# The investment we can't afford not to make: ensuring the most vulnerable children and families have access to Australia's early childhood education and care systems

Investing in disadvantaged young children is a rare public policy with no equity-efficiency tradeoff. It reduces the inequality associated with the accident of birth and at the same time raises the productivity of society at large (Heckman and Masterov, 2007).

Australia's childcare and early childhood learning systems are failing its most vulnerable children, those in and on the edges of child protection. These children do not have consistent access to enough quality early childhood education and care (ECEC) to protect and nurture their growing brains and bodies. Less than 1 in 6 children who are 'at risk' because of abuse and neglect are accessing early childhood education and care and for those children their funding is intermittent. As a result they are at heightened risk of irreversible harm that imposes avoidable suffering and loss on them and significant costs on the wider community.

The Commonwealth's family assistance legislation provides for the needs of 'at risk' children, but poor implementation by successive governments has resulted in erratic case-by-case decisions on access for vulnerable children and a global lack of funding.

However, with some small changes in process and funding of the Commonwealth's Special Child Care Benefit (SCCB), vulnerable children could begin to access childcare and early childhood education for the 3+ years needed to ensure their safe and full development, to prepare them to participate in school, and to ultimately change the trajectories of their lives.

While the most of changes to the ECEC system proposed in the Productivity Commission's draft report are complex and have significant fiscal implications, reform to SCCB is relatively simple and inexpensive. The impact, however, will be enormous. These changes are critical to protect Australia's most vulnerable children and the resulting savings and increased productivity will flow on to the wider community. It is an investment Australia can't afford not to make.

Most urgently, the consistency of SCCB renewal decisions by Centrelink needs to be improved. A simple checklist/score card would ensure that the neediest children are prioritised for renewals. It would also clarify what evidence of 'risk' Early Childhood Education and Care (ECEC) services need to provide to Centrelink.

# The children who most need access to early childhood education and care are not getting it

Estimating the number of 'at risk' children in Australia is challenging. Limiting the estimate to children who are experiencing or have experienced harm – from physical, emotional or sexual abuse or from neglect -- narrows down the population. The Commonwealth's Australian Institute of Health and Welfare publishes an annual summary of child protection data extracted from the administrative systems of the state and territory departments responsible for child protection. This provides an estimate of the number of children receiving child protection services. In 2012-13, there were 46,170 children aged 0-4 receiving child protection services. In addition, at least 9,568 children 0-4 are reported to have commenced intensive family services intended to prevent imminent separations of children from their primary caregivers because of child protection concerns and reunify families where separation has already occurred. These environmental risk factors that trigger intensive family services in order to divert children and their families from the child protection system are long term risks. In most cases these risks persist throughout childhood, implying that at any time at least 38,000 children aged 0-4 are in this category on the edge of child protection. Taken together, the state and territory governments have identified roughly 84,000 children under four years old who are 'at risk' (AIHW (2014) pp 67-68, 62-63).

In 2012-13, the Commonwealth expenditure on SCCB for 'at risk' children was \$86.2 million dollars (Productivity Commission (2014) pp. 350-1). In 2011-12, the year for which the Commission has SCCB use data, 11,812 children deemed to be 'at risk' by child care services and Centrelink and received SCCB. An additional 1,329 received it for both risk and economic hardship, resulting in a total of 13,141 children accessing SCCB. On average, these 'at risk' children only received SCCB for 17 weeks, roughly four months of the year (PC (2014), p352). So, at best, 16 per cent of the children who clearly need ECEC to ensure their safe development and school readiness received SCCB and most of them received a fraction – on average one third -- of the care they need.

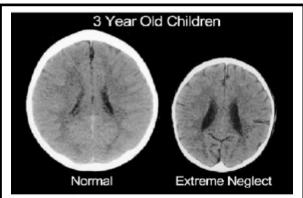
For context, according to the Productivity Commission, in 2013-14 some 748,500 children and their families benefited from Commonwealth assistance for ECEC for a total expenditure of \$6.7 billion (PC (2014), p. 5).

