

## The First Thousand Days - Our Greatest Opportunity

The best opportunity to build a strong foundation for lifelong health and wellbeing occurs during the first 1000 days - the period from conception, throughout pregnancy, and during a child's first two years. This Policy Brief outlines the implications of this critical time, identifies factors that place children at risk, and recommends a coordinated approach that addresses children's needs in order to optimise their health and wellbeing, now and into the future.

### Why is this issue important?

Experiences in early childhood have a lasting impact on an individual's future; what happens during the first 1000 days - the period from conception to the end of a child's second year - has the greatest potential to affect health and wellbeing throughout the lifecourse (World Health Organisation's Commission on Social Determinants of Health, 2008; Moore, Arefadib, Deery & West, 2017). Many challenges in adult life, including major public health concerns such as obesity, heart disease, and mental health problems, once regarded solely as products of adult behaviour and lifestyles, are now known to be linked to processes and experiences that take place during the first 1000 days.

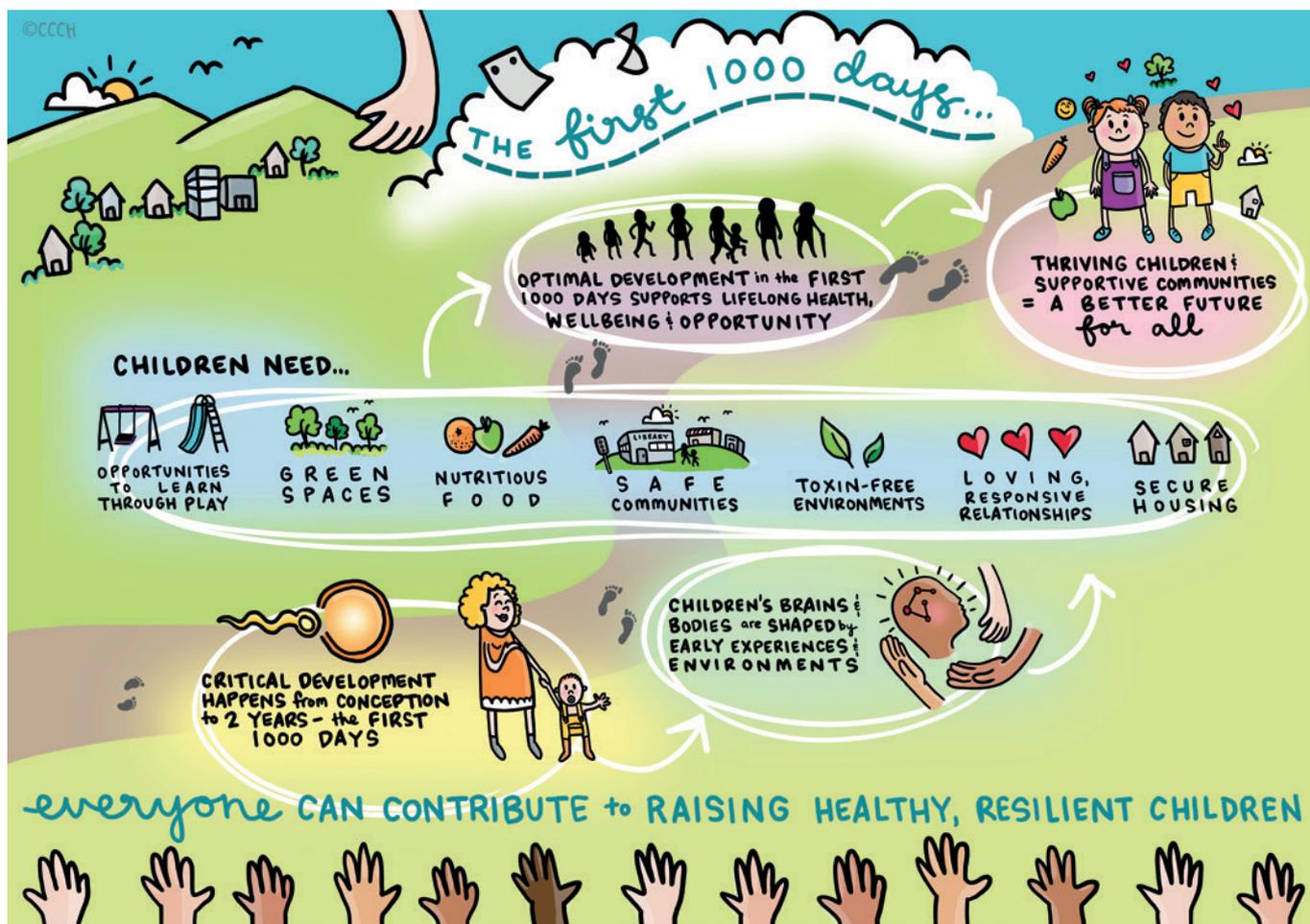
One of the most significant features of the human body is its ability to adapt to the immediate environment by making biological adaptations (i.e. changes to internal systems such as the nervous system) that

