

## **PART 2: RATIONALE FOR A FOCUS ON THE EARLY YEARS 0-8**

Several national and international reviews of the literature record the strong evidentiary basis for society's investment in the early years (McCain & Mustard, 2002; Phipps, 1999; Young, 2002). The main findings of these reviews are that:

- The early years of life are an important period of brain development, setting the base for competence and coping in later life.
- Early childhood development (ECD) programs have demonstrated cost-effectiveness, with benefits for the child, the family and the community.
- In the context of rapid social and economic change, there is evidence that some health and wellbeing outcomes are worsening. This suggests that existing systems and structures need to be improved.

Apart from any cost-benefit analyses of ECD programs, society has a moral responsibility towards children.

### **The early years are important for brain development and competence and coping in later life**

Child development is a result of a complex interplay of biology and experience (Rutter, 2002). In recent years, there has been new evidence to affirm the importance of the first years of life for the developing child (Keating & Hertzman, 1999; National Research Council, 2000).

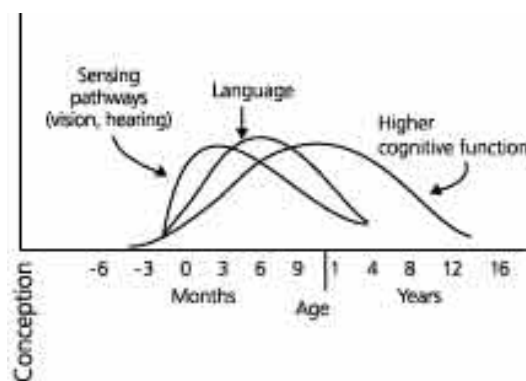
In a report to the Ontario government in 2002, McCain and Mustard described how new evidence from a range of academic disciplines and research methods reaffirms that experience-based brain development in the early years of life, including the in utero period, affects the following outcomes throughout life:

- learning (literacy, numeracy, academic achievement);
- mental health and behaviour (anti-social behaviour, violence, drug and alcohol abuse and smoking);
- physical health (coronary heart disease, blood pressure, type II diabetes, immune pathways, obesity) (McCain & Mustard, 2002, p. 11).

McCain and Mustard (1999) explain how, in the early development of the brain, neurons are connected and pruned or sculpted. This process is affected by environmental influences. There are sensitive periods for development during which children's brains need appropriate stimulation to establish neural pathways (Figure 1 & Figure 2).

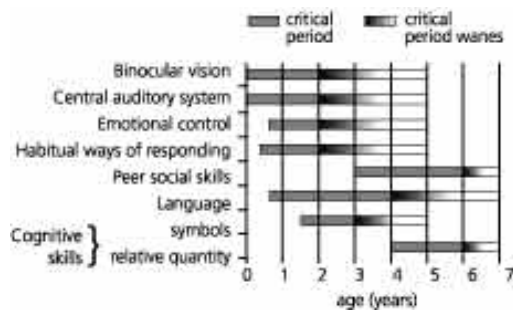
Many of the critical periods for brain development are over by the age of six. There is evidence that children who do not receive the nutrition and stimulation needed for development in the earliest months and years will have great difficulty overcoming these deficits later in life. Such children are more likely to develop learning, behavioural or emotional problems during their lives.

**Figure 1: Human brain development-synapse formation**



Note: From *From Neurons to Neighbourhoods: The Science of Early Child Development* (p. 188), by Committee on Integrating the Science of Early Childhood Development, J.P. Shonkoff & D.A. Phillips (Eds.), 2000, Washington D.C.: National Academy Press.

**Figure 2: Sensitive periods for early development**



Note: From *Reversing the Real Brain Drain: Early Years Study Final Report* (p.31), by M. McCain & J.F. Mustard, 1999, Toronto: The Founders Network of the Canadian Institute for Advanced Research.

As Hertzman (2002) notes “The idea that early childhood experiences have long-term implications is not new. What is new, however, is the emerging understanding of how early childhood experiences can influence the biology of the developing child in ways that can influence health, well-being and competence decades later. The knowledge base in this area is exploding” (p. 9).

