



Acting Early, Changing Lives:

How prevention and early
action saves money and
improves wellbeing.

Written for The Benevolent Society by

The Centre for Community Child Health at the Murdoch Children's Research Institute and The Royal Children's Hospital, Melbourne.

Acknowledgements

This paper was prepared by:

- Dr. Tim Moore, Senior Research Fellow
- Dr. Myfanwy McDonald, Senior Project Officer

The Centre for Community Child Health
Murdoch Childrens Research Institute
The Royal Children's Hospital
50 Flemington Road, Parkville, Victoria, 3052 Australia
www.rch.org.au/ccch

Suggested citation:

Moore, T.G. and McDonald, M. (2013). Acting Early, Changing Lives: How prevention and early action saves money and improves wellbeing. Prepared for The Benevolent Society. Parkville, Victoria: Centre for Community Child Health at The Murdoch Childrens Research Institute and The Royal Children's Hospital.

The case studies in this report illustrate some ways in which The Benevolent Society has assisted families through direct service delivery.

We are The Benevolent Society

We help people change their lives through support and education, and we speak out for a just society where everyone thrives.

We're Australia's first charity. We're a not-for-profit and non-religious organisation and we've helped people, families and communities achieve positive change for 200 years.

Published by

The Benevolent Society
Level 1, 188 Oxford Street
PO Box 171
Paddington NSW 2021

T 02 8262 3400
F 02 9360 2319
research.policy@benevolent.org.au
www.benevolent.org.au

ISBN: 978-0-9922982-5-8



Table of Contents

1. Key messages	2
2. Executive summary	3
3. The case for early intervention in Australia: Setting the scene	8
4. The nature and the benefits of early intervention	16
5. Early intervention: What works?	22
Appendix A: Methodology	36
Appendix B: Detailed early intervention program information	38
Endnotes	43
References	45

1. Key messages

- Unless we have an effective means of intervening to improve outcomes for children, young people and their families, the current worrying trends amongst Australian children and young people (e.g. behavioural and emotional problems, developmental vulnerability, obesity) will not improve – and could get worse.
- Children’s health, development and wellbeing can be compromised by adverse experiences (e.g. poverty, child abuse). The more adverse experiences and the earlier they occur, the greater the risk of poor outcomes for individuals in the long-term.
- Because of the rapid and dramatic nature of development during the prenatal and early childhood (0-5 years of age) periods – and the cumulative nature of learning and development – intervening during early childhood and the prenatal period (i.e. ‘early intervention’) offers a unique window of opportunity to shift individuals’ life trajectories.
- The benefits of intervening early are far-reaching and range from reduced contact with juvenile and adult justice systems, reduced notifications of child abuse and neglect, through to improved school performance and better employment outcomes. Early interventions not only lead to more positive outcomes for individuals and society, they are also cost effective.
- In order to reduce the likelihood of poor long-term outcomes for children experiencing significant disadvantage, a multilevel, ecological approach to early intervention is required that involves programs, community and service system level changes as well interventions to address the structural (e.g. government policy) and wider social factors (e.g. societal attitudes and values) that impact either directly or indirectly on children and families.
- A number of early intervention programs that have targeted disadvantaged children and families have shown significant positive impacts upon participating children in the long-term in areas such as academic achievement, income and housing stability.
- Early intervention programs that demonstrate the following characteristics are likely to be the most effective: targeting high risk or highly disadvantaged children, of sufficient duration and intensity, involving a direct teaching component (i.e. an education program delivered directly to children and delivered by education professionals) and starting early.
- The strongest influence on children’s development is the quality of the parenting they receive, and the nature of their home learning environments. These have effects on many areas of development, including self-esteem, academic achievement, cognitive development and behaviour. Optimising parent-child relationships and home learning environments are important goals for early intervention.
- Programs alone are not sufficient to change outcomes for the most disadvantaged children and families because they generally do not alter the community factors that impact upon children and families (e.g. community support), cannot alter structural and wider social factors and have shown to be less effective amongst children and families experiencing ‘toxic stress.’
- Community and service level interventions that have the potential to improve long-term outcomes for children experiencing significant disadvantage include those that focus upon: improving social support and social capital; improving the current service system, strengthening community engagement, connectedness and resilience and adopting a ‘collective impact’ approach.
- Structural and societal level interventions that have the potential to improve long-term outcomes for children experiencing significant disadvantage include: addressing the conditions under which families are raising young children, developing new ways of working in partnership with communities and services, and raising public awareness regarding the nature and importance of the early years.
- Community, service level, structural and societal level interventions require a collaborative approach that doesn’t only involve services but also involves parents, communities and government. In addition, in order to ensure a more seamless service system for children and families – and more effective planning and resource management – there is a need for a much greater level of collaboration between different government departments, different levels of government and between government and non-government services.
- Early intervention programs and initiatives that are implemented in Australia need to be evaluated in the long-term to determine their impact upon participating children into adolescence and adulthood. The vast majority of existing published research findings pertaining to this issue focus on North America, and especially the United States.
- Although many of the changes that are required may be difficult to achieve, it is important to remember that the risks of not doing anything will impact upon all Australians both in the present and well into the future.

2. Executive summary

Evidence indicates worsening or unacceptably high levels of problems amongst Australia's children and young people. These problems will not improve – and could get worse – unless we are able to effectively intervene to prevent these problems from occurring in the first place or address the problems early before they become entrenched.

This report investigates the potential of early intervention to improve the outcomes of Australian children, especially those children experiencing significant levels of disadvantage, and especially for the long-term (i.e. into adolescence and adulthood).

Early intervention is defined in this report as interventions that occur during the early years of an individual's life (0-5 years of age) in order to prevent a negative outcome or to address an existing problem.

The justification for early intervention (i.e. intervention during the early years) rests with the nature of human development and the way in which children develop and learn. The basic foundations for development are laid down during the early childhood years. The prenatal period also plays an important role in an individual's long-term outcomes.

2.1 The importance of the early years

Child development is driven and shaped by an ongoing interaction between biology (i.e. genetic predispositions) and ecology (i.e. the social and physical environment). Adverse experiences during the early years can have profound impacts upon long-term outcomes. Experiences and circumstances such as poverty, child

abuse and neglect, family violence, parental substance use, early mental health problems, conduct problems and poor health and nutrition can all impact negatively upon children's development.

2.2 The nature and benefits of early intervention

In the field of child welfare, 'early intervention' typically refers to early intervention specific *programs* that provide, for example, home visiting support or early childhood education and care. However, in order to improve long-term outcomes for children experiencing significant levels of disadvantage, a multilevel, ecological approach that includes more than just programs is required.

This multilevel, ecological approach comprises three levels:

- *program and direct service* level interventions delivered directly to children and families;
- *community and service system* level interventions that (a) target the nature of communities in order to improve social cohesiveness and social support to children, parents and families, and (b) interventions that target the service system that could take the form of, for example, building more co-ordinated and effective service systems; and
- *structural and societal* level interventions that address the structural (e.g. government policy) and wider social factors (e.g. attitudes and values) that influence child and family outcomes.

The evidence regarding the social benefits of early intervention programs is strong. A number of early intervention programs targeting disadvantaged children and families have demonstrated

long-term positive effects such as improved educational achievement and improved overall health.

There is strong evidence also to support the economic benefits of early intervention for children and families experiencing disadvantage.

2.3 Early intervention: What works?

For the purposes of this report we used two different approaches to identify early intervention initiatives that have had, or are likely to have the greatest impact upon reducing disadvantage in the long-term for children at the greatest risk:

(a) a systematic search for information about early intervention programs that targeted disadvantaged children or children and families, as well as the characteristics of effective early intervention programs; and

(b) a broad-based review of literature from a range of disciplines regarding promising initiatives and early intervention in general (i.e. not restricted to programs).

Programs

Five early intervention programs that have been shown to reduce the factors associated with disadvantage (e.g. poor academic achievement, unstable housing) in the long-term (i.e. into adolescence and adulthood) using data from research that utilised an experimental or quasi-experimental research design were identified through the systematic search. All of these programs were implemented in North America:

- *Nurse-Family Partnership*: a home visiting program delivered from the antenatal period until the child reaches two years of age.

- *High/Scope Perry Preschool project*: a program for children and parents from low socio-economic status backgrounds that involved (a) daily classes every weekday for young children; and (b) weekly teacher-conducted home visits with mother and child.
- *Carolina Abecedarian Project*: a program for low income families with high risk factors that involved: (a) full-time child care facility and preschool program; (b) home visits (school-aged program) by a specialist teacher with supplemental educational activities; and (c) summertime supports (school-aged program).
- *Better Beginnings, Better Futures*: available to all children within eight disadvantaged communities; the mix of programs in each site varies, however, all eight sites provided home visits to parents and worked with teachers to improve children's experiences (Nelson et al., 2012; Peters et al., 2010).
- *Chicago child-parent centre program*: centre-based interventions that offer comprehensive services to children, encourage parent involvement and have a child-centred 'basic skills' focus.

The fact that only five programs were identified does not mean that other early intervention programs have not had long-term benefits for participants. However, programs that are able to demonstrate benefits to participating children once they reach adolescence – and using an experimental or quasi-experimental research design – are relatively rare.

The characteristics of effective programs

The characteristics of effective early intervention programs are:

- targeting high risk or highly disadvantaged children;
- sufficient duration;
- sufficient intensity;
- direct teaching component (i.e. an educational program delivered directly to children and delivered by educational professionals); and
- starting early.

Other forms of and approaches to early intervention

Other forms of and approaches to early intervention that are important to consider include: universal early childhood education and care; parenting programs; playgroups; child and family centres; and how services are provided (e.g. the nature of the interactions between professionals and parents).

Community and service system level interventions

Child development and family functioning are shaped by the physical and social environments in which children and families live, as well as by the effectiveness and responsiveness of the services available to them.

Four key community and service system level interventions have the potential to improve long-term outcomes for Australian children experiencing significant disadvantage:

- neighbourhood and community-level interventions;
- service system interventions;
- place-based approaches; and
- 'whole of community' or collective impact initiatives.

Structural and societal level interventions

In addition to family, community and service environments, outcomes for children are also influenced by wider structural and social factors including, for example, government policies and funding, as well as the general beliefs and values prevalent in the society as a whole.

Three structural and societal level interventions could potentially improve long-term outcomes for Australian children experiencing significant disadvantage:

- address the conditions under which families are raising young children;
- develop new ways of working in partnership with communities and services;
- undertake public campaigns to raise awareness of the importance of the early years.

2.4 Priorities for early intervention

Ten priorities are identified, organised according to the three previously identified levels of intervention:

Program and direct service level priorities

1. **Provide free or low-cost preschool provision to three year old children experiencing significant disadvantage** to ameliorate some of the negative impacts of disadvantage, ensuring a more level 'playing field' upon school entry.
2. **Provide support to families experiencing disadvantage during the prenatal period** to promote the optimal development of children.
3. **Deliver programs of sufficient duration and intensity to families experiencing significant disadvantage** as it appears that programs of less than 12 months are generally ineffective at shifting outcomes for disadvantaged children and families.
4. **Provide direct services to children and families that promote the quality of the environments in which young children spend their time** to ensure that parents and other caregivers relate to children in ways that protect, nourish and promote their development and wellbeing.

Community and service system level priorities

5. **Build a tiered system of services based on universal provision** to ensure that all families receive a core set of services with additional services being provided to those with greater needs.
6. **Build whole of community, place-based, 'collective impact' alliances** to develop and deliver a comprehensive suite of interventions that target whole communities and address both the presenting and the background needs of vulnerable families.
7. **Design and run services in partnership with those who use them** to ensure that vulnerable families have access to and make better use of supportive child and family services.

8. **Utilise outreach workers** to engage those families most in need of support.

Structural and societal level priorities

9. **Address the conditions under which families are raising young children** as the evidence indicates that many of the poor outcomes experienced by vulnerable families are either caused or exacerbated by the social and economic conditions under which parents are raising their children.
10. **Raise public awareness about the nature and importance of the early years** and the need for greater investment in the early years as the importance of this life stage is not widely understood by the general public.

Overall, it is important that early intervention programs and initiatives implemented in Australia are evaluated. Much of the existing literature regarding what works comes from North American and we need to learn more about the context-specific aspects of effective early intervention in Australia.

2.5 Conclusion

In conclusion, some of the priorities we have identified could be implemented within the context of an individual organisation, however, most will require a collaborative approach between services, parents, families, communities and multiple levels of government. Although this may be challenging it is important to remember that the responsibility for ensuring positive futures for all Australian children, regardless of their families' social and economic circumstances does not belong solely to the services that seek to support them. That is because the risks of doing nothing will impact upon *all* Australians both in the present and well into the future.



Nicole's story: breaking the cycle of disadvantage

Life at home growing up was very bad. My Dad left when my brother and I were babies, because Mum had paranoid schizophrenia. We moved in with my Nana and I remember there was a lot of fighting and screaming.

My grandmother took care of us, she used to make our breakfast and cook us dinner and everything but she was a perfectionist and we had to get good marks at school. That's how I am with myself now. I'm a perfectionist and I get really worried that I'm not good enough.

There was no one to help us kids deal with mum's illness, and Nana's controlling nature. No one to explain what was going on or to help in a crisis. Somehow in all that turmoil I managed to keep going to school and finish my HSC. I got jobs and was independent.

In 2004 I was happily married and excited because I was pregnant. But Sienna was born premature and was very difficult, she cried all the time in the hospital. When I brought her home I found it really hard. No one could help me settle her, I didn't know what to do. I basically got scared to do anything with her.

I got help from a private hospital who helped me with coping strategies. When I was strong enough to cope I was discharged with Sienna and it was 'see you later', with no follow up.

Two years later when I found out I was pregnant with Meika, I went straight to the Royal Women's (Hospital) and they got me involved with The Benevolent Society. The case worker who came to visit me invited me to attend an Early Intervention antenatal group with other mothers with a history of trauma and we met for about eight weeks.

Then I met Sharyn, who became my therapist and case worker for five years. I would come to see her each week, and Meika and Sienna would go to playgroup for two hours. It was just fantastic. They had areas set up, like an art table and there was an outside play area. When it was the kids' birthdays, they made amazing cakes, and painted them beautiful pictures. The workers loved all the children.

While the kids were being cared for so well, the mums were able to talk. It was great to have that time. We all had our anxieties, but the workers there made us realise that we were actually good parents.

I know that because I've received all this support, my children will not suffer like I did. When I'm sad, anxious or depressed, I'll be able to explain to my children how I'm feeling. Unlike my own childhood I know I will be able to fill their lives with love and laughter.

"There was no one to help us kids deal with mum's illness, and Nana's controlling nature. No one to explain what was going on or to help in a crisis . . . I know that because I've received all this support my children will not suffer like I did."

3.1 The case for early intervention in Australia: Setting the scene

Australia is a financially prosperous nation which ranks comparatively well in the OECD on many measures of health and wellbeing. For example, in the OECD Australia rates fifth highest in terms of life expectancy at birth, and we have lower than average rates of infant mortality and lower than average rates of mortality from heart disease and stroke (OECD, 2011).

As well as these good news stories, however, evidence indicates worsening or unacceptably high levels of problems amongst Australia's children and young people (Access Economics, 2009; Bruner, 2004; Eckersley, 2008, 2011; Li et al., 2008; Perrin et al., 2007; Richardson & Prior, 2005; Stanley et al., 2005).

The problems we currently see amongst Australia's children and young people will not improve – and may get worse – unless we are able to effectively intervene to improve outcomes for them and their families. Early intervention plays a key role in this process.

The term 'early intervention' is used to refer to a number of different but related concepts. For example, early intervention can be defined as intervention early in the 'life' of a problem in order to limit the potential

for that problem to develop further and potentially escalate to crisis point. Early intervention can also be defined as an intervention during the early years of an individual's life (i.e. the first five years) in order to prevent a negative outcome or to address an existing problem.¹

These two definitions of early intervention are clearly related, that is, by intervening during the early years it is also possible to limit the potential for a problem to develop, as we will explore in the following discussion. However, the latter definition focuses upon a specific age range (i.e. 0–5 years).

In this report we focus upon early intervention as it pertains to the early years because, as the following discussion will outline, this period provides the greatest opportunities to make a difference to individuals' life trajectories.² Intervention during the early years can reduce the potential of poor outcomes for children thereby reducing the potential for poor outcomes in the long-term (i.e. into adolescence and adulthood).

The reason why intervention during the early years is critical to reduce poor outcomes in the long-term relates to the nature of human development

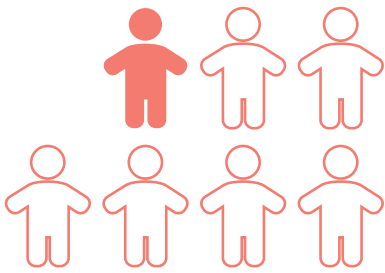
and the way in which children learn and develop. In the following section, we explain why early childhood is important, as well as the factors that drive and shape child development. Before this, however, we describe some of the worrying trends amongst children and young people in Australia and their potential causes.

3.1 Australia's 'worrying trends'

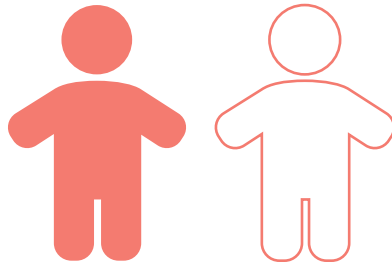
A number of worrying trends amongst Australia's children and young people have been identified. For example:

- One in seven Australian children (aged 4–17 years) is affected by a behavioural or emotional problem and less than half of Australian children who require professional help for a mental health issue receive the professional help they need (Sawyer et al., 2000).
- The proportion of Australian children (5–14 years) living in jobless households is increasing (ARACY, 2013a). Among OECD countries Australia has the fourth highest proportion of children living in jobless families (Australian Social Inclusion Board, 2012).

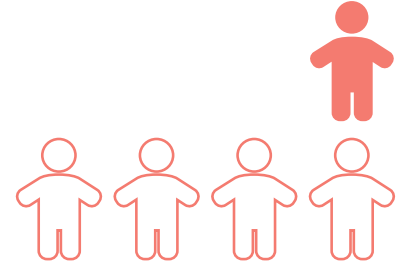
“Many things we need can wait.
The child cannot. Now is the time his
bones are formed, his mind developed.
To him we cannot say tomorrow, his
name is today.” Gabriela Mistral, Chilean poet



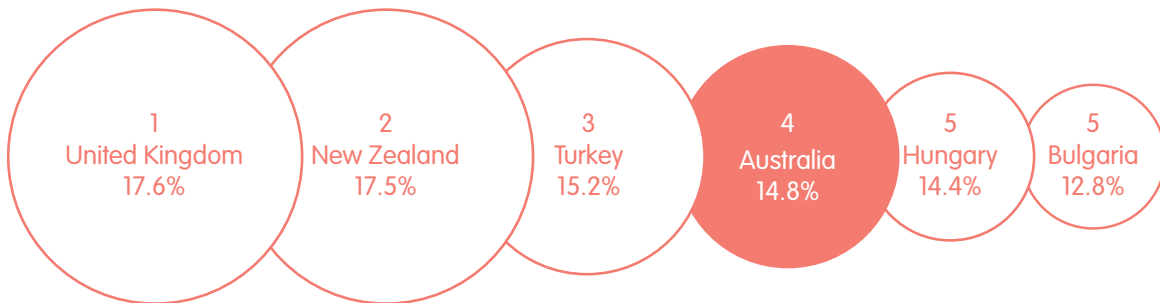
1 in 7 Australian children (4–17 years) is affected by a behavioural or emotional problem



More than **1 in 2** Australian children with mental health issues who need professional help don't receive it



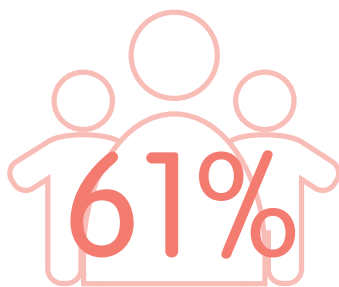
1 in 5 Australian children start school behind — poorly equipped to benefit from social and learning opportunities



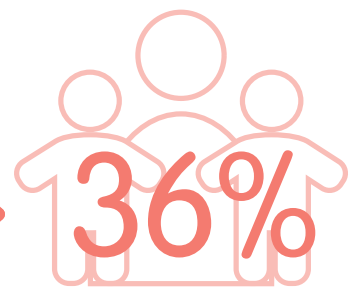
Australia has the **4th highest** proportion of children (5-14 years) living in jobless families (among OECD countries)



of Australian women have experienced physical or sexual violence in a relationship



of these women had children in their care during that violent relationship



of these women reported that their children had witnessed the violence

- 22% of Australian children are vulnerable on one or more developmental domains when they start school (Australian Government, 2013) and, as a result, significant numbers of children are arriving at school poorly equipped to benefit from the social and learning opportunities that schools offer (CCCH & Telethon Institute for Child Health Research, 2007, 2009).
- 17% of all Australians classified as homeless in 2011 were children (0-11 years) (ABS, 2012).
- A significant proportion (15%) of Australian women has experienced physical or sexual violence in a previous relationship (ABS, 2006). 61% of those women reported that they had children in their care at some point during that relationship and 36% reported that their children had witnessed the violence (ABS, 2006).
- The number and rate (i.e. number per 1000 children) of children and young people in out-of-home care has doubled over the past decade (AIHW, 2012).
- The rate (i.e. number per 1000 children) of children and young people on care and protection orders has almost doubled over the past decade (AIHW, 2012).
- 23% of Australian children (aged 5–14 years) are overweight (17%) or obese (6%) (AIHW, 2012) and within the OECD, there is a higher than average rate of overweight and obesity amongst Australian girls (aged 5–17 years), 24% compared to the average 21.4% (OECD, 2011).

Almost all of these trends are worse for Indigenous Australian children (AIHW, 2012; ARACY, 2013a) and Indigenous children and families face a range of other significant disadvantages. For example, babies born to Indigenous mothers were twice as likely as babies born to other Australian mothers to be of low birthweight (AIHW, 2012).

The overrepresentation of Indigenous Australian children in the out-of-home care and child protection system is especially concerning. Indigenous children are 11 times more likely to be in out-of-home care than non-Indigenous children and Indigenous children are eight times more likely to be the subject of substantiated abuse or neglect than non-Indigenous children (AIHW, 2012).

Children with a disability also fare worse in a number of the aforementioned areas. For example, rates of abuse and neglect amongst children and young people with a disability are higher than children and young people without a disability (Robinson, 2012). Furthermore, families who care for children with a disability experience higher rates of financial hardship than the general Australian population and lower levels of labour force participation than other families with young children (Edwards, 2009; Emerson et al., 2008; Sloper & Beresford, 2006).

Many of the problems experienced by Australian children, such as family violence and obesity, are complex or 'wicked' problems, with multiple,

interconnected causes and it is beyond the capacity of any one organisation to effectively respond to all of them (Head & Alford, 2008; Moore & Fry, 2011). As such, they pose significant challenges to service providers who work with children and families.

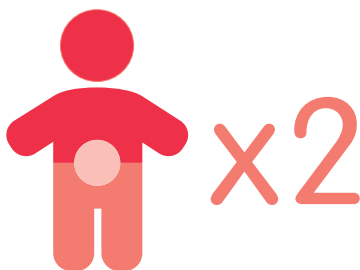
However, these trends should also be a concern for the Australian community as a whole because the impacts of these trends upon children and young people will compromise the economic and social capacities of Australia's future population, thereby harming our national efficiency in the long term (Richardson & Prior, 2005).

The cause of Australia's worrying trends

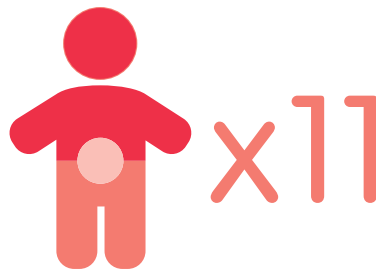
When considering the cause of the aforementioned worrying trends amongst Australian children and young people, it is important to acknowledge the impact of the significant social and economic changes that have taken place in Australia over the past 50 years.

The conditions under which families are raising children have changed (Hayes et al., 2010; Li et al., 2008; Moore, 2008; Moore & Skinner, 2010; Richardson & Prior, 2005; Trask, 2010). For example, the proportion of women in the Australian workforce has increased significantly over the past 30 years (Hayes et al., 2010). Furthermore, between 1980 and the mid-1990s there was a substantial increase in the proportion of Australian families with children that were headed by a lone parent (Hayes et al., 2010).

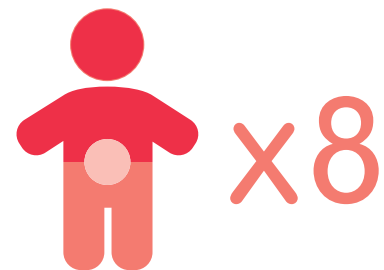
Indigenous children are over represented in the out-of-home and child protection system



Indigenous babies are twice as likely to have low birthweights



Indigenous children are 11 times more likely to be in out-of-home care



Indigenous children are eight times more likely to be the victim of substantiated neglect

Families who are relatively well-resourced are better able to meet the challenges posed by altered social conditions. However, poorly-resourced families can find the heightened demands of contemporary living and parenting overwhelming (Barnes et al., 2006a, 2006b; Gallo & Matthews, 2003) – thereby impacting negatively upon the children in those families.