# Access to Early Childhood Education and Care Prevents Irreversible Harm to Vulnerable Children and Benefits the Community

When denied access to safe and nurturing learning environments, vulnerable children are at risk of irreversible harm. Development and learning in infancy and early childhood occurs at a more rapid pace than any other time of life. Stable, predictable, nurturing care that includes a stimulating environment is necessary throughout infancy and early childhood to enable healthy physical, cognitive, language, social and emotional development. Abuse and entrenched neglect can impair all aspects of young children's growth and development. Parent-child attachment relationships characterised by abuse, neglect and traumatic interactions are a source of toxic stress for children, causing physiological stress responses (e.g. cortisol levels) to remain activated at high levels over

prolonged time periods. This can damage developing brain architecture thereby impairing the child's capacity to regulate their emotions and develop healthy and adaptive responses to stress. This in turn leads to lifelong problems in learning, behaviour, and physical and mental health and increases the risk of parenting problems, disturbed parent-child relationships, and abuse and neglect in the next generation (Perry 20002, CODC 2010, AAP 2012, and NSCDC 2012).

Gaps in cognitive and social skills that develop between children early in life become entrenched in later years. This happens because skill development is dynamic and hierarchical children who miss out at an early age lack the necessary building blocks and foundation for subsequent learning. Children with deficits in their cognitive and social skills before the age of five therefore are likely to have these deficits persist into later life, and these deficits then become the basis of problems such as low education attainment, unemployment, teenage pregnancy, and involvement in crime. From *Neurons to Neighbourhoods,* a review of research on early childhood development by the National



Abnormal brain development following extreme neglect in early childhood (Perry 2002). The dark areas in these scans are holes where neural connections have failed to be created. While children retain some brain plasticity into adulthood, it is almost impossible to recoup these losses.

Research Council and Institute of Medicine in the United States concluded that: 'Virtually every aspect of early human development, from the brain's evolving circuitry to the child's capacity for empathy, is affected by the environment and experiences that are encountered in a cumulative fashion, beginning in the pre-natal period and extending throughout the early childhood years (p 6).'

A variety of early years care and education programs targeting disadvantaged children have been implemented in the United States and United Kingdom. In the US, the Perry Preschool program randomly assigned 123 three and four year olds from a low income African American neighbourhood to an intensive early intervention program. The outcomes for the intervention group were superior to the control group in terms of educational attainment, income, and behavioural risk factors. Participants performed better on literacy tests, high school graduation rates were 20 percentage points higher compared to the control group, and a higher proportion went on to university. Another example is the Abecedarian Project which began in North Carolina in the 1970s, with 111 infants randomly assigned to either an intervention group or a control group. There were substantial academic benefits for those children assigned to the high quality early intervention program. These children scored significantly higher on tests of reading and maths from the primary grades through to middle adolescence and had higher high school graduation rates and higher participation rates in tertiary education. There were also significant health benefits with program participants less likely to smoke. More generally, reviews of early years education programs in the United States find consistently positive outcomes using measures of the benefit-cost to society. Karoly et al. and Cunha and Heckman calculate that the return on investments at least 8:1 for early childhood development programs (as opposed to only about 3:1 in primary and secondary education). Similarly, Van der

Gaag estimated that every \$1 invested in early childhood programs provides a minimum return to society of \$3.

When families are struggling to provide safe and nurturing environments for their children, access to quality early childhood education and care is critical to ensure that their children's development is not compromised. Access to care can help families stay together and where this is not possible, enrolment can provide stability when children are relocated (and frequently re-relocated) to safer environments.

#### Duration is critical: Three or More Years is Best and Less than a Year has Minimal Impact

The Benevolent Society's 2013 report prepared by the Centre for Child Community Health, *Acting Early, Changing Lives: How Prevention and Early Action Saves Money and Improves Wellbeing,* cites meta analyses of early childhood interventions for at risk children which conclude "that programs that last longer than three years – in comparison to those that are between 1-3 years in duration – have greater effects" and that "programs of less than one year have 'minimal impacts' on children" (Moore and McDonald, pp 24-25). However, on average, the 'at risk' children who receive Special Child Care Benefit receive it for 17 weeks. This does not begin to meet their development needs.

#### The Special Child Care Benefit for at Risk Children: Good Intent, Better Implementation Needed

Section 47 of A New Tax System (Family Assistance Act 1999) recognises the needs of vulnerable children and their families by allowing for child care benefit by fee reduction for care provided by the service to a child 'at risk' for a period of up to 13 weeks once each financial year. This is one of the two categories of Special Childcare Benefit (SCCB); the second category addresses temporary economic hardship.

