Centre for Community Child Health

murdoch children's research institute

CORE CARE CONDITIONS FOR CHILDREN AND FAMILIES: IMPLICATIONS FOR INTEGRATED CHILD AND FAMILY SERVICES

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Core care conditions for children and families: Implications for integrated child and family services.
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EXECUTIVE SUMMARY

This paper is the first of two papers that has been prepared to assist Social Ventures Australia (SVA) in exploring the potential of holistic, integrated early learning service models for improving outcomes for young children and their families who are experiencing socio-economic vulnerability. SVA was interested in the answers to two key questions: *What are the common elements of the holistic, integrated early learning service models that have the greatest impact? What is required for quality implementation of each common element?*

To address these key questions, two papers were prepared. This first paper reviews what is known about the core needs of children, parents and families, the conditions that parents need in order to be able to meet the needs of their children and families, and how well we are meeting these needs. The second paper reviews what we have learned from efforts to support young children and their families, particularly through integrated child and family initiatives. The key question explored is what role could integrated child and family centres play in meeting the needs of all children and families, and children experiencing socio-economic vulnerabilities in particular.

The present paper involves an attempt to reimagine the early childhood environment for children and families. Rather than starting from a service perspective – where the focus is on improving or extending services in order to achieve better outcomes for children and families – the paper starts from the child and family perspective. The key questions addressed are: *What are the core needs of children, parents and families? What are the conditions that parents need in order to be able to meet the needs of their children and families? How well are we meeting these needs*? The answers to these questions are then used to identify what role child and family centres could play in addressing these needs.

Section 2 sets the scene with an overview of the rapid social and economic changes that have occurred over the last half century, and the impact these are having on the conditions under which families are raising young children. This is followed by a summary of how children, families and society in general are faring under these changed conditions. This shows that, while most children and families have benefitted by the major social changes, a significant minority have not, and are showing unacceptably high levels of some child, family and societal indicators. Most of these levels of poor functioning have not shifted over time, and some appear to be worsening. Many are wicked or complex problems, with multiple causes and are resistant to direct solutions.

This section concludes with an analysis of the ways in which these persistent problems have been addressed, how successful these efforts have been, and the implications for future action and for child and family centres. Australian governments of all political persuasions have done (and continue to do) much to protect families from the adverse effects of social and economic changes. Despite this, problems persist. In seeking to address the complex challenges faced by families experiencing socio-economic vulnerability, a common approach of governments and others has been to focus on efforts to improve existing services or the service system. This service-focused approach can be distinguished from an approach that seeks to improve the conditions under which families are raising young children. These two approaches are

complementary, and neither approach is likely to be sufficient on its own. However, given the impact that social conditions have upon both child development and family functioning, there needs to be a greater focus on improving these conditions.

Section 3 addresses the key questions posed earlier regarding the core needs of children and families. The section begins by summarising the evidence regarding child development and young children's developmental needs. This shows that, while some of children's needs can be met by families, some require a wider range of caregivers, others depend upon access to high quality services, and still others on the actions and policies of local, state and federal governments. Child and family centres can play an important role in meeting some of these needs. To do so effectively, they need to have the following key features:

- Be staffed by responsive caregiving adults who are able to build attachments with children and promote the development of self-regulation and other core skills
- Provide children with exposure to a range of other children, families and caregivers
- Provide a safe and positive relational environment where the child is protected from any abuse or neglect
- Promote healthy nutrition practices
- Promote good hygiene and health care practices
- Provide a safe and healthy physical environment free of environmental toxins
- Provide opportunities and support for early learning, including high quality early childhood education and care services
- Provide opportunities for physical activity and play
- Start early – at least from infancy – also pregnancy?
- Provide access to a range of health and other services
- Enable early identification of developmental and health issues
- Work with the child and family together in a holistic way
- Facilitate referrals to other services for children with additional developmental or health needs
- Be inclusive of children with additional health, mental health and developmental needs