Further research has shown a relationship between the ‘stress pathway’ and behaviour, learning and health (McCain & Mustard, 2002). Events during the prenatal period and the early years can influence the development of this pathway and influence neural responses to stress for the rest of the child’s life.

This research is thought to explain why children who experience early neglect or abuse show an increased risk in childhood and adult life of mental health problems such as depression, antisocial behaviour, drug abuse and learning difficulties.

However, it is important not to overstate the notion of ‘critical’ periods. Humans retain plasticity (the ability to learn and change) beyond early childhood and are capable of great resilience (First Three Years Project, 2001). As the US National Research Council and the Institute of Medicine (2000) concluded:

“What happens during the first months and years of life matter a lot, not because this period of development provides an indelible blueprint for adult well-being, but because it sets either a sturdy or a fragile stage for what follows” (p. 5).

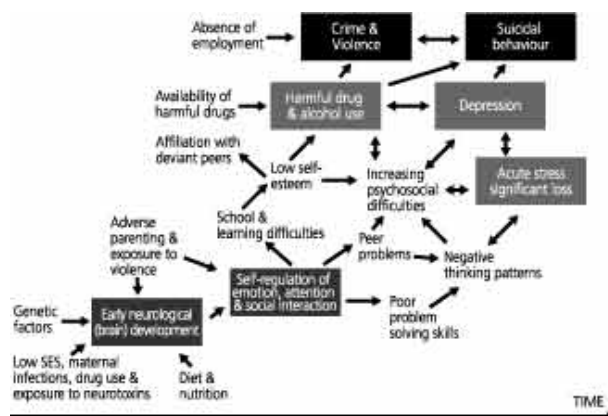
Our ability to promote the development of resilience in children rests on an understanding of the complex process of human development. The National Research Council and Institute of Medicine (2000) lists 10 core concepts of development:

1. Human development is shaped by a dynamic and continuous interaction between biology and experience.

2. Culture influences every aspect of human development and is reflected in childrearing beliefs and practices designed to promote healthy adaptation.
3. The growth of self-regulation is a cornerstone of early childhood development that cuts across all domains of development.
4. Children are active participants in their own development, reflecting the intrinsic human drive to explore and master one's environment.
5. Human relationships, and the effects of relationships on relationships, are the building blocks of healthy development.
6. The broad range of individual differences among young children often makes it difficult to distinguish normal variations and maturational delays from transient disorders and persistent impairments.
7. The development of children unfolds along individual pathways whose trajectories are characterised by continuities and discontinuities, as well as by a series of significant transitions.
8. Human development is shaped by the ongoing interplay among sources of vulnerability and sources of resilience.
9. The timing of early experiences can matter but more often than not the developing child remains vulnerable to risks and open to protective influences throughout the early years of life and into adulthood.
10. The course of development can be altered in early childhood by effective interventions that change the balance between risk and protection, thereby shifting the odds in favour of more adaptive outcomes (pp. 3-4).

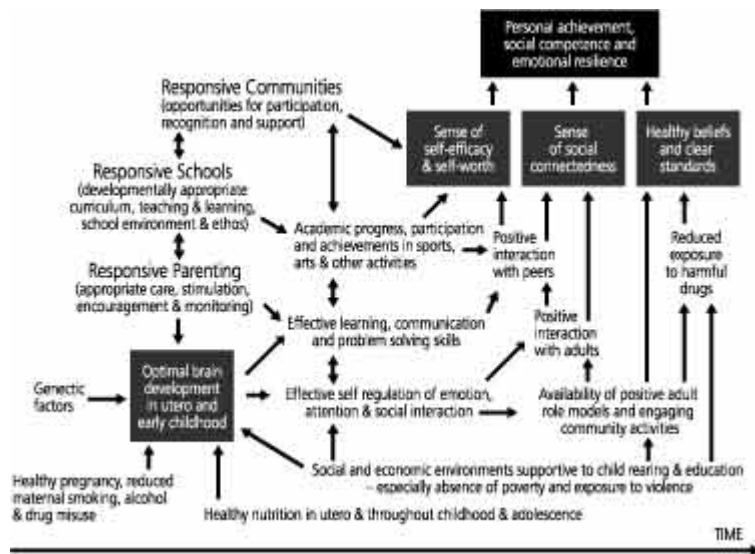
Pathways to poor outcomes and pathways to resilience are depicted in Figures 3 and 4.

