particularly when programs are of higher quality (Melhuish et al. 2010) or achieve high fidelity; that is, when evidence-based intervention programs are implemented in the way they were designed (Hutchings et al. 2007).

- **'Proportionate universalism' provides a means of delivering targeted services from a universal base to best close the outcome gap.** Marmot's (2010) review of inequality in the United Kingdom highlights the importance of this concept, which suggests that for some children a different 'dose' or 'intensity' of a universal program is required, although the children still fundamentally receive a version of the universal program. This approach enables much broader targeting that avoids the usual problem of programs being too targeted and missing most of the population who could really benefit.

Characteristics of effective early learning programs

This section presents key findings from a review of international and Australian research and evaluations of effective early learning programs.

- **Achieving quality early learning programs requires an integration of care and education.** Until recently, child care services and education provisions in Australia have been separated through their different histories, traditions and policies. Contemporary knowledge recognises the early years as an important foundation period in children's learning and development, requiring an interweaving of education and care in all early childhood services (CCCH 2007; OECD 2006; Press 2007; Wilks et al. 2008).

- **Early learning programs that are effective in promoting children's developmental outcomes are underpinned by regulatory standards and systems for quality assurance.** The structural components of quality that can be governed by external regulations include: education level and specialisation of staff; ratio of staff to children; the number of children in a class or group; physical space; equipment and resources for education and care; standards for staff-child interaction; programming for children's learning; health and safety; and staff working conditions, including professional development and support. These structural features, along with professional standards and registration for teachers, provide the underlying conditions to support quality assurance processes essential to the achievement of high quality early childhood programs (Ackerman & Sansanelli 2010; Cleveland et al.2006; Elliot 2007).

- **Early childhood educators are more effective in promoting children's learning and development when overall service quality is higher.** Higher levels of social competence and lower behavioural problems in pre-kindergarten classrooms are linked to more emotionally supportive teacher-child interactions in centres that achieve higher levels of quality (Burchinal et al. 2010).

- **The quality of early learning programs is reflected in children's day-to-day experiences and in the organisational features of the early childhood setting.** Indicators of quality include caregiving behaviour, interactions between staff and children and between children and their peers, learning activities and opportunities, and organisational systems that affect job satisfaction and staff stability (NCAC 2001; Sylva et al. 2010). Sensitive, warm and responsive caregiving is more likely when infants and toddlers are cared for in smaller groups with high staff-to-child ratios (Harrison 2008; NICHD ECCRN 2005) and in centres with higher perceived organisational health (Gerber et al. 2007).

- **Early childhood educators who are qualified, well-resourced and supported are critical to program success.** The general educational levels of staff and their specific preparation in early childhood education predict the richness of language and cognitive experiences, and the extent to which interactions with children are positive, responsive and sensitive (Whitebook et al. 1989). Greater staff training and higher levels of staff qualifications have a beneficial effect on children's developmental outcomes, as illustrated by studies in the United Kingdom, United States, Sweden, Norway, Germany, Canada, Northern Ireland, New Zealand and Australia (Harrison et al. 2009; Klein & Knitzer 2007; Melhuish 2004a,b; Sylva et al. 2004). Effective programs are staffed by individuals who are not only trained, but are supported through effective organisational and management structures to offer responsive and high-quality services (CCCH 2007; Gerber et al. 2007).

- **High-quality programs are informed by a pedagogical framework that guides educators' curriculum planning and practice.** Government documents for ensuring quality early learning programs, such as Australia's *Belonging, Being, Becoming: The Early Years Learning Framework*, New Zealand's *Te Whariki*, the United Kingdom's *Curriculum Guidance for the Foundation Years*, and Sweden's *Curriculum for the Preschool*, exemplify an approach to curriculum that values and relies on educators' professional knowledge and competence in interpreting principles and learning goals for the local context and children's individual needs.

- **Children benefit from effective teachers.** Children's cognitive and social development is directly affected by: the quality of teacher-child interactions; the construction of an enthusiastic, respectful atmosphere for learning; and effective teaching through individualised and small group experiences, teacher-directed activities, and explicit instruction (Burchinal at al. 2010; Camilli et al. 2010; Howes et al. 2006). United Kingdom research has linked children's achievement with the amount of time teachers engage in 'sustained shared thinking'; that is, supporting children's learning through modelling and questioning to solve problems and clarify concepts (Sylva et al. 2004).

- **Program quality is improved through professional development, training and coaching.** An evaluation of 14 US programs providing specialist training for teachers in a specific curriculum identified improvements in classroom quality, teacher-child interaction and literacy/language instruction for 8 of these programs (Preschool Curriculum Evaluation Research Consortium 2008). Other studies have shown that curriculum programs were most effective when used in conjunction with web-based mentoring for teachers (Klein & Knitzer 2007) or on-site coaching (Raver et al. 2009) and professional development (Boller et al. 2010). For example, a teacher training package in Head Start centres, supported by coaching by a mental health consultant, resulted in higher positive classroom climate, teacher sensitivity and behaviour management (Raver et al. 2009). Site-specific coaching and professional development focusing on quality improvement using the Early Childhood Environment Rating Scale has also demontrated benefits (Boller et al. 2010).