Although a plethora of services exist to support children and families, the accessibility of services tends to vary inversely with the need for it in the population served. Thus, the parents in most need tend to be the ones who are least likely to access support services (Fram, 2003; Ghate and Hazel, 2002; Offord, 1987).

There are a range of reasons for this ‘inverse care law’. For example, vulnerable families may have difficulties with transport and therefore have difficulties getting to a service (Carbone et al., 2004). Vulnerable families may be intimidated by the presence of more confident families attending services or they may not know about available services (Carbone et al., 2004).³ Children from families who have poor social supports and make limited or no use of early child and family services are at increased risk of poor health and developmental outcomes.

Gaps in family functioning are cumulative: the more advantaged families are initially, the better they are able to capitalise and build on the enhanced opportunities available, so that the gap between them and those unable to do so progressively widens (Rigney, 2010; Social Exclusion Task Force, 2007).⁴ The result is an increase in the numbers of families with complex needs, and more pockets of intergenerational disadvantage, underachievement and poor health and developmental outcomes (Bromfield et al., 2010).

How many Australian children are living in families experiencing these types of adversities? The Australian Research Alliance for Children and Youth (ARACY) recently reported that 17% of Australian children (aged 0-15 years) are living in households that receive less than 50% of the median income and 26% in

households receiving less than 60% of the median income (ARACY, 2013a).

Furthermore, a significant proportion of Australians continue to face significant levels of social exclusion, especially single parents, Indigenous Australians and people with a long-term health condition or disability (McLachlan et al., 2013). The latest figures regarding rates of very deep social exclusion in Australia led the Productivity Commission to recently conclude that:

“Economic and employment growth [in Australia] is not sufficient to improve the position of those Australians who have the most complex needs” (McLaughlan et al., 2013).

In other words, something other than economic and employment growth is needed to support those Australians with the most complex needs.

The trends we currently see amongst Australia’s children and young people will not improve – and may continue to get worse – unless we are able to effectively intervene to improve their outcomes and the outcomes of their families. In the following section we will explain the important role that early intervention can play in this process.

3.2 Timing is everything: The importance of early childhood

The basic foundations for development are laid down during the prenatal period and early childhood years (Centre on the Developing Child, 2010; Shonkoff, 2012).

During the prenatal period, a number of factors can impact upon an infant’s long-term outcomes (Guyer, 2009; Hertzman & Wiens, 1996; Shonkoff, 2010). For example, poor growth in utero has been linked to subsequent health problems such as heart disease and hypertension, and low birth weight increases the risk of developing conditions such as obesity and diabetes in the child’s later years (Centre on the Developing Child, 2010; Massin et al., 2001; Shankaran et al., 2006).

The early childhood years are characterised by rapid and dramatic development and during this period

a number of sensory, motor, learning, mental health, physical health and social capabilities and competencies develop (Hertzman & Wiens, 1996; McCain & Mustard, 1999; Shonkoff, 2012). These capabilities and competencies are critical to an individual’s future development because learning and development are cumulative – the skills acquired early form the basis for later skill development (Cunha et al., 2006; Field, 2010). Thus, the skills children possess when they get to school contribute to a chain of effects that either reinforces and amplifies their initial skills and dispositions, or exacerbates initial difficulties and even produces new ones (Alexander et al., 2001; Meisels, 1998; Rigney, 2010; Stipek, 2001, 2005).

Discrepancies between children from advantaged and disadvantaged backgrounds emerge early and are evident as early as nine months of age (Halle et al., 2009; Heckman, 2008a; Nicholson et al., 2010). In fact in every society, regardless of wealth, differences in socioeconomic status translate into inequalities in child development (Hertzman et al., 2010; Strategic Review of Health Inequalities in England post-2010 Committee, 2010). These development discrepancies are evident across cognitive, social, behavioural, and health outcomes. Development discrepancies increase over time, with advantages and disadvantages accumulating throughout life (Strategic Review of Health Inequalities in England post-2010 Committee, 2010).

To understand how child development is compromised by disadvantage, thereby leading to subsequent poor outcomes, it is important to explore the factors that drive and shape child development.

What drives and shapes child development?

Child development is driven and shaped by an ongoing interaction between biology (i.e. genetic predispositions) and ecology (i.e. the social and physical environment) (Shonkoff et al., 2012). Although an individual’s genes form the framework of their early development, environmental factors have a significant

impact upon the expression of those genes (Shonkoff, 2012).⁵

Environmental factors, in this sense, include the 'environment' of relationships. Relationships are the medium through which young children learn the skills that enable them to become fully participating members of society (Gerhardt, 2004; Reis et al., 2000; Richter, 2004; Shonkoff & Phillips, 2000; Siegel, 1999). The nature and quality of children's attachments and the responsiveness of parents and others, as well as the basic care and safety provided by families are major determinants of subsequent development (Durlak, 1998; Ranson & Urichuk, 2008; Shonkoff & Phillips, 2000). The better the quality of the relationship between children and their parents, the better the children's adjustment is likely to be.

In addition, the quality of the relationships *between parents* can be just as influential (Lamb, 2012). Parental conflict is associated with poorer outcomes in children, whether or not the parents are married or even live together. Unresolved and destructive hostility between parents has worse effects than conflict and disagreements that are resolved constructively.⁶ The evidence clearly indicates that what matters for children's development and adjustment is not the make-up and structure of their families but the quality of their experiences and the wellbeing of those around them (Lamb, 2012).

In addition to relationships, the environments in which young children spend their time – including immediate (e.g. home learning environment) and community and wider social environments (e.g. neighbourhood environments) provide opportunities and experiences that shape development (Feinstein & Bynner, 2004; Lewis, 1997, 2005; Lewis & Mayes, 2012; Macmillan et al., 2004; van IJzendoorn & Juffer, 2006).

Promoting children's development and learning involves ensuring that the environments in which they spend their time are optimal. In the case of young children, family and other caregivers are the main providers of the relationships and experiences that make up the child's learning environments, and

the nature and quality of the home learning environments are important influences on children's learning and development (Boethel, 2004; Brooks-Gunn & Markman, 2005; Cunha et al., 2006; Feinstein, 2003; Le et al., 2006; Melhuish, 2010; Sylva et al., 2004; Siraj-Blatchford, 2009; Siraj-Blatchford et al., 2011).

A key feature of the environments in which children develop is the extent to which they enable the child's meaningful participation. For participation to be meaningful, children must not only be present, but must also be heard. Their role and contribution in the activities of their daily lives must be valued by all those involved, including the children themselves (Moore, 2012a). Participation is both a major driver of development and a major contributor to quality of life (Nussbaum, 2011). It is also a long-term goal: the capability to participate – economically, socially and civically – is what we want for all young people as they enter adult life (Zubrick et al., 2009).

Children's health, development and wellbeing can be compromised by a number of direct adverse experiences during the prenatal and postnatal periods. Adverse experiences known to be associated with later negative outcomes include: sustained poverty; recurrent physical, emotional or sexual abuse; parental alcohol or drug abuse; an incarcerated household member; parental depression, suicidality, or mental illness; family violence; and emotional or physical neglect.

Individual developmental pathways are influenced by interactions among risk factors (increasing the probability of a poor outcome) and protective factors (increasing the probability of a positive outcome). Risk factors tend to be pervasive – a child or family confronting adversity in one context is also likely to be facing it in others as well (Australian Social Inclusion Board, 2010; Oroyemi et al., 2009). In addition, risk factors tend to be self-reinforcing over time: behaviours or experiences at one point in time increase the likelihood of the same behaviours and experiences occurring at a later point. As a result of the pervasive and self-reinforcing nature of risk and protective factors,

children's environments tend to remain stable over time.

Moreover, longitudinal studies show that behaviour or experiences at one age predispose children to the occurrence of risk or protective factors at a later age. Links between multiple adverse factors form risk chains, while multiple protective factors form protective chains: disadvantages and advantages tend to be enduring and mutually reinforcing.

The more adverse experiences in early life, the greater the likely incidence of later health, mental health and developmental problems (Anda et al., 2006). What jeopardises children's development is the cumulative effect over time of exposure to multiple adverse or risk factors. Multiple risks have multiplicative rather than merely additive effects: the more adverse experiences and conditions children are exposed to and the longer such exposure occurs, the more likely it is that their development will be compromised and the worse the outcomes.

These cumulative effects are evident at both behavioural and biological levels:

"At the behavioral level, there is extensive evidence of a strong link between early adversity and a variety of health-threatening lifestyles in the adolescent and adult years. At the biological level, there is growing documentation of the extent to which the cumulative burden of excessive stress activation over time... can produce structural and/or functional disruptions that lead to a wide range of physical and mental impairments later in life" (Shonkoff, 2012, p. 2).

Children showing resilience in the face of adverse circumstances are generally those who have been exposed to fewer risk factors for a shorter period of time and/or protected by positive experiences or compensatory mechanisms. The evidence suggests that maximising protective factors seems to be more effective than reducing risk factors.

It is possible to ameliorate the impact of impoverished early environments on children's learning through sustained improvements in a child's social

environment. In fact, the human brain retains the capacity to adapt and change throughout the lifespan. Highlighting the window of opportunity in early childhood should not mean, therefore, a reduction in interventions that occur after that point in time (Allen et al., 2011). Early investments in children must be followed up by later investments in order to be effective (Cunha et al., 2006). In *Early Intervention: The Next Steps*, a highly influential report regarding early intervention in the UK, Allen et al. (2011) note:

“The necessary focus on the early years should not distract from the fact that there are, of course, important things that we need to do for our older children, especially when the first opportunities have been missed” (p. 24).

However, the older a child gets, the more difficult it is for them to catch up to their peers (Ramey & Ramey, 1998) and the more difficult and costly, and less effective the intervention (Cunha et al., 2006; Cunha & Heckman, 2006; Field, 2010). This fact drives the need for early intervention.

In section 4 of this report we will describe the nature and benefits of early intervention. However, first we explore in more depth the life-long impacts of early experiences followed by a discussion regarding how early experiences can have such lasting effects.

3.3 The enduring legacy of the early years

There is now strong evidence demonstrating the way in which life-long effects of early experiences impact on the later achievements, social adjustments, mental health, physical health and longevity of individuals (Centre on the Developing Child at Harvard University, 2010; Field, 2010; National Scientific Council on the Developing Child, 2007; Shonkoff & Phillips, 2000; Shonkoff et al., 2009).

In the following sections we describe five early experiences and circumstances that can have life-long negative consequences:

- sustained poverty;
- child abuse and neglect;
- early mental health problems;

- conduct problems; and
- poor health and nutrition.

These early experiences and circumstances are not the only factors that, when occurring in early childhood, can impact upon life-long trajectories, however, for the purposes of this report they provide an important insight into the enduring legacy of the early years.

Sustained poverty

The experience of sustained poverty during childhood has wide-ranging and long-lasting consequences (Duncan & Magnuson, 2013; Hirsch, 2008; Lamb, 2012; Pavalko & Caputo, 2013). Socioeconomic disadvantage in childhood impacts on the psychological health and wellbeing of young adults, and it has enduring influences on health in mid and later life (Pavalko & Caputo, 2013).

Poor children tend to begin school well behind their more affluent peers, and lose ground during the school years. Children from poor families also go on to complete less schooling, work less and earn less than others (Duncan & Magnuson, 2013).






For some outcomes later in life, particularly those related to achievement, skills and cognitive

development, experiencing poverty early in a child’s life may be especially harmful. This is because the rapid development of young children’s brains during the early years leaves them sensitive (and vulnerable) to environmental conditions (Duncan & Magnuson, 2013).

Three pathways appear to be involved in the relationship between childhood poverty and its pervasive life-long effects:

- children in poverty tend to have less cognitively stimulating environments, and live in impoverished language environments;
- lower income parents tend to engage in harsher and less responsive interactions with their children; and
- disadvantaged children must contend with a wide array of stressors that strain and eventually impact negatively upon their brain development and damage their biological and psychological regulatory systems, with effects over the life course (Evans & Kim, 2013; McEwen, 2012; Seeman et al., 2010; The Benevolent Society, 2010).

EARLY EXPERIENCES & SOME OF THEIR LIFELONG CONSEQUENCES

	SUSTAINED POVERTY	unemployment, low income, low working hours
	ABUSE & NEGLECT <small>(physical, emotional, sexual abuse & neglect)</small>	depression, anxiety, drug abuse, suicidal behaviour, STIs, health issues, trust problems, security issues
	EARLY MENTAL HEALTH PROBLEMS	Emotional problems, leaving school early, criminal justice system contact, poor physical health
	CONDUCT PROBLEMS	Anti-social and criminal behaviour
	POOR HEALTH & NUTRITION	More health problems; poor academic achievement, not graduating on time

Child abuse and neglect

Sustained experiences of physical abuse, emotional abuse, and neglect in early childhood also have long-term consequences for mental and physical health, as well as social adjustment, academic achievements, and subsequent employment histories (Cashmore & Shakel, 2013; Macmillan, 2009; Norman et al., 2012; Reeve & van Gool, 2013; Zielinski, 2009).

Mental health disorders associated with child physical abuse, emotional abuse, or neglect include depressive disorders, anxiety disorders, drug abuse, and suicidal behaviour. Individuals who were maltreated as children (not limited to sexual abuse) also have a higher risk of contracting sexually transmitted diseases and/or engaging in risky sexual behaviour than non-maltreated individuals (Norman et al., 2012). Adults with a history of childhood abuse suffer from significantly more health conditions, incur higher annual health care costs, and are more likely to harm themselves (Reeve & van Gool, 2013).

Sexual abuse in childhood also has long-term effects (Cashmore & Shakel, 2013). Research indicates that children who have been abused, and in particular sexually abused, have greater difficulties with interpersonal relationships and especially trust compared with non-abused individuals, and are more likely to develop behavioural problems, and be involved in incidences of running away, vandalism and juvenile offending compared to children who have not been sexually abused. While the vast majority of those who have been sexually abused do not go on to abuse others, studies of offender populations indicate a higher rate of child sexual victimisation amongst juvenile and adult offenders compared with the general population. Research indicates that child sexual abuse may be associated with a range of physical and health risk behaviours as well as adverse health outcomes for victims of such abuse.

Mental health problems

Children who experience mental health problems during the early years have an increased risk of range of sub-optimal outcomes in later life including: emotional problems in adulthood, poor educational achievement, earlier

termination of schooling, and contact with the criminal justice system (Cornaglia et al., 2012; Eisenberg et al., 2009; Kessler et al., 1995; Richards & Abbott, 2009).

In contrast, positive mental health and psychological wellbeing have many short and long-term benefits (Friedli, 2009; Huppert, 2008). Benefits of positive mental health include healthier lifestyles, better physical health, improved recovery from illness, and improved quality of life (Friedli, 2009; Huppert, 2008).

Conduct problems

Conduct problems in childhood and adolescence are an important cause of poor life chances. There is now strong evidence that early-onset and persistent involvement in antisocial behaviour represents the most costly and detrimental pathway for children (Boivin & Hertzman, 2012).

Children who manifest high and persistent behaviour problems, such as aggression and hyperactivity, which begin early and persist have been intensively studied and the research indicates that, if left untreated, such behaviours lead to ongoing antisocial and eventually criminal behaviours (Boivin & Hertzman, 2012).

Typically, these children are constantly exposed to adversity and stressors within high-risk familial and social contexts. Richards and Abbott (2009) conclude that the strength, pervasiveness and persistence of the damaging consequences of conduct problems make a powerful case for early intervention. There is good evidence that many early intervention programs for childhood conduct and emotional problems are highly effective.

Poor health and nutrition

Children's early health and nutrition can have long-term effects. Reviews of the evidence on the relationship between health factors and educational outcomes conclude that the overall health status of children and adolescents affects educational performance and attainment (Suhrcke & Nieves, 2011), and that health risks and academic risks affect each other: students who do poorly in school may have more health risks, which adversely

affect their achievement and in turn contribute to health risks (Dilley, 2009).

The more health risks children and adolescents have, the less likely they will succeed in school or graduate on time. Even poor oral health is associated with poorer academic achievements (Blumenshine et al., 2008; Jackson et al., 2011).

How do early childhood experiences have such long-lasting effects?

There are three key ways in which early childhood experiences have long-term effects, through:

- biological embedding with long-term sleeper effects,
- a process of accumulation, and
- developmental escalations of risk over time (Boivin & Hertzman, 2012; Hertzman & Power, 2003; Keating & Hertzman, 1999).

Although they are distinguishable from one another, these pathways are not mutually exclusive. Each is described further below.

Biological embedding

Biological embedding refers to a developmental process whereby early physical and social experiences influence physiological and neurological development in ways that have long-term consequences (Hertzman, 1999; Hertzman & Boyce, 2010).

It is now well established that the biological and neurological development of an individual can be shaped by environmental conditions in the womb. Known as the 'developmental origins of health and disease' (DOHaD) hypothesis, this means that suboptimal conditions during foetal development can result in permanent alteration of the structure, physiology and metabolism of the offspring, thus laying a physiological basis for adult-onset disease. This kind of prenatal programming is known to have long-lasting effects on later health (cardiovascular disease, type-2 diabetes, obesity and metabolic syndrome) and fertility (Chadio & Kotsampasi, 2013).

There is even evidence that the long-term consequences of adverse conditions during early development may not be limited to one generation,

but may lead to poor health in the generations to follow, even if these individuals develop in normal conditions themselves (Roseboom & Watson, 2012). For example, the diet of a pregnant mother may affect the development and disease risk of her children and even her grandchildren.

Biological embedding can also occur after birth, with the youngest children being most susceptible. Early life social and environmental stressors, such as childhood abuse, neglect, poverty, and poor nutrition, have been associated with the emergence of mental and physical illness (such as anxiety, mood disorders, poor impulse control, psychosis, and drug abuse) and an increased risk of common metabolic and cardiovascular diseases later in life.

The mechanism involved is the epigenetic modification of genes expressed in the brain that shape neuroendocrine and behavioural stress responsivity throughout life (Weaver, 2009). Poverty in early childhood can alter the programming of the immune system (Miller et al., 2011; Miller & Chen, 2013): because the immunological system is developing during this time, changes get embedded in a manner that persists across the lifespan and makes the person more susceptible to the diseases of ageing.

The process of accumulation

Development is shaped by the cumulative effect of experiences (Boivin & Hertzman, 2012; Halfon et al., 2010; Keating & Hertzman, 1999; Masten & Cicchetti, 2010). The cumulative effect of adverse experiences during childhood and the toxic stress they cause influences every aspect of health and wellbeing in childhood and beyond (Shonkoff et al., 2012; Anda et al., 2006). These effects cascade across all areas of developmental functioning, thereby altering the course of development (Masten & Cicchetti, 2010). Over time, the cumulative wear and tear caused by exposure to chronic stress results in physiological changes to the body with long term adverse consequences for health and wellbeing (Seeman et al., 2010).

Developmental escalations of risk over time

Development is shaped by developmental escalations in risk over time (Boivin & Hertzman, 2012). Early life environments can set individuals on life trajectories or tracks, which become increasingly difficult to alter, and which in turn affect health and development status over time.

3.4 Conclusions

In this section of the report, we have 'set the scene' for early intervention in Australia. The case for early intervention is strengthened by a number of worrying trends amongst Australia's children and young people, along with evidence which demonstrates the negative impact of those trends – especially amongst children who experience multiple adverse experiences from an early age.

Although a number of policies have recently been introduced in Australia to better support children and their families during the early years (e.g. universal paid maternity leave, a national quality framework for early childhood education and care, a commitment to provide 15 hours of universal preschool access for all 4 year old children by the end of 2013), as well as a number of national and state based early childhood initiatives (e.g. Brighter Futures (NSW), Best Start (Victoria)), Australia, like many other nations, has traditionally spent less on children during the early years when compared to children of school age (OECD, 2009).

Furthermore, Australia, like many other developed nations, has a 'culture' of late intervention, that is, responding to problems once they reach a critical point, rather than seeking to ameliorate the effects of those problems earlier or preventing the problems from occurring altogether (CCCH, 2006).

In the next section of this report we will describe the concept of early intervention in greater detail – outlining the nature of early intervention, followed by a description of the evidence regarding its significant social and economic benefits.

4. The nature and the benefits of early intervention

In the previous section of this report we highlighted the way in which early childhood represents a window of opportunity to positively shape child development and, thereby, subsequent outcomes. The logic of early intervention is as follows:

- the early years provide the foundation for a host of critical capabilities and competencies, as well as physical and mental health *and*
- adverse experiences during this period can have a profound and long-lasting negative impact upon development, as can unfavourable prenatal circumstances *and*
- the more adverse experiences a child has, the greater the potential for poor outcomes *therefore*
- we need a means of providing support to children who have adverse experiences – and their families – during the early years as well as support for their families during the prenatal years.

In this section of the report, we will describe in greater detail the nature of early intervention and its benefits.

4.1 The nature of early intervention: A multi-level response

Within the child welfare sector, early intervention is commonly understood in terms of *programs* such as early childhood education and care, parenting and home learning environment programs. However, programs alone are not sufficient to ameliorate the types of problems experienced by children and families, particularly amongst those children and families at greatest risk of poor outcomes (Shonkoff, 2010, 2012).

In order to reduce the potential for disadvantage amongst those children

at greatest risk, what is required is a multilevel ecological approach that involves intervention at three levels:

1. *program and direct service level* interventions delivered directly to children and families that could take the form of, for example, home visiting and parenting support and could be universal (i.e. available to all children and families) or targeted (i.e. available to children and families at risk);
2. *community and service system level* interventions comprising: (a) interventions that target the nature of communities in order to improve social cohesiveness and social support to children, parents and families and take the form of, for example, providing multiple opportunities for families of young children to meet, and ensuring streets are safe and easily navigable; and (b) interventions that target the service system that could take the form of, for example, building more co-ordinated and effective service systems; and
3. *structural and societal level system* interventions addressing the wider social environments that influence child and family outcomes and could take the form of, for example, the introduction of new government policies and funding to address issues such as poverty and housing instability.

At the outset, it is important to note that a number of early intervention programs have been shown to effectively reduce factors associated with disadvantage in the long-term (see section 5.1). The social and economic benefits of early intervention programs are supported by strong evidence (see section 4.2). Programs are an important component of early intervention initiatives that seek to reduce the

potential for disadvantage amongst children at the greatest risk. However, in order to reduce the potential for disadvantage in the long-term for children at the greatest risk, providing direct programs in itself is not sufficient.

There are three primary reasons why this is the case:

- *Early intervention programs appear to be very effective with some families but not with others* and young children and families who are at greatest risk, particularly those experiencing 'toxic stress' do not appear to benefit significantly from existing programs (Shonkoff, 2010).⁷ Even a modest benefit to children and families has the potential to make a real difference in the lives of children and families, however, if we are looking for a way to reduce poor outcomes for children and families at the *greatest* risk, it would appear that programs by themselves are not sufficient.
- *Major changes are required in the way that services are delivered* because services and service systems are struggling to meet the needs of vulnerable families (Moore, 2008; Wear, 2007). Furthermore, significant issues surround the engagement of the most vulnerable children and families; as noted previously, for a variety of reasons, the children and families most in need of support are the least likely to access or receive it (Ghate & Hazel, 2002; Fram, 2003; Offord, 1987; Sawyer et al., 2000; Sayal, 2006; Watson et al., 2005). Focusing solely on the delivery of programs within a service system that is already struggling to meet the needs of vulnerable families and in many cases is not reaching the most vulnerable families will not alter the conditions for children and

families who are most at risk of poor outcomes.

- *Children’s development is shaped by their immediate environments and by community and wider social environments* hence by changing the community and broader social environments within which families live, we can influence the ways in which parents respond to their children and thus influence children’s development. Although programs can influence community environments, their ability to do so is likely to be limited without a community wide approach. Programs alone cannot change broader social environments.

Now that we have described the nature of early intervention, we will describe the evidence regarding its social and economic benefits.

4.2 The benefits of early intervention

The social benefits of early intervention

The evidence from numerous studies demonstrates that early intervention programs can have a range of far-reaching social benefits for children and their families. In this report we are especially interested in those programs that have long-term benefits, that is, benefits from adolescence onwards.