### Key messages

- The social and environmental conditions in which families are conceiving and raising children have a direct impact on a child's development.
- Developmental plasticity is at its greatest during the first 1000 days
- While experiences during the first 1000 days have profound and lasting effects, it is never too late to make changes that improve health and wellbeing.
- Optimising early childhood development requires an integrated and holistic approach to policy, programs and services.

allow us to accommodate the particular environments we find ourselves in (Low, Gluckman & Hanson, 2012; Padmanabhan, Cardoso & Puttabyatappa, 2016). This capacity to adapt - known as developmental plasticity - is greatest during the first 1000 days (Barker, 2012; Gluckman et al., 2010).

Right from conception, the foetus uses cues provided by the mother's physical and mental state to 'predict' the sort of world it will be born into, and starts to adapt its bodily systems to meet the anticipated demands of that world (Coe & Lubach, 2008; Gluckman & Hanson, 2005; Gluckman et al., 2009; Robinson, 2013). This powerful capacity is a double-edged sword: adapting to challenging experiences and environments may help in the short term, but be harmful to optimal long-term health and wellbeing (Bateson, Gluckman & Hanson, 2014; Gluckman & Hanson, 2005; Prescott, 2015). Reversing early adverse adaptations becomes progressively more difficult after the first 1000 days.



Illustrated key messages from The First Thousand Days: An Evidence paper (Moore et al., 2017).

The first and best opportunity we have to build strong foundations for optimal development occurs during the first 1000 days. A growing awareness of the significance of this period has resulted in governments worldwide, non-government organisations such as UNICEF and the WHO, early childhood professionals, and many commercial organisations, placing an increasingly greater focus on this critical period of development (Fox, Levitt & Nelson, 2010; Moore, 2014; National Scientific Council on the Developing Child, 2007).

## What does the research tell us?

Human development is not determined by any single factor, but by the interaction between the genes we inherit and the environment and context in which we live and grow (Kappagoda, 2013). The human brain is not a stand-alone system but is intricately connected with other major bodily systems - including the immune, gastrointestinal and cardiovascular systems - which shape and are shaped by each other. This means that what happens in the first 1000 days affects not only our brains but all bodily systems, with

potentially profound consequences for all aspects of our health and wellbeing over the lifecourse (Barrett, 2011; Beilock, 2015; McFarlane, 2017; Moore, 2014; Moore, Arefadib, Deery & West, 2017).

During the first 1000 days, the range of factors that can affect the development of these bodily systems is considerable. While some factors predate conception (e.g. genetic and other transmissions from parents and grandparents), others occur during pregnancy (e.g. maternal physical and mental health), at birth (e.g. caesarean section, premature births), and during infancy (e.g. parental neglect and abuse, poor nutrition, and exposure to environmental toxins; Moore, Arefadib, Deery & West, 2017).

When we examine the factors that influence these factors - the 'causes of the causes' - we find that not only do the social and environmental conditions under which families are conceiving and raising children have a profound and direct impact on a child's development, but that they also significantly affect a parent's and caregiver's capacity to care for and raise their children (Moore & McDonald, 2013; Prescott, 2015).