- **Programs that support parents, families and communities are able to produce a wider range of effects.** Early learning programs that provide parents with support and information help families to provide better home learning environments and increase children's achievement and social and behavioural development (Sylva et al. 2004). Effective programs take account of the different resources, education and confidence of families; establish parents' perceptions and experiences; are responsive and capable of being tailored to reflect different families' capabilities, needs and circumstances; offer family-centred practice and work together with families to identify goals and priorities; build partnerships with communities as well as families; and work to empower the families and communities in which they are offered, providing people with the tools and support to help themselves (Moore & Larkin 2005; Simeonsson 2000; Weissbourd 2000).

Characteristics of effective early learning programs for Indigenous children

This section presents key findings from Australian research into the provision of early learning programs for Indigenous children, families and communities. These also align with the key areas of the Aboriginal and Torres Strait Islander Universal Access Strategy (DEEWR 2011a):

- **Effective services for Indigenous families provide a culturally safe environment.** Kutenda (1995, cited in de Gioia et al. 2004) states that centres that provide a 'culturally safe' environment, supportive of Aboriginal identity and focusing on the unique skills of the Aboriginal community, are more likely to attract and maintain participation of Indigenous families. Concern about cultural safety contributes to a feeling among many Indigenous families that their child is better off staying at home in the years before they start school (Bowes et al. 2011). Families are more likely to enrol their child when an Indigenous staff member works at the centre or school (Biddle 2007; Dockett et al. 2010), especially when they hold local knowledge (NSW AECG & NSW DET 2004).

Other features of culturally safe early childhood environments reflected in conversations with Indigenous families (Bowes et al. 2011:vii) and Indigenous early childhood workers (Grace & Trudgett 2012) were:

– welcoming human and physical environments, and active efforts to build trust and positive relationships with families

– non-Indigenous staff who were educated about cultural knowledge and were developing cultural competence in working with Indigenous children, families and communities

– programs that welcomed families and community at any time

- teachers who used Indigenous ways of knowing and learning to influence their approach to teaching and learning with all children

- Aboriginal language and culture in the curriculum (with content based on advice from the local community)

- mechanisms for two-way communication with families.

- **Community partnerships are essential for sustainable and effective early learning programs.** Indigenous leadership and community input are key strategies for developing culturally relevant practice in early childhood programs. Indigenous families want services that enable their children to become and remain competent members of their own culture (Colbung et al. 2007). Positioning families as 'partners in change add[s] opportunities for connection, engagement and capacity building' (Bowes et al. 2011:128) and ensures that families receive the quality of education they want for their children.

  In the Northern Territory, Silburn and colleagues (2011) found that working directly with children and parents was effective in improving engagement with children and fostering parenting skills and confidence. The same study noted that outcomes were better when the provided services were well-coordinated with the community and provided good continuity of care for children and their parents or caregivers. Silburn and colleagues (2011) added that there was great benefit in structuring programs around key transition points, such as those between pregnancy and birth, and home and early childhood education and care. This allows the program to capitalise on the increased receptiveness to support and information that occurs at times when parents and caregivers are facing new challenges.

- **Workforce quality, training and support for Indigenous and non-Indigenous staff are essential to achieving good outcomes** (Silburn et al. 2011). Meeting requirements for quality in Indigenous early learning programs is made difficult by the shortage of qualified Indigenous educators and difficulty in accessing training for workers from the local community (Targowska, Saggers & Frances 2010). Most Indigenous children are taught by non-Indigenous educators, who

need specialist training in cultural awareness and knowledge of Aboriginal ways of being and relating to others (Kitson & Bowes 2010). Indigenous workers require more training in how to assist families with complex health, family, and service needs (Grace & Trudgett 2012).

Where are the data and research gaps?

Data gaps

A comprehensive approach to monitoring quality and children's learning and development in early learning programs relies on the important role of data. This includes:

- practice and program level process data for the purposes of continuous quality improvement and external benchmarking

- population service utilisation data—especially important for universal services—to ensure that no population is missing out

- population outcome data to establish whether outcomes for children are improving over time.

With the advent of better IT platforms and the possibility of data linkage in most states and territories, it is likely that in the next 10 years there will be a more integrated approach to data collection and utilisation. Administrative data will be an important multi-use source. To date, there has been a far more fragmented approach to data across Australia, although there are some elements of data availability that are currently strong or under development:

- The Australian Early Development Index was completed in 2009 and provided population data on early childhood development for all children starting school in 2009. It will be repeated for all children starting school in 2012.

- To date, preschool enrolments and only some attendance data have been available for states and territories through the annual National Preschool Census.

- The Australian Bureau of Statistics is working collaboratively with the states and territories and the Australian Government Department of Education, Employment and Workplace Relations to

establish a National Early Childhood Education and Care Collection.

- Preschool attendance at the age of 3 and 4 is a National Headline Indicator for children's health and wellbeing. Alongside the Headline Indicators, further work is being undertaken to develop a national reporting framework for early childhood development to support the COAG Early Childhood Development Strategy.