In the first instance, eligibility is determined by the ECEC service itself. All that is required is that:

- (a) at the time the care is provided, the service believes the child is at risk of serious abuse or neglect; and
- (b) the care is provided in Australia (47(1)).

Services determine the initial number of weeks of fee reduction, the weekly limit of hours the child can attend, and the amount of fee reduction, which can be up to 100% of the service's usual fee. The ECEC service is supposed to complete a claim form and retain the form for its own records for 36 months (DEEWR (2012), p 213). While services are encouraged to seek it out, there is no requirement to include independent supporting documentation in the initial paperwork. The service's initial decision to approve SCCB (or not approve) is not reviewable by the Commonwealth (p 210). The total amount of the SCCB, both for children at risk of serious abuse or neglect and

families experiencing temporary economic hardship, which a service can approve in one quarter is limited to 18 per cent of the total CCB paid to the service in the quarter before last (pp 203-228). This ceiling can be raised by the Commonwealth Department of Early Childhood and Education.

After a child care service has made an initial determination of eligibility, further periods of up to 13 weeks can be approved by the Commonwealth on application. There is no limit to the number of times this SCCB can be renewed, nor is there an upper limit of funding as a percentage of a service's total CCB funding. These applications are processed by Centrelink on behalf of the Special Child Care Assessment Team (SCCAT) in the Department of Social Services (DSS). Approvals are made Centrelink staff on a case-by-case basis and they rely on the child care service to assemble sufficient evidence of abuse and neglect. While the DEEWR *Child Care Service Handbook* and the DEEWR and DHS *A Guide to Special Child Care Benefit* provide some direction on the kind of evidence that would be accepted, it is very open-ended. Rather than defining a clear standard for documentary evidence, services are urged to provide as much as possible.

Child care services are responsible for providing sufficient information to allow DHS to make a reasonable assessment of the application. It is expected that as much documentary evidence as possible is provided to support a SCCB application (DEEWR and DHS (2012), p 11).

Renewal of SCCB is unpredictable, even for children with very high levels of risk. As a result, these children bounce in and out of childcare services, exposing them to harm and increasing the instability in their lives.

The flaw in this process is the mismatch between SCCB, which is being implemented as a short term intervention, and the long term needs of vulnerable children. This generates a cycle of uncertainty and red tape. It does not meet the needs of vulnerable children and it imposes high costs on any ECEC service that wishes to support vulnerable children throughout their critical formative years.

ECEC services are presumed to have the expertise to assess risk and are expected to bear the costs of making the case for each renewal of SCCB. This includes assembling documentary evidence from independent agencies, including child protection agencies, child and family welfare agencies, agencies specialising in mental health, family violence, family law, homelessness, drug and alcohol rehabilitation and indigenous services as well as professionals including medical practitioners, police, psychologists, teachers and principals, members of the clergy and counsellors (DEEWR (2012), pp 24-216; DEEWR and DHS (2012), p 35). Anecdotal evidence indicates that the preparation and assembly of each application takes at least three hours per child every 13 weeks. This time is spread out over many days as the child care services collect evidence from independent providers. If SCATT then requests additional information, as they seem to in a majority of cases, it can take an additional 2 or more hours per case. The overall process generally takes three weeks or more from application to approval.

Child care services bear the cost of establishing and maintaining relationships with independent agencies and professionals and renewing the supporting documentation every 13 weeks. Meanwhile, the risk factors for abuse and neglect are long term risks that in almost all cases persist

throughout childhood. These risks are documented in *A Guide to Special Child Care Benefit* (DEEWR and DHS, 2012):

	Risk Factors
Child	Very young age (infants and toddlers)
	Physical, intellectual or sensory disability
	Indigenous ethnicity
	Child aggression, behaviour problems or attention deficits
	Female gender (partic. for sexual abuse)
Parental	Substance misuse, particularly alcohol and
	Mental health problems such as depression, low self-esteem, poor control
	of impulses, or antisocial behaviour
	Intellectual disability
	Young maternal age
	Stress, such as financial pressures, job worries, medical problems or taking
	care of a family member with a disability
	Significant lack of parenting skills, including unrealistic expectations that
	show a lack of understanding of a child's developmental stages and
	behaviour
	Low educational attainment
Family	Domestic violence and conflict between parents
	Single parent families (are over-represented in investigations of child abuse or neglect)
	Family instability, where the composition of the household frequently
	changes as family members and others move in and out
	Overcrowded households
	Homelessness
	Death of either parent before a child is 15 years old
	Large numbers of children being cared for by a young single mother
Social	Social isolation and limited access to support networks can increase the
	risk, as can geographical isolation and a lack of access to extended family
	Poverty and low socioeconomic status can heighten the risk of
	maltreatment. These factors alone are not considered to be risk factors for
	abuse or neglect, but may influence the level of risk and the degree of harm that may occur
	indifficient Book St. (2012) - 24

A Guide to Special Child Care Benefit (2012), p 31.