**Figure 3: Pathways to poor outcomes**



Note: From *New directions in Australian suicide prevention*, by S. R. Silburn, 2003, Keynote address to the 1st Asia-Pacific Injury Prevention Conference and 6th National Conference on Injury Prevention and Control, Perth, Western Australia, 16-18 March.

**Figure 4: Pathways to resilience**



Note: From *New directions in Australian suicide prevention*, by S. R. Silburn, 2003, Keynote address to the 1st Asia-Pacific Injury Prevention Conference and 6th National Conference on Injury Prevention and Control, Perth, Western Australia, 16-18 March

## **Benefits of promoting early childhood development**

There is evidence that good nutrition, nurturing and responsive care in the first years of life improve outcomes for children's learning, behaviour, and physical and mental health throughout life (McCain & Mustard, 1999). In fact, promoting early childhood development provides multiple benefits, in the short-term and the long-term, for children, their families and broader society.

Van der Gaag (2002) reviewed this evidence and described how ECD contributes to individual and societal development via four critical pathways: education, health, social capital and equality. These positive outcomes are summarised in Table 1. Van der Gaag noted that, while the evidence for the social capital pathway is currently suggestive rather than strong, the evidence for the other three pathways is strong.

The long-term benefits of ECD programs are of particular note. For a child, ECD programs can influence readiness to enter school, later performance at school and adult functioning. As Hertzman (2002) says "Children who enter formal schooling at widely differing levels of developmental readiness are quickly labelled as winners and losers and society treats them as such" (p. 15). For a disadvantaged family or community, ECD programs can break intergenerational cycles of poverty and other problems (Young, 2002).

## **Cost-effectiveness of early childhood development programs**

Early childhood development programs include activities that support children's social, cognitive, physical, spiritual and emotional development. They include playgroups, preschool, child care, child health surveillance, home visiting, parent education, kindergarten and programs for children with a developmental delay or disability. Many programs are bi-generational and are based on the recognition that influencing maternal health and wellbeing outcomes is a critical pathway to influencing child health and wellbeing. Reviews of these programs have concluded that ECD programs can improve readiness to learn, literacy and numeracy, school performance, school retention and socialisation (eg criminality, drug abuse) and decrease grade retention and special education (Foley et al., 2000; Stanley, 2001; Leseman, 2002; Brooks-Gunn, 2002). While the evidence was particularly strong for programs that targeted high-risk families, an association between quality universal early childhood services and outcomes was also reported (Foley et al., 2000).

The evidence suggests that good quality ECD programs can be cost-effective, with returns being greater than the original investments (Karoly et al., 1998; Stanley, 2001). Examples of successful ECD programs often cited are:

- The Perry Pre-School Project (USA), a preschool program that emphasised active learning with children, demonstrated that for every \$1 spent in the program, \$7 in public expenditure was saved in later life (to age 27 years).
- The Elmira Project (USA), a nurse home visitation program for high-risk mothers, which cost \$6,000 per mother-child pair and demonstrated over \$24,000 in benefits to public expenditure through savings in criminal justice, welfare and health services costs and increased tax revenue in the first 15 years after the birth of the child.

However, there are caveats on these findings. First, program outcomes have been mixed (Foley et al., 2000) and depend upon the quality and duration of program implementation. This in turn rests on the program plan, the quality of staff and the amount of funding available. Secondly, these programs were not externally evaluated and results should be interpreted with caution. Thirdly, results from overseas studies need to be tested in Australian settings. Finally, early childhood interventions on their own will show improvements, but are not a panacea (Brooks-Gunn, 2002).