This section also summarises the corresponding evidence regarding the core needs of parents and families. Parent's ability to provide their children with the nurturing care they need is shaped by a range of factors, including personal factors (their own histories and capabilities, mental health and physical health), social factors (support they receive from partners, family, social networks, and communities), immediate environmental factors (physical and built environments in which they live), service factors (access to universal health and ECEC services, additional services according to need), and material wellbeing (finances, housing). Child and family centres can play a role in meeting some of these parental and family needs. To do so effectively, they need to have the following features:

- Be staffed by responsive caregiving practitioners
- Provide a safe relational environment
- Provide access to health promotion information and services
- Provide support for parents to develop positive parenting practices
- Provide support for parents to develop new employment and other skills
- Provide opportunities for parents to participate in decision-making and centre activities
- Provide access to a range of health and other services for children and parents
- Enable early identification of children's developmental and health issues, and facilitate referrals to other services for children with additional developmental or health needs
- Enable prompt identification of any additional parental and family needs, and facilitate referral to others appropriate services
- Be sensitive to and inclusive of cultural diversity

This section concludes with a ***Core Care Conditions for Children and Families*** framework, which integrates the findings regarding the needs of children, parents and families. The framework is divided into three sections: children's needs, parental / caregiver needs, and shared child and family needs. (This framework is used in the second paper as a template for analysing the extent to which integrated child and family centres can meet all the needs of children and families).

Children's needs

- Secure relationships with primary caregivers able to provide the responsive caregiving needed to build secure attachments
- Support for developing emotional and self-regulation skills
- Positive early learning environments, in the home as well as in ECEC and community settings
- Opportunities to mix with other children of different ages, and to build social skills
- Adequate and appropriate nutrition from conception onwards
- Support to establish regular sleep patterns
- Physical opportunities to play and explore
- Protection from relationship stresses – abuse and neglect by caregivers, exposure to family or community violence

Parental / caregiver needs

- Secure time to build relationship with the newborn (paid maternity/paternity leave)
- Positive social support networks (including support from family, friends, fellow parents and neighbours)
- Safe and easily accessible places to meet other families
- Access to relationally-based family-centred services
- Access to universal services during antenatal / perinatal / postnatal periods
- Access to specialist support services to address additional personal needs (e.g. mental health issues, relational violence)
- Information about child care and development , and support for managing the challenges of parenting
- Availability of learning opportunities to build personal capabilities
- Inclusiveness of the immediate social environment – absence of racism or discrimination
- Employment opportunities and family-friendly employment conditions

Shared child and family needs

- Secure and affordable housing
- Financial / employment security
- Healthy physical environment (clean air and water, freedom from environmental toxins, green spaces)
- Safe and easily navigable built environments
- Ready access to family-friendly recreational and other facilities (libraries, swimming pools, sporting facilities, playgrounds)
- Healthy food environments that provide access to fresh food outlets
- Access to support services to address exceptional family needs (e.g. financial counselling, housing services)
- Inclusiveness of the wider society – absence of racism or discrimination

The paper concludes by considering the implications of these findings for integrated child and family centres.

1. BACKGROUND

1.1 Introduction

This paper is the first of two papers that has been prepared to assist Social Ventures Australia (SVA) in exploring the potential of holistic, integrated early learning service models for improving outcomes for young children and their families. In particular, centre-based models are of focus, catering for children from birth to 6 years, and including services such as long day-care, high quality early learning programs and family support programs.

SVA is particularly interested in young children and families experiencing socio-economic vulnerability. Vulnerability is understood as highly complex and the product of the interaction between many factors. Child development and wellbeing are shaped by the balance of risk and protective factors in their environments – family, home, community, geography, and service system. This initiative has developed from understanding that, despite the importance of quality early learning environments in changing life trajectories and journeys of children experiencing socio-economic vulnerability, many children are not accessing such environments and particularly not accessing the kind of specialised model of integrated early childhood development or 'nurturing care'[1] that evidence indicates is most impactful.

To identify the service model that sees best outcomes for children and families experiencing socio-economic vulnerability, SVA commissioned a review of the evidence to answer two key questions:

- *What are the common elements of the holistic, integrated early learning service models that have the greatest impact for children experiencing socio-economic vulnerability? What are the relative benefits of each of these elements?*
- *What is required for quality implementation of each common element?*

SVA is also interested in how such a model could be trialled, evaluated, and eventually scaled up.