Furthermore, this mismatch is made worse by the adoption of in the guidelines for SCCAT of an interpretation of the meaning of "at risk of serious abuse or neglect" to mean "current" risk of abuse and neglect, although there is no actual definition in the Act (DEEWR and DHS (2012), p 7). However, recovery from exposure to abuse and neglect can take years and it would be exceptional for a child's issues to be resolved in a 13 week period. Continuity and consistency of care over time is an important underpinning of child development and it is especially important to vulnerable children. Changes in care after a few months can set back a child's recovery and development. For 'at risk' children and families, child care is often the most reliable and supportive part of otherwise chaotic lives and gives children extra resilience when their home environment is in flux.

Continuity of care is also undermined by the provisions in Section 49 of the Act that allow the responsible Minister to exempt children in state care or other specified classes of children from SCCB. Children in state care are the most vulnerable children in Australia and participation in quality child care and early learning is critical to their health and well-being as children **and** as adults.

The SCCB approval process also affects the continuity of care when children have to leave a service because of delays in the approval of renewal of funding. This has been known to happen to children who have had already multiple renewals and then Centrelink unexpectedly makes requests for additional information to support their application. For example, it appears that Centrelink and SCCAT's change in approach at the beginning of the 2013-14 financial year meant that many vulnerable children unexpectedly lost SCCB. While many of these decisions were eventually reversed, a significant number of 'at risk' children previously deemed eligible lost access to services - temporarily or permanently -- placing them at greater risk. For example, in July 2013 in a children's centre run by Frankston City Council, 31 applications for SCCB for children who were on child protection orders and who had been receiving SCCB for the previous eighteen months were rejected (Frankston Council (2014) pp-5-6.).

# How to Make Commonwealth Funding Work Better for Vulnerable Children and Their Families and for the Child Care Services that Support Them

While the need of 'at risk' children is great, their actual numbers are relatively few and addressing the administrative barriers that deny them access to early childhood education and care is relatively straightforward. Unlike many of the complex issues facing the early childhood education and care system, these issues are tractable, the required expenditure is limited, and the economic gains to society are well documented and substantial.

The Productivity Commissions Draft Recommendation 12.7 recognises this, but there are other changes that will need to be made to ensure that Commonwealth funding is effective.

#### **DRAFT RECOMMENDATION 12.7**

The Australian Government should continue to provide support for children who are assessed as 'at risk' to access ECEC services, providing:

- a 100 per cent subsidy for the deemed cost of ECEC services, which includes any additional 'special' services at their deemed cost, funded from the Special Early Care and Learning Subsidy program
- up to 100 hours a fortnight, regardless of whether the families meet an activity test
- support for initially 13 weeks then, after assessment by the relevant state or territory department and approval by the Department of Human Services, for up to 26 weeks.

ECEC providers must contact the state or territory department with responsibility for child protection within one week of providing a service to any child on whose behalf they apply for the 'at risk' Special Early Care and Learning Subsidy. Continuation of access to the subsidy is to be based on assessment by this department, assignment of a case worker, and approval by the Department of Human Services. The Australian Government should review the adequacy of the program budget to meet reasonable need annually.

### Develop a checklist/scorecard for assessment of eligibility for SCCB/SECLS with clear definitions and requirements for evidence

The decisions to renew SCCB for at-risk children are made by Centrelink staff whose interpretation of eligibility can be highly variable. While the development of *A Guide to Special Child Care Benefit* by DEEWR and DSS provides guidelines for the processing of SCCB renewals, a user-friendly checklist/scorecard for Centrelink staff and ECEC services with clear definitions, requirements for evidence, and thresholds for eligibility would improve consistency. It would also reduce administrative costs and provide ECEC services with more certainty around eligibility.