Research opportunities and gaps

Many of the research gaps have been identified in previous Closing the Gap issues and resource papers (Dockett et al. 2010; Sims 2011) and recent Australian Government reports (Harrison et al. 2011). The key areas are summarised here:

- **The role of early learning programs in children's developmental pathways: longitudinal and cohort studies.** A number of longitudinal studies in Australia will ensure that the differential impact of various models and approaches to early learning programs will be studied. The more in-depth focus of the E4Kids study (www.e4kids.org.au) on early learning programs for preschool-aged children in Australia is likely to shed light on the aspects that most benefit or harm children's developmental pathways. Similarly, Footprints in Time (Longitudinal Study of Indigenous Children) will enable the exploration of the ways in which Indigenous culture intersects with community-based early learning programs and children's developmental pathways.

- **Early learning programs, especially targeted programs for at-risk communities, which are adequately trialled in the Australian context; and shown to be both effective and beneficial for Indigenous children.** Much of what is known about the effectiveness of early learning programs has been taken from United States and United Kingdom studies where the policies and social contexts are different from Australia's. The evaluations of Australian early learning programs have generally been small formative evaluations with a focus on qualitative research. Although still important, the lack of definitive rigorous trials of more intense early learning programs is a significant gap. Recent policy initiatives such as the National Quality Framework, the Home Interaction Program for Parents and Youngsters (HIPPY) Program, Communities for Children program and the Aboriginal Children and Family Centres provide examples of platforms where opportunities for more rigorous controlled research trials might be applied. Australian studies to determine the most effective models within the Australian context, in particular the Indigenous context, is an area of acute need.

- **Designing and implementing early learning programs for Indigenous children requires a process that goes beyond simply taking into account what has worked elsewhere.** The process of implementation will need to consider all of the aspects that make Indigenous children, families and communities unique. It will need to address training and support for Indigenous and non-Indigenous staff; the quality of the program and curriculum; and how to support, work with, and be sensitive and respectful to parents, families and communities.

- **Research to demonstrate how best to transfer effective programs across diverse geography and populations.** Even with the best randomised control trials there will be the need to have ongoing formative evaluations and qualitative research. This will help ensure that effective programs can be successfully transferred to different settings and cultural contexts in Australia.

A well-balanced research agenda and strong links between policy and research are essential to ensure that real differences are made to the lives and developmental outcomes of Indigenous children.

Conclusions

- Early childhood is a critical time for positively and effectively influencing children's developmental and learning pathways.

- There is Australian and international evidence that developmental and educational gaps related to social disadvantage emerge early in a child's life and remain and increase over children's schooling lives.

- Indigenous children start school with relatively higher levels of developmental disadvantage, particularly related to literacy and numeracy skills. The educational gap widens over time.

- Indigenous children start school with relative social and emotional developmental strengths.

- Early learning programs that are underpinned by regulatory standards and systems for quality assurance are characterised by higher levels of quality and are effective in promoting positive developmental outcomes for children.

- The provision of high quality early learning programs is seen in children's day-to-day experiences that reflect evidence-based curriculum frameworks and are supported by effective management of early childhood education and care services.

- International research evidence suggests that greater duration in high-quality early learning programs, taught by qualified, well-resourced and effective educators, is particularly beneficial for addressing the educational outcome gap for disadvantaged children.

- In general, Indigenous children have lower utilisation of early learning programs, although the available national-level data are difficult to interpret and there is variability across geography.

- Uptake of early childhood education programs by Indigenous families is enhanced when services are developed in partnership with local communities, are welcoming and respectful of families, and value the strengths of Indigenous children.

- Although a more targeted and intensive response may be required to improve early learning in at-risk populations, in Australia this is best undertaken through universal platforms to ensure adequate population uptake.

- There have not yet been any rigorous trials of targeted early learning programs in Australia, particularly for Indigenous children.

References

Ackerman DJ & Sansanelli RA 2010. The source of child care center preschool learning and program standards: implications for potential Early Learning Challenge Fund grantees. Early Childhood Research & Practice 12(1).

AIHW (Australian Institute of Health and Welfare) 2009. A picture of Australia's children 2009. Cat. no. PHE 112. Canberra: Australian Institute of Health and Welfare. Viewed 12 January 2012, <http://www.aihw.gov.au/publication-detail/?id=6442468252>.

Aos S, Miller M & Mayfield J 2007. Benefits and costs of K–12 educational policies: evidence-based effects of class size reductions and full-day kindergarten. Initial report. Document no. 07-03-2201. Olympia: Washington State Institute for Public Policy. Viewed 12 January 2012, <http://www.wsipp.wa.gov/pub.asp?docid=07-03-2201>.

Aylward P, Murphy P, Colmer K & O'Neill M 2010. Findings from an evaluation of an intervention targeting Australian parents of young children with attachment issues: the 'Through the Looking Glass' project. Australasian Journal of Early Childhood 35(3):13–23.