To address these key questions, two papers have been prepared. These approach the questions from two different perspectives.

The present paper involves an attempt to reimagine the early childhood environment for children and families. Rather than starting from a service perspective – where the focus is on improving or extending services in order to achieve better outcomes for children and families – the paper starts from the child and family perspective. The key questions addressed are:

[1] The term *nurturing care* is taken from the Nurturing Care Framework developed by the World Health Organisation, UNICEF and the World Bank Group (2018). It is discussed more fully in Appendix 1.

- *What are the core needs of children, parents and families?*
- *What are the conditions that parents need in order to be able to meet the needs of their children and families?*
- *How well are we meeting these needs?*

(It is important to note that this analysis does not focus specifically on children and families who are experiencing socio-economic vulnerability, but instead considers the needs of *all* children and families. This is so we can approach the question of how best to meet the needs of those who are socio-economically disadvantaged from the perspective of how well we are doing at meeting the needs of *all* children.)

The approach adopted in the second paper[2] is to review what can be learned from efforts to support young children and their families, particularly through integrated child and family initiatives. The key question explored in this paper is:

- *What role could integrated child and family centres play in meeting the needs of all children and families, and children experiencing socio-economic vulnerabilities in particular?*

1.2 Outline of paper

Section 2 sets the scene with an overview of the rapid social and economic changes that have occurred over the last half century, and the impact these are having on the conditions under which families are raising young children. This is followed by a summary of how children, families and society in general are faring under these changed conditions. This section concludes with an analysis of the ways in which these persistent problems have been addressed, how successful these efforts have been, and the implications for future action and for child and family centres.

Section 3 summarises the evidence regarding child development and young children's developmental needs. It also summarises the corresponding evidence regarding parents and families, addressing the key questions posed earlier: *What are the core needs of children, parents and families? What are the conditions that parents need in order to be able to meet the needs of the children and families?*

This section concludes with a ***Core care conditions for children and families*** framework that integrates the findings regarding the needs of children, parents and families. (This framework is used in the second paper as a template for analysing the extent to which integrated child and family centres can meet all the needs of children and families.) The implications of these findings for integrated child and family centres are considered.

[2] Moore, T.G. (2021). **Developing holistic integrated early learning services for young children and families experiencing socio-economic vulnerability**. Prepared for Social Ventures Australia. Parkville, Victoria: Centre for Community Child Health, Murdoch Children's Research Institute, The Royal Children's Hospital.

1.3 Methodology

The review uses a variety of strategies to identify relevant research findings, including: searching websites of key Australian and international think tanks and report repositories; searching websites of individual projects of interest; scanning key journals; conducting article scans using key search terms; consulting latest editions of key handbooks; and drawing upon previous CCCH reviews.

Definitions of key concepts used in this paper are shown in Box 1.

Box 1. Key concepts used in this review

Families experiencing socio-economically vulnerability are those who are at risk of adverse impacts from being exposed to multiple social and economic stressors.

Disadvantaged families are families that are deprived of some of the basic necessities or advantages of life, and therefore have difficulty achieving positive life outcomes or participating fully in society.

Disadvantaged communities are communities where a complex cluster of social, economic and resource factors make it difficult for people living in the community to achieve positive life outcomes (Price-Robertson, 2011). These families are likely to be disadvantaged in multiple ways, experiencing relatively unfavourable or inferior conditions and occupying a poorer position in the social hierarchy (CCCH, 2018). These material and social inequalities are deeply disempowering and undermine people's capacity to take constructive action to address them (Wilkinson & Pickett, 2018).

Health inequities or disparities are differences in health or in the key determinants of health (such as education, safe housing, and freedom from discrimination) that adversely affect marginalised or excluded groups. (*Health* is used here in its broadest sense to mean physical, mental and social wellbeing.)