#### Reduce red tape by streamlining renewals for twelve months at a time

Because children's risk factors generally do not change over time, the administrative costs of renewing SCCB via Centrelink could be significantly reduced by allowing child care services to resubmit the same documentation with each application for renewal for up to twelve months. Centrelink could further reduce administrative costs by automatically approving requests from renewal for up to twelve months (three renewals) from child care services who are rated as meeting or exceeding the National Quality Standard (NQS) by the Australian Children's Education & Care Quality Authority (ACECQA). Before renewing SCCB for services that do not meet the NQS, Centrelink and SCCAT should assure that the services are able to meet the needs of vulnerable children.

#### Recognise that 'at risk' children need at least three years of access to ECEC

Once a child has been ruled eligible for SCCB, the presumption should be that they will remain eligible until they start school, unless there are significant changes in their circumstances.

#### Change the rules for the initial determination of eligibility

The initial screening criteria for SCCB need to be improved. Rather than expecting childcare services to carry the responsibility for identifying risk in the early years population, that responsibility should be the part of the role of the existing child protection and intensive family services personnel, who are already making these assessments.

To gain access to SCCB for the initial 13 weeks of funding, a child should be receiving child protection or intensive family services and have a caseworker. That caseworker should then work with the ECEC service to make the application for ongoing funding from DSS. This would ensure that the children receiving funding have already met the criteria for child protection or for intensive family services and that the ECEC services' applications for ongoing funding are supported. If an ECEC services has a welfare concern about a child and the child does not have a caseworker, the service should notify child protection or an intensive family support service referral system like ChildFirst in Victoria. (Because child protection and intensive family services are stretched, an 'at risk' child may not have a caseworker continuously, so a caseworker should **not** be a prerequisite for further renewals of SCCB.)

Under the current regime, it is the ECEC service that makes the initial determination of eligibility for the first 13 weeks of SCCB. This means that a child must already to be in an ECEC service and most at risk children are not. The current approach also assumes that childcare services will have the skills and resources to assess risk. This combination of factors means that the ECEC services may not be identifying the children most at need and may in part explain the low level of renewals of SCCB by DSS.

#### Ensure there is adequate funding

The Commission's Draft Recommendation 12.7 acknowledges that services will need additional funding to provide for needs of children who have experienced trauma and profound neglect and that this should be reflected in the deemed cost of these ECEC services. It will be important not to

underestimate these costs and create additional disincentives for services to admit needy children. This is particularly important as there is little ongoing accountability for services to provide priority of access.

At the same time, global SCCB/SECLS funding must begin to increase to provide the consistent access to ECEC that will make a difference to 'at risk' children and save government expenditure in the long run. An immediate increase in funding of \$180 million dollars would ensure that the 'at risk' children currently accessing ECEC would be able to do so year round. This estimate is based on the \$86.2 million of SCCB funding in 2012-13 for 'at risk' children and the 2011-12 figures that indicate these children are funded for 17 weeks a year on average (Productivity Commission (2014) pp. 350-2).

Over the next ten years the Commonwealth should set a goal of 100 % inclusion of at risk children. Based on the current numbers of 'at risk' children, this would mean bringing an addition 71,000 vulnerable children into the ECEC system. This will generate savings in health care, education, social services, and law enforcement that will exceed the cost of funding access to ECEC for 'at risk' children.

#### Create a baseline for the performance of the Centrelink processing of SCCB/SECLS

While the processing of applications has improved since 1999, there are still issues around the administration of SCCB renewal that put vulnerable children at additional risk and compromise their development, wellbeing and education. Establishing a baseline for Centrelink performance would allow measurement of future improvement. This should include the number of applications received on behalf of children at risk; what proportion of the applications are for children who have already had earlier applications approved by SCCAT; how many requests are made to child care services for additional independent documentation; how long the approval process takes; and the frequency and length of the gaps vulnerable children experience in SCCB funding, affecting their continuity of access to services.

### Recognise the cost of renewals and compensate child care services who are serving vulnerable children and their families

The cost of applying for SCCB creates a disincentive for child care services to enrol vulnerable children and imposes a penalty on services that do support them and their families. These costs should be recognised and services that are successful in renewing SCCB should be compensated by the Commonwealth. This could involve a payment once every twelve months that reflected the staff time required to document cases for renewal for SCCAT.

#### It Will Cost More to do Nothing

Of all the potential improvements to the Australian child care and early childhood learning system, increasing participation by vulnerable children will generate the highest returns for the Australian community. Providing a good start in life for at risk children is in everyone's interest. This has been recognised by the Commonwealth by prioritising the needs of vulnerable children in this Inquiry. The challenge now is to do it.