Barnett WS, Brown K & Shore R 2004. The universal vs. targeted debate: should the United States have preschool for all? NIEER Preschool Policy Matters 6. New Brunswick: National Institute for Early Education Research. Viewed 12 January 2012, <http://nieer.org/resources/policybriefs/6.pdf>.

Belsky J, Vandell DL, Burchinal M, Clarke-Stewart KA, McCartney K & Owen MT 2007. Are there long-term effects of early child care? Child Development 78(2):681–701.

Bennett J 2007. Results from the OECD Thematic Review of Early Childhood Education and Care Policy 1998–2006. UNESCO Policy Brief on Early Childhood no. 41. Paris: United Nations Educational, Scientific and Cultural Organization. Viewed 12 January 2012, <http://unesdoc.unesco.org/Ulis/cgi-bin/ulis.pl?catno=154773&set=4F0E7F10_3_237&gp=0&lin=1&ll=1>.

Biddle N 2007. Indigenous Australians and preschool education: who is attending? Australian Journal of Early Childhood 32(3):9–16.

Boller K, Del Grosso P, Blair R, Jolly Y, Fortson K, Paulsell D et al. 2010. The Seeds to Success Modified Field Test: findings from the impact and implementation studies. Princeton: Mathematica Policy Research, Inc. Viewed 12 January 2012, <http://www.mathematica-mpr.com/publications/PDFs/EarlyChildhood/seeds_to_success_mft.pdf>.

Bowes J, Harrison LJ, Sweller N, Taylor A & Neilsen-Hewett C 2009. From child care to school: influences on children's adjustment and achievement in the year before school and the first year of school. Findings from the Child Care Choices Longitudinal Extension Study. Research report to the NSW Dept of Community Services. Sydney: Children and Families Research Centre, Macquarie University & Bathurst: School of Teacher Education, Charles Sturt University. Viewed 12 January 2012, <http://www.community.nsw.gov.au/docswr/_assets/main/documents/research_childcare_school.pdf>.

Bowes J, Kitson R, Simpson T, Reid J-A, Smith M, Downey B et al. 2011. Child care choices of Indigenous families. Research report to the NSW Department of Human Services. Sydney: Children and Families Research Centre, Macquarie University & Dubbo: School of Teacher Education, Charles Sturt University. Viewed 12 January 2012, <http://www.iec.mq.edu.au/research/cfrc/research_approaches/education_giftedness_disadvantage/child_care_choices_of_indigenous_families/>.

Boyd J, Barnett WS, Bodrova E, Leong DJ & Gomby D 2005. Promoting children's social and emotional development through preschool education. NIEER policy report. New Brunswick: National Institute for Early Education Research. Viewed 12 January 2012, <http://nieer.org/resources/policyreports/report7.pdf>.

Burchinal M, Kainz K, Cai K, Tout K, Zaslow M, Martinez-Beck I et al. 2009. Early care and education quality and child outcomes. OPRE Research-to-Policy Brief no. 1. Publication #2009–15. Washington, DC: Child Trends. Viewed 12 January 2012, <http://www.childtrends.org/Files//Child_Trends-2009_5_21_RB_earlycare.pdf>.

Burchinal M, Vandergrift N, Pianta R & Mashburn A 2010. Threshold analysis of association between child care quality and child outcomes for low-income children in pre-kindergarten programs. Early Childhood Research Quarterly 25(2):166–76.

Burger K 2010. How does early childhood care and education affect cognitive development? An international review of the effects of early interventions for children from different social backgrounds. Early Childhood Research Quarterly 25(2):140–65.

Camilli G, Vargas S, Ryan S & Barnett WS 2010. Meta-analysis of the effects of early education interventions on cognitive and social development. Teachers College Record 112(3):579–620.

CCCH (Centre for Community Child Health) 2006. Services for young children and families: an integrated approach. Policy brief no. 4. Melbourne: CCCH, The Royal Children's Hospital.

CCCH 2007. Early years care and education. Policy brief no. 8. Melbourne: CCCH, The Royal Children's Hospital.

Claessens A 2009. School readiness and achievement in middle childhood. Paper presented at the Growing Up In Australia: The Longitudinal Study of Australian Children 2nd Conference, Melbourne, 3–4 December. Viewed 10 January 2012, <http://www.aifs.gov.au/growingup/conf/2009/docs/Claessens_A.pdf>.

Cleveland G, Corter C, Pelletier J, Colley S, Bertrand J & Jamieson J 2006. A review of the state of the field of early childhood learning and development in child care, kindergarten and family support programs. Prepared for the Canadian Council on Learning. Toronto: Atkinson Centre for Society and Child Development, OISE/University of Toronto. Viewed 13 January 2012, <http://www.ccl-cca.ca/ccl/reports/StateofTheFieldReview/index.html>.

COAG (Council of Australian Governments) 2009a. Belonging, Being and Becoming: the Early Years Learning Framework for Australia. Canberra: Department of Education, Employment and Workplace Relations. Viewed 12 January 2012, <http://www.deewr.gov.au/Earlychildhood/Policy_Agenda/Quality/Documents/Final EYLF Framework Report - WEB.pdf>.