**Table 1: Summary of ECD benefits for children, adults and society**

<b>Benefits</b>	<b>Pathways linking early childhood development to human development</b>			
	<b><u>Education</u></b>	<b><u>Health</u></b>	<b><u>Social capital</u></b>	<b><u>Equality</u></b>
For children (immediate)	Higher intelligence, improved practical reasoning, eye and hand coordination, hearing and speech; reading readiness, improved school performance; less grade repetition and dropout; increased schooling	Less morbidity, mortality, malnutrition, stunting, child abuse; better hygiene and health care	Higher self concept; more socially adjusted; less aggressive; more cooperative; better behaviour in groups; increased acceptance of instructions	Reduced disadvantages of poverty; improved nutritional status, cognitive and social development and health
For adults (long-term)	Higher productivity; increased success (better jobs, higher incomes); improved child care and family health; greater economic wellbeing	Improved height and weight; enhanced cognitive development; less infections and chronic diseases	Higher self-esteem; improved social competence, motivation, acceptance of norms and values; less delinquency and criminal behaviour	Equality of opportunity, education, health and income
For society	Greater social cohesion; less poverty and crime; lower fertility rates; increased adoption of new technologies; improved democratic processes; higher economic growth	Higher productivity; less absenteeism; higher incomes	Improved utilisation of social capital; enhanced social values	Reduced poverty and crime; better societal health; increased social justice; higher sustainable economic growth

Note: From *From Child Development to Human Development: Investing in Our Children's Future*, by J. van der Gaag, in M.E. Young (Ed.), *Human Development*, 2002, Washington D.C.: The World Bank.

## Societal changes

Western societies are undergoing major technological, economic and social changes that place new demands on societal systems. They include:

- Demographic changes (Australian Institute of Health and Welfare [AIHW], 2002a):
  - increasing divorce rates;
  - increasing numbers of one-parent families;
  - increasing labour force participation rates of women of child-bearing age; and
  - increasing joblessness in families.
- Workplace changes:
  - increased numbers of women in the workforce, including mothers and sole parents;
  - longer hours for full-time workers;
  - growth in part-time and casual jobs, particularly for women;
  - increased job insecurity; and
  - increased competition and job demands, which mean that children spend less time with parents and more time in out-of-home care. Work-related stress can affect partner-relationships and stress in the home, which can affect parenting behaviour, which can then affect children's behaviour (Russell & Bowman, 2000).
- Economic changes:
  - Wealth is increasing in the world, but gaps between rich and poor are also increasing. Keating and Hertzman call the social and economic disparity between rich and poor the 'social gradient' of a nation. There is a large body of evidence suggesting that nations with large social and economic differences between individuals (that is, steep social gradients) have poorer developmental health (health, wellbeing and competence) than nations with more equal distribution of wealth (Keating & Hertzman, 1999). Australia's social gradient is getting steeper and this is likely to be having an effect on children (Cass, 2002). For example, a social gradient is evidenced through rates of low birth weight (AIHW National Perinatal Statistics Unit, 2003), which are higher in lower income quintiles and double in Indigenous children (AIHW, 2002b).
  - Child poverty remains one of the most consistent indicators of poorer child outcomes (National Research Council, 2000; Cass, 2002). Seventeen per cent of children in Australia lived in poverty in 2000 (ACOSS, 2003) and dependent children comprised almost 30% of people living in impoverished circumstances in 1999 (Cass, 2002).