The social benefits of early intervention programs are especially pronounced in those early intervention programs that target children and families experiencing disadvantage. Some of the benefits demonstrated in rigorous research (see section 5.1 and Appendix B of this report for a more detailed description of benefits) include:

- **improved educational achievement** including, for example, better reading

and mathematics achievement in adolescence, higher levels of literacy in adolescence and adulthood, higher rates of school graduation, and higher rates of college attendance and graduation

- **other improvements in educational outcomes** including better attitudes towards school, lower rates of grade retention during school years, lower rates of special education placement, and higher number of years spent in education
- **improved material circumstances** such as higher levels of income, higher lifetime earnings, higher rates of car ownership, and more stable dwelling environments
- **improved employment outcomes** such as higher rates of employment and higher rates of consistent employment in mid-adulthood
- **improved mental health** including lower rates of internalising mental health problems in early adolescence, and lower rates of depression in early adulthood
- **overall health** in terms of a combined health ‘score’ that incorporates depression symptoms, prior year hospitalisations and self-reported health
- **improved parenting outcomes** such as lower rates of teenage parenthood (amongst adolescents who attended early intervention programs as children) and increased age at the birth of her first child (amongst adults who attended early intervention programs as children)
- **reduced rates of risky behaviours** especially in adolescence, including reduced rates of drug and alcohol use in adolescence, reduced number of sexual partners, reduced incidence of running away from home, and

reduced rates of marijuana and tobacco use in adulthood

- **reduced criminality** such as lower rates of arrests, convictions and probation violations in adolescence, lower rates of arrests and prosecutions in adulthood and reduced contact with juvenile and adult justice systems
- **reduced notifications of child abuse and neglect** pertaining to children during adolescence.

Not every early intervention program achieves these types of outcomes and some are more effective than others (Dalziel & Segal, 2012). In section 5.1 of this report we describe those programs demonstrated to have the greatest effect on reducing levels of disadvantage in the long-term.

The economic benefits of early intervention

Those who are not convinced by the moral justification for early intervention may be swayed by the evidence regarding the economic benefits of early intervention for children and families experiencing disadvantage. Professor James Heckman’s seminal work in this area provides strong evidence for this (e.g. Heckman, 2000, 2006, 2013) and Figure 1 provides a visual representation of the findings of Heckman’s research and his argument. As the graph demonstrates, the younger the age group receiving support through targeted programs, the higher the rate of return, with the highest rate of return from interventions that occur during the 0–3 age period.

The economic benefits of early intervention are attributed to the fact that investing early facilitates larger benefits over a longer period of time – thereby building upon the return

Figure 1: Rate of return on investments by age

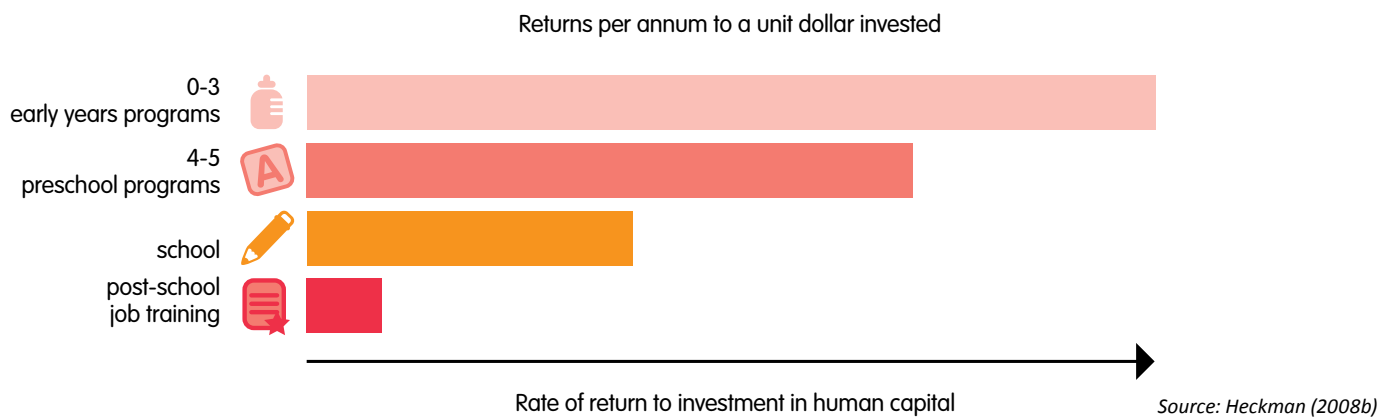
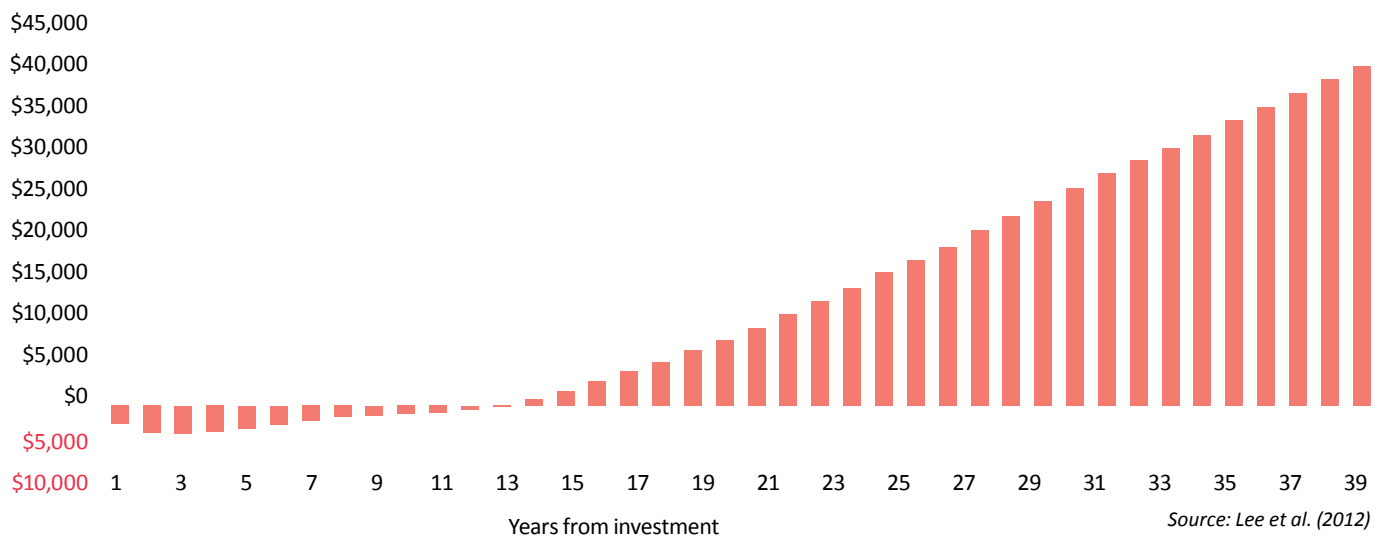


Figure 2: Cumulative economic benefits of early education programs



to investment (Doyle et al., 2009). Furthermore, as skills beget skills and early skills enable later skill acquisition, early investment raises the productivity of later investment (Doyle et al., 2009). Given the importance of the antenatal period for later development, there are also good grounds for extending the economic argument to include investments in antenatal services, as proposed by Doyle et al. (2009).

Some of the most dramatic cost-benefits of individual early intervention programs have been those that target disadvantaged families. For example:

- A cost-benefit analysis of the Perry Preschool program (see section 5.1 for a description of this program) when participating children had reached the age of 28 indicated that the value of the benefits from the program were \$108,002 (\$US, 1993)

compared to the cost, \$12,356 per participant. The strongest economic benefits of the program related to the reduction in crime (Barnett, 1993).

- A more recent cost-benefit analysis indicated that the economic return to society from the Perry Preschool program when participating children reached the age of 40 (Schweinhart et al., 2011) was \$244,812 (\$US, 2000) per participant on an initial investment of \$15,166 (Schweinhart et al., 2011). Once again, the greatest economic benefits came from crime reduction (88% of the total public return) (Schweinhart et al., 2011).
- A cost-benefit analysis of the Chicago child-parent centres (see section 5.1 for a description of this program) demonstrated that the preschool program component of the program returned \$7.14 (\$US, 1998) on every

dollar spent through educational, social welfare and socioeconomic benefits. The extended intervention component of the program (i.e. preschool and early years of primary school) had a slightly lower return (\$6.11) and the school-only component of the program had a return of \$1.66.

- A cost-benefit analysis of Nurse-Family Partnership program found that for high risk participants, the program returned \$5.70 (US) on every dollar spent (London School of Economics, 2007).

Although these cost-benefit analyses have been undertaken on programs delivered in the United States, it is reasonable to assume comparable economic returns from similar early intervention programs in Australia. However, cost-benefit analyses that

investigate the long-term benefits of these types of programs in Australia are needed to support this hypothesis.

There is also good evidence to support the economic benefits of universal early childhood programs such as preschool education programs (Lee et al., 2012). Lee et al. (2012) estimated that, in the long-term, the US will receive a return of \$3.60 for each dollar invested in early childhood education. In the short term, program costs exceed cumulative benefits (see Figure 2). By the 14th year from the initial investment the total benefits exceed the amount of the investment in the program. Thus, while some benefits occur quickly, the majority of benefits of early intervention programs accrue over long periods of time.

In addition to the direct and indirect costs of such conditions, there is evidence that later efforts to rectify the impact of impoverished early environments on children’s learning, or of early neglect and abuse on their mental health, are more costly and less effective (Cunha et al., 2006; Cunha & Heckman, 2006; Field, 2010). The costs of these later interventions escalate rapidly (Access Economics, 2009; Allen, 2011; Powell, 2010).

Based on UK data, Powell (2010) has shown how the costs of more intensive forms of treatment and care escalate dramatically if the far cheaper early intervention programs are not provided or are ineffective (see Figure 3).

What is the cost of doing nothing?

Clearly, early intervention can have significant social and economic benefits. But what is the cost of doing nothing to ameliorate the potential for and effects of adverse experiences in the early childhood?

A recent study undertaken by Baldry et al. (2012) found that in Australia the lifecourse institutional costs of homelessness for 11 individuals ranged from \$900,000 to \$4.5 million. Another study undertaken by Baldry and her colleagues (McCausland et al., 2013), also focusing on Australia, found that the lifecourse institutional costs of criminal justice services for people with mental health disorders and cognitive impairment for an individual ranged from \$1 million to \$5 million.

Baldry and colleagues’ research provides some indication of the costs of not intervening early to address the factors that can lead to outcomes such as homelessness and mental illness.

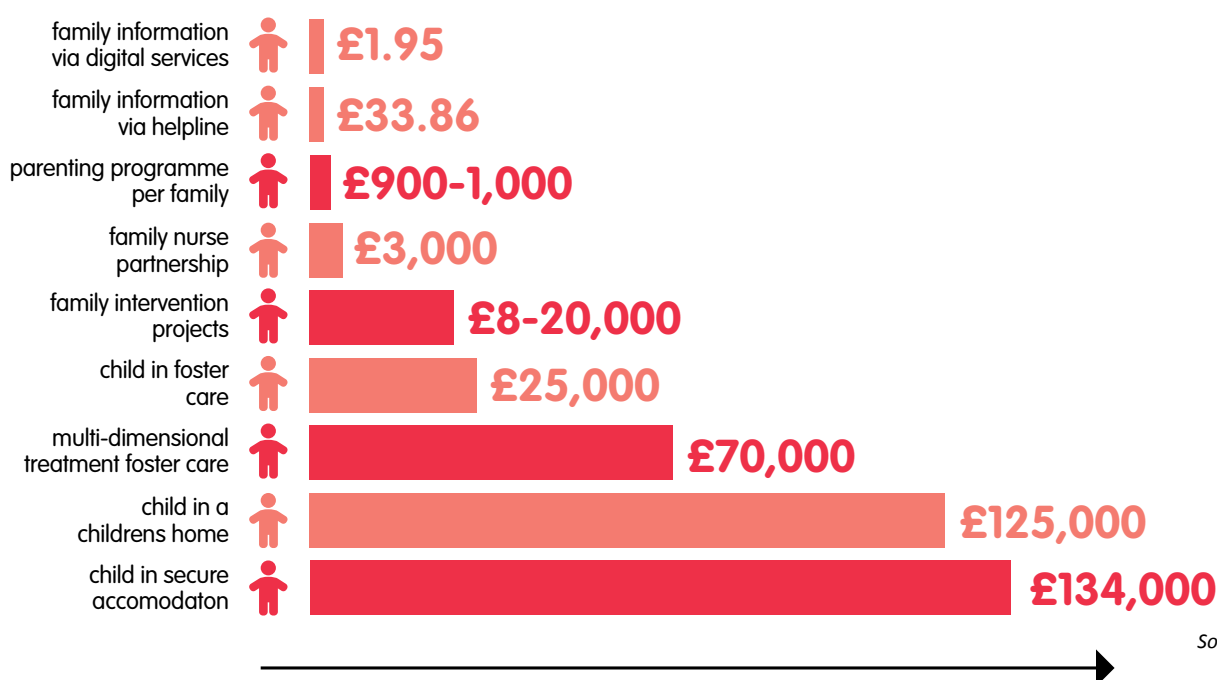
Although Baldry et al.’s research focused on the costs of homelessness, the majority of the evidence regarding the costs of doing nothing to ameliorate the potential for, and effects of adverse experiences in the early childhood relates to two specific types of adverse experience: child poverty and child abuse and neglect, as well as one outcome associated with adverse experience: anti-social behaviour.

The costs of doing nothing in regards to these three specific issues are addressed below.

Poverty

Child poverty costs society, both in terms of the money that government spends in trying to counter the effects of child poverty, and in the economic costs of children failing to reach their potential (Hirsch, 2008). A cautious estimate from the UK indicates that child poverty costs the country at least £29 billion a year (Hirsch, 2013). Moving all families above the poverty line would not instantly lead to savings of this magnitude. However, in the long term, significant savings could be achieved as a result of not having to pick up the pieces of child poverty and associated social ills.

Figure 3: The costs of intensive treatment (Cost per child/family per year)



Child abuse and neglect

Child abuse and neglect has short- and long-term human and social costs (e.g. physical injury and psychological trauma, chronic health problems and lost productivity) (Zielinski, 2009; Macmillan, 2009). Child abuse and neglect also have economic consequences through the costs of public sector intervention and as a result of the association between child maltreatment and unemployment, family job loss, low family incomes, and poverty.⁸

Researchers investigating the economic costs of child abuse and neglect in Australia have found that:

- the total cost in the financial year 2001-2002 was an estimated \$4.9 billion (Kids First Foundation, 2003).
- the annual cost of child abuse and neglect for all people ever abused in Australia in 2007 was estimated to be \$4 billion, with the value of the burden of disease (a measure of lifetime costs of fear, mental anguish, physical pain and disability relating to child abuse and neglect) representing a further \$6.7 billion (Taylor et al., 2008).
- in 2011–2012, approximately \$3 billion was spent on child protection and out-of-home care services (an increase of \$100.8 million from the previous year) (CFCA, 2013).

Antisocial behaviour

In addition to the costs of adverse experiences, evidence indicates that the costs associated with the *outcomes* of adverse experiences, such as antisocial behaviour, are also significant. Antisocial behaviour comes with considerable cost to the individual and to society (Boivin & Hertzman, 2012). One of the most costly life outcomes for an individual and society is involvement in criminal offending (Heckman, 2006).

A recent analysis (Allen, 2011) estimated that an individual's untreated behavioural problems cost the United Kingdom an average of £70,000 by the time they reach 28 years old – 10 times the cost of children without behavioural problems, and the productivity loss to the state as a result of youth unemployment is estimated at £10 million every day.

4.3 Conclusions

In this section of the report, we have described the nature and benefits of early intervention. We have argued that although early intervention *programs* are an important component of early intervention – with demonstrated positive effects for disadvantaged children and families – a multi-level approach that also incorporates community, system level and society and government interventions is likely to bring about the most significant, long-lasting effects, especially for the most vulnerable children and families.

We have put forward evidence regarding the economic benefits of early intervention: noting that the earlier the intervention, the better the economic returns. Interventions during the early years have cumulative economic benefits and the costs of doing nothing about the types of adverse circumstances and events that impact negatively upon children during the early years are significant.

In the next section of this report we will outline the evidence regarding 'what works' in early intervention: that is, what types of interventions are likely to have the greatest impact in the long-term for those children at the greatest risk?



Adam's story: parenting skills support

Adam and Jade live in Sydney's northwest with their five children aged from 5 to 14. They had both been intravenous drug users, but stopped using around five years ago. But Adam became a workaholic, working up to 16 hours a day. By late 2012 Adam had moved out and Jade found it hard to cope with the kids on her own. She was on anti-depression medication and smoking dope.

The Department of Family and Community Services came around and found that the children were missing a lot of school. They referred the family to The Benevolent Society's Intensive Family Support service.

"Our case worker Liz would come twice a week and work with me on getting the kids to school each day," said Jade. "She set me up with weekly counselling through Centacare and she got me appointments to have my anti-depression meds reviewed so I wouldn't get so sleepy, but it was still hard doing it all on my own."

Adam says Liz called him one day and confronted him with some hard truths: "You're in a situation where Jade isn't coping and if push comes to shove you're going to lose your kids if you don't start co-parenting. You need to start seeing your kids more and being more of a father figure for them."

"I thought about losing the kids, and how I would feel then and I decided I've got to change and I'll see how it goes. And things started to happen, I sort of changed into a different person."

The light bulb really went on for Adam when he did the 'Circle of Security' DVD sessions with Jade and a parenting skills educator: "It shows you how to be there for your kids, what your kids need, your tone of voice and how to approach your kids."

"Before, if one of the boys came home from school in a bad mood, I would have said, 'Go to your room' But now if I ask what happened and he growls at me I'd just say, 'Well you obviously don't want to talk now, but we're here if you want to talk later.'

"I thought about losing the kids, and how I would feel then and I decided I've got to change and I'll see how it goes. And things started to happen, I sort of changed into a different person."

"I got Michael into league this year. When I first took him he'd hide behind my back and just look at the ground and not want to play, and now he's out there scoring tries and tackling."

"His speech therapist and teachers say he's trying that much more, whereas before you wouldn't get two words out of him. He's still basic at reading, but he is a hell of a lot better than he was before. His behaviour has gotten better because he's more confident in himself."

5. Early intervention: What works?

In the previous sections of this report, we have put forward our argument to support the case for early intervention in Australia and described the nature and benefits of early intervention. In this section we will review the evidence to determine:

which early interventions have had or are likely to have the greatest impact on reducing disadvantage in later life for those at greatest risk?

To answer this question we undertook a review of literature using a methodology we refer to as the ‘realist approach’.⁹

A realist literature search recognises the value of ‘gold standard’ evidence (i.e. evidence from research that utilises experimental research designs such as randomised controlled trials (RCTs) as well as the value of other forms of evidence (e.g. evidence from qualitative research).

For the purposes of this report, the realist approach involved two key tasks:

- a *systematic search* for information about early intervention programs that: (a) targeted disadvantaged children or children and families; and (b) that have been evaluated using either an experimental or quasi-experimental research design; and (c) that have long-term follow up data in addition to meta-analyses, systematic reviews and narrative reviews that summarised the findings of programs meeting the above criteria; and
- a *broad-based review of literature* from a range of disciplines (e.g. psychology, sociology, medicine) regarding early intervention in general (i.e. not restricted to programs) and promising initiatives.

It was important to consider multiple forms of evidence (i.e. not just evidence from RCTs) from multiple disciplines in

this review because when considering the ‘wicked’ or complex problems encountered by vulnerable children and families (e.g. poverty, child abuse and neglect, obesity), RCTs are often limited in their scope and usefulness (Fonagy, 2001; Greenhalgh, 2012; Prevention Action, 2012; Schorr, 2012).

Furthermore, research demonstrates that *how* programs are delivered (e.g. the nature of interactions between professionals and parents) is as important as *what* programs are delivered (CCCH, 2007; Moore et al., 2012). However, experimental research designs typically focus upon what particular programs are effective, rather than what particular processes make programs effective (Prevention Action, 2012). Adopting a realist approach in this review provided us with the opportunity to consider what *processes* are likely to make early interventions effective. These processes are important when planning, delivering and implementing early intervention initiatives.

In the following section we describe and summarise the findings from these two searches. Reflecting our focus upon a multi-level approach to early intervention, we describe the evidence regarding the effectiveness and potential of each of the following for reducing disadvantage in later life for those children at the greatest risk:

- early intervention programs;
- community and service system interventions; and
- structural and societal level interventions.

5.1 Early intervention programs

In this section, we review the evidence regarding the most effective early intervention programs. To identify the most effective programs we undertook a systematic search for programs that met the following criteria:

- delivered to children during the first five years of life;
- delivered to children or children and families from socio-economically disadvantaged backgrounds;
- evaluated using either an experimental research design or a quasi-experimental research design;
- shown to either reduce poor outcomes or the factors that are likely to lead to poor outcomes, or enhance positive outcomes or the factors that lead to positive outcomes; and
- shown to benefit participating children after they reach the age of 11.

In addition to identifying the most effective programs, we were also interested in the common characteristics of effective early intervention programs. Hence, we used similar criteria to identify meta-analyses, systematic reviews and narrative reviews that might provide insight into these characteristics.

We identified a total of five early intervention programs that met the above criteria and a number of relevant reviews. Once we had identified these programs, we also identified common themes emerging from meta-analyses, systematic reviews and narrative reviews regarding the characteristics of effective early intervention programs.

The fact that only five programs were identified does not mean that other early intervention programs have not had long-term benefits for participants.

A vast range of programs meet the first three aforementioned criteria and a number meet the fourth criteria (e.g. Triple P, see Heinrichs et al., 2013 and de Graaf et al., 2008). However, programs that are able to meet the final criteria (i.e. benefiting participating children after they reach the age of 11) are relatively rare.¹⁰ In other words, it is not possible to determine what long-term benefits these programs have had because there is no long-term follow-up evaluation data to demonstrate results (see Appendix A).

Similarly, a number of early intervention programs that are currently being implemented in Australia demonstrate positive outcomes in the short-term (e.g. the Home Interaction Program for Parents and Youngsters (HIPPY), see Liddell et al., 2011 and Let's Start: Exploring Together, Robinson et al., 2011). In the long-term, these types of programs may also have important benefits for participants. At this stage, however, it is not possible to demonstrate as such.

The following section describes each of the five programs identified that met the aforementioned five criteria. This is followed by a description of common themes from the meta-analyses, systematic reviews and narrative reviews that we identified. The former provides an insight into what programs work. The latter provides an insight into what makes early intervention programs work.

In addition our review highlighted the importance of a number of other important early interventions and processes for service delivery.

SOCIAL BENEFITS OF EARLY INTERVENTION



IMPROVED EDUCATIONAL ACHIEVEMENT



IMPROVED MATERIAL CIRCUMSTANCES



IMPROVED EMPLOYMENT OUTCOMES



IMPROVED MENTAL & OVERALL HEALTH



IMPROVED PARENTING OUTCOMES



REDUCED CRIMINALITY



REDUCTION IN CHILD ABUSE AND NEGLECT

Effective early intervention programs

Nurse-Family Partnership

The Nurse-Family Partnership is a home visiting program for mothers of infants experiencing disadvantage, delivered from the antenatal period until the child reaches two years of age (Kitzman et al., 2010; Olds et al., 1994, 1997, 1998, 2002, 2004, 2006, 2007, 2010).

The program has been trialled in numerous locations across the US (e.g. New York, Denver, Tennessee) (Olds et al., 2006, 1994, 1997, 1998, 2002, 2004, 2007, 2010) and is currently being trialled in the UK (where it is known as the Family Nurse Partnership, see Department of Health (UK), 2012) and Australia (where it is being implemented in Indigenous communities and is known as the Australian Nurse Family Partnership program, see Ernst and Young, 2013).

The program has strong evidence to support its effectiveness – with randomised experimental design studies demonstrating long-term benefits for participating children, including reduced rates of child drug and alcohol abuse and internalising mental health conditions (early adolescence) and reduced incidence of arrest and convictions (mid adolescence) (see Appendix B).

High/Scope Perry Preschool project

The High/Scope Perry preschool project was implemented in Michigan (US) during the 1960s and involved children and parents from low socio-economic status backgrounds (Schwienhart et al., 2011). Children who attended the program were between 3–5 years of age.

The project involved two key components: (a) daily classes every weekday for young children (aged 3–5); and (b) weekly teacher-conducted home visits with mother and child (Schwienhart et al., 2011).

The program has strong evidence to support its effectiveness – with randomised experimental design studies demonstrating long-term benefits for participating children including higher rates of academic achievements and levels of literacy (early adolescence), higher rates of school graduation and more stable dwelling environments (adulthood) (see Appendix B).

Carolina Abecedarian Project

The Carolina Abecedarian Project operated at a single site in North Carolina from the early 1970s until the mid-1980s and involved low income families with high risk factors (Promising Practices Network, 2011). Children who attended the site were as young as six weeks old (average age of entry was 4.4 months) (Campbell et al., 2012).

The Carolina Abecedarian Project involved the following three components: (a) full-time child care facility and preschool program; (b) home visits (school-aged program) by a specialist teacher with supplemental educational activities; and (c) summertime supports (school-aged program).¹¹

The program has strong evidence to support its effectiveness with

randomised experimental design studies demonstrating long-term benefits for participating children including lower rates of grade retention (early and mid-adolescence), better income and more years spent completing education (adulthood).

Better Beginnings, Better Futures

Better Beginnings, Better Futures is an early intervention demonstration project implemented in eight disadvantaged communities in Ontario, Canada. The project was established in 1991. Children participate in the program between the ages of 4–8 years of age. The program is universally available to all children within those disadvantaged communities (Nelson et al., 2012; Peters et al., 2010).