COAG 2009b. Investing in the early years—a national early childhood development strategy. Canberra: Commonwealth of Australia. Viewed 12 January 2012, <http://www.deewr.gov.au/Earlychildhood/Policy_Agenda/Pages/EarlyChildhoodDevelopmentStrategy.aspx>.

Early learning programs that promote children's developmental and educational outcomes

Colbung M, Glover A, Rau C & Ritchie J 2007. Indigenous peoples and perspectives in early childhood education. In: Keesing-Styles L & Hedges H (eds). Theorising early childhood practice: emerging dialogues. Castle Hill: Pademelon Press, 137–56.

Cunha F & Heckman JJ 2006. Investing in our young people. Report prepared for America's Promise—The Alliance for Youth. Chicago: University of Chicago.

Cunha F, Heckman JJ, Lochner L & Masterov DV 2006. Interpreting the evidence on life cycle skill formation. In: Hanushek E & Welch F (eds). Handbook of the economics of education. Amsterdam: North Holland, 697–812.

De Gioia K, Hayden J & Hadley F 2004 'Well, Aboriginal services would be alright…' Enhancing participation by Aboriginal families in early childhood services: a case study. Sydney: Government of New South Wales.

Dearing E, McCartney K & Taylor BA 2009. Does higher quality early child care promote low-income children's math and reading achievement in middle childhood? Child Development 80(5):1329–49.

DEEWR (Australian Government Department of Education, Employment and Workplace Relations) 2008. 2006 Australian Government Census of Child Care Services. Canberra: Office of Early Childhood Education and Child Care, DEEWR. Viewed 12 January 2012, <http://www.deewr.gov.au/Earlychildhood/Resources/Documents/2006Census.pdf>.

DEEWR 2011a. Aboriginal and Torres Strait Islander Universal Access Strategy. Viewed 5 April 2012, <http://www.deewr.gov.au/Earlychildhood/Documents/UAS.pdf>.

DEEWR 2011b. National partnership for early childhood education: 2010 annual reports. Canberra: Office of Early Childhood Education and Child Care, DEEWR. Viewed 5 April 2012, <http://www.deewr.gov.au/Earlychildhood/Policy_Agenda/ECUA/Pages/annualreports.aspx>.

DEST (Australian Government Department of Education, Science and Training) 2005. National report to Parliament on Indigenous education and training, 2003. Canberra: DEST. Viewed 12 January 2012, <http://www.dest.gov.au/sectors/indigenous_education/publications_resources/profiles/national_report_indigenous_education_and_training_2003_part1.htm>.

DiLauro E 2009. Learning, thriving and ready to succeed. Infants and toddlers in Early Head Start. Zero to Three Policy Center. Washington, DC: Zero to Three National Center for Infants, Toddlers and Families. Viewed 12 January 2012, <http://www.zerotothree.org/public-policy/policy-toolkit/ehssinglesmar5.pdf>.

Dockett S, Perry B & Kearney E 2010. School readiness: what does it mean for Indigenous children, families, schools and communities? Issues paper no. 2. Produced for the Closing the Gap Clearinghouse. Canberra: Australian Institute of Health and Welfare & Melbourne: Australian Institute of Family Studies. Viewed 12 January 2012, <http://www.aihw.gov.au/closingthegap/publications/index.cfm>.

D'Souza N 1999. The politics of Aboriginal children's services in Australia. Australian Journal of Early Childhood 24(1):26–32.

Duncan GJ, Dowsett CJ, Claessens A, Magnuson K, Huston AC, Klebanov P et al. 2007. School readiness and later achievement. Developmental Psychology 43(6):1428–46.

Edwards B, Baxter J, Smart D, Sanson A & Hayes A 2009. Financial disadvantage and children's school readiness. Family Matters 83:23–31.

Elliott A 2007. Improving early childhood quality through standards, accreditation and registration. In: Hill E, Pocock B & Elliott A (eds). Kids count: better early childhood education and care in Australia. Sydney: Sydney University Press, 199–219.

Gerber EB, Whitebook M & Weinstein RS 2007. At the heart of child care: predictors of teacher sensitivity in center-based child care. Early Childhood Research Quarterly 22(3):327–46.

Gormley WT Jnr & Phillips D 2005. The effects of universal pre-K in Oklahoma: research highlights and policy implications. Policy Studies Journal 33(1):65–82.

Grace R & Trudgett M 2012. It's not rocket science. The perspectives of Indigenous early childhood workers on supporting the engagement of Indigenous families in early childhood services. Australasian Journal of Early Childhood 37(2):10–18.

Hansen K, Joshi H & Dex S (eds) 2010. Children of the 21st century: the first five years. Volume 2. Bristol: Policy Press.

Harrison LJ 2008. Does child care quality matter? Associations between socio-emotional development and non-parental child care in a representative sample of Australian children. Family Matters 79:14–25.

Harrison LJ, Sumsion J, Press F, Wong S, Fordham L & Goodfellow J 2011. A shared early childhood development research agenda: Key research gaps 2010–2015. Research report commissioned by the Australian Research Alliance for Children and Youth for the Australian Government Department of Education, Employment and Workplace Relations. Viewed 23 July 2012, <http://www.deewr.gov.au/Earlychildhood/Resources/Documents/ASharedECDResearchAgenda.pdf>.