#### **REFERENCES**

- AAP (American Academy of Pediatrics) (2012). AAP POLICY STATEMENT, Early Childhood Adversity, Toxic Stress, and the Role of the Pediatrician: Translating Developmental Science into Lifelong Health. *Pediatrics* 129.1, e224
  - e231. http://pediatrics.aappublications.org/content/129/1/e224.full.pdf+html
- Australian Institute of Health and Welfare. (2011). *Child protection Australia 2009-10. Child welfare series no.51.* Catalogue no. CWS39. Canberra: AIHW.
- --- (2014). Child Protection Australia 2012-13. Child welfare series no.58. Catalogue no. CWS49. Canberra: AIHW.
- Berrueta-Clement, J. R. (1994). *Changes Lives: The Effects of the Perry Preschool Program on Youths Through Age 19.* Ypsilanti, Michigan: The High/Scope Press.
- Bromfield, L., Holzer, P. and Lamont, A. (2010). *The economic costs of child abuse and neglect*.

  National Child Protection Clearinghouse Resource Sheet. Melbourne, Victoria: Australian Institute of Family Studies.
- Budget 2009-10, Commonwealth of Australia. Part 2: Expense Measures, Families, Housing, Community Services and Indigenous Affairs, National Framework for Protecting Australia's Children Special Child Care Benefit increasing awareness and access. <a href="http://www.budget.gov.au/2009-10/content/bp2/html/bp2">http://www.budget.gov.au/2009-10/content/bp2/html/bp2</a> expense-13.htm
- Campbell, F.A. and 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.
- Campbell, F.A., Wasik, B.H., Pungello, E., Burchinal, M., Barbarin, O., Kainz, K., Sparling, J.J., & Ramey, C.T. (2008). Young adult outcomes from the Abecedarian and CARE early childhood educational interventions. *Early Childhood Research Quarterly*. 23, 452-466.
- CIAR (Canadian Institute for Advanced Research) (1999). Reversing the Real Brain Drain: Early Years Study. Toronto: CIAR. http://www.pcfk.on.ca/PDFs/Research Ken/ReversingBrainDrain.pdf
- Cunha, F. and Heckman, J. (2006). *Investing in our Young People*. University of Chicago, Department of Economics. Unpublished manuscript.
- COAG (Council of Australian Governments) (2009). *Protecting Children is Everyone's Business:* National Framework for Protecting Australia's Children 2009–2020.
- ---. (2013). Protecting Children is Everyone's Business, National Framework for Protecting Australia's Children 2009–2020. Annual Report to the Council of Australian Governments 2011–12. http://www.dss.gov.au/sites/default/files/documents/05\_2013/nfpac\_ar\_final\_v4.pdf
- CODC (Center on the Developing Child at Harvard University) (2010). *The Foundations of Lifelong Health Are Built in Early Childhood*. Cambridge: <a href="http://www.developingchild.harvard.edu">http://www.developingchild.harvard.edu</a>
- ---. (2011). *In Brief: Early Childhood Program Effectiveness*. Cambridge: Centre on the Developing Child, Harvard University.
- DEEWR (Department of Education, Early Childhood and Workplace Relations) (2010). *State of Child Care in Australia*. Canberra.
- --- (2012.) Child Care Service Handbook 2012-13, Canberra.
- --- (August 2013). Child Care in Australia. Canberra
- DEEWR and DHS (Department of Human Services) (2012). *A Guide to Special Child Care Benefit*.

  Canberra. <a href="http://docs.education.gov.au/system/files/doc/other/a\_guide\_to\_special\_child\_care\_benefit.pdf">http://docs.education.gov.au/system/files/doc/other/a\_guide\_to\_special\_child\_care\_benefit.pdf</a> (accessed 14 January 2014).