The mix of programs in each site varies, however, all eight sites provided home visits to parents and work with teachers to improve children’s experiences (Nelson et al., 2012; Peters et al., 2010).

The program has been evaluated using a quasi-experimental methodology and has demonstrated long-term benefits for participating children, including improved social and school functioning, reduced use of special education services, reduced incidence of emotional and behaviour problems (in mid-adolescence) as well as improved wellbeing (e.g. positive outlook, personal insight) during late adolescence (see Appendix B).

Chicago child-parent centre program

The Chicago child-parent centres program is a preventive intervention in multiple high-poverty neighbourhoods across Chicago (US) (Reynolds et al., 2001). Children participate in the program between the ages of 3–9 years of age.

Chicago child-parent centres are centre-based interventions that offer comprehensive services to children, encourage parent involvement and have a child-centred ‘basic skills’ focus.

The program has been evaluated using a quasi-experimental methodology and has had demonstrated long-term benefits for participating children including reduced grade retention, reduced delinquency and arrests in

adolescence as well as reduced daily tobacco smoking by adulthood (see Appendix B).

The characteristics of effective early intervention programs

Five common themes emerged from the meta-analyses, systematic reviews and narrative reviews we identified that investigated the characteristics of programs that met the aforementioned criteria. Each of these themes is described below.

Targeting high risk or highly disadvantaged children

Multiple reviews noted that the greatest benefits will be realised by early intervention programs that target the most disadvantaged or the most at risk children (Nelson et al., 2003; Schwienhart et al., 2011; Currie, 2000; Karoly et al., 1998).

Sufficient duration

The duration of a program is defined here as the length of time over which an intervention is provided, and has emerged as a key characteristic of effective early intervention programs (Manning et al., 2009, Nelson et al., 2003, Ramey & Ramey, 1998; Yoshikawa, 1994; Karoly et al., 1998; Dalzeil & Segal, 2012; Hertzman & Wiens, 1996). Guralnick (1998) highlights a key reason why the duration of a program is important to disadvantaged families:

“By providing early intervention across a more extended time period, families have an opportunity to encounter a greater variety of problems and transition points and to rely on essential supports and services to assist in their resolution” (p. 334).

In some cases the duration of time is specified. For example, in a meta-analysis of the effects of prevention programs for at risk children during the early years, Manning et al. (2009) claim that programs that last longer than three years – in comparison to those that are between 1–3 years in duration – have greater effects.

In their meta-analysis of preschool prevention programs for children, Nelson et al. (2003) state that programs of less than one year have ‘minimal

impacts' upon children. Yoshikawa (1994), in his review of literature regarding early risk factors for chronic delinquency and effective early interventions suggests that short term programs of a year or less probably won't achieve long-term benefits.

Although not all of the reviews identified duration as characteristic of effective early intervention programs, none argued that duration was *not* a significant factor.

Sufficient intensity

Intensity is defined here as the number and duration of individual sessions and the frequency at which they were provided (e.g. numbers of days per week, weeks per year) to children and/or parents. Intensity is identified in numerous reviews as a key characteristic of an effective early intervention program (Manning et al., 2009; Ramey & Ramey, 1998; Dalziel & Segal, 2012). Joo (2010) speculates that one of the reasons why Head Start (US) has not been as effective as smaller, model demonstration programs is because it does not involve the same level of intensity.

Whereas most reviews agree that the longer the duration of a program, the better: the level of intensity that is required is subject to more debate. In describing how to generalise the lessons from Perry Preschool program, Schweinhart et al. (2011) argues that a program involving daily sessions of 2.5 hours may produce similar effects to a daily nine hour a day program.

Direct teaching component

Multiple reviews highlighted the important role that the direct teaching component (i.e. an educational program delivered directly to children and delivered by educational professionals) of early intervention programs play in improving child outcomes (Nelson et al., 2003; Ramey & Ramey, 1998; Schweinhart et al., 2011). Programs that include a direct teaching component will, according to Nelson et al. (2003) and Ramey & Ramey (1998), produce better effects for children compared to those programs that do not include this component (e.g. parenting training programs). Karoly et al. (1998) notes that programs that combine home visits

and centre based day care are likely to have superior effects.

Schweinhart et al. (2011) and Karoly et al. (1998) highlight the importance of qualifications and training for the professionals delivering the teaching component. Joo (2010) notes that one of the reasons why Head Start (US) has not been as effective as other small, model demonstration programs is that the latter had relatively more qualified staff.

Starting early

The earlier an intervention occurs, the more likely it is to be effective. For instance, there is evidence that intensive targeted programs designed to prevent the occurrence of child abuse and neglect (eg. the Nurse-Family Partnership) are more effective than interventions to prevent the recurrence of maltreatment once it has occurred (Boivin & Hertzman, 2012).

Other important forms of and approaches to early intervention

Four other forms of early intervention that are important to consider in terms of their potential to reduce disadvantage amongst children at the greatest risk were identified through our broad-based, multi-disciplinary review:

- *Universal early childhood education and care*: high quality universal early childhood education and care services¹² have been shown to make a significant difference to children's school readiness and performance in later life, and attendance at high-quality education and care programs has been demonstrated to be particularly beneficial for children from disadvantaged backgrounds (Boethel, 2004; Elliott, 2006; The Future of Children, 2005; Heckman, 2008a; Magnuson et al., 2007; Melhuish et al., 2006; Sammons, 2010a, 2010b; Siraj-Blatchford, 2009, 2010; Siraj-Blatchford et al., 2002, 2011; Sylva et al., 2004).¹³
- *Parenting programs*: one of the strategies for achieving better outcomes for children is the provision of parenting programs. Parenting skills training programs can have positive benefits, particularly as assessed by reports from parents who have completed most or all of the program (Wade et al., 2012; Barrett, 2010).

However, there is limited evidence pertaining to the mechanisms underpinning the benefits of parenting programs, which parent programs work best with which parents, and their long-term benefits.

- *Playgroups*: another form of intervention is the facilitated or supported playgroup model which is led by an early childhood practitioner and aims to provide support to families who are experiencing problems with parenting or social isolation. Although research evidence for the efficacy of playgroups is not nearly as extensive or strong as the evidence supporting the efficacy of early childhood education programs, there is enough evidence to indicate that playgroups play a valuable role in society, and have the potential to benefit the children who participate in them, their parents and caregivers, and the wider community.
- *Child and family centres*: as the fragmented nature of the early childhood and family service system has become apparent, governments have supported the development of child and family centres which provide a range of early childhood and family services through a single auspice. Although children's centres are a relatively recent innovation, they would appear to be a promising form of intervention.¹⁴

In addition to these forms of early intervention, there is considerable evidence for the notion that how services are provided (i.e. the process) is as important as what is provided (Moore et al., 2012a). The following are the key process elements of effective service delivery:

- relationship-based;
- involving partnerships between professionals and clients (eg. parents, young people, communities);
- targeting goals that clients see as important;
- providing clients with choices regarding strategies;
- building client competencies;
- non-stigmatising;
- demonstrating cultural awareness and sensitivity; and
- maintaining continuity of care (i.e. low staff turn-over) (Moore et al., 2012a).



Debbie's story: Early Years Centre

"It was all getting on top of me," says Brisbane mum Debbie.

With a few years between each of her three children (Aaliyah 10, Isabel 6 and Archie 3) Debbie was dealing with a raft of issues: from toddler safety and speech development for Archie, through to pre-adolescence boundary-testing with Aaliyah.

"I was on my own with the kids, and it was getting hard. I'd started yelling at the kids a lot.

"The kids mean the world to me but I wasn't enjoying it. My yelling made them scared I think. But they just yelled back. We were getting into a bad place. Then my neighbour told me about the Early Years Centre run by The Benevolent Society.

"One of the first things I did was a parenting course called 'The Incredible Years' and I learnt about how to deal with Archie's behaviour without yelling so much.

"I found out that Archie's speech wasn't developing well and that made him

frustrated. He couldn't communicate so he'd yell and hit. I was so busy I didn't realise, so it was good to have the Early Years Centre people see what the issue was. They got Archie into speech therapy and now I can't get him to stop talking!

"I am one of the family here now," says Debbie as she prepares the 'Cooking with Kids' dish at the Early Years Centre. This week it's pumpkin soup. Debbie has brought in her pressure cooker from home and happily shows others how to use it.

This weekly get-together has become a much-loved ritual for local families. They get to meet new people, who become friends. The kids are in a safe space and the mums, dads and grandparents can help themselves to coffee or take a well-earned break while their little ones are supervised as they play in the sandpit, or climb the rope equipment.

In between chats, cooking and checking toys in and out of the free toy library, workers observe the children and parents. They quietly offer suggestions

or answer questions. Through this gentle interaction, Debbie got her family onto a happier path.

The staff at the Early Years Centre are a multi-disciplinary team including early childhood teachers, family support workers, child health nurses, allied health professionals, counsellors, and even financial advisors.

One specialist program that Debbie's daughters access is all about supporting healthy brain development. The girls (then aged 9 and 5) took part in a computer based program to strengthen their working memory and help them focus better in class, as well as a social and emotional learning program to help them understand their moods and be calmer.

"Archie comes to day care here too, one day a week. We've started getting free books every month through a new program based on Dolly Parton's 'Imagination Library'. Reading is one of his favourite things to do with me now."

The evidence indicates that human services are more effective when they exhibit these characteristics. There is also evidence that they are of particular importance for the most vulnerable people, who are less likely to make use of professional services that do not possess these elements.

These process features of service delivery are essential for ensuring that families are engaged and access services, but are not sufficient in themselves to produce positive changes in caring or parenting. The relationships that families have with services and service providers are the medium through which program content is delivered, but the service providers need to be using evidence-based strategies if change is to occur.

5.2 Community and service system level interventions

Child development and family functioning are shaped by the physical and social environments in which they live, as well as by the effectiveness and responsiveness of the services available to them. This means that there are opportunities for improving outcomes for children and families by making changes to physical and social environments, and to the service system.

For a variety of reasons, there is a lack of 'gold standard' evidence to support the effectiveness of community and service system level interventions.

There are, however, four key community and service system level interventions that have the potential to impact upon reducing disadvantage for those children at greatest risk. They are:

- neighbourhood and community-level interventions;
- service system interventions;
- place-based approaches; and
- 'whole of community' or collective impact initiatives.

Each of these types of intervention is described in further detail below.

Neighbourhood and community-level interventions

Pervasive economic, social and demographic changes occurring over the past few decades (e.g. the

increasing gap between rich and poor) has led to a partial erosion of traditional family and neighbourhood support networks (Barnes et al., 2006; Hughes et al., 2007). This has left many parents of young children with relatively poor social support networks who are therefore more vulnerable (Fegan & Bowes, 1999).

Positive social support is strongly associated with better parental mental health and wellbeing, better parenting, and reduced rates of child abuse (Christakis & Fowler, 2009; Cooper et al., 1999; Crnic & Stormshak, 1997; Fegan & Bowes, 1999; Jack & Jordan, 1999). Social support not only promotes health and wellbeing, but also buffers individuals against the negative effects of stress. Social networks also influence our ideas, emotions, health, relationships, behaviour, and even our politics (Christakis & Fowler, 2009).

Jack & Jordan (1999) go so far as to argue that building social capital in poor communities is a more effective way of promoting children's welfare than focusing on formal child protection and family support services and efforts to increase parenting skills and responsibilities.

There are a number of general strategies that could be implemented to build social capital and reduce social isolation amongst families with young children including:

- providing multiple opportunities for families of young children to meet;
- ensuring that streets are safe and easily navigable; and
- ensuring that there is an efficient and affordable local transport system that gives families ready access to services and to places where they meet other families.

Service system interventions

Despite widespread social changes (see section 3.1), the services and service systems that support children and their families have not changed significantly over the past 50 years, and are struggling to meet the needs of the most disadvantaged groups (Moore, 2008; Wear, 2007).

Furthermore, the evidence suggests that vulnerable families are less likely to make use of early childhood and

early interventions services. While most families of young children are well supported socially and make good use of services, some do not (Carbone et al., 2004; Moran & Ghate, 2005; Winkworth et al., 2009).

For these reasons, there needs to be major changes in the way that child and family services are delivered. The most important changes are as follows:

- *Build a tiered system of services based on universal provision:* known as progressive or proportionate universalism (Boivin & Hertzman, 2012; Human Early Learning Partnership, 2011; Strategic Review of Health Inequalities in England post-2010 Committee, 2010), this approach is based on the recognition that child vulnerability exists in every socio-economic strata of our society. Reaching all children in our society requires tailoring our strategies to reach children in all walks of life and addressing the barriers to access that some experience (Human Early Learning Partnership, 2011).
- *Create a better co-ordinated and more effective service system:* in light of the difficulties that services have in meeting all the needs of all families effectively, the service system needs to become better integrated so as to be able to meet the multiple needs of families in a more seamless way.
- *Improve the interface between communities and services:* the existing service systems are unable to respond promptly to the emerging needs of all parents and communities, partly because of the lack of effective channels of communication. For service systems to become more responsive, improved forms of *dialogue between communities and services are needed*. Specific interventions include: providing staff with training in family engagement and relationship-building skills; employing community links workers to build relationships with marginalised and vulnerable families; and creating opportunities for parents to be actively involved in the planning, delivery and evaluation of the services and facilities they use.
- *Improve the detection of emerging child and family problems through more systematic use of surveillance*



Charmaine's story: early learning and support

I moved to Ambarvale near Campbelltown in 2006, a week before Ellie's first birthday. A single mum, knowing nobody, I felt isolated and alone.

There was nothing to do and no one to talk to. Ellie always wanted attention. She'd never spent time away from me and was clingy. She really needed interaction with other kids, so I started looking for local playgroups and I found one down the road.

Ellie was so happy to play with other kids. But she didn't understand sharing. I was constantly telling her, "the toys are for everyone."

Through the playgroup I made friends with other mums and the workers, and through Community Connections (a home visiting program) I found out about all the local services and groups that could support me and Ellie.

This was all part of the Communities for Children program being led by The Benevolent Society, which brings lots

of service providers together to work collaboratively. Through Communities for Children I also got involved with the Happy Young Parents support group, for parents under 25.

Meeting regularly with local parents my age, with kids the same age helped me to parent Ellie. People were going through the same things — I realised I wasn't alone, and all kids go through this.

When Ellie was two it was time to go back to work. I looked for jobs, but finding one with child-friendly hours was difficult. A Community Connections worker from the playgroup suggested I go to TAFE to get a childcare certificate - she thought I worked well with children.

So I enrolled, eventually switching to study Community Services. I've now finished a Diploma in Community Services Work and am working for The Benevolent Society. My manager encouraged me to get further qualifications, so now I'm studying for a Bachelor of Social Science majoring in Social Welfare.

When I started at TAFE, I put Ellie in a pre-school that I knew had good results. It was really good school preparation.

I've always read to her - by the time she was 3, I was reading 3 to 4 stories a night. When she started school at four and half, she was reading the books herself. By third term of Kindergarten she was on the level 16 home reader - by the end of Kindergarten, she was reading at the level of kids a year older. I was so proud when she won the Academic Achievement Award at the end of her Kindergarten year.

Connecting with the community and getting help with Ellie's development has had a huge impact. I wouldn't be here today without it. I could still be unemployed.

No one would have pushed me to study and I would never have gone into Community Services work. Now, I can't see myself doing anything else. I just love working in the community, and giving people the support that I got.

and screening tools: if the service system is to become more responsive to the needs of vulnerable families, front-line workers need tools to help them have discussions with parents about concerns that they might have about their children's health and development or factors affecting family functioning. Tools for learning about parental concerns about child health and development – such as the Parent Evaluation of Developmental Status (PEDS) – have been developed for local use and are widely, but not universally, used. Two Australian tools for learning about parental concerns about family functioning are in the process of development: the Common Approach to Assessment, Referral and Support (CAARS) being developed by Australian Research Alliance for children and Youth (ARACY, 2013b), and the Parent Engagement Resource (PER) currently being trialled by the Centre for Community Child Health (Moore et al., 2012b).

- *Engage families and communities in planning and implementing services to meet their local needs:* as noted earlier, vulnerable parents make poorer use of available services than more well-resourced families do. One way to increase the use of services by vulnerable families is to engage them in the planning and delivery of services, a strategy that helps ensure that the services are located, designed, staffed and run in ways that they are comfortable with. The value of involving parents in the actual delivery of services has been demonstrated in the Empowering Parents, Empowering Communities (EPEC) program developed in the UK (Day et al., 2012).¹⁵

Two promising strategies to achieve family and community engagement (place-based approaches and whole-of-community or 'collective impact' initiatives) are described below.

Place-based approaches

A place-based approach is one that seeks to address the collective problems of families and communities at a local level, usually involving a focus on efforts to strengthen the engagement, connectedness and resilience of local communities (Wiseman, 2006).

Key elements are required to establish a comprehensive framework for community-based services and a place-based approach is one element, not a total strategy in itself (Moore & Fry, 2011). The following factors are important:

- the notion of an integrated service system with a strong universal platform and tiered supports that address the multiple influences on children's development;
- the principles of effective engagement and partnerships which are also thought to be critical to success; and
- championing a robust governance structure that facilitates collaboration between communities, government and private enterprise (Moore & Fry, 2011).

Place-based approaches occur in a socio-geographic area and involve a comprehensive multi-level effort to address all the factors that affect child, family and community functioning in that area simultaneously (Moore & Fry, 2011).

Such approaches differ from existing strategies in a number of ways. Most current efforts have focused on the integration of services within a specific (usually disadvantaged) area. A truly place-based approach is much more comprehensive and involves the integration of a much wider range of policies, practices and services.

Successful place-based interventions involve the engagement of communities in decisions of all kinds, the cultivation of community capacity, and the establishment of robust and collaborative governance arrangements.

Whole of community or 'collective impact' initiatives

Creating sustainable change in outcomes for vulnerable children and families requires the coordinated efforts of many different agencies at multiple levels. This has been called a collective impact approach, and involves the commitment of a group of participants from different sectors to a common agenda for solving a specific social problem (Kania & Kramer, 2011).

The collective impact approach differs from the more commonly used isolated impact approach, in which single organisations are funded to provide specific services, with the hope that the most effective organisations will grow and extend their impact more widely (Kania & Kramer, 2011).

Many efforts to coordinate services have involved establishing service networks. The collective impact approach differs in that it involves the creation of a formal governance framework. In the US, this takes the form of a centralised infrastructure, a dedicated staff, and a structured process that leads to a common agenda, shared measurement, continuous communication, and mutually reinforcing activities among all participants (Kania & Kramer, 2011).

There have been several recent reviews of collaborative efforts to address complex social problems in the US (Bridgespan Group, 2011; Jolin et al., 2012; Kania & Kramer, 2011) such as the Promise Neighborhoods (modelled on the Harlem Children's Zone project), and the Cincinnati Strive Partnership. Jolin et al. (2012) report on community collaboratives that have demonstrated some success in 'moving the needle', defined as having achieved at least 10 percent progress in a community-wide metric.

Although numerous Australian initiatives have been designed to integrate services (e.g. Communities for Children), few, it could be argued, are as comprehensive as the US examples above.

As noted earlier, one of the key findings regarding early intervention programs is that the way in which they are delivered is as important as what is delivered. This is also true of community and service system level interventions such as place-based and collective impact approaches – their success depends upon how effectively the service system and other stakeholders engage the community.

Effective engagement and empowerment of communities goes well beyond simply consulting community members, and actively involves them in a partnership and in shared decision-making. This is the

approach advocated by The Centre for Community Child Health (CCCH) through its Platforms Framework (CCCH, 2010), and exemplified in its Guide to Community Engagement.

5.3 Structural and societal level interventions

In addition to their immediate family environments, and community and service environments, outcomes for children are also influenced by wider social environments including, for example, government policies and funding (i.e. structural factors), as well as the general beliefs and values prevalent in the society as a whole (i.e. societal factors).

Three initiatives could potentially improve structural and wider social environments:

- addressing the conditions under families are raising young children;
- developing new ways of working in partnership with communities and services;
- raising public awareness regarding the nature and importance of the early years.

Each of these examples is described in further detail below.

Address the conditions under which families are raising young children

There is widespread consensus that the best way to protect children is to prevent poor parenting practices from happening in the first place by providing children and families with the conditions and assistance they need before problems escalate into crises (Allen Consulting Group, 2009a; Cohen et al., 2010; Cowen, 2000; Manchandra, 2013; Stagner & Lansing, 2009).

The current system of intervention and support services in developed countries such as Australia is predominantly geared towards responding to presenting problems rather than seeking to address the underlying causes that lead to families having problems in the first place (O'Connell et al., 2009; Maziak et al., 2008). For instance, while poverty is a key risk factor for child maltreatment, poverty is rarely addressed by child maltreatment prevention and

intervention programs (Boivin & Hertzman, 2012). Direct interventions to address child maltreatment will always struggle to achieve sustainable results while the conditions that led to the maltreatment remain unchanged (Stagner & Lansing, 2009).

An alternative to direct intervention is an approach that seeks to address the underlying causes of problems known as 'pre-prevention' or 'true prevention' (O'Connell et al., 2009; Maziak et al., 2007; Stagner & Lansing, 2009). This approach differs both from direct interventions which address the presenting problems or symptoms – as well as from promotion approaches – which seek to actively promote positive health or behavioural practices. The pre-prevention approach seeks to transcend the traditional 'silos' within which services traditionally operate by establishing systems of collaboration that address long-term underlying problems and thereby prevent future ones (Stagner & Lansing, 2009).

Develop new ways of working in partnership with communities and service systems

Rather than governments and services making all the decisions about what services are needed, what form they should take and where they should be located, these decisions need to be shared and made with the people who will use the services.

Conventional models of public service struggle to deliver services based on relationships and community-centred practices, and new public service models are being developed to address this problem (Boxelaar et al., 2006). These include *co-design* and *co-production* approaches, which involve a collaboration between service providers (including government staff) and consumers in the design of services (Boxelaar et al., 2006; Boyle et al., 2010; Hopkins & Meredyth, 2008; McShane, 2010).

Co-design and co-production approaches are based on the understanding that people's needs are better met when they are involved in an equal and reciprocal relationship with public service professionals and others (Boyle et al., 2010). At its heart, co-design

seeks to make public services match the wants and needs of their beneficiaries (Bradwell & Marr, 2008). More broadly, co-design is a way of addressing people's disengagement from politics and democracy, and building social capital (Bradwell & Marr, 2008).

Public campaigns to raise awareness of the importance of the early years

Funding decisions are always political and dependent, among other things, on public support. Although at the level of government there appears to be some acceptance of the importance of the early years, reflected in, for example, specific policies, the importance of the early years is still not yet widely understood or accepted by the general public (Open Mind Research Group, 2008). If governments are to increase early years investments, then it is important that the general public be persuaded of the value of doing so.

5.4 What are the early intervention priorities?

In this report, we have advocated for an approach to early intervention that incorporates three levels of intervention:

- program and direct service level;
- community and service system level;
- structural and societal level.

The reasons for multi-level intervention relate to the complexity of the problems faced by the most disadvantaged children and families in Australia, the importance of neighbourhood, community, structural and social environments for child development and the limitations of the current service system.

Interventions targeted at one level only are unlikely to be successful at achieving significant and sustainable change amongst children and families experiencing significant disadvantage – we need to intervene at multiple levels simultaneously.

In addition to providing direct support to children, young people and their families, we also need to consider the physical and social conditions in which they live, their impact on the health and wellbeing of the children and

young people, and the capacity of their families to care for and support them.

Based upon the evidence we have reviewed, we are recommending ten early intervention initiatives and strategies within the aforementioned intervention levels. These recommendations, along with a justification for each, are outlined below.

Program and direct service level priorities

1. Provide free or low-cost preschool provision to three year old children experiencing significant disadvantage: the evidence clearly demonstrates that the earlier the intervention, the more effective and cost-efficient it is.

Providing free or low-cost preschool to all three-year old Australian children experiencing the types of adversities that can adversely affect development could ameliorate some of the negative impacts of disadvantage, thereby reducing the developmental discrepancies that are evident between advantaged and disadvantaged children and ensuring a fairer 'playing field' upon school entry.

The justification for providing free or low-cost preschool *only* to children from disadvantaged backgrounds (see recommendation 5) is that children from more advantaged backgrounds are likely to receive the type of developmental opportunities that promote positive development in their everyday home and community environments.

Although targeting services in this way can be stigmatising, there is also a need to recognise the benefits of targeting children who experience these type of adversities that the evidence strongly indicates negatively impacts upon their development. Nevertheless, the question of how to define 'disadvantage' for this purpose (see recommendation 5) requires further consideration. It is important that families who need help but do not fit pre-defined, rigid criteria are not excluded from services that meet their needs.

2. Provide support to families experiencing disadvantage during the prenatal period: the evidence clearly demonstrates that the prenatal period is important to child development, however, the 'early years' are typically viewed as beginning at birth.