Harrison LJ, Ungerer JA, Smith GJ, Zubrick SR, Wise S, Press F et al. 2009. Child care and early education in Australia: the Longitudinal Study of Australian Children. Social policy research paper no. 40. Canberra: Department of Families, Housing, Community Services and Indigenous Affairs. Viewed 12 January 2012, <http://www.fahcsia.gov.au/about-fahcsia/publications-articles/research-publications/social-policy-research-paper-series/number-40-child-care-and-early-education-in-australia-the-longitudinal-study-of-australian-children>.

Heckman JJ & Masterov DV 2004. The productivity argument for investing in young children. Working paper 5, Invest in Kids Working Group. Washington, DC: Committee for Economic Development. Viewed 13 January 2012, <http://www.ced.org/images/library/reports/education/early_education/ivk/report_ivk_heckman_2004.pdf>.

Howes C, Bryant D, Burchinal M, Clifford R, Pianta R & Ritchie S 2006. Preschool: its benefits, and who should teach. NCEDL statement. Chapel Hill, NC: National Center for Early Development and Learning, FPG Child Development Institute.

HRSDC (Human Resources and Skills Development Canada) 2011. Overview of Understanding the Early Years initiative. Ottawa: HRSDC. Viewed 12 January 2012, <http://www.hrsdc.gc.ca/eng/community_partnerships/early_years/overview.shtml>.

Hutchings J, Bywater T & Daley D 2007. Early prevention of conduct disorder: how and why did the North and Mid Wales Sure Start study work? Journal of Children's Services 2(2):4–14.

Karoly LA & Bigelow JH 2005. The economics of investing in universal preschool education in California. Summary. Santa Monica, CA: RAND Corporation.

Keatsdale Pty Ltd 2003. Report into the cost of child abuse and neglect in Australia. Prepared for the Kids First Foundation. Albion: Kids First Foundation. Viewed 12 January 2012, <http://www.frsa.org.au/UserFiles/file/Virtual%20Library%20Collection/Kids%20First%20Foundation%20Report.pdf>.

Kitson R & Bowes J 2010. Incorporating Indigenous ways of knowing in early education for Indigenous children. Australasian Journal of Early Childhood 35(4) (on-line annex):81–89.

Klein LG & Knitzer J 2007. Promoting effective early learning—what every policymaker and educator should know. New York: National Center for Children in Poverty, Columbia University. Viewed 15 February 2011, <http://nccp.org/publications/pub_695.html>.

Lally JR 2007. Teaching and caring: responding to both the vulnerability and competence of infants and toddlers. Childcare and Children's Health vol. 10 no. 3. Melbourne: Centre for Community Child Health.

Lefebvre P, Merrigan P & Roy-Desrosiers F 2011. Québec's Childcare Universal Low Fees Policy 10 years after: effects, costs and benefits. CIRPEE working paper 11–01. Montreal: Centre Interuniversitaire sur le Risque, les Politiques Économiques et l'Emploi. Viewed 14 January 2012, <http://ideas.repec.org/p/lvl/lacicr/1101.html>.

Love JM, Harrison LJ, Sagi-Schwartz A, van IJzendoorn MH, Ross C, Ungerer JA et al. 2003. Child care quality matters: how conclusions may vary with context. Child Development 74:1021–33.

Marmot M 2010. Fair society, healthy lives: strategic review of health inequalities in England post-2010 (Marmot Review). London: The Marmot Review. Viewed 14 January 2012, <http://www.instituteofhealthequity.org/projects/fair-society-healthy-lives-the-marmot-review>.

McCartney K, Burchinal M, Clarke-Stewart A, Bub KL, Owen MT, Belsky J et al. 2010. Testing a series of causal propositions relating time in child care to children's externalizing behavior. Developmental Psychology 46(1):1–17.

Early learning programs that promote children's developmental and educational outcomes

Melhuish EC, Belsky J, MacPherson K & Cullis A 2010. The quality of group childcare settings used by 3–4 year old children in Sure Start Local Programme areas and the relationship with child outcomes. Research brief DFE-RB068. London: Department for Education. Viewed 14 January 2012, <https://www.education.gov.uk/publications/standard/publicationDetail/Page1/DFE-RB068>.

Melhuish EC 2004a. A literature review of the impact of early years provision on young children, with emphasis given to children from disadvantaged backgrounds. Prepared for the National Audit Office. Paper in support of the NAO report HC 268 2003–04: Early years: progress in developing high quality childcare and early education accessible to all. London: National Audit Office. Viewed 14 January 2012, <http://www.nao.org.uk/publications/0304/early_years_progress.aspx>.

Melhuish EC 2004b. Child benefits: the importance of investing in quality childcare. London: Daycare Trust. Viewed 14 January 2012, <http://www.daycaretrust.org.uk/publications.php?action=publication&id=20>.