Health equity is both a *process* (the process of reducing health inequities) and an *outcome* (the ultimate goal of eliminating health inequities):

> Health equity means that everyone has a fair and just opportunity to be as healthy as possible. This requires removing obstacles to health such as poverty, discrimination, and their consequences, including powerlessness and lack of access to good jobs with fair pay, quality education and housing, safe environments, and health care (Braveman et al., 2017).

This paper adopts a health and well-being equity approach, seeking to identify ways in which these disadvantages can be addressed and the families can be given the opportunity to raise their children as they (and we) would wish (Goldfeld et al., 2018a, 2018b, 2018c).

Holistic, integrated early learning service models are service models that seek to address all the needs of young children and their families in an integrated fashion. They usually take the form of child and family centres that provide a single location for the delivery of a range of child and family services.

Social determinants of health are the social, cultural, political, economic, commercial and environmental factors that shape the conditions in which people are born, grow, live, work and age (Lovell & Bibby, 2018).

Parents include parents and other primary caregivers.

2. SETTING THE SCENE

2.1 The Great Acceleration and its effects

All rich nations face a major problem: despite the rapid improvements in general prosperity, major social, psychological and health problems persist. These problems are evident across the whole population, including young children. Understanding why these problems persist is a challenge, and knowing how to address them an even bigger one.

Since the middle of the twentieth century, our planet and its inhabitants have been through the most rapid period of change in its history. Dubbed the 'Great Acceleration' (McNeil & Engelke, 2015; Steffen et al., 2015), this period involved exponential growth in a wide range of social, economic, demographic and technological changes that are unprecedented in their rapidity and scale. These changes are having a major effect upon the health of the planet (in the form of climate change), but have also dramatically altered the conditions under which we are living (Friedman, 2016; Hertz, 2020; Keeley, 2015; Leigh, 2010; Li et al., 2008; Putnam, 2015; Silbereisen & Che, 2010; Trask, 2010; Wells, 2009).

2.1.1 General impact of changes in conditions under which people are living

Many of these changes in conditions have been beneficial. The rapid economic, technological and public health improvements have produced a steady rise in general prosperity and quality of life, from which many people have benefited (Pinker, 2018; Rosling et al., 2018). Many major health problems were largely resolved during the 20th century through improved sanitation and standards of living, and advances in medical care (Klass, 2020; Ritchie, 2018).[3] However, other changes have created conditions for which our bodies were not designed, with damaging effects upon our physical and mental health. Many of these are 'mismatch' conditions, unintentional side-effects of changes we have made to the physical environment, the conditions under which we live, and the food we eat (Gluckman & Hanson, 2006; Lieberman, D., 2013). These conditions occur when our bodies encounter conditions for which they were not evolutionarily adapted (Gluckman and Hanson, 2006; Gibson, 2009; Giphart & van Vugt, 2018; Hanson and Gluckman, 2014; Lieberman, D., 2013). Lieberman, D. (2013) argues that the net effect of these changes has been to reduce or eliminate a number of the normal sources of stress which human bodies require for healthy development – removing extremes of heat and cold, feast and famine, exercise and rest. When we do not experience these normal sources of stress during development, then our bodily systems – including our metabolic, immune, endocrinal, cardiovascular and muscular-skeletal systems – fail to develop properly, leading to the emergence of mismatch diseases in adult life, if not before.

This mismatch between our evolutionary capacities and our modern living environments has led to a major change in the nature of the physical and mental health problems that people experience (Egger et al., 2015;

[3] While many major communicable diseases were brought under control, continuing population growth and reduction in spaces for animals (and bacteria) to live have increased the likelihood of *zoonoses* (infectious diseases that jump from animals to humans) that result in epidemics and pandemics, such as the world is currently experiencing (Christakis, 2020; Waltner-Toews, 2020).