Providing additional support to families experiencing disadvantage (as part of a universal service system, see recommendation 5) during the prenatal period (especially for those families experiencing multiple, entrenched disadvantage) via, for example, evidence-based programs that provide home visiting support (a number of which are described in section 5.1) and that reflect the characteristics of effective early intervention programs (see section 5.1) could make a significant contribution to the optimal development of children from disadvantaged backgrounds.

One of the advantages of home visiting programs is that they can reach families who are unable or unwilling to attend centre-based services. This is important considering the evidence that demonstrates that families most in need of support services are least likely to access and receive them.

3. Deliver programs of sufficient duration and intensity to families experiencing significant disadvantage: there is strong evidence to support the effectiveness of five early intervention programs for children and families experiencing significant disadvantage (see section 5.1).

Although it is not always the case that the longer and more intense the program the more effective it will be, it appears that programs of less than 12 months are generally ineffective at shifting outcomes for disadvantaged children and families and there is evidence to indicate that a certain level of intensity needs to be reached in order for a program to be effective. Therefore, any commitment to delivering early intervention programs as a means of improving outcomes for

disadvantaged children and families requires a long-term, significant investment of funds.

It is important that the provision of these types of programs occurs within the context of a universal service system in order to avoid the potential for stigma and ensure that all families who are expressing a need for services are able to access them (see recommendation 5).

4. Provide direct services to children and families that promote the quality of the environments in which young children spend their time: the evidence demonstrates that the environments within which children spend their time have a significant impact upon their development.

Therefore, to promote children's development, we need to ensure that parents and other caregivers relate to children in ways that protect and nourish the children, and promote the children's development and wellbeing. Various forms of interventions have been developed that have been shown to be effective in this regard (including the five evidence-based programs identified in section 5.1).

At this stage we know more about how to provide high quality environments for children in early childhood settings, than how to help families provide positive home learning environments for their children. The greatest gains will come from improving both home and early childhood environments, so new approaches to improving home environments should be explored.

Community and system level priorities

5. Build a tiered system of services based on universal provision: the evidence demonstrates that although most highly concentrated in the lowest socioeconomic strata, child vulnerability exists across all socioeconomic levels of society. Concentrating services on the most disadvantaged groups – or on highly disadvantaged areas – will miss many children who need support



Karen's story: community support

Karen lived in western Sydney for 16 years before moving to south west Sydney in mid-2012, with five of her six children. The youngest – Taliesha, Tyson and Wesley – were 3, 5 and 12 when they moved into public housing.

Karen says moving to the area and her involvement in the Communities for Children program has turned the family's life around.

"I suffered from chronic depression, and wasn't getting any support. In my old area I got in with the wrong crowd – drinking too much – then I got fines for driving without a licence. I couldn't pay, so I was incarcerated for six months.

"It couldn't have been worse – now I couldn't look after my kids, they had to move in with friends and family. It was hardest on my youngest – Taliesha and Tyson found it difficult without me. Taliesha became withdrawn and shy, and Tyson was anxious and wetting his bed.

"After six months, I got them back. Then, the best thing that's ever happened – we got a house – finally, a stable home.

We got support through The Benevolent Society's Communities for Children program and the school – we'd never had that support before.

"Tyson went to the local school, he had anxiety and trouble settling in. I would get calls because he would have toilet accidents, and he had trouble concentrating.

"Then his teacher put him through Reading Recovery. After intensive one-on-one work he improved from level 1 to level 19. Now he's at the same level as his classmates.

"Recently his teacher said: 'I get emotional saying this, but I want you to know I've nominated Tyson for an Aboriginal Achievement Award.' Now we hear he is getting it up at the university, so it's a big deal. He's so well behaved now – and he has no more accidents.

"Taliesha was also very withdrawn. So I enrolled her in the Leapfrogs program to prepare her for school. Watching her interact with other kids and learn more

was amazing. She was quiet when she started, but at parent-teacher night they said she's really come out of her shell. She's confident and talking a lot in class. She's a really bright intelligent girl.

"The support of my case worker has made a big difference. Thanks to her, I'm more independent and confident, and able to support my family.

"She's given me really practical help, like getting my driver's licence. I've got a car now and I can take the kids anywhere.

"Uncle Dave is another huge support. His 'Young Spirit Mentoring' program has been huge for Wes. When we moved here, he was withdrawn and not happy at school, but since this he's found his confidence. Uncle Dave made him a mentor for the younger kids and encourages him to take responsibility and to see himself as a leader.

"I feel that doors have really opened for us. The kids and I wouldn't have had these opportunities if we had stayed without support where we lived before."

and will provide services to some families who don't need them.

A system of progressive or proportionate universalism would ensure that all families receive a core set of services (e.g. prenatal and antenatal services, maternal and child health services, paid parental leave, parenting information and support, affordable child care, and preschool programs) with additional services being provided to those with greater needs. Services that are provided in response to needs identified by families are more effective than those based on professional judgments of family needs.

- 6. Build whole of community, place-based, 'collective impact' alliances:** the evidence demonstrates that many interventions delivered directly to children and families (e.g. individual programs) struggle to achieve sustainable improvements for vulnerable families. This is because the factors that cause such families to present with problems in caring for and parenting their children are complex and multi-dimensional.

To make lasting improvements, multi-level interventions are needed, addressing both the presenting problems and the background conditions that have caused and maintained the problems. Addressing multiple levels of influence is not something that can be undertaken by any single organisation or department, but requires the combined efforts of service and community networks.

Collective impact initiatives (see section 4.2) offer a framework for mobilising a large group of stakeholders to develop and deliver a comprehensive suite of interventions that target whole communities and address both the presenting and the background needs of vulnerable families.

- 7. Design and run services in partnership with those who use them:** the evidence demonstrates that, for a variety of reasons, vulnerable families often make limited use of services designed

by professionals. When services do not address the most salient needs of families and when they are delivered in ways that are perceived to be unresponsive or disrespectful, families simply do not use them. Families who fail to make use of early childhood and family support services are at risk of poorer outcomes.

To ensure that vulnerable families have access to and make better use of supportive child and family services, families and communities should be engaged in the planning, design, implementation and evaluation of child and family services.

- 8. Utilise outreach workers:** as noted in recommendation 7, the inverse care law indicates that those families most in need of support services do not receive or access them. Centre-based programs and services are not appropriate or accessible for some families.

Any early intervention strategy or initiative requires outreach workers whose primary role is to engage those families most in need of support. Delivering programs without some form of outreach services to those families most in need will not shift the trajectories of the children within those families.

Structural and societal level priorities

- 9. Address the conditions under which families are raising young children:** the evidence indicates that many of the poor outcomes experienced by vulnerable families are either caused or exacerbated by the conditions under which they are raising their children. The cumulative stress upon parents to establish a secure and healthy home environment for their children undermines the care provided, resulting in poorer outcomes for their children. Therefore, in seeking to help vulnerable families, we need to make serious efforts to improve the conditions under which they are raising their children.

Some of these conditions (e.g. employment opportunities; family-

friendly work conditions; secure and affordable housing; efficient transport systems providing easy access to local facilities and services; healthy physical environments; safe and easily navigable streets; access to green spaces; and places where families of young children can meet other families) can be addressed at a local level by early years collectives, but others are under the control of federal and state governments, and need to be addressed through advocacy. Non-government organisations that have a remit to address child health and wellbeing are in a unique position to lead advocacy efforts.

- 10. Raise public awareness about the nature and importance of the early years and the need for greater investment in the early years:** although there has been some progress at the public policy level regarding the importance of the early years, the importance of this life stage is not widely understood by the general public (Open Mind Research Group, 2008). In Australia, this is evident in the public discourse surrounding policies such as paid parental leave – the focus is rarely on the benefits of paid parental leave for young children.

Raising public awareness about the nature and importance of the early years could take the form of, for example, a social marketing campaign. Social marketing campaigns that have targeted public health issues such as tobacco smoking have been shown to be effective in the Australian context (Wakefield et al., 2008). Highlighting the importance of investment in the early years could help to shift public debates and build popular support for greater investment in the early years – a key aspect of bringing about political change.

In considering early intervention priorities, there are two further points that should be noted.

The first concerns the need for evaluation. Overall, it is important that early intervention programs and initiatives implemented in Australia are evaluated. As much of the existing

literature regarding what works comes from overseas (especially the US), we need to learn more about the context-specific aspects of effective early intervention in Australia.

Evaluations that track outcomes for participating children (and their families) into adolescence and adulthood (including evaluations that use an experimental or quasi-experimental research design, although that will not always be appropriate or feasible) will provide us with a better understanding of what approaches are most effective at reducing the factors associated with disadvantage in the long-term.¹⁶

The second point to note concerns the need for greater collaboration across the service system. This review has identified a number of areas for action that require collaborations between various services. These include building tiered systems of services based on universal provision, creating better co-ordinated and more effective service systems, implementing place-based and whole-of-community / 'collective impact' approaches, and addressing the conditions under which families are raising young children.

For each and all of these recommended actions to be effective, there needs to be a much greater level of collaboration in planning and delivery between different government departments, between different levels of government, and between government and non-government services. To achieve this, there needs to be whole-of-system change to create more effective cross-sectoral and government portfolio collaboration, in order to ensure more seamless services for kids and families, and more effective planning and resources management.

5.5 Conclusions

In this section of the report, we have described five early intervention programs that have been shown to reduce factors associated with disadvantage in the long-term for children at risk and their families. We have outlined a number of forms of and approaches to early intervention programs that are important to consider when considering early intervention program initiatives.

In recognition of the fact that children are influenced by the environments in which they develop and by the services their families access and receive we have described community and service level interventions that are likely to impact upon outcomes for children in the long-term. We have also outlined structural and wider social interventions that are important to improving outcomes for children.

The priorities for early intervention that we have identified are intended for organisations that deliver and/or plan services to children and families, as well as policy-makers who are involved in the development of initiatives that will impact upon children and families. Some priorities could be achieved within the context of an individual organisation, however, most will require a collaborative approach.

The responsibility for ensuring positive futures for all Australian children, regardless of their families' social and economic circumstances does not belong solely to the services that seek to support them because the risks of doing nothing will impact upon *all* Australians both in the present and into the future.



Melisa's story: home visiting

Melisa is in her mid-twenties and a proud mum to 5 year old Ezekiel, and 10-month old twins Torah and Rixon.

On the timber back deck of The Benevolent Society's Early Years Centre on Gold Coast, the twins laugh as they play with wooden toys. Melisa and her children's lives would be very different today without the help of outreach support from this centre.

Melisa was diagnosed with post-natal depression after Ezekiel's birth. When she was expecting the twins she knew the risks and prepared herself: "I wasn't going to try to breastfeed, I began low dose medication." Everything was under control ... until her husband left the week before the twins were born. Fortunately a hospital social worker put Melisa in touch with the Early Years Centre and she was introduced to Angela, a volunteer who visits Melisa once a week.

With all her family in Sydney, Melisa describes Angela's visits as 'a life saver'.

"Just knowing she's coming means so much. She's always happy to listen, or to play with the twins while I get the floors cleaned," says Melisa.

Melisa sees Angela as a role model, who speaks with the experience of having raised three children of her own. Together they work on strategies as each week's new parenting challenges emerge: solving sleepless nights, which turned out to be silent reflux, reconnecting with the joy of her older son Ezekial by going to the park in the afternoon; and getting more hours in her day by teaching him to take the bus to his nearby school.

Angela has also been able to connect Melisa to other forms of support offered

by the Early Years Centre, including financial advice. She now attends parent and child groups every Monday and she has made friends with another mother, so she is slowly building her own networks and connections.

Reflecting on when she first came into contact with the Early Years Centre, Melisa acknowledges that it took time to build trust and rapport with Angela and the others, but now she can't imagine her life without them.

"Most of the time I'm ok, but when I don't know what to do or I feel overwhelmed, having someone there to listen really helps."

**Melisa describes Angela's visits as a 'life saver'
... together they work on strategies as each week's
new parenting challenges emerge.**

Appendix A: Methodology

For the purposes of this review, we utilised a ‘realist approach’ to determine which early intervention initiatives have had or are likely to have the greatest impact upon reducing disadvantage in the long-term for children at the greatest risk.

In the following section, we describe the philosophy behind the realist approach and the details of the two different components of the search (i.e. searching for programs; and the broad based literature review).

The philosophy behind the ‘realist approach’ to systematic reviews of literature

The Research and Policy team at the Centre for Community Child Health (CCCH) has a unique methodology for undertaking reviews of research that we refer to as the ‘realist approach’.

A realist approach to reviewing literature does not exclude a systematic approach (see below, ‘Searching for Programs’) nor does it exclude the valuable lessons from experimental research methods such as randomised controlled trials (RCTs). Rather, it is a systematic approach that incorporates the findings of experimental research and other credible and valuable forms of research in order to make way for innovative methods for addressing the issues faced by contemporary families.

The key foundations and justification for the various aspects of the realist approach are as follows:

- When addressing the types of issues encountered by child and family service policy-makers and practitioners (e.g. child poverty and disadvantage, child abuse and neglect, school refusal and drop out) **RCTs are often non-existent or limited in their scope and usefulness**

(Fonagy, 2001; Greenhalgh, 2012; Prevention Action, 2012; Schorr, 2012).

A realist approach to systematic reviews of literature incorporate the findings of RCTs and other forms of research (e.g. qualitative research), taking into account that RCTs may not always provide answers to the questions that child and family service policy-makers and practitioners are concerned with.

- **How programs are delivered to children and families is as important as what programs are delivered** (CCCH, 2007; Moore et al., 2012a). However, traditional ‘gold standard’ research typically focuses on what programs work, rather than what makes programs work (Prevention Action, 2012). Based upon the finding that how programs are delivered is as important as what programs are delivered, we would argue that this approach is short sighted.

A realist approach to systematic reviews of literature incorporates research regarding the effectiveness of programs (i.e. which programs work) but also considers the factors that might make a program work for a specific population (e.g. vulnerable children and families).

A realist approach also recognises the programs that do not align with the values of those they are designed to help are less likely to be accepted by them, and are therefore less effective. Delivering interventions involves a combination of program fidelity (administering the intervention as designed), process fidelity (delivering the intervention in ways that are known to promote efficacy) and values fidelity (ensuring that the interventions are congruent with the values of recipients).

- **The type of issues faced by the policy-makers and practitioners who plan and deliver services to children and families are often complex, far-reaching and interconnected.** Issues like obesity, child abuse and neglect, and intergenerational disadvantage (i.e. ‘wicked’ problems) have multiple causes and effects (Bradford, 2005; Conklin, 2006; Devaney & Spratt, 2009; Moore, 2011; O’Donnell et al., 2008; Scott, 2006).

A realist approach to systematic reviews of literature recognises the complexity of contemporary issues faced by children and families and, as such, incorporates the lessons from multiple disciplines (e.g. psychology, sociology, medicine, community development) – combining the lessons from multiple disciplines to build upon the strengths of each.

The methodology that we used for the two key components of the search (i.e. programs and the broad-based review of literature) was different. We have described the methodologies separately below.

Searching for programs

The methodology that was selected to undertake the search for programs was chosen to reflect the need for both comprehensiveness and efficiency. Ideally we would have searched as many relevant databases as possible to identify early intervention programs that meet the aforementioned criteria, however, this was not feasible given the time and resources available. Therefore, we focused on three academic databases (MEDLINE, CINAHL, Scopus) for published articles and searched Google for grey literature.

In addition to searching for publications pertaining to programs, we also searched for meta-analyses, systematic

reviews and narrative reviews that have investigated a similar question to the one we were asking, i.e. *which early interventions have had or are likely to have the greatest impact on reducing disadvantage in later life for those at greatest risk?* We used the same aforementioned databases for this search.

In addition to these searches, we also searched for publications that listed and described multiple early intervention programs – using the bibliographies of those publications to ‘cross check’ our list of programs in order to ensure we had identified as many relevant programs as possible.

Initially we searched only for programs that have demonstrated effectiveness via a randomised controlled trial. However, only a small number of early intervention programs have long-term follow up data *and* have been evaluated using an RCT. Because of this limited number of programs, we have also included early intervention programs identified that have long-term follow up data and were evaluated using a quasi-experimental methodology.

The main limitations of this methodology were as follows:

- Because of the need for efficiency, some programs that do meet the criteria may have been missed.
- There is a lack of good quality long-term evaluations of early intervention programs. The lack of these types of evaluations is well recognised in the literature (Peters et al., 2010; Manning et al., 2009; Ramey & Ramey, 1998; Campbell et al., 2012; Currie, 2000; Nelson et al., 2003).
- Four of the programs we identified were from the US and one was from Canada. The US based programs especially may not be as effective in

the Australian context considering that social inequalities in the US are more pronounced than countries such as Australia (Hertzman & Wiens, 1996). This limitation in the current evidence base is also recognised in the literature (Hertzman & Wiens, 1996).

- The programs that are included were developed decades ago (although some have been adapted since then) and, as such, may not be ‘in touch’ with the needs and circumstances of families in the present day. This is an unavoidable limitation – if we want to know what programs work in the long-term, we will always be considering programs implemented during a different time period. In response to this particular limitation, especially in regards to technological changes in society, and commenting specifically on the Perry Preschool program, Schwienhart et al. (2011) states that:

“There is no compelling reason to assume that this rapid pace of technological change would alter basic principles of human behavior and education... the scientific approach adopted in the High/Scope Perry Preschool study is the logical application of the principle that similar experiences have similar effects on human development” (Schwienhart et al., 2011, p. 14).

Broad-based review of literature

The methodology that was used to undertake the broad-based review of literature involved four key tasks:

- Reviewing existing CCCH resources, papers and literature reviews: CCCH has already conducted a number of relevant literature reviews on topics such as working with vulnerable families, integrated early childhood services, place-based approaches,

early childhood intervention services, and home visiting services for examples see http://www.rch.org.au/ccch/resources_and_publications/Literature_Reviews.

- Reviewing other recent authoritative summaries of the literature on early intervention (e.g. Allen, 2011; Boivin & Hertzman, 2012; Field, 2010; Guyer et al., 2008; Strategic Review of Health Inequalities in England post-2010 Committee, 2010).
- Consulting websites of key research centres in Australia (e.g. Australian Institute of Health and Welfare, Social Policy Research Centre) and overseas (e.g. Centre on the Developing Child at Harvard University, Centre for Excellence and Outcomes in Children and Young People’s Services (UK), Human Early Learning Partnership (Canada) to identify grey literature.
- Conducting supplementary focused reviews of specific topics (e.g. ‘collective impact’ initiatives) for further information.

The main limitations of the broad-based literature review pertain to the scope of the work. By considering a range of different disciplines, the amount of literature that could be reviewed is more substantial. The broad based literature review relies upon the expertise and knowledge of the individual undertaking it to determine where to look for the most relevant literature.

Appendix B: Detailed early intervention program information

Programs that have been evaluated using randomised controlled trial method and with long-term follow up data:

Nurse Family partnership (Elmira, Denver & Tennessee trials)¹⁷

Context	US – women whose children were at risk of poor outcomes (e.g. low level of education, young age, low socioeconomic status)
Description of program	<ul style="list-style-type: none"> • Home visiting
Age of children involved in program (commencement/completion)	Antenatal – 2 years
Long-term outcomes	<p>Children at age 12</p> <ul style="list-style-type: none"> ↑ mental health (internalising) ↑ reading and mathematics achievement ↓ child drug & alcohol use ↓ months of welfare benefit use <p>Children at age 15</p> <ul style="list-style-type: none"> ↓ child abuse & neglect ↓ incidence of arrest ↓ incidence of convictions & probation violations ↓ incidence of times ran away ↓ incidence of sexual partners
Strength of evidence	<ul style="list-style-type: none"> • Multiple randomised controlled • Trialled in three different sites

High/Scope Perry Preschool project¹⁸

Context	US – African-American children and parents of low socioeconomic status (predominantly African American)
Description of program	<ul style="list-style-type: none"> • Daily 2.5 hour classes every weekday • Weekly 90 minute teacher-conducted home visits with mother and child • Operated for 30 months of the year • Provided by the local public school
Age of children involved in program (commencement/completion)	3–4 years until 5 years of age
Long-term outcomes	<p>Children at age 14</p> <ul style="list-style-type: none"> ↑ academic achievement (age 14) <p>Children at age 15</p> <ul style="list-style-type: none"> ↑ attitudes towards school (ages 15 & 19) <p>Children at age 19</p> <ul style="list-style-type: none"> ↑ levels of literacy (age 19 & 27) <p>Children at age 27</p> <ul style="list-style-type: none"> ↑ school graduation (age 27) ↑ mean years of schooling (age 27) ↑ rate of employment (age 27 & 40) ↑ income (age 27 & 40) ↑ stable dwelling environments (age 27 & 40) ↑ rate of car ownership (age 27 & 40) ↓ receiving social services (age 27) ↓ arrests and prosecutions (up to age 40) <p>Children at age 40</p> <ul style="list-style-type: none"> ↑ rate of employment (age 27 & 40) ↑ income (age 27 & 40) ↑ stable dwelling environments (age 27 & 40) ↑ rate of car ownership (age 27 & 40) ↓ receiving social services (age 27) ↓ arrests and prosecutions (up to age 40)
Strength of evidence	Randomised controlled trial

Carolina Abecedarian Project¹⁹

Context	US – low income families with high risk factors (predominantly African-American)
Description of program	<ul style="list-style-type: none"> • full-time child care facility and preschool program • medical care provided onsite to children • supportive social services available to families • participation of families in preschool program encouraged • home visits (school-aged program) by Home School Resource Teacher with supplemental educational activities (parents taught to use learning activities with children) (17 school visits and 15 home visits / year for each child) • summertime supports (school-aged program)
Age of children involved in program (commencement/completion)	4.4 months (mean) until 8 years of age
Long-term outcomes	<p>Children at age 12</p> <ul style="list-style-type: none"> ↑ verbal and performance intelligence (combined)²⁰ ↑ reading, maths, knowledge, written language²¹ ↓ grade retention <p>Children at age 15</p> <ul style="list-style-type: none"> ↑ reading & maths ↓ grade retention (during first 10 years of school) <p>Children at age 21</p> <ul style="list-style-type: none"> ↑ intelligence ↑ reading, maths, reading-grade equivalent, mat-grade equivalent ↑ average years of education ↑ % attending or having attended four-year college ↓ teenaged parents ↓ marijuana & tobacco use ↑ lifetime earnings ↑ health composite score²² ↑ behavioural risk factor score²³ ↓ depression <p>Children at age 30</p> <ul style="list-style-type: none"> ↑ average years completed education ↑ college graduation (early childhood intervention) ↑ % with consistent employment ↓ use of public aid ↑ age at birth of first child
Strength of evidence	Randomised controlled trial

Programs that have been evaluated using quasi experimental trials with long-term follow up data:

Better Beginnings, Better Futures (BBBF)²⁴

Context	Canada – three socioeconomically disadvantaged communities
Description of program	<ul style="list-style-type: none"> • The program model was based upon the following principles: ecological and holistic approach, universal (within disadvantaged communities), collaborative, community driven • The mix of programs delivered in each site varied considerably • All three sites provided home visits to parents for the purpose of information, support and assistance • All three sites worked with teachers and children to improve children’s school experiences • All three sites provided nutrition programs for children
Age of children involved in program (commencement/completion)	4–8 years
Long-term outcomes	<p>Children at age 14–15</p> <ul style="list-style-type: none"> ↑ social functioning ↑ school functioning ↓ special education services ↓ emotional problems (teacher rated) ↓ behavioural problems (teacher rated) <p>Children at age 18–19</p> <ul style="list-style-type: none"> ↑ wellbeing (e.g. positive outlook, personal insight)
Strength of evidence	<ul style="list-style-type: none"> • Quasi experimental methodology • Trialled in three different sites

Chicago child-parent center²⁵

Context	US – poor neighbourhoods in Chicago
Description of program	<ul style="list-style-type: none"> • Centre based intervention • Comprehensive services (e.g. meeting nutritional needs) • Parent involvement (e.g. parent volunteering) • Child centred “basic skills focus” on reading and maths
Age of children involved in program (commencement/completion)	3-9 years ²⁶
Long-term outcomes	<p>Children at age 13 – 14 years ↓ school-related delinquency²⁷</p> <p>Children at age 12 – 17 years ↓ indicated maltreatment</p> <p>Children at age 14 years ↓ grade retention</p> <p>Children at age 15 years ↓ grade retention</p> <p>Children at age 18 years ↓ juvenile delinquency and arrests ↓ special education ↑ number of years of completed education</p> <p>Children at age 20 and 21 years ↑ high school completion ↑ number of years of completed education ↓ school dropout</p> <p>Children at age 22-24 years ↓ daily tobacco smoking</p> <p>Children at age 28 years ↑ educational attainment ↑ socio-economic status ↑ health status and behaviour (preschool and extended intervention only) ↓ crime and justice system involvement (preschool intervention only)</p>
Strength of evidence	Quasi experimental methodology