Moore TG & Larkin H 2005. 'More than my child's disability…': a comprehensive literature review about family-centred practice and family experiences of early childhood intervention services. Melbourne: Scope (Vic) Ltd. Viewed 14 January 2012, <http://www.scopevic.org.au/index.php/site/resources/morethanmychildsdisability>.

Murray E & Harrison LJ 2011. The influence of being ready to learn on children's early school literacy and numeracy achievement. Educational Psychology 31(5):529–45.

NCAC (National Childcare Accreditation Council) 2001. Putting children first: Quality Improvement and Accreditation System source book. Sydney: NCAC.

NICHD ECCRN (Eunice Kennedy Shriver National Institute of Child Health and Human Development Early Child Care Research Network) (ed.) 2005. Child care and child development: results from the NICHD Study of Early Child Care and Youth Development. New York: The Guilford Press.

Nicholson JM, Lucas N, Berthelsen D & Wake M 2012. Socioeconomic inequality profiles in physical and developmental health from 0–7 years: Australian National Study. Journal of Epidemiology and Community Health 66(1):81–7.

NSW AECG & NSW DET (New South Wales Aboriginal Education Consultative Group Inc. & Department of Education and Training) 2004. The report of the Review of Aboriginal Education: Yanigurra Muya: Ganggurrinyma Yaarri Guurulaw Yirringin.gurray Freeing the Spirit: Dreaming an Equal Future. Sydney: NSW DET. Viewed 12 January 2012, <https://www.det.nsw.edu.au/media/downloads/reviews/aboriginaledu/report/aer2003_04.pdf>.

OECD (Organisation for Economic Co-operation and Development) 2006. Starting Strong II: early childhood education and care. Paris: OECD. Viewed 12 January 2012, <http://www.oecd.org/edu/preschoolandschool/startingstrongiiearlychildhoodeducationandcare.htm>.

PCERC (Preschool Curriculum Evaluation Research Consortium) 2008. Effects of preschool curriculum programs on school readiness (NCER 2008–2009). Washington, DC: National Center for Education Research, Institute of Education Sciences, US Department of Education. Washington, DC: US Government Printing Office. Viewed 23 July 2012, <http://ies.ed.gov/ncer/pubs/20082009/>.

Perry B, Dockett S, Mason T & Simpson T 2007. Successful transitions from prior-to-school to school for Aboriginal and Torres Strait Islander children. Paper presented at the Australian Association for Research in Education conference, Adelaide. Viewed 14 January 2012, <http://www.aare.edu.au/06pap/per06455.pdf>.

Peters RD, Bradshaw AJ, Petrunka K, Nelson G, Herry Y, Craig WM et al. 2010. The Better Beginnings, Better Futures Project: findings from grade 3 to grade 9. Monographs of the Society for Research in Child Development 75(3):vii–176.

Press F 2007. Public investment, fragmentation and quality care—existing challenges and future options. In: Hill E, Pocock B & Elliott A (eds). Kids count: better early childhood education and care in Australia. Sydney: Sydney University Press, 181–98.

Early learning programs that promote children's developmental and educational outcomes

Productivity Commission 2011. Early childhood development workforce, research report, Melbourne: Productivity Commission. Viewed 5 April 2012, <http://www.pc.gov.au/__data/assets/pdf_file/0003/113907/early-childhood-report.pdf>.

Raver CC & Knitzer J 2002. Ready to enter: what research tells policymakers about strategies to promote social and emotional school readiness among three- and four-year-old children. Promoting the Emotional Well-Being of Children and Families policy paper no. 3. New York: National Center for Children in Poverty, Columbia University. Viewed 14 January 2011, <http://nccp.org/publications/pub_485.html>.

Raver CC, Jones SM, Li-Grining C, Zhi F, Metzger MW & Solomon B 2009. Targeting children's behavior problems in preschool classrooms: a cluster-randomized controlled trial. Journal of Consulting and Clinical Psychology 77(2):302–16.

Reynolds AJ, Temple JA, Ou S-R, Arteaga IA & White BAB 2011. School-based early childhood education and age-28 well-being: effects by timing, dosage, and subgroups. Science 333(6040):360–4.

Ryan RM, Johnson A, Rigby E & Brooks-Gunn J 2011. The impact of child care subsidy use on child care quality. Early Childhood Research Quarterly 26(3):320–31.

Sammons P 2010. Does pre-school make a difference? Identifying the impact of pre-school on children's cognitive and social behavioural development at different ages. In: Sylva K, Melhuish E, Sammons P, Siraj-Blatchford I & Taggart B (eds). Early childhood matters: evidence from the Effective Pre-school and Primary Education Project. Abingdon: Routledge, 92–113.

Shonkoff JP & Phillips DA (eds) 2000. From neurons to neighborhoods: the science of early childhood development. Washington, DC: National Academy Press.

Silburn S, Nutton G, Arney F & Moss B 2011. The first 5 years: starting early. Topical paper commissioned for the public consultations on the Northern Territory Early Childhood Plan. Early childhood series no. 2. Darwin: Northern Territory Government. Viewed 14 January 2011, <http://www.det.nt.gov.au/parents-community/early-childhood-services/ntecplan>.