There are a number of factors that trigger these risk factors. Most notably these include (but are not limited to):

- *The social and physical conditions under which families conceive and raise young children.* Parental and family functioning and capacity are environmentally shaped – the relationships that parents have (or don't have) and the environment in which they live, significantly affects their capacity to parent (Goldhagen, 2017; Pebley & Sastry, 2004; Pinker, 2015).
- *Socioeconomic status.* From the point of conception, the higher a person's socioeconomic position, the healthier they (and their children) are likely to be throughout their lifetime. Subsequently, at any given point along the socioeconomic continuum, a person is likely to experience inferior health outcomes compared to those above them, with outcomes becoming progressively worse with increased socioeconomic disadvantage (Shepherd, Li & Zubrick, 2012; Marmot & Wilkinson, 2006).
- *The transgenerational nature of risk factors.* Children do not only inherit genes from their parents (and grandparents), they also (almost always) inherit their parent's social and environmental conditions. If these conditions include things such as poverty, they are placed at greater risk of disease and other developmental challenges (Atkinson, Nelson & Atkinson, 2010; Solari & Mare, 2007).

Aboriginal children also experience significantly poorer health and wellbeing outcomes than their non-Aboriginal counterparts (Arefadib & Moore, 2017). While 'traditional' social determinants (e.g. poverty) contribute significantly to the disparities between Aboriginal and non-Aboriginal children, there are additional factors, unique to the experience of Aboriginal Australians, that also play a contributing role. These include (but are not limited to) the generational and ongoing marginalisation of Aboriginal peoples (Moore et al., 2017; Boulton, 2016; Shepherd, 2012). However, a growing body of evidence highlights a significant relationship between a robust affinity with traditional cultures and improved health and wellbeing outcomes among Aboriginal peoples (Colquhoun & Dockery, 2012; Wexler, 2009; Dockery, 2009, 2010).

Often the presence of only one adverse factor (e.g. significant maternal stress), is likely to increase the probability of co-occurring factors (Hertzman & Boyce, 2010). For example, children who experience neglect are more likely to also experience stress and poor nutrition. Similarly, children exposed to early adverse environments and experiences are more likely to be exposed to such

experiences throughout their lives, potentially resulting in risk factors having a cumulative or 'snowballing' effect (Prescott, 2015). In this way, a poor start to life during the first 1000 days may initiate a cascade of events that reinforce earlier adverse biological adaptations.

## What are the implications of the research?

While it is never too late to make changes, the best opportunity for building strong foundations for lifelong health and wellbeing occurs during the first 1000 days (Barker, 2012; Roseboom & Watson, 2012; Wang et al., 2017; Prescott, 2015). Knowing that experiences during this critical period shape lifelong health and wellbeing outcomes, we need to ensure that every child is provided with the best opportunities to thrive throughout their lifetime (Moore et al., 2017).

This requires promoting optimal conditions for parenting and early development that contribute to healthy physiological, structural, immune, metabolic and behavioural-response patterns that help prevent many avoidable diseases. Reversing early adverse adaptations becomes progressively harder and more costly after this period.



There are three distinct developmental periods during the first 1000 days when action to promote better outcomes can be taken: pre- (and between-) conception, pregnancy and infancy:

- **Pre- and between-conception.** The health and wellbeing of parents prior to conception can affect the foetus from the moment of conception (Barker, 2015; Chavatte-Palmer et al., 2016; Genuis & Genuis, 2016; Sun, Velazquez & Fleming, 2016). Recommended policies and practices are those that promote preconception care (a set of interventions that aim to identify and modify biological, behavioural, and social risks to parental health or pregnancy outcomes through prevention and management) and inter-conception care (care provided to parents beginning with childbirth until the birth of a subsequent child).
- **Pregnancy.** Promoting and facilitating safe and healthy pregnancies must become a priority. This includes ensuring equitable access to quality care during and following pregnancy and childbirth. Various factors affect women's access to skilled care during pregnancy, and childbirth (and after birth), including the quality and availability of services as well as cost, distance, available transport, family decision-making processes and level of support (WHO, 2018). To better respond to the health needs of women during this period, and to increase the utilisation of available health services, interventions must involve women, families and community organisations in identifying key problems and solutions to obtaining optimal care.



- **Infancy.** The importance of supporting parents and infants in the first two years after birth has been recognised for decades, and the factors that impact health and development during this period are more widely understood than those that affect development during pregnancy (Barouki et al., 2012; Cozolino, 2014; Gopnik, 2009; Siegel, 2012). This knowledge must be translated into a comprehensive and integrated approach that supports parents and infants during this critical period.