## **Evidence that some outcomes are worsening**

Professor Fiona Stanley, 2003 National Australian of the Year, founding Director of the Telethon Institute for Child Health Research in Perth and Chief Executive Officer of the Research Alliance for Children and Youth, has presented evidence of many indicators suggesting adverse trends in the developmental health of children and young people in Australia (Stanley, 2001). These include:

- The rate of mental health morbidities has risen among young people: 15% of children 4-17 years scored in the clinical range for somatic complaints, delinquent behaviour, attention problems and aggressive behaviour.
- Youth suicides: The rate for young males has trebled since 1960.
- Youth drug use: The death rate from drug dependence in 1998 was almost five times the 1979 rate.
- Cases of permanent brain damage due to child abuse (shaken baby syndrome) have risen dramatically since 1985.
- Reports of child sexual assault have more than doubled in the last decade.
- The disparity in literacy levels has increased: the top 10% of Year 3 and 5 students are five years ahead of the bottom 10%.
- Involvement by juveniles in offences against the person has increased.

## **Evidence that some groups are particularly struggling**

There are a number of groups within Australia for whom developmental health outcomes are particularly poor. These include, but are not restricted to:

- Indigenous youth (AIHW, 2002b).
- Children with disabilities (Bach, 2002).
- Impoverished youth (Hertzman, 2002; Brooks-Gunn, 2002).
- Children of parents with mental health problems, including drug dependence problems (McKeganey, Barnard & McIntosh, 2002).
- Children of cultural and linguistic minorities (Leseman, 2002).
- Children in out-of-home care (Simms, Dubowitz & Szilagyi, 2000).
- Abused children (Jennings, 2001).

As children born into high-risk groups are subject to an intergenerational cycle of disadvantage (Young, 2002) intervention with such groups is particularly important.

## **Problems with the current system**

Many problems have been identified with the current system. For example:

- There is disproportionate spending on children after five years of age relative to the earlier years when it is most needed and beneficial (McCain & Mustard, 1999).
- Government is focused on economic growth rather than economic disparities. This fails to recognise negative impacts of socio-economic gaps in a society (Keating & Hertzman, 1999) and the growing economic gaps in Australia (Australian Mutual Provident Society [AMP] & The National Centre for Social and Economic Modelling [NATSEM], 2002).
- Government departments and research disciplines tend to work as 'silos' (Stanley, 2001). However the fact that so many health and wellbeing outcomes have common determinants means that the objectives of a wide variety of government departments – national, state/territory and local – can be met by acting together. "In other words, there is a powerful evidentiary basis for intersectoral action for child development" (Hertzman, 2002, p. 12).

## **Ethical responsibility towards children**

Different countries have differing views about whether the responsibility for raising children is a parental responsibility, or whether it is a shared responsibility of parents and society (Phipps, 1999).

Under the United Nations (UN) Convention on the Rights of the Child (to which Australia is a signatory) governments have a responsibility to focus on the developmental health of children (UN General Assembly, 2002; UN Office of the High Commissioner for Human Rights, 1989). The Convention includes four general principles to guide action in this area:

## **Principle**

- **Non-discrimination**: which essentially means equality of opportunity
- **Best interests of the child**: When the authorities of a State take decisions that affect children, the best interests of children must be a primary consideration.
- **The right to life, survival and development**: The term "development" includes not only physical health, but also mental, emotional, cognitive, social and cultural development.
- **Respect** for the views of the child.

## **Implication**

- The research evidence suggests that ECD can promote equality of opportunity, education, health and income (van der Gaag, 2002)
- The research evidence suggests that promoting ECD is in the best interests of the child, in the short and longer term (van der Gaag, 2002)
- The research evidence suggests that ECD can improve outcomes in relation to health, education and social capital (van der Gaag, 2002).
- There is a need to consult with children and respect their views.

McCain and Mustard (2002) concluded that we already have evidence on how to improve ECD and it is "irresponsible to not act and implement what we now know is an important initiative to give all young children equality of opportunity for future development and improve the quality of human capital" (p. 40).

## **Conclusion**

The research presented above demonstrates that there is sufficient evidence to justify an increased investment in the early years. As Coffey and McCain (2002) say so succinctly "There is not a deficit of research. There is a lack of action" (p. 10). Nevertheless, research is needed into the policies and programs that will be most cost-effective in promoting child health and wellbeing in the Australian context.