Simeonsson RJ 2000. Early childhood intervention: toward a universal manifesto. Infants & Young Children 12(3):4–9.

Sims M 2011. Early childhood and education services for Indigenous children prior to starting school. Resource sheet no. 7. Produced for the Closing the Gap Clearinghouse. Canberra: Australian Institute of Health and Welfare & Melbourne: Australian Institute of Family Studies. Viewed 12 January 2012, <http://www.aihw.gov.au/closingthegap/publications/index.cfm>.

Stipek DJ 2001. Pathways to constructive lives: the importance of early school success. In: Bohart AC & Stipek DJ (eds). Constructive and destructive behaviour: implications for family, school and society. Washington, DC: American Psychological Association, 291–315.

Stipek DJ 2005. Children as unwitting agents in their developmental pathways. In: Cooper CR, Garcia-Coll CT, Bartko WT, Davis H & Chatman C (eds). Developmental pathways through middle childhood: rethinking contexts and diversity as resources. Mahwah: Lawrence Erlbaum, 99–120.

Sylva K, Melhuish E, Sammons P, Siraj-Blatchford I & Taggart B 2004. The Effective Provision of Pre-School Education (EPPE) Project: final report. London: Department for Education and Skills & Institute of Education, University of London. Viewed 14 January 2012, <http://media.education.gov.uk/assets/files/pdf/e/eppe%20final%20report%202004.pdf>.

Sylva K, Melhuish E, Sammons P, Siraj-Blatchford I & Taggart B (eds) 2010. Early childhood matters: evidence from the Effective Pre-school and Primary Education Project. Abingdon: Routledge.

Targowska A, Saggers S & Frances K 2010. Licensing and regulation of Indigenous childcare services. Australasian Journal of Early Childhood 35(4):30–39.

The Future of Children 2005. School readiness: closing racial and ethnic gaps. Executive summary. The Future of Children 15(1).

US DHSS (United States Department of Health and Human Services) 2010. Head Start Impact Study: final report. Washington, DC: Office of Planning, Research and Evaluation, Administration for Children and Families, US DHHS. Viewed 12 January 2012, <http://www.acf.hhs.gov/programs/opre/hs/impact_study/>.

Valentine K, Thomson C & Antcliff G 2009. Early childhood services and support for vulnerable families: lessons from the Benevolent Society's Partnerships in Early Childhood program. Australian Journal of Social Issues 44(2):195–213.

Vandell DL, Belsky J, Burchinal M, Steinberg L & Vandergrift N 2010. Do effects of early child care extend to age 15 years? Results from the NICHD Study of Early Child Care and Youth Development. Child Development 81(3):737–56.

Watamura SE, Phillips DA, Morrissey TW, McCartney K & Bub K 2011. Double jeopardy: poorer social-emotional outcomes for children in the NICHD SECCYD experiencing home and child-care environments that confer risk. Child Development 82(1):48–65.

Weissbourd B 2000. Supportive communities for children and families. Public Health Reports 115(2):167–73.

Whitebook M, Howes C & Phillips D 1989. Who cares? Child care teachers and the quality of care in America. Final report of the National Child Care Staffing Study. Oakland, CA: Child Care Employee Project.

Wilks A, Nyland B, Chancellor B & Elliot S 2008. Analysis of curriculum/learning frameworks for the early years (birth to age 8). Melbourne: Victorian Curriculum and Assessment Authority. Viewed 15 January 2012, <http://www.deewr.gov.au/Earlychildhood/Policy_Agenda/EarlyChildhoodWorkforce/Documents/AnalysisofCurriculum_LearningFrameworksfortheEarly.pdf>.

Williams J, Toumbourou JW, McDonald M, Jones S & Moore T 2005. A sea change on the island continent: frameworks for risk assessment, prevention and intervention in child health in Australia. Children & Society 19(2):91–104.

Willms JD & RA Malatest and Associates Ltd 2010. Understanding the early years: Northumberland County, Ontario. A community research report. Prepared for Human Resources and Skills Development, Canada. Gatineau: Human Resources and Skills Development Canada. Viewed 15 January 2012, <http://publications.gc.ca/site/eng/357026/publication.html>.

Wise S, da Silva L, Webster E & Sanson A 2005. The efficacy of early childhood interventions. Research report no. 14. Melbourne: Australian Institute of Family Studies.

Wong VC, Cook TD, Barnett WS & Kwanghee J 2008. An effectiveness-based evaluation of five state pre-kindergarten programs. Journal of Policy Analysis and Management 27(1):122–54.

Acknowledgments

Abbreviations

AEDI   Australian Early Development Index

COAG   Council of Australian Governments

LSAC   Longitudinal Study of Australian Children

Terminology

Indigenous: Aboriginal and Torres Strait Islander and Indigenous are used interchangeably to refer to Australian Aboriginal and/or Torres Strait Islander people. The Closing the Gap Clearinghouse uses the term 'Indigenous Australians' to refer to Australia's first people. This term includes 'Aboriginal Australians' and 'Torres Strait Islander people'.

Funding

Suggested citation