Endnotes

1. 'Early childhood intervention' is a term used to describe the supports and services provided to children with disability and developmental delays – and their families – during the early years (ECIA, 2013; Groark et al., 2011). 'Early childhood intervention' is also referred to as 'early intervention' in some contexts. Early childhood intervention is also related to both of the definitions of early intervention described here – intervening during the early years can significantly improve the long-term outcomes of children with disability and developmental delay (Maude, 2011).
2. References to 'early intervention' from here on in refer to this particular definition of early intervention.
3. The discourse surrounding "hard to reach" families overshadows the way in which services themselves can be "hard to reach" (Crozier & Davies, 2007)
4. The divide between those who earn the most and those who earn the least in Australia is increasing at a higher rate than the OECD average (Australian Social Inclusion Board, 2012). Increasing inequality in Australia is bad for everyone; it is the levels of equality, rather than the overall wealth of a nation, that determine the health and social outcomes of its population (Wilkinson & Pickett, 2009) and it is the gap between rich and poor, rather than absolute levels of poverty, that is damaging (Friedli, 2009; Wilkinson, 2005; Wilkinson & Pickett, 2009).
5. Environmental factors before birth also impact upon development. For example, research demonstrates that when expectant mothers are exposed to highly stressful environments this can impact upon the birth weight of their babies (Shonkoff, 2010).
6. Experiencing and witnessing domestic and family violence can have profoundly damaging impacts upon children in the short- and long-term including physical injuries leading to long-term reduced mobility and long-term mental health problems (Bromfield et al., 2010; Richards, 2011; Australian Domestic & Family Violence Clearinghouse & The Benevolent Society, 2011; The Benevolent Society, 2013). In some contexts when a child witnesses domestic violence this is considered a form of child abuse in and of itself (Bromfield et al., 2010; Richards, 2011). The Benevolent Society as produced a training package for professionals to assist them in understanding and helping children experiencing family violence (see: <http://benevolent.org.au/think/doing--things--differently/understanding--and--helping--kids--living--with--trauma--and--violence>).
7. Toxic stress is defined as "strong, frequent and/or prolonged" stress in the context of unavailable or unreliable adult support (Shonkoff, 2010, p. 360). Risk factors for toxic stress include: extreme poverty child maltreatment, maternal depression, parental substance abuse, and/or family violence (Shonkoff, 2010).
8. The experience of multiple forms of maltreatment is most costly: it almost triples the risk of later unemployment, family job loss, or living in poverty, and almost doubles the risk of having a low income (Zielinski, 2009).
9. For a more detailed description of the methodology used for this report, see Appendix A.
10. The lack of long-term evaluations of early intervention initiatives is widely recognised in relevant literature (Peters et al., 2010; Manning et al., 2009; Ramey & Ramey, 1998; Campbell et al., 2012; Currie, 2000; Nelson et al., 2003).
11. Some of the children in the treatment group only received the early childhood, others only the school component and others received both (Campbell et al., 2012).
12. High quality early childhood education and care comprises structural and process aspects (CCCH, 2013). Structural components include: the number of children in a room and the qualifications of professionals providing care and education. Process aspects refer to the nature of the interactions between adults and children and the available activities and learning opportunities (CCCH, 2013). The findings from the Effective Provision of Pre-school Education (EPPE) Project have been influential in establishing the impact of high quality education and care services prior to school (Siraj-Blatchford, 2009, 2010; Siraj-Blatchford et al., 2002, 2011; Sylva et al., 2004).
13. One of the benefits of universal initiatives such as universal early childhood education and care are that they are not stigmatising (Cortis et al., 2009). In other words, if all families are eligible to access a service, the service will not be viewed as "charity" or "welfare" – a factor that can influence whether or not people are willing to use a service (Cortis et al., 2009; McDonald, 2010). The way in which a service is viewed by people can influence whether or not they are willing to use it (Carbone et al., 2004; Cortis et al., 2009).
14. Examples of child and family centre initiatives currently operating in Australia include: the Early Years Centre initiative in Queensland (Department of Education, Training and Development (Queensland), 2013) and Child and Family Centres in Tasmania (Department of Education (Tasmania), 2013).
15. The Empowering Parents, Empowering Communities (EPEC) program aims to increase community access to effective parenting support through a peer-led group intervention, and involves the training of local parents as group leaders. Initial results have found that the program is very acceptable to parents, and appears to be effective in reducing problem child behaviour, increasing positive parenting and engaging parents (Day et al., 2012).
16. Evaluations that track the outcomes of early intervention programs and initiatives that target Indigenous Australian children and families are especially important considering the unique cultural characteristics of Indigenous Australian communities.
17. Information sourced from: Kitzman et al. (2010); Olds et al. (1994, 1997, 1998, 2002, 2004, 2006, 2007, 2010).
18. Information sourced from: Barnett (1993); Schewienhart et al. (2011); Weikart et al. (1996).
19. Information sourced from: Campbell et al. (2012); Campbell & Ramey (1994); Muennig et al. (2011); McLaughlin et al. (2007).

20. Preschool treatment not school-age treatment was significantly associated to children's overall IQ (Campbell & Ramey, 1994).
21. Preschool treatment not school-age treatment was significantly associated with improved reading, maths, knowledge and written language skills.
22. The health composite score is a composite index including depression symptoms, prior year hospitalisations, self-reported health. None of the individual elements that comprise the health composite score were significantly different (Muennig et al., 2011).
23. Comprises 11 measures regarding traffic safety, drug use and access to primary care. When considered individually significant difference for: age at which participant began smoking; age at which participant first tried marijuana, frequency of marijuana use in the past month.
24. Information sourced from: Nelson et al., (2012); Peters et al., (2010).
25. Information sourced from: Mann et al. (2006); Reynolds (1998a, 2002, 2004, 2011); Topitzes et al. (2009).
26. Some children received 2 years of preschool, others received only 1 year. All children received kindergarten. Some children received additional supports into primary school from grades 1 to grades 3 (Campbell et al., 2012).
27. This finding was only statistically significant for those children who participated in the primary school aged component of the program after participation in the preschool / kindergarten component. It was not evident amongst children who had only participated in the preschool / kindergarten component of the program (Reynolds et al., 1998b).

References

- Access Economics (2009). Potential benefits of a national strategy for child and youth wellbeing. Report for Australian Research Alliance for Children and Youth (ARACY). Barton, ACT: Access Economics. Retrieved from: <http://www.aracy.org.au/publicationDocuments/Access%20Economics%20Report-%20Final%20-%204%20February%202009.pdf>.
- Alexander, K. L., Entwisle, D. R., & Kabbani, N. S. (2001). The dropout process in life course perspective: Early risk factors at home and school. *Teachers College Record*, 103, 760–822.
- Allen Consulting Group. (2009). *Inverting the Pyramid: Enhancing Systems for Protecting Children*. Woden, ACT: Australian Research Alliance for Children and Youth. Retrieved from: http://www.aracy.org.au/cmsdocuments/REP_Inverting_the_Pyramid_Enhancing_Systems_for_Protecting_Children_2009.pdf.
- Allen, G. (2011). Early Intervention: The Next Steps. Retrieved from: www.dwp.gov.uk/docs/early-intervention-next-steps.pdf.
- Allen, G., & Smith, I. D. (2009). *Early Intervention: Good parents, great kids, better citizens*. London, UK: The Centre for Social Justice.
- Anda R. F., Felitti V. J., Bremner J. D., Walker J. D., Whitfield C., Perry B. D., Dube S. R., & Giles W. H. (2006). The enduring effects of abuse and related adverse experiences in childhood. A convergence of evidence from neurobiology and epidemiology. *European Archives of Psychiatry and Clinical Neuroscience*, 256 (3), 174-186.
- Australian Bureau of Statistics (ABS). (2006). *Personal Safety Survey, Australia, 2005* (reissue). Cat. no. 4906.0. Canberra: ABS.
- Australian Bureau of Statistics (ABS). (2012). *Census of Population and Housing: Estimating Homelessness*. Cat. no. 2049.0. Canberra: ABS.
- Australian Domestic & Family Violence Clearinghouse & The Benevolent Society. (2011). *The impact of domestic violence on children: A literature review*. Retrieved from: <http://www.adfvc.unsw.edu.au/documents/ImpactofDVonChildren.pdf>.
- Australian Government. (2013). *A Snapshot of Early Childhood Development in Australia 2012 — AEDI National Report*. Canberra: Australian Government.
- Australian Institute of Health and Welfare (AIHW). (2012a). *A picture of Australia's children 2012*. Cat. no. PHE 167. Canberra: AIHW.
- Australian Institute of Health and Welfare (AIHW). (2012b). *Child protection Australia 2010–11*. Child Welfare series no. 53. Cat. no. CWS 41. Canberra: AIHW.
- Australian Research Alliance for Children and Youth (ARACY). (2013a). *Report Card: The Wellbeing of young Australians*. Braddon, ACT: Australian Research Alliance for Children and Youth. Retrieved from: <http://www.aracy.org.au/projects/report-card-the-wellbeing-of-young-australians>.
- Australian Research Alliance for Children and Youth (ARACY) (2013b). *The Common Approach to Assessment, Referral and Support: Working together to prevent child abuse and neglect – Final report*. Braddon, ACT: Australian Research Alliance for Children and Youth. Retrieved from: <http://www.aracy.org.au/documents/item/127>
- Australian Social Inclusion Board (2010). *Social inclusion in Australia: How Australia is faring* (1st edition). Canberra: Australian Social Inclusion Board, Department of the Prime Minister and Cabinet.
- Australian Social Inclusion Board. (2012). *Social inclusion in Australia: How Australia is faring* (2nd edition). Canberra: Australian Social Inclusion Board, Department of the Prime Minister and Cabinet.
- Baldry, E., Dowse, L., McCausland, R., & Clarence, M. (2012). *Lifecourse institutional costs of homelessness for vulnerable groups*. Sydney: University of New South Wales.
- Barnes, J., Katz, I., Korbin, J.E. & O'Brien, M. (2006a). *Children and Families in Communities: Theory, Research, Policy and Practice*. Chichester, East Sussex: John Wiley and Sons.
- Barnes, J., MacPherson, K., & Senior, R. (2006b). Factors influencing the acceptance of volunteer home-visiting support offered to families with new babies. *Child & Family Social Work*, 11 (2), 107-117.
- Barnett, W. S. (1993). Benefit-cost analysis of preschool education: Findings from a 25-year follow-up. *American Journal of Orthopsychiatry*, 63(4), 500-508.
- Bartik, T. J. (2011). *Investing in Kids: Early Childhood Programs and Local Economic Development*. Kalamazoo, Michigan: W.E. Upjohn Institute for Employment Research. Retrieved from: <http://www.upjohn.org/publications/titles/iik.html>.
- Blumenshine, S. L., Vann, W. F., Gizlice, Z., & Lee, J. Y. (2008). Children's school performance: impact of general and oral health. *Journal of Public Health Dentistry*, 68 (2), 82-87.
- Boethel, M. (2004). *Readiness: School, family, and community connections*. Austin, Texas: Southwest Educational Development Laboratory.
- Boivin, M., & Hertzman, C. (Eds.). (2012). *Early Childhood Development: Adverse experiences and developmental health*. Royal Society of Canada-Canadian Academy of Health Sciences Expert Panel (with Barr, R. G., Boyce, W. T., Fleming, A., MacMillan, H., Odgers, C., Sokolowski, M. B. and Trocmé, N.). Ottawa, Ontario: Canadian Academy of Health Sciences and the Royal Society of Canada. Retrieved from: <http://www.newcahswebsite.com/wp-content/uploads/2012/11/ECD-Report-nov-15-2012.pdf>.
- Boxelaar, L., Paine, M., & Beilin, R. (2006). Community engagement and public administration: Of silos, overlays and technologies of government. *Australian Journal of Public Administration*, 65 (1), 113–126.
- Boyle, D., Coote, A., Sherwood, C., & Slay, J. (2010). *Right Here, Right Now: Taking co-production into the mainstream*. London, UK: new economics foundation. Retrieved from: http://www.neweconomics.org/sites/neweconomics.org/files/Right_Here_Right_Now.pdf.
- Bradwell, P., & Marr, S. (2008). *Making the most of collaboration: an international survey of public service co-design* (Demos Report No. 23). London, UK: Demos. Retrieved from: <http://www.demos.co.uk/files/CollabWeb.pdf>.
- Bridgespan Group. (2011). *Next Generation Community Revitalization: A Work in Progress*. Boston, Massachusetts: The Bridgespan Group.

- Retrieved from: <http://www.bridgespan.org/getattachment/cd9eec53-9303-48da-bddf-e701ec061d4c/Next-Generation-Community-Revitalization-A-Work-in.aspx>.
- Bromfield, L., Lamont, A., Parker, R., & Horsfall, B. (2010). Issues for the safety and wellbeing of children in families with multiple and complex problems (NCPC Issues paper, No. 33). Melbourne, Victoria: Australian Institute of Family Studies. Retrieved from: <http://www.aifs.gov.au/nch/pubs/issues/issues33/issues33.pdf>.
- Bronfenbrenner, U. (1979). *The Ecology of Human Development: Experiments by Nature and Design*. Cambridge, Massachusetts: Harvard University Press.
- Bronfenbrenner, U., & Evans, G. W. (2000). Developmental science in the 21st century: Emerging questions, theoretical models, research designs and empirical findings. *Social Development*, 9, 115–125.
- Brooks-Gunn, J., & Markman, L. B. (2005). The contribution of parenting to ethnic and racial gaps in school readiness. *The Future of Children*, 15 (1), 139-168.
- Bruner, C. (2004). Rethinking the evaluation of family strengthening strategies: Beyond traditional program evaluation models. *The Evaluation Exchange*, 10 (2). Retrieved from: <http://www.gse.harvard.edu/hfrp/eval/issue26/spotlight4.html>.
- C4EO (2011). Can I afford to? Can I afford not to? What the evidence tells us about best practice and where we will get the best returns for our investment. London, UK: Centre for Excellence and Outcomes in Children and Young People's Services (C4EO). Retrieved from: <http://www.c4eo.org.uk/costeffectiveness/files/vignettes/CanIaffordto.pdf>.
- Campbell, F. A. (2012). Adult outcomes as a function of an early childhood educational program: An abecedarian project follow-up. *Developmental Psychology*, 48(4), 1033-1043.
- Campbell, F. A., & Ramey, C. T. (1994). Effects of early intervention on intellectual and academic achievement: A follow-up study of children from low-income families. *Child Development*, 65 (2), 684-698.
- Carbone, S., Fraser, A., Ramburuth, R. & Nelms, L. (2004). *Breaking Cycles, Building Futures. Promoting inclusion of vulnerable families in antenatal and universal early childhood services: A report on the first three stages of the project*. Melbourne, Victoria, Victorian Department of Human Services. Retrieved from: http://www.eduweb.vic.gov.au/edulibrary/public/beststart/ecs_breaking_cycles_best_start.pdf.
- Cashmore, J., & Shackel, R. (2013). The long-term effects of child sexual abuse. CFCA Paper No. 11. Melbourne, Victoria: Child Family Community Australia Information Exchange, Australian Institute of Family Studies. Retrieved from: <http://www.aifs.gov.au/cfca/pubs/papers/a143161/index.html>
- CCCH (Centre for Community Child Health). (2006). *Quality in children's services (Policy Brief No. 2)*. Parkville, Victoria: Centre for Community Child Health, Murdoch Childrens Research Institute, The Royal Children's Hospital. Retrieved from: http://www.rch.org.au/emplibrary/ccch/PB2_Qual_childsrv.pdf.
- CCCH (Centre for Community Child Health). (2007). *Effective community-based services (Policy Brief No. 6)*. Parkville, Victoria: Centre for Community Child Health, Murdoch Childrens Research Institute, The Royal Children's Hospital. Retrieved from: http://webedit.rch.org.au/uploadedFiles/Main/Content/ccch/PB6_Effective_community_serv.pdf.
- CCCH (Centre for Community Child Health). (2010). *Platforms Service Redevelopment Framework*. Parkville, Victoria: Centre for Community Child Health, Murdoch Childrens Research Institute, The Royal Children's Hospital.
- CCCH (Centre for Community Child Health). (2013). *Assessing the quality of early childhood education and care (Policy Brief No. 25)*. Parkville, Victoria: Centre for Community Child Health, Murdoch Childrens Research Institute, The Royal Children's Hospital Retrieved from: http://www.rch.org.au/uploadedFiles/Main/Content/ccch/Policy_Brief_25_Quality.pdf.
- Center on the Developing Child at Harvard University. (2010). *The Foundations of Lifelong Health Are Built in Early Childhood*. Retrieved from: <http://www.developingchild.harvard.edu>.
- CFCA (Child Family Community Australia). (2013). *The economic costs of child abuse and neglect*. Melbourne, Victoria: Australian Institute of Family Studies. Retrieved from <http://www.aifs.gov.au/cfca/pubs/factsheets/a142118/index.html>.
- Chadio, S., & Kotsampasi, B. (2013). The role of early life nutrition in programming of reproductive function. *Journal of Developmental Origins of Health and Disease*. DOI: <http://dx.doi.org/10.1017/S204017441300038X>
- Christakis, N.A. & Fowler, J.H. (2009). *Connected: The Surprising Power of Our Social Networks and How They Shape Our Lives*. New York: Little, Brown and Company.
- Cochran, M., & Niego, S. (2002). Parenting and social networks. In M.H. Bornstein (Ed.), *Handbook of Parenting (2nd. Ed.) – Volume 4*. Marwah, New Jersey: Lawrence Erlbaum Associates.
- Cohen, L., Chehimi, S. & Chavez, V. (2010). *Prevention is Primary: Strategies for Community Wellbeing (2nd. Ed.)*. Hoboken, New Jersey: Jossey-Bass.
- Cooper, H., Arber, S., Fee, L. & Ginn, J. (1999). *The Influence of Social Support and Social Capital on Health: A Review and Analysis of British Data*. London, UK: Health Education Authority.
- Cornaglia, F., Crivellaro, E., & McNally, S. (2012). *Mental Health and Education Decisions. (CEE Discussion Paper No. 136)*. London, UK: Centre for the Economics of Education, London School of Economics.
- Cortis, N., Katz, I., & Patulny, R. (2009). *Engaging hard-to-reach families and children (Occasional Paper No. 26)*. Canberra: Department of Families, Housing, Community Services and Indigenous Affairs.
- Cowen, E. L. (2000). Now that we all know that primary prevention in mental health is great, what is it? *Journal of Community of Psychology*, 28, 5–16.
- Crnic, K., & Stormshak, E. (1997). The effectiveness of providing social support for families of children at risk. In Guralnick, M.J. (Ed.), *The Effectiveness of Early Intervention*. Baltimore, Maryland: Paul H. Brookes.
- Crozier, G., & Davies, J. (2007). Hard to reach parents or hard to reach schools? A discussion of home-school relations, with particular reference to Bangladeshi and Pakistani parents. *British Educational Research Journal*, 33(3), 295-313.
- Cunha, F., & Heckman, J. J. (2006). *Investing in Our Young People (Report prepared for America's Promise – The Alliance for Youth)*. Chicago, Illinois: University of Chicago. Retrieved from: <http://www-news.uchicago.edu/releases/06/061115.education.pdf>.
- Cunha, F., Heckman, J. J., Lochner, L. J., & Masterov, D. V. (2006). Interpreting the evidence on life cycle skill formation. In E. Hanushek and F. Welch (Eds.), *Handbook of the Economics of Education*. Amsterdam: North-Holland.
- Currie, J. (2000). *Early childhood intervention programs: What do we know? (JCPR Working Paper No. 169)*. Chicago, Illinois: Joint Centre on Poverty Research.
- Daly, A. (2006). *Social inclusion and exclusion among Australia's children: a review of the literature (NATSEM Discussion Paper No. 62)*. Canberra, ACT: National Centre for Social and Economic Modelling, University of Canberra. Retrieved from: <http://www.natsem.canberra.edu.au/publications/papers/dps/dp62/dp62.pdf>.
- Dalziel, K., & Segal, L. (2012). Home visiting programmes for the prevention of child maltreatment: Cost-effectiveness of 33 programmes. *Archives of Disease in Childhood*, 97(9), pp. 787-798.
- Day, C., Michelson, D., Thomson, S., Penney, C., & Draper, L. (2012). *Empowering Parents, Empowering Communities: A pilot evaluation of*

- a peer-led parenting programme. *Child and Adolescent Mental Health*, 17 (1), 52–57. doi: 10.1111/j.1475-3588.2011.00619.x
- de Graaf, I., Speetjens, P., Smit, F., De Wolff, M., & Tavecchio, L. (2008). Effectiveness of the Triple P Positive Parenting Program on behavioral problems in children: A meta-analysis. *Behavior Modification*, 32 (5), pp. 714-735.
- Department of Education (Tasmanian Government). (2013). *Child and Family Centres*. Retrieved from: http://www.education.tas.gov.au/parents_carers/early_years/Programs-and-Initiatives/Pages/Child-and-Family-Centres.aspx.
- Department of Education and Training (Queensland Government). (2013). *Evaluation of the Early Years Centre initiative: Summary Report*. Retrieved from: <http://deta.qld.gov.au/earlychildhood/pdfs/eyc-summary-report.pdf>.
- Department of Education, Employment and Workplace Relations. (2013). *Australian Early Development Index 2012: Summary Report*. Canberra, ACT: Department of Education, Employment and Workplace Relations. Retrieved from: <http://foi.deewr.gov.au/system/files/doc/other/aedi-2012-summary-report.pdf>.
- Department of Health (UK). (2012). *The Family Nurse Partnership Programme*. London: UK. Retrieved from: https://www.gov.uk/government/uploads/system/uploads/attachment_data/file/216864/The-Family-Nurse-Partnership-Programme-Information-leaflet.pdf
- Department of Health and Human Services (US). (2010). *Head Start Impact Study. Final Report*. Washington, DC: Administration for Children and Families.
- Dilley, J. (2009). *Research Review: School-based Health Interventions and Academic Achievement*. Seattle, Washington: Washington State Board of Health. Retrieved from: <http://sboh.wa.gov/Pubs/docs/Health&AA.pdf>.
- Doyle, O., Harmon, C. P., Heckman, J. J., & Tremblay, R. E. (2009). Investing in early human development: Timing and economic efficiency. *Economics and Human Biology*, 7 (1), 1-6.
- Duncan, G. J., & Magnuson, K. (2013). The importance of poverty early in childhood. *Policy Quarterly*, 9 (2), 12-17.
- Durlak, J. A. (1998). "Common risk and protective factors in successful prevention programs." *American Journal of Orthopsychiatry*, 68(4), 512–520.
- ECIA (Early Childhood Intervention Australia). (2013). *About us*. Retrieved from: <http://www.ecia.org.au/about.htm>.
- Eckersley, R. (2008). Never better — or getting worse? The health and wellbeing of young Australians. Weston, ACT: Australia 21. Retrieved from: <http://www.australia21.org.au/pdf/Youth%20Health%20Text%202008.pdf>.
- Eckersley R. (2011). Troubled youth: an island of misery in an ocean of happiness, or the tip of an iceberg of suffering? *Early Prevention in Psychiatry*, 5 (Suppl. s1), 6–11.
- Edwards, B. (2009). *Caring for families caring for a person with a disability* (Family Relationships Quarterly, 11). Melbourne: Australian Family Relationships Clearinghouse, Australian Institute of Family Studies. Retrieved from: <http://www.aifs.gov.au/afrc/pubs/newsletter/newsletter11.html#caring>.
- Eisenberg, D., Golberstein, E., & Hunt, J. B. (2009). Mental health and academic success in college. *The B. E. Journal of Economic Analysis and Policy*, 9 (1). DOI: 10.2202/1935-1682.2191
- Elliott, A. (2006). *Early childhood education: pathways to quality and equity for all children* (Australian Education Review No 50). Melbourne, Victoria: Australian Council for Educational Research. Retrieved from: http://www.acer.edu.au/documents/AER_50-QualityAndChoice.pdf.
- Emerson, E., Graham, H., McCulloch, A., Blacher, J., Hatton, C., & Lewellyn, G. (2008). The social context of parenting 3-year-old children with developmental delay in the UK. *Child: Care, Health and Development*, 35 (1), 63-70.
- Ernst and Young. (2013). *Stage 1 Evaluation of the Australian Nurse Family Partnership Program Final Report*. Retrieved from: <http://anfpp.com.au/reports/ANFPP%20Stage%201%20Formative%20Evaluation%20Final%20Report%20incorporating%20feedback%20Final%20for%20release.pdf>
- Evans, G. W., & Kim, P. (2013). Childhood poverty, chronic stress, self-regulation, and coping. *Child Development Perspectives*, 7 (1), 43–48. doi: 10.1111/cdep.12013.
- Fegan, M., & Bowes, J. (1999). Isolation in rural, remote and urban communities. In J.M. Bowes and A. Hayes, A. (Eds.). *Children, Families, and Communities: Contexts and Consequences*. South Melbourne, Victoria: Oxford University Press.
- Feinstein, L. (2003). Inequality in the early cognitive development of British children in the 1970 cohort. *Economica*, 70, 73-97.
- Feinstein, L., & Bynner, J. (2004). The importance of cognitive development in middle childhood for adulthood socioeconomic status, mental health, and problem behaviour. *Child Development*, 75 (5), 1329-1339.
- Field, F. (2010). *The Foundation years: preventing poor children becoming poor adults*. Retrieved from: www.bristol.ac.uk/ifssoca/outputs/ffreport.pdf.
- Fleming, J., Mullen, P. E., Sibthorpe, B., & Bammer, G. (1999). The long-term impact of childhood sexual abuse in Australian women. *Child Abuse and Neglect*, 23(2), 145–59.
- Fonagy, P. (2001, August). *Early intervention and prevention: The implications for Government and the wider community*. Paper presented at the Conference on Attachment and Development – Implications for clinical practice, Sydney, Australia.
- Fox, S. E., Levitt, P., & Nelson, C. A. (2010). How the timing and quality of early experiences influence the development of brain architecture. *Child Development*, 81 (1), 28-40.
- Fram, M. S. (2003). *Managing to parent: social support, social capital, and parenting practices among welfare-participating mothers with young children* (Discussion paper 1263-03). Washington, DC: Institute for Research on Poverty.
- Friedli, L. (2009). *Mental health, resilience and inequalities*. Copenhagen, Denmark: WHO Regional Office for Europe.
- Fries, A. B., Shirtcliff, E. A., & Pollak, S. D. (2008). Neuroendocrine dysregulation following early social deprivation in children. *Developmental Psychobiology*, 50, 588–99.
- Galinsky, E. (2006). *The Economic Benefits of High-Quality Early Childhood Programs: What Makes the Difference?* Washington, DC: The Committee for Economic Development. Retrieved from: http://www.ced.org/docs/report/report_prek_galinsky.pdf.
- Gallo, L.C., & Matthews, K.A. (2003). Understanding the association between socioeconomic status and physical health: Do negative emotions play a role? *Psychological Bulletin*, 129 (1), 10-51.
- Gelles, R.J., & Perlman, S. (2012). *Estimated Annual Cost of Child Abuse and Neglect*. Chicago, Illinois: Prevent Child Abuse America. Retrieved from: http://member.preventchildabuse.org/site/DocServer/PCAA_Cost_Report_2012_Gelles_Perlman_final.pdf?docID=3261.
- Gerhardt, S. (2004). *Why Love Matters: How Affection Shapes a Baby's Brain*. London, UK: Brunner-Routledge.
- Ghate, D., & Hazel, N. (2002). *Parenting in Poor Environments: Stress, Support and Coping*. London, UK: Jessica Kingsley Publishers.
- Ghate, D., & Hazel, N. (2004). *Parenting in poor environments: stress, support and coping. A summary of key messages for policy and practice from a major national study*. London, UK: Policy Research Bureau.
- Greenhalgh, T. (2012). Outside the box: Why are Cochrane reviews so boring? *British Journal of General Practice*, 62 (600), p. 371. Retrieved