- Frankston Council (2014). *Productivity Commission Inquiry into Child Care and Early Childhood Education: Submission from Frankston Council.* (Submission 286)
- Heckman, J. (2008). Schools, skills and synapses. *Economic Inquiry*. 46(3), 289-324.
- Heckman, J. and D. Masterov (2007). *The Productivity Argument for Investing in Young Children*. Lecture given as the T.W. Schultz Award Lecture at the Allied Social Sciences Association annual meeting, Chicago, January 5-7, 2007. <a href="http://jenni.uchicago.edu/human-inequality/papers/Heckman final all wp 2007-03-22c jsb.pdf">http://jenni.uchicago.edu/human-inequality/papers/Heckman final all wp 2007-03-22c jsb.pdf</a>
- Heckman, J., R. Pinto, and P. Savelyev (2013). Understanding the Mechanisms Through Which an Influential Early Childhood Program Boosted Adult Outcomes. *The American Economic Review*.103.6, 2052-2086.
- Hill, Jordan, et al. (2011) Changing life trajectories: the early years education research project. Insights. 10. Nov. 19-25. <a href="http://insights.unimelb.edu.au/vol10/03">http://insights.unimelb.edu.au/vol10/03</a> Hill Borland.html
- Karoly, L., Kilburn, M.R. & Cannon, J.S. (2005). *Early Childhood Interventions*. Santa Monica, California: Rand.
- Moore, T., Fry, R., Lorains, J., Green, J., Hopkins, L. (2012). Review of the evidence base in relation to early childhood approaches to support children in highly disadvantaged communities for the Children's Ground Project. Report prepared for the Department of Education, Employment and Workforce Relations, CCH, MCRI, RCH. Melbourne.
- 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 Children's Research Institute and The Royal Children's Hospital.
- National Research Council and Institute of Medicine. (2000). From Neurons to Neighborhoods: The Science of Early Childhood Development. Jack P. Shonkoff and Deborah A. Phillips, eds. Board on Children, Youth, and Families, Commission on Behavioral and Social Sciences and Education. Washington.
- NSCDC (National Scientific Council on the Developing Child) (2007). The Science of Early Childhood Development: Closing the Gap between What We Know and What We Do. Cambridge: http://www.developingchild.harvard.edu.
- ---. (2012). The Science of Neglect: The Persistent Absence of Responsive Care Disrupts the Developing Brain: Working Paper 12. Cambridge: <a href="http://www.developingchild.harvard.edu">http://www.developingchild.harvard.edu</a>.
- Nolte, T., Guiney, J., Fonagy, P., Mayes L., and Luyten P. (2011). Interpersonal stress regulation and the development of anxiety disorders: an attachment-based developmental. *Framework Frontiers in Behavioural Neuroscience*. 5, 1-21.
- Perry, B. (2002). Childhood Experience and the Expression of Genetic Potential: What Childhood Neglect Tells Us About Nature and Nurture. *Brain and Mind.* 3, 79-100.
- Price-Robertson, R., Bromfield, L. & Vassallo, S. (2010). *The Prevalence of Child Abuse and Neglect*. Melbourne: Australian Institute of Family Studies.
- Productivity Commission (July, 2014). *Childcare and Early Childhood Learning.* Draft Report: Canberra.
- Sabates, R. & Dex, S. (2012). *Multiple risk factors in young children's development CLS Cohort Studies*. Centre for Longitudinal Studies. Working paper 2012/1. Institute of Education, University of London.
- Schweinhart, L. J., Barnes, H. V. & Weikart, D. P. (2005). *Lifetime Effects: The High/Scope Perry Preschool Study Through Age 40.* Ypsilanti, MI: High Scope Press.
- Siegel, D. (2001). Toward an interpersonal neurobiology of the developing mind: Attachment relationships, mind sight and neural integration. *Infant Mental Health Journal*. 22(1-2), 67-94
- Shonkoff, J. (2011a). Protecting brains, not simply stimulating minds. *Science*. 333, 982-83. <a href="http://www.sciencemag.org/content/333/6045/982.abstract">http://www.sciencemag.org/content/333/6045/982.abstract</a>

- ---. (2011b). Building a Foundation for Prosperity on the Science of Early Childhood Development.

  \*\*Pathways\*\*. Winter 2011, 11
  15. <a href="http://www.stanford.edu/group/scspi/\_media/pdf/pathways/winter\_2011/PathwaysWinter\_11\_Shonkoff.pdf">http://www.stanford.edu/group/scspi/\_media/pdf/pathways/winter\_2011/PathwaysWinter\_11\_Shonkoff.pdf</a>
- Shonkoff, J.P., Boyce, W.T. and 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.
- Van der Gaag, J. (2002). From Child Development to Human Development. In M.E. Young (Ed.). *From Early Child Development to Human Development*. Washington, DC: The World Bank.