## Considerations for policy and practice

The first 1000 days is a critical period of development that provides a distinct and timely opportunity to have a lasting impact on individual social, emotional and physical wellbeing. Optimising early childhood development requires a holistic approach to policy, programs and services that builds understanding of this important period and advances integrated policies and evidence-informed practices - particularly those that address vulnerabilities and risk factors. This includes:

- *promoting widespread awareness and understanding of the significance of the first 1000 days.* The establishment and implementation of effective national policies to influence early childhood development is dependent on the significance of this period being understood by all people including parents, caregivers, communities, service providers and policy makers.
- *examining the national policy agenda with an early childhood lens.* This requires the examination of policies traditionally perceived as inconsequential to early childhood development that have significant influence on children and families, including (but not limited to) housing, environmental, economic, and transportation policies.
- *developing policies that take into consideration the entire life cycle.* Development in the first 1000 days is consequential to youth development, and both are significant to adult functioning.
- *working towards an integrated approach that incorporates all levels and sectors of society.* To address the multifaceted factors that influence early childhood development requires education, health, law-enforcement and other sectors to adopt a coordinated approach to early childhood development.

- *ensuring policy and practice are evidence-informed.* We need to ensure that research evidence is properly synthesised and translated before being applied to policy, programs and practice, as well as addressing the gaps in our knowledge.

To address the needs of children and their families during the first 1000 days, four complementary courses of action should be considered:

- *Educate and empower.* People should be provided with useful, accessible and credible information about how their bodies work and what they need to do to optimise health and wellbeing. Efforts to build health literacy and develop better ways of educating and empowering the general public about the evidence of the first 1000 days should be a priority. From a policy perspective, a population-wide public health strategy is clearly indicated.
- *Provide service-based interventions to promote effective parenting or to address specific problems.* This has been the default approach adopted by governments and service providers, and will continue to play an important role in ensuring the health and wellbeing of children and families. However, relying solely on targeted health and other services has not been sufficient to make a significant difference to the complex health and psychosocial problems that are prevalent today.
- *Change the environment.* This strategy involves efforts to improve the conditions under which families are raising young children; it requires addressing the social determinants of health and wellbeing, and seeking to reduce the social inequities that create social gradients in health and development. This necessitates a coordinated policy approach that addresses the needs of children from conception, thus laying the foundation for their future health and wellbeing.

- *Continued investment in research and treatment.* We should keep investing in fundamental research to promote further advances, although the practical benefits of this research may take some time to emerge.

Optimal child development requires loving caregivers, safe communities, secure housing, access to parklands, environments free from toxins, and access to affordable, nutritious foods. Many of these needs are beyond the control of individual families. This means that children can only develop as well as well as their community and our broader society will allow.

## Source

This Policy Brief is derived from The First Thousand Days: An Evidence Paper. Moore, T.G., Arefadib, N., Deery, A. & West, S. (2017) prepared for the Strong Foundations: Getting it Right in the First 1000 Days project - an initiative of the Australian Research Alliance for Children & Youth, Bupa Australia, the Bupa Health Foundation, the Murdoch Children's Research Institute, and PwC Australia. The full version can be downloaded from [www.rch.org.au/ccch/first-thousand-days](http://www.rch.org.au/ccch/first-thousand-days)

## Authors

Tim Moore, Noushin Arefadib, Vikki Leone & Sue West.

## References

For a full list of references please visit:  
[www.rch.org.au/ccch/policybrief](http://www.rch.org.au/ccch/policybrief)

**Suggested citation:** Centre for Community Child Health (2018). The First Thousand Days - Our Greatest Opportunity, Policy Brief Number 28. Murdoch Children's Research Institute/The Royal Children's Hospital, Parkville, Victoria. <https://doi.org/10.25374/MCRI.5991184>

## About the Centre for Community Child Health

The Centre for Community Child Health is a department of The Royal Children's Hospital and research group of Murdoch Children's Research Institute. For over two decades the Centre has been at the forefront of early childhood research and policy.

The Centre contributes to improving the health and wellbeing of children by identifying synthesising and translating the best evidence to inform policy, service delivery, practice and parenting.

Our Policy Brief series aims to stimulate informed debate about issues that affect children's health development and wellbeing. Each issue draws on current research and evidence-informed practice.

[rch.org.au/ccch/policybrief](http://rch.org.au/ccch/policybrief)

**Melbourne Children's**  
A world leader in child and adolescent health



**murdoch children's research institute**