- from: <http://www.ncbi.nlm.nih.gov/pmc/articles/PMC3381259/pdf/>
- Groark, C. (2011). *Early childhood intervention: Shaping the future for children with special needs and their families*. (Volume 1). Santa Barbara, US: Praeger.
- Guralnick, M. J. (1998). Effectiveness of early intervention for vulnerable children: A developmental perspective. *American Journal on Mental Retardation*, 102 (4), 319-345.
- Guyer, B., Ma, S., Grason, H., Frick, K., Perry, D., Wigton, A., & McIntosh, J. (2008). *Investments to Promote Children's Health: A Systematic Literature Review and Economic Analysis of Interventions in the Preschool Period*. Washington, DC: The Partnership for America's Economic Success. Retrieved from: http://www.partnershipforsuccess.org/uploads/200801_HopkinsPaperFINAL.pdf.
- Guyer, B., Ma, S., Grason, H., Frick, K., Perry, D., Wigton, A., & McIntosh, J. (2009). Early childhood health promotion and its life course health consequences. *Academic Pediatrics*, 9 (3), 142-149.
- Halfon, N., Larson, K., & Russ, S. (2010). Why social determinants? *Healthcare Quarterly*, 14 (Sp), 8-20.
- Halle, T., Forry, N., Hair, E., Perper, K., Wandner, L., Wessel, J., & Vick, J. (2009). *Disparities in Early Learning and Development: Lessons from the Early Childhood Longitudinal Study – Birth Cohort (ECLS-B)*. Washington, DC: Child Trends. Retrieved from: http://www.childtrends.org/Files/Child_Trends-2009_07_10_FR_DisparitiesEL.pdf.
- Hart, J.T. (1971). The inverse care law. *Lancet*, 297 (7696), 405-412.
- Hayes, A., Weston, R., Qu, L., & Gray, M. (2010). *Families then and now: 1980-2010 (AIFS Facts Sheet)*. Melbourne, Victoria: Australian Institute of Family Studies.
- Head, B., & Alford, J. (2008). *Wicked Problems: The Implications for Public Management*. Presentation to Panel on Public Management in Practice, International Research Society for Public Management 12th Annual Conference, 26-28 March, 2008, Brisbane.
- Heckman, J. J. (2000). *Invest in the Very Young*. Chicago, Illinois, Ounce of Prevention Fund and the University of Chicago Harris School of Public Policy Analysis.
- Heckman, J. J. (2006). Skill Formation and the Economics of Investing in Disadvantaged Children. *Science*, 312(5782), pp. 1900-02. <http://dx.doi.org/10.1126/science.1128898>
- Heckman, J. J. (2006). *The Economics of Investing in Early Childhood*. Keynote address at NIFTeY Conference, Prevention: Invest Now or Pay Later, Sydney, 8th February. Retrieved from: http://www.niftey.cyh.com/Documents/PDF/invest-UNSW_all_2006-02-01_12pm_mms.pdf.
- Heckman, J. J. (2008a). *Schools, skills, and synapses (NBER Working Paper 14064)*. Cambridge, Massachusetts: National Bureau of Economic Research.
- Heckman, J. J. (2008b). *Schools, Skills, and Synapses*. *Economic Inquiry*, 46(3), pp. 289-324.
- Heckman, J. J. (2013). *Giving Kids a Fair Chance (A Strategy That Works)*. Cambridge, Massachusetts: MIT Press.
- Heinrichs, N., Kliem, S., & Hahlweg, G. (2013). Four-Year Follow-Up of a Randomized Controlled Trial of Triple P Group for Parent and Child Outcomes. *Prevention Science*, pp. 1-13.
- Hertzman, C. (1999). The biological embedding of early experience and its effects on health in adulthood. *Annals of the New York Academy of Sciences*, 896: 85-95. doi: 10.1111/j.1749-6632.1999.tb08107.x
- Hertzman, C. (2004). *Making Early Childhood Development a Priority: Lessons from Vancouver*. Ottawa, Ontario: Canadian Centre for Policy Alternatives. Retrieved from: <http://www.policyalternatives.ca/bc/early-childhood.pdf>.
- Hertzman, C. (2010). Tackling inequality: Get them while they're young. *BMJ*, 340, pp. 346-348.
- Hertzman, C., & Boyce, T. (2010). How experience gets under the skin to create gradients in developmental health. *Annual Review of Public Health*, 31, 329.
- Hertzman, C., & Power, C. (2003). Health and human development: Understandings from life-course research. *Developmental Neuropsychology*, 24 (2-3), 719-744.
- Hertzman, C., Siddiqi, A., Hertzman, E., Irwin, L. G., Vaghri, Z., Houweling, T. A. J., Bell, R., Tinajero, A., & Marmot, M. (2010). Bucking the inequality gradient through early child development. *British Medical Journal*, 340, c468. Published 10 February 2010, doi:10.1136/bmj.c468.
- Hertzman, C., & Wiens, M. (1996). Child development and long-term outcomes: A population health perspective and summary of successful interventions. *Social Science and Medicine*, 43(7), 1083-1095.
- Hirsch, D. (2008). *Estimating the costs of child poverty*. York, UK: The Joseph Rowntree Foundation. Retrieved from: <https://www.jrf.org.uk/knowledge/findings/socialpolicy/2313.asp>.
- Hirsch, D. (2013). *An estimate of the cost of child poverty in 2013*. Loughborough, Leicestershire, UK: Centre for Research in Social Policy, Loughborough University. Retrieved from: <http://www.donaldhirsch.com/costofpoverty.pdf>.
- Hopkins, L., & Meredyth, D. (2008). Coordination or competition: obstacles and success factors for integrated partnerships at local level. *Journal of Urban Regeneration and Renewal*, 1 (4), 316-328.
- Hughes, P., Black, A., Kaldor, P., Bellamy, J. & Castle, K. (2007). *Building Stronger Communities*. Sydney, NSW: University of New South Wales Press.
- Human Early Learning Partnership. (2011). *Proportionate Universality. HELP Policy Brief*. Vancouver, Canada: Human Early Learning Partnership, University of British Columbia. Retrieved from: http://earlylearning.ubc.ca/media/publications/proportionate_universality_brief_-_final.pdf.
- Huppert, F.A. (2008). *Psychological Wellbeing: Evidence Regarding Its Causes and Consequences*. Foresight Mental Capital and Wellbeing Project: State-of-Science Review SR-X2. London, UK: Foresight Project, Government Office for Science. Retrieved from: http://www.bis.gov.uk/assets/bispartners/foresight/docs/mental-capital/sr-x2_mcvw2.pdf.
- Jack, G., & Jordan, B. (1999). Social capital and child welfare. *Children and Society*, 13 (4), 242-256.
- Jackson, S. L., Vann, W. F., Kotch, J. B., Pahel, B. T., & Lee, J. Y. (2011). Impact of poor oral health on children's school attendance and performance. *American Journal of Public Health*, 101 (10): 1900-6.
- Judge, S. (2005). Resilient and vulnerable at-risk children: Protective factors affecting early school competence. *Journal of Children and Poverty*, 11 (2), 149-168.
- Kania, J., & Kramer, M. (2011). Collective impact. *Stanford Social Innovation Review*, Winter, 36-41. Retrieved from: <http://www.ssireview.org/articles/entry=ectivepact/?zbrandid=2039&zidType=CH&zid=1634595&zsubscriberId=500518267&zbdom=http://aracy.informz.net>.
- Karoly, L. A., Greenwood, P. W., Everingham, S. S., Houbé, J., Kilburn, M. R., Rydell, C. P., Sanders, M. & Chiesa, J. (1998). *Investing in Our Children: What We Know and Don't Know About the Costs and Benefits of Early Childhood Interventions*. Santa Monica, California: RAND Corporation.
- Keating, D. P., & Hertzman, C. (Eds.). (1999). *Developmental Health and the Wealth of Nations: Social, Biological, and Educational Dynamics*. New York: The Guilford Press.
- Kessler, R. C., Foster, C. L., Saunders, W. B., & Stang, P. (1995). Social consequences of psychiatric disorders, I: Educational attainment. *American Journal of Psychiatry*, 152 (7), 1026-1032.

- Kids First Foundation. (2003). Report into the Cost of Child Abuse and Neglect in Australia. Albion, Queensland: Kids First Foundation.
- Kitzman, H. J., Olds, D., Cole, R. E., Hanks, C. A., Anson, E. A., Arcoletto, K. J., Luckey, D. W., Knudston, M. D., Henderson, C. R., & Holmberg, J. R. (2010). Enduring Effects of Prenatal and Infancy Home Visiting by Nurses on Children Follow-up of a Randomized Trial Among Children at Age 12 Years. *Archives of Pediatrics and Adolescent Medicine*, 164 (5), 412-418.
- Knapp, M., McDaid, D., & Parsonage, M. (Eds.). (2011). *Mental Health Promotion and Prevention: The Economic Case*. London, UK: Department of Health. Retrieved from: <http://www.lse.ac.uk/businessAndConsultancy/LSEEnterprise/pdf/PSSRUfeb2011.pdf>.
- Lally, J. R. (2007). Teaching and caring: Responding to both the vulnerability and competence of infants and toddlers. *Childcare and Children's Health*, 10 (3), 1-6. Retrieved from: http://www.rch.org.au/emplibrary/econnections/CCH_Vol10_No3_September2007.pdf.
- Lamb, M. E. (2012). Mothers, fathers, families, and circumstances: Factors affecting children's adjustment. *Applied Developmental Science*, 16 (2), 98-111. DOI: 10.1080/10888691.2012.667344
- Le, V.N., Kirby, S.N., Barney, H., Setodji, C.M., & Gershwin, D. (2006). School Readiness, Full-Day Kindergarten, and Student Achievement: An Empirical Investigation. Santa Monica, California: RAND Corporation.
- Lee, S., Drake E., Pennucci, A., Bjornstad, G., & Edovald, T. (2012). Economic evaluation of early childhood education in a policy context. *Journal of Children's Services*, 7 (1), 53-63.
- Lewis, M. (1997). *Altering Fate: Why the Past Does Not Predict the Future*. New York: The Guilford Press.
- Lewis, M. (2005). The child and its family: The social network model. *Human Development*, 48 (1-2), 8-27.
- Lewis, M., & Mayes, L.C. (2012). The role of environments in development: An introduction. In L.C. Mayes and M. Lewis (Eds.). *The Cambridge Handbook of Environment in Human Development*. Cambridge, UK: Cambridge University Press.
- Li, J., McMurray, A., & Stanley, F. (2008). Modernity's paradox and the structural determinants of child health and wellbeing. *Health Sociology Review*, 17 (1), pp. 64-77.
- Liddell, M., Barnett, T., Roost, F. D., & McEachran, J. (2011). Investing in our future: An evaluation of the national rollout of the Home Interaction Program for Parents (HIPPPY). Retrieved from: http://www.bsl.org.au/pdfs/Investing_in_our_future_HIPPPY_National_Rollout_Evaluation_FinalReport_2011.pdf.
- Little, M., Axford, N., & Morpeth, L. (2003). Risk and Protection in the Context of Services for Children in Need. *Child and Family Social Work*, 9(1), pp. 105-177.
- London School of Economics. (2007). Cost Benefit Analysis of Interventions with Parents. Research Report DCSF-RW008. London, UK: Department for Children, Schools and Families. Retrieved from: <http://www.education.gov.uk/publications/eOrderingDownload/DCSF-RW008.pdf>.
- Lynch, R. G. (2004). *Exceptional Returns: Economic, Fiscal, and Social Benefits of Investment in Early Childhood Development*. Washington, DC: Economic Policy Institute.
- Macmillan, R. (2009). The life course consequences of abuse, neglect, and victimization: Challenges for theory, data collection, and methodology. *Child Abuse & Neglect*, 33 (10), 661-665.
- Macmillan, R., McMorris, B. J., & Kruttschnitt, C. (2004). Linked lives: Stability and change in maternal circumstances and trajectories of antisocial behavior in children. *Child Development*, 75 (1), 205-220.
- Magnuson, K.A., Ruhm, C., & Waldfogel, J. (2007). Does prekindergarten improve school preparation and performance? *Economics of Education Review*, 26 (1), 33-51.
- Manchanda, R. (2013). *The Upstream Doctors: Medical Innovators Track Sickness to its Source*. New York: TED Conferences LLC.
- Mann, E. A., & Reynolds, A. J. (2006). Early intervention and juvenile delinquency prevention: Evidence from the Chicago Longitudinal study. *Social Work Research*, 30 (3), 153-167.
- Manning, M., Homel, R., & Smith, C. (2010). A meta-analysis of the effects of early developmental prevention programs in at-risk populations on non-health outcomes in adolescence. *Children and Youth Services Review*, 32, 506-519.
- Marmot, M., Friel, S., Bell, R., Houweling, T. A. J., Taylor, S. and on behalf of the Commission on Social Determinants of Health. (2008). Closing the gap in a generation: health equity through action on the social determinants of health. *The Lancet*, 372 (9650), 1661-1669.
- Marshall, P. J., Reeb, B. C., Fox, N. A., Nelson, C., & Zeanah, C. H. (2008). Effects of early intervention on EEG power and coherence in previously institutionalized children in Romania. *Developmental Psychopathology*, 20, p. 861-80.
- Massin, M. M., Withofs, N., Maeyns, K., & Ravet, F. (2001). The influence of fetal and postnatal growth on heart rate variability in young infants. *Cardiology*, 95(2), pp. 80-83.
- Masten, A.S., & Cicchetti, D. (2010). Developmental cascades. *Development and Psychopathology*, 22 (3), 491-495. DOI: <http://dx.doi.org.ezp.lib.unimelb.edu.au/10.1017/S0954579410000222>
- Maude, S. P. (2011). *Early childhood intervention: Shaping the future for children with special needs and their families (Volume 3)*. Santa Barbara, US: Praeger.
- Maziak, W., Ward, K.D., & Stockton, M.B. (2008). Childhood obesity: are we missing the big picture? *Obesity Reviews*, 9 (1), 35-42.
- McCain, M. N., & J. F. Mustard. (1999). *Reversing the Real Brain Drain: Final Report of the Early Years Study*. Toronto, Canada: Publications Toronto.
- McCausland, R., & Baldry, E. (2013). People with mental health disorders and cognitive impairment in the criminal justice system: Cost-benefit analysis of early support and diversion. Sydney: University of New South Wales.
- McDonald, M. (2010). Are disadvantaged families 'hard to reach'? Engaging disadvantaged families in child and family services (CAFCA Practice Sheet). Melbourne: Communities and Families Clearinghouse, Australian Institute of Family Studies. Retrieved from: <http://www.aifs.gov.au/cafca/pubs/sheets/ps/ps1.html>.
- McEwen, B.S. (2012). Brain on stress: how the social environment gets under the skin. *Proceedings of the National Academy of Sciences U S A*, 109 Suppl 2, 17180-5. doi: 10.1073/pnas.1121254109.
- McLachlan, R., Gilfillan, G., & Gordon, J. (2013). *Deep and Persistent Disadvantage in Australia*, Productivity Commission Staff Working Paper. Canberra: Productivity Commission.
- McShane, I. (2010). Trojan horse or adaptive institutions? Some reflections on urban commons in Australia. *Urban Policy and Research*, 28 (1), 101-116.
- McLaughlin, A., Campbell, F. A., Pungello, E. P., & Skinner, M. (2007). Depressive Symptoms in Young Adults: The Influences of the Early Home Environment and Early Educational Child Care. *Child Development*, 78 (3), 746-756.
- Mehta, M. A., Golembo, N. I., & Nosarti, C. (2009). Amygdala, hippocampal and corpus callosum size following severe early institutional deprivation: the English and Romanian Adoptees study pilot. *Journal of Child Psychology and Psychiatry*, 50, 943-51.
- Meisels, S. J. (1998). *Assessing readiness (Report No. 3-002)*. Ann Arbor, Michigan: Center for the Improvement of Early Reading Achievement. Retrieved from: <http://www.ciera.org/library/reports/inquiry-3/3-002/3-002.pdf>.

- Meisels, S.J. (2006). Universal Pre-K: What about the babies? *Education Week*, 25 (20), 36, 44. Retrieved from: <http://www.edweek.org/ew/articles/2006/01/25/20meisels.h25.html?querystring=Meiselsandlevelid=1000>.
- Melhuish, E. (2010). Why children, parents and home learning are important. In K. Sylva, E. Melhuish, P. Sammons, I. Siraj-Blatchford and B. Taggart (Eds.). *Early Childhood Matters: Evidence from the Effective Pre-school and Primary Education Project*. London, UK: Routledge.
- Miller, G. E., Chen, E., & Parker, K. J. (2011). Psychological stress in childhood and susceptibility to the chronic diseases of aging: Moving toward a model of behavioral and biological mechanisms. *Psychological Bulletin*, 137 (6), 959–997. doi:10.1037/a0024768.
- Miller, G. E., & Chen, E. (2013). The biological residue of childhood poverty. *Child Development Perspectives*, 7 (2), 67–73. doi: 10.1111/cdep.12021.
- Moore, T. G. (2008). Supporting young children and their families: Why we need to rethink services and policies. CCCH Working Paper No. 1 (revised November 2008). Parkville, Victoria: Centre for Community Child Health, Royal Children's Hospital. Retrieved from: http://www.rch.org.au/emplibrary/ccch/Need_for_change_working_paper.pdf.
- Moore, T. G., & Fry, R. (2011). Place-based Services: A Literature Review. Parkville, Victoria: Centre for Community Child Health.
- Moore, T. G., & Skinner, A. (2010). An Integrated Approach to Early Childhood Development. A Benevolent Society Background Paper. Sydney, NSW: The Benevolent Society. Retrieved from: http://www.rch.org.au/emplibrary/ccch/TM_BenSoc_Project_09.pdf.
- Moore, T. G., McDonald, M., Sanjeevan, S., & Price, A. (2012a). Sustained home visiting for vulnerable families and children: A literature review of effective processes and strategies. Parkville, Victoria: Centre for Community Child Health, Royal Children's Hospital. Retrieved from: http://www.rch.org.au/uploadedFiles/Main/Content/ccch/resources_and_publications/Home_visiting_lit_review_RAH_processes_final.pdf.
- Moore, T. G., Yagnik, P., Halloran, D., McDonald, M., Sayers, M., D'Souza, A., & Goldfeld, S. (2012b). Developing the Parent Engagement Resource: A tool for enhancing parent/professional relationships and identifying psychosocial issues in families. *Australian Journal of Child and Family Health Nursing*, 9 (1), 12-16.
- Moran, P., & Gbate, D. (2005). The effectiveness of parenting support. *Children and Society*, 19(4), 329-336.
- Moyer, V.A. (on behalf of the U.S. Preventive Services Task Force). (2013). Primary care interventions to prevent child maltreatment. *Annals of Internal Medicine*, 159 (4): 289-295. doi:10.7326/0003-4819-159-4-201308200-00667.
- Muennig, P., Robertson, D., Johnson, G., Campbell, F., Pungello, E., & Neidell, M. (2011). The Effect of an Early Education Program on Adult Health: The Carolina Abecedarian Project Randomized Controlled Trial. *American Journal of Public Health*, 101(3), 512-516.
- National evaluation of Sure Start team. (2012). The impact of Sure Start Local Programmes on seven year olds and their families. London, UK: Institute for the Study of Children, Families and Social Issues, Birkbeck, University of London. Retrieved from: <http://www.ness.bbk.ac.uk/impact/documents/DFE-RR220.pdf>.
- National Scientific Council on the Developing Child. (2007). The Timing and Quality of Early Experiences Combine to Shape Brain Architecture. NSCDC Working Paper #5. Cambridge, Massachusetts: Centre on the Developing Child, Harvard University. Retrieved from: http://www.developingchild.net/pubs/wp/Timing_Quality_Early_Experiences.pdf.
- Nelson, J., Martin, K. and Featherstone, G. (2013). What works in supporting children and young people to overcome persistent poverty? A review of UK and international literature. Slough, Berkshire: National Foundation for Educational Research (NFER). Retrieved from: <http://www.nfer.ac.uk/nfer/publications/NIEQ01/NIEQ01.pdf>.
- Nelson, G., Westhues, A., & MacLeod, J. (2003). A meta-analysis of longitudinal research on preschool prevention programs for children. *Prevention and Treatment*, 6.
- Nelson, G., Van Andel, A. K., Curwood, S. E., Hasford, J., Love, N., Pancer, S. M., & Loomis C. (2012). Exploring Outcomes through Narrative: The Long-term Impacts of Better Beginnings, Better Futures on the Turning Point Stories of Youth at Ages 18–19. *American Journal of Community Psychology* 49: 294–306.
- Nicholson, J. M., Lucas, N., Berthelsen, D., & Wake, M. (2010). Socioeconomic inequality profiles in physical and developmental health from 0-7 years: Australian national study. *Journal of Epidemiology and Community Health*, first published online 19 October 2010; doi:10.1136/jech.2009.103291.
- Norman, R. E., Byambaa, M., De R., Butchart, A., Scott, J., & Vos, T. (2012). The long-term health consequences of child physical abuse, emotional abuse, and neglect: A systematic review and meta-analysis. *PLoS Medicine*, 9 (11): e1001349. doi:10.1371/journal.pmed.1001349
- NSW Department of Community Services. (2007). Risk protection and resilience in children and families (Research to Practice Notes). Ashfield, NSW: NSW Department of Community Services.
- Nussbaum, M. (2000). *Women and Human Development: The Capabilities Approach*. Cambridge, UK: Cambridge University Press.
- O'Connell, M.E., Boat, T., & Warner, K.E. (Eds). (2009). Preventing Mental, Emotional, and Behavioral Disorders Among Young People: Progress and Possibilities. Report of the Committee on the Prevention of Mental Disorders and Substance Abuse Among Children, Institute of Medicine; National Research Council. Washington, DC: National Academies Press.
- OECD. (2009). *Doing better for children*. Paris, France: Organisation for Economic Co-operation and Development. Retrieved from: www.oecd.org/els/social/childwellbeing.
- OECD. (2011). *Health at a Glance 2011: OECD Indicators*, OECD Publishing. Retrieved from: http://dx.doi.org/10.1787/health_glance-2011-en.
- Offord, D. (1987). Prevention of behavioural and emotional disorders in children. *Journal of Child Psychology and Psychiatry*, 28, 9-19.
- Olds, D. L. (2006). The Nurse-Family Partnership: An evidence based preventative intervention. *Infant Mental Health Journal*, 27 (1): 5-25.
- Olds, D. L., Henderson, C. R. J., Chamberlin, R., & Tatelbaum, R. (1986). Preventing Child Abuse and Neglect: A Randomized Trial of Nurse Home Visitation. *Pediatrics*, 78, 65-78.
- Olds, D. L., Henderson, C. R. J., & Kitzman, H. (1994). Does prenatal and infancy nurse home visitation have enduring effects on qualities of parental caregiving and child health at 25 and 50 months of life? *Pediatrics*, 93(1), 89-98.
- Olds, D. L., Eckenrode, J., Henderson, C. R. J., Kitzman, H., Powers, J., Cole, R., Sidora, K., Morris, P., Pettitt, L. M., & Luckey, D. (1997). Long-term effects of home visitation on maternal life course and child abuse and neglect. *The Journal of the American Medical Association*, 278(8), 637-643.
- Olds, D. L., Henderson, C. R. J., Cole, R., Eckenrode, J., Kitzman, H., Luckey, D., Pettitt, L. M., Sidora, K., Morris, P., & Powers, J. (1998). Long-term effects of nurse home visitation on children's criminal and antisocial behaviour. *The Journal of the American Medical Association*, 280(14), 1238-1244.
- Olds, D. L., Robinson, J. O. B., R, Luckey, D. W., Pettitt, L. M. H., C. R, Ng, R., K., Sheff, K. L., Korfmacher, J., Hiatt, S., & Talmi, A. (2002). Home visiting by paraprofessionals and by nurses: A randomized, controlled trial. *Pediatrics*, 110(3), 486-496.
- Olds, D. L., Robinson, J., Pettitt, L., Luckey, D. W., Holmberg, J., Ng, R.

- K., Isacks, K., Sheff, K & Henderson, C. R Jr. (2004a). Effects of home visits by paraprofessionals and by nurses: Age 4 follow-up results of a randomized trial. *Pediatrics*, 114(6), 1560-1568.
- Olds, D. L., Kitzman, H., Cole, R., Robinson, J., Sidora, K., Luckey, D. W., Henderson, C. R Jr., Hanks, C., Bondy, J., & Holmberg, J. (2004b). Effects of nurse home-visiting on maternal life course and child development: Age 6 follow-up results of a randomized trial. *Pediatrics*, 114(6), 1550-1559.
- Olds, D. L., Kitzman, H., Hanks, C., Cole, R., Anson, E., Sidora-Arcoleo, K., Luckey, D. W., Henderson, C. R Jr., Holmberg, J., Tutt, R. A., Stevenson, A. J., & Bondy, J. (2007). Effects of nurse home visiting on maternal and child functioning: Age-9 follow-up of a randomized trial. *Pediatrics*, 120(4), e832-e845.
- Olds, D. L., Kitzman, H. J., Cole, R. E., Hanks, C. A., Arcoleo, K. J., Anson, E. A., Luckey, D. W., Knudston, M. D., Henderson, C. R., Bondy, J., & Stevenson, A. J. (2010). Enduring Effects of Prenatal and Infancy Home Visiting by Nurses on Maternal Life Course and Government Spending: Follow-up of a Randomized Trial Among Children at Age 12 Years. *Arch Pediatr Adolesc Med*, 164(5), 419-424.
- Open Mind Research Group. (2008). Qualitative research: Parents' point of view. Unpublished report, prepared on behalf of the Boston Consulting Group for the Department of Education, Employment and Workplace Relations, Canberra.
- Oroyemi, P., Damioli, G., Barnes, M., & Crosier, T. (2009). Understanding the risks of social exclusion across the life course: Families with children. London, UK: Social Exclusion Task Force, Cabinet Office. Retrieved from: <http://www.cabinetoffice.gov.uk/media/226107/families-children.pdf>.
- Pavalko, E. K., & Caputo, J. (2013). Social inequality and health across the life course. *American Behavioral Scientist*, 57 (8), 1040-1056. doi: 10.1177/0002764213487344m
- Perrin, J. M., Bloom, S. R., & Gortmaker, S. L. (2007). The increase of childhood chronic conditions in the United States. *Journal of the American Medical Association*, 297 (24), 2755-2759.
- Peters, R. D., Bradshaw A. J., Petrunka, K., Nelson, G., Herry, Y., Craig, W. M., Arnold, R., Parker, K. C., Khan, S. R., Hoch, J. S., Pancer, S. M., Loomis, C., Bélanger, J. M., Evers, S., Maltais, C., Thompson, K., & Rossiter, M. D. (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, 1-174.
- Powell, M. (2010). Centre for Excellence and Outcomes in Children and Young People's Services (C4EO). Retrieved from: www.c4eo.org.uk.
- Prevention Action. (2010). Shining light into the black box (What works). Retrieved from: <http://preventionaction.org/what-works/shining-light-black-box/5863>.
- Price-Robertson, R., Rush, P., Wall, L. & Higgins, D. (2013). Rarely an isolated incident: Acknowledging the interrelatedness of child maltreatment, victimisation and trauma (CFCA Paper No. 15). Melbourne, Victoria: Australian Institute of Family Studies. Retrieved from: <http://www.aifs.gov.au/cfca/pubs/papers/a144788/cfca15.pdf>.
- Promising Practices Network. (2011). Programs that work: The Abecedarian Project. Retrieved from: <http://www.promisingpractices.net/program.asp?programid=132>.
- Propper, C., Burgess, S., Rigg, J. A., & The ALSPAC Study Team (2004). The Impact of Low Income on Child Health: Evidence from a Birth Cohort Study. CASEpaper 85. London, UK: Centre for Analysis of Social Exclusion, London School of Economics.
- Quach, J., Gold, L., Hiscock, H., Mensah, F. K., Lucas, N., Nicholson, J. M., & Wake, M. (2013). Primary healthcare costs associated with sleep problems up to age 7 years: Australian population-based study. *BMJ Open*, 3: e002419. doi:10.1136/bmjopen-2012-002419.
- Ramey, C. T., & Ramey, S. L. (1998). Early intervention and early experience. *American Psychologist*. pp. 109-120.
- RAND Corporation. (2009). What Does Economics Tell Us About Early Childhood Policy? RAND Corporation Research Brief. Santa Monica, California: RAND Corporation. Retrieved from: http://www.rand.org/pubs/research_briefs/2008/RAND_RB9352.pdf.
- Ranson, K. E., & Urchuk, L. J. (2008). The effect of parent-child attachment relationships on child biopsychosocial outcomes: a review. *Early Child Development and Care*, 178 (2), 129-152.
- Reeve, R., & van Gool, K. (2013). Modelling the relationship between child abuse and long-term health care costs and wellbeing: Results from an Australian community-based survey. *Economic Record*, published online ahead of print 20th June. doi: 10.1111/1475-4932.12044.
- Reis, H.T., Collins, W. A., & Berscheid, E. (2000). The relationship context of human behavior and development. *Psychological Bulletin*, 126 (6), 844-872.
- Reynolds, A. J., Chan, H., & Temple, J. A. (1998a). Early Childhood Intervention and Juvenile Delinquency: An Exploratory Analysis of the Chicago Child-Parent Centers. *Evaluation Review*, 22 (3), 341-372.
- Reynolds, A. J., Ou, S-R., & Topitzes, J. W. (2004). Paths of Effects of Early Childhood Intervention on Educational Attainment and Delinquency: A Confirmatory Analysis of the Chicago Child-Parent Centers. *Child Development*, 75 (5), 1299-1328.
- Reynolds, A. J., & Temple, J. A. (1998b). Extended Early Childhood Intervention and School Achievement: Age Thirteen Findings from the Chicago Longitudinal Study. *Child Development*, 69 (1), 231-246.
- Reynolds, A. J., Temple, J. A., Ou, S., Arteaga, I. A., & White, B. (2011). "School-Based Early Childhood Education and Age-28 Wellbeing: Effects by Timing, Dosage, and Subgroups." *Science*, 333, p. 360-364.
- Reynolds, A. J., Temple, J. A., Robertson, D. L., & Mann, E. A. (2001). Long-term effects of an Early Childhood intervention on education achievements and juvenile arrest: A 15-year follow up of low-income children in public schools. *JAMA*, 285(18), pp. 2339-2346.
- Reynolds, A. J., Temple, J. A., Robertson, D. L., & Mann, E. A. (2002). Age 21 Cost-Benefit Analysis of the Title I Chicago Child-Parent Centers. *Educational Evaluation and Policy Analysis*, 24 (4), 267-303.
- Richard, L., Gauvin, L., & Raine, K. (2011). Ecological models revisited: Their uses and evolution in health promotion over two decades. *Annual Review of Public Health*, 32: 307-26.
- Richards, K. (2011). Children's Exposure to Domestic Violence in Australia (Trends and Issues in Crime and Criminal Justice, No. 419). Canberra: Australian Institute of Criminology. Retrieved from: <http://www.aic.gov.au/documents/4/1/D/%7B41D5F5FD-2EE9-42C8-8796-1FB4B964806D%7Dtandi419.pdf>.
- Richards, M., & Abbott, R. (2009). Childhood mental health and life chances in post-war Britain: Insights from three national birth cohort studies. London, UK: Sainsbury Centre for Medical Health. Retrieved from: http://www.centreformentalhealth.org.uk/pdfs/life_chances_report.pdf.
- Richardson, S., & Prior, M. (2005). No Time to Lose: The Wellbeing of Australia's Children. Melbourne, Victoria, Melbourne University Press.
- Richter, L. (2004). The Importance of Caregiver-Child Interactions for the Survival and Healthy Development of Young Children: A Review. Geneva, Switzerland: Department of Child and Adolescent Health and Development, World Health Organisation.
- Rigney, D. (2010). The Matthew Effect: How Advantage Begets Further Advantage. New York: Columbia University Press.
- Robinson, G., Zubrick, S. R., Silburn, S., Tyler, W., Jones, Y., D'Aprano, A., McGuinness, K., Cubillo, C., Bell, M., & Stock, C. (2009). Let's Start: Exploring Together. An early intervention program for Northern Territory children and families. Final evaluation report. Darwin, Northern Territory: School for Social and Policy Research, Institute of

- Advanced Studies, Charles Darwin University. Retrieved from: <http://ccde.menzies.edu.au/sites/default/files/lets-start-evaluation-report.pdf>.
- Robinson, S. (2012). Enabling and Protecting: Proactive approaches to addressing the abuse and neglect of children with a disability. Children with Disability Australia and Centre for Children and Young People, Southern Cross University. Retrieved from: http://www.cda.org.au/_literature_132659/Enabling_and_Protecting_Issues_Paper.
- Rolnick, A., & Grunewald, R. (2003). Early Childhood Development: Economic Development with a High Public Return. Federal Bank of Minneapolis: *fedgazette* (March). Retrieved from: <http://www.minneapolisfed.org/pubs/fedgaz/03-03/earlychild.cfm>.
- Roseboom, T. J., & Watson, E. D. (2012). The next generation of disease risk: are the effects of prenatal nutrition transmitted across generations Evidence from animal and human studies. *Placenta*, 33 (Supplement 2), e40–e44.
- Rossiter, M. D. (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, 1-174.
- Rutter, M. (1979). Protective factors in children's responses to stress and disadvantage. In M.W. Kent & J.E. Rolf (Eds.), *Primary prevention of psychopathology*, Vol.3: Social competence in children (pp. 49–74). Hanover, NH: University of New England Press.
- Rutter, M. (2006). Implications of resilience concepts for scientific understanding. *Annals of the New York Academy of Sciences*, 1094(1), 1-12.
- Sameroff, A.J. (2000). Dialectical processes in developmental psychopathology. In A. Sameroff, M. Lewis, & S. Miller (Eds.), *Handbook of developmental psychopathology* (2nd edn, pp. 23–40). New York: Kluwer Academic/Plenum Publishers.
- Sameroff, A., Seifer, R., Baldwin, A., & Baldwin, C. (1993). Stability of intelligence from preschool to adolescence: The influence of social and family risk factors. *Child Development*, 64 (1), 80-97.
- Sammons, P. (2010a). Does pre-school make a difference? Results over the pre-school period (to aged 5). In K. Sylva, E. Melhuish, P. Sammons, I. Siraj-Blatchford and B. Taggart (Eds.), *Early Childhood Matters: Evidence from the Effective Pre-school and Primary Education Project*. London, UK: Routledge.
- Sammons, P. (2010b). Do the benefits of pre-school last? Investigating pupil outcomes to the end of Key Stage 2 (aged 11). In K. Sylva, E. Melhuish, P. Sammons, I. Siraj-Blatchford and B. Taggart (Eds.), *Early Childhood Matters: Evidence from the Effective Pre-school and Primary Education Project*. London, UK: Routledge.
- Saunders, P., & Naidoo, Y. (2008). Social exclusion and children. *Towards New Indicators of Disadvantage Project Bulletin No. 4*. SPRC Newsletter No. 98 (March), 7-10. Retrieved from: <http://www.sprc.unsw.edu.au/nl/NL98.pdf>.
- Sawyer, M. G., Arney, F. M., Baghurst, P. A., Clark J. J., Graetz, B. W., Kosky R. J., Nurcombe, B., Patton, G. C., Prior M, R., Raphael, B., Rey, J., Whaites, L. C., & Zubrick, S. R. (2000). *The Mental Health of Young People in Australia*. Mental Health and Special Programs Branch, Commonwealth Department of Health and Aged Care.
- Sayal, K. (2006). Annotation: Pathways to care for children with mental health problems. *Journal of Child Psychology and Psychiatry*, 47 (7), 649-659.
- Schorr, L. (2012). *Broader Evidence for Bigger Impact*. Stanford Social Innovation Review. Retrieved from: http://lisbethschorr.org/doc/Fall_2012_Broader_Evidence_for_Bigger_Impact.pdf.
- Schweinhart, L. J., Montie, J., Xiang, Z., Barnett, W. S., Belfield, C. R. & Nores, M. (2011). *The High/Scope Perry Preschool Study Through Age 40*. Retrieved from: http://www.highscope.org/file/Research/PerryProject/specialsummary_rev2011_02_2.pdf.
- Scutella, R., Wilkins, R., & Kostenko, W. (2009). Estimates of poverty and social exclusion in Australia: a multidimensional approach (Melbourne Institute Working Paper Series Working Paper No. 26/09). Melbourne, Victoria: Melbourne Institute of Applied Economic and Social Research, University of Melbourne.
- Seeman, T., Epel, E., Gruenewald, T., Karlamangla, A., & McEwen, B.S. (2010). Socio-economic differentials in peripheral biology: cumulative allostatic load. *Annals of the New York Academy of Sciences*, 1186, 223-39. doi: 10.1111/j.1749-6632.2009.05341.x.
- Shankaran, S., Das, A., & Bauer, C. R. (2006). Fetal origin of childhood disease: Intrauterine growth restriction in term infants and risk for hypertension at 6 years of age. *Archives of Pediatrics and Adolescent Med*, 160, p. 977-981.
- Shonkoff, J. P. (2010). Building a new biodevelopmental framework to guide the future of early childhood policy. *Child Development*, 81 (1), 357-367.
- Shonkoff, J. P. (2012). Leveraging the biology of adversity to address the roots of disparities in health and development.
- Shonkoff, J. P., & Garner, A. S. (2012). The Committee on Psychosocial Aspects of Child and Family Health, Committee on Early Childhood, Adoption, and Dependent Care, and Section on Developmental and Behavioral Pediatrics, Siegel, B.A., Dobbins, M.I., Earls, M.F., McGuinn, L., Pascoe, J. and Wood, D.L. (Eds). *The lifelong effects of early childhood adversity and toxic stress*. *Pediatrics*, 129 (1), e232-e246, doi:10.1542/peds.2011-2663.
- Shonkoff, J. P., Boyce, W. T. & McEwen, B. (2009). Neuroscience, molecular biology, and the childhood roots of health disparities: Building a new framework for health promotion and disease prevention. *Journal of the American Medical Association*, 301(21), 2252-2259.
- Shonkoff, J., & Phillips, D. (Eds.) (2000). *From Neurons to Neighborhoods: The Science of Early Childhood Development*, NRCIM. Washington, DC: National Academy Press.
- Siegel, D. J. (1999). *The Developing Mind: Toward a Neurobiology of Interpersonal Experience*. New York: The Guilford Press.
- Simeonsson, R. J. (1994). *Risk, Resilience, and Prevention: Promoting the Wellbeing of All Children*. Baltimore, Maryland: Paul H. Brookes.
- Siraj-Blatchford, I. (2009). Learning in the home and at school: How working class children succeed against the odds. *British Educational Research Journal*, doi: 10.1080/01411920902989201.
- Siraj-Blatchford, I., Mayo, A., Melhuish, E., Taggart, B., Sammons, P. & Sylva, K. (2011). *Performing against the odds: developmental trajectories of children in the EPPSE 3-16 study (Research Report DFE-RR128)*. London, UK: Department of Education.
- Siraj-Blatchford, I., & Siraj-Blatchford, J. (2010). *Improving development outcomes for children through effective practice in integrating early years services*. London, UK: Centre for Excellence and Outcomes in Children and Young People's Services (C4EO).
- Siraj-Blatchford, I., Sylva, K., Muttock, S., Gilden, R., & Bell, D. (2002). *Researching Effective Pedagogy in the Early Years (Research Report RR. 356)*. London, UK: Department for Education and Skills.
- Sloper, T., & Beresford, B. (2006). Editorial: Families with disabled children. *British Medical Journal*, 333: 928-929.
- Social Exclusion Task Force (2007). *Reaching Out: Think Family. Analysis and themes from the Families At Risk Review*. London, UK: Social Exclusion Task Force, Cabinet Office.
- Stagner, M.W., & Lansing, J. (2009). Progress toward a prevention perspective. *The Future of Children*, 19 (2), 19-37.
- Stanley, F., Prior, M., & Richardson, S. (2005). *Children of the Lucky Country? South Yarra, Victoria*: Macmillan Australia.
- Stipek, D. (2001). *Pathways to constructive lives: The importance of*

- early school success. In C. Bohart and D. Stipek (Eds.). *Constructive and Destructive Behaviour: Implications for family, school and society*. Washington, DC: American Psychological Association.
- Stipek, D. (2005). Children as unwitting agents in their developmental pathways. In C.R. Cooper, C.T. Garcia-Coll, W.T. Bartko, H. Davis and C. Chatman (Eds). *Developmental pathways through middle childhood: Rethinking contexts and diversity as resources*. Mahwah, NJ, US: Lawrence.
- Strategic Review of Health Inequalities in England post-2010 Committee. (2010). *Fair Society, Healthy Lives (The Marmot Review)*. Strategic Review of Health Inequalities in England post-2010. Retrieved from: <http://www.instituteofhealthequity.org/projects/fair-society-healthy-lives-the-marmot-review>.
- Suhrcke, M., & Nieves, C. de P. (2011). The impact of health and health behaviours on educational outcomes in high-income countries: a review of the evidence. Copenhagen, Denmark: WHO Regional Office for Europe. Retrieved from: http://www.euro.who.int/__data/assets/pdf_file/0004/134671/e94805.pdf.
- Sylva, K., Melhuish, E., Sammons, P., Siraj-Blatchford, I., & Taggart, B. (2004). *The Effective Provision of Pre-School Education [EPPE] Project: Final Report*. London, UK: Institute of Education, University of London. Retrieved from: http://www.surestart.gov.uk/_doc/P0001378.pdf.
- Taylor, P., Moore, P., Pezzullo, L., Tucci, J., Goddard, C., & De Bortoli, L. (2008). *The Cost of Child Abuse in Australia*. Melbourne, Victoria: Australian Childhood Foundation and Child Abuse Prevention Research Australia.
- The Benevolent Society. (2010). *Shaping Brains: Shaping Communities (Research Snapshot)*. Retrieved from: <http://www.benevolent.org.au/~media/AB4E8C3AB885442E2DBCDD0F7665474C.ashx>
- The Future of Children. (2005). Executive summary of special issue on School Readiness: Closing Racial and Ethnic Gaps. *The Future of Children*, 15 (1), Spring 2005. Retrieved from: http://futureofchildren.org/futureofchildren/publications/docs/15_01_ExecSummary.pdf
- Topitzes, J., Godes, O., Mersky, J. P., Ceglarek, S., & Reynolds, A. J. (2009). Educational success and adult health: Findings from the Chicago longitudinal study. *Prevention Science*, 10(2), 175-195.
- Tottenham, N., Hare, T. A., & Quinn, B. T. (2010). Prolonged institutional rearing is associated with atypically large amygdala volume and difficulties in emotion regulation. *Developmental Science*, 13, 46–61.
- Trask, B.S. (2010). *Globalization and Families: Accelerated Systemic Social Change*. New York: Springer.
- Turnbull, H., Loptson, K., & Muhajarine, N. (2013). Experiences of housing insecurity among participants of an early childhood intervention programme. *Child: Care, Health and Development*, published online ahead of print 5th August. doi: 10.1111/cch.12091
- Turrell, G., Stanley, L., de Looper, M., & Oldenburg, B. (2006). Health inequalities in Australia: morbidity, health behaviours, risk factors and health service use (AIHW Health Inequalities Monitoring Series No. 2). Canberra, ACT: Australian Institute of Health and Welfare. Retrieved from: <http://www.aihw.gov.au/publications/phe/hiamhbrfhsu/hiamhbrfhsu.pdf>.
- van IJzendoorn, M. H., & Juffer, F. (2006). Adoption as intervention: Meta-analytic evidence for massive catch-up and plasticity in physical, socio-emotional, and cognitive development. *Journal of Child Psychology and Psychiatry*, 47 (12), 1228-1245.
- Wade, C., Macvean, M., Falkiner, J., Devine, B., & Mildon, R. (2012). Evidence review: An analysis of the evidence for parenting interventions in Australia. Melbourne, Victoria: Parenting Research Centre. Retrieved from: http://www.parentingrc.org.au/images/stories/evidence_review_parenting_interventions/main_report_evidencereviewparentinginterventions.pdf.
- Wakefield, M. A., Durkin, S., Spittal, M. J., Siahpush, M., Scollo, M., Simpson, J. A., Chapman, S., White, V., & Hill, D. (2008). Impact of tobacco control policies and mass media campaigns on monthly adult smoking prevalence. *American Journal of Public Health*, 98 (9), 1443-1450.
- Walker, S. P., Wachs, T. D., Grantham-McGregor, S., Black, M. M., Nelson, C. A., Huffman, S. L., Baker-Henningham, H., Chang, S. M., Hamadani, J. D., Lozoff, B., Meeks Gardner, J. M., Powell, C. A., Rahman, A., & Richter, L. (2011). Inequality in early childhood: risk and protective factors for early child development. *Lancet*, 378, 1325-38.
- Watson, J., White, A., Taplin, S., & Huntsman, L. (2005). *Prevention and Early Intervention Literature Review*. Sydney, NSW: NSW Centre for Parenting & Research, NSW Department of Community Services. Retrieved from: http://www.community.nsw.gov.au/DOCSWR/_assets/main/documents/EIP_literature_review.pdf.
- Wear, A. (2007). Place-based partnerships in Victoria. *Public Administration Today*, Issue 12 (July-September), 20-26.
- Weaver, I. C. G. (2009). Shaping adult phenotypes through early life environments. *Birth Defects Research Part C - Embryo Today: Reviews*, 87 (4), 314-326.
- Wilkinson, R.G. (2005). *The Impact of Inequality: How to Make Sick Societies Healthier*. New York: The New Press.
- Wilkinson, R. G., & K. E. Pickett. (2009). *The Spirit Level: Why More Equal Societies Almost Always Do Better*. London, UK: Allen Lane.
- Winkworth, G., Layton, M., McArthur, M., Thomson, L., & Wilson, F. (2009). Working in the Grey – Increasing Collaboration Between Services in Inner North Canberra: A Communities For Children Project. Dickson, ACT: Institute of Child Protection Studies, Australian Catholic University. Retrieved from: http://apo.org.au/sites/default/files/In_the_Grey.pdf.
- Wiseman, J. (2006). Local heroes: Learning from community strengthening policy developments in Victoria. *Australian Journal of Public Administration*, 65 (2), 95-107.
- Yoshikawa, H. (1994). Prevention as cumulative protection: Effects of early family support and education on chronic delinquency and its risks. *Psychological Bulletin*, 115(1), 28-54.
- Zielinski, D. (2009). Child maltreatment and adult socioeconomic wellbeing. *Child Abuse & Neglect*, 33 (10), 666-678.
- Zubrick, S. R., Taylor, C. L., Lawrence, D. M., Mitrou, F. G., Christensen, D., & Dalby, R. (2009). The development of human capability across the lifecycle: Perspectives from childhood. *Australian Epidemiologist*, 16 (3), 6-10.
- Zubrick, S. R., Smith, G. J., Nicholson, J. M., Sanson, A. V., Jackiewicz, T. A. and the LSAC Research Consortium. (2008). *Parenting and families in Australia (FaHCSIA Social Policy Research Paper 34)*. Canberra, ACT: Department of Families, Housing, Community Services and Indigenous Affairs.



We are The Benevolent Society

We help people change their lives through support and education and we speak out for a just society where everyone thrives.

We're Australia's first charity. We're a not-for-profit and non-religious organisation and we've helped people, families and communities achieve positive change for 200 years.