Gluckman et al., 2019; Kearns et al., 2007; Li et al., 2008; Palfrey et al., 2005). Such problems are now far more likely to be chronic rather than acute conditions, and are known as *non-communicable diseases* (NCDs) (Prescott, 2015) or *mismatch diseases* (Lieberman, D., 2013). These include conditions such as diabetes, asthma, allergies, as well as conditions such as obesity that are not diseases in themselves, but increase the risk of developing non-communicable diseases. Over the last half century or so, there has been a huge growth in the incidence of these conditions. Nearly two thirds of deaths worldwide are attributable to non-communicable diseases (Bloom et al., 2011), and vast numbers of people are living with disabilities caused by mismatch diseases. According to the Australian Institute of Health and Welfare (2015), about half of all Australians have a chronic disease, and around 20 per cent have at least two. Mismatch diseases account for the bulk of health care spending throughout the world (Lieberman, D., 2013), and are now seen as a major global threat to humanity, not only to our health, but to the social and economic advancement of all nations (Prescott, 2015; United Nations, 2011). Mismatch environmental influences during the first 1000 days have been shown to affect our susceptibility to a wide range of the non-communicable diseases and conditions in later life (Balbus et al., 2013; Barouki et al., 2012; Gibson, 2009; Heindel et al., 2015; Lieberman, D., 2013; Prescott, 2015).

Another result of the rapid social and economic changes society has experienced is a change in nature of social problems faced. These are now more likely to take the form of complex or 'wicked' problems (Australian Public Services Commission, 2007; Head & Alford, 2008; Moore & Fry, 2011; Rittel and Webber, 1973; Weber & Khademian, 2008). Examples of wicked problems include child protection, family violence, Aboriginal disadvantage, social exclusion, health inequalities, entrenched poverty, and obesity. Not all wicked problems are new, but some (e.g. poverty and child abuse) have become more of a concern because of increased awareness regarding their adverse consequences on child development and learning, and the complex nature of their underlying causes. Wicked problems are complex and intractable and cannot be resolved using traditional governance and leadership models, nor by service-driven approaches, but require a systemic and more flexible approach (Grint, 2010; Moore & Fry, 2011).

Another notable feature of the social and economic changes is that, despite the overall rise in prosperity and quality of life, these benefits have not been evenly distributed, and there are widening gaps between the rich and the poor in many developed nations. Average household wealth in Australia is high by international standards but is very unequally distributed: there is a wide gulf between the incomes of those with the lowest and those with the highest incomes in Australia, and wealth inequality has grown strongly over the last 20 years or so (Davidson et al., 2020). There is a strong association between inequality and poverty, and inequality itself can act as a driver of poverty (Hills et al., 2019). There are a significant number of communities in Australia experiencing entrenched disadvantage (Committee for Economic Development of Australia, 2015; McLachlan et al., 2013; Vinson, 2007), accompanied by social gradients in health and wellbeing outcomes.

So far, we have not made significant progress in reducing these inequities or in addressing the other wicked problems we face.

2.1.2 Impact on the conditions under which families are raising young children

The dramatic social and economic changes that have occurred of the last half century have had a profound impact on families. These changes have dramatically altered the structure of families as well as the conditions under which they are raising young children (Friedman, 2016; Gadsen et al., 2016; Keeley, 2015; Leigh, 2010; Li et al., 2008; McKay, 1993; Putnam, 2015; Richardson & Prior, 2005; Silbereisen & Che, 2010; Stanley et al., 2005; Trask, 2010; Ulferts, 2020; Wells, 2009), with potentially adverse consequences for children from more disadvantaged backgrounds (Green, 2013; Richardson & Prior, 2005).

The changes in Australian families over the past fifty years take many forms. Families have become smaller, and there has been a decline in the percentage of families with dependent children (Qu, 2020a). Extended families are also smaller, so that children have fewer cousins, uncles and aunts. The rate of marriage has declined in Australia, and couples have been marrying later (Qu, 2020c). The age at which women have their first child has risen substantially since 1980, and family size has become smaller with women having fewer children overall (Qu, 2020b). The reduction in family size has been accompanied by greater parental investment in children and more anxiety about parenting. This has led to children being allowed less unsupervised and free play, less risk taking, and more organized activities.

Australian families have also changed in composition, becoming more diverse with increasing proportions of Indigenous and immigrant households (Qu, 2020a). Families are also more diverse in their structure, with more blended families, more shared custody arrangements, and more same sex couple parents. Despite concerns about the impact that these new forms of parenting might have on children's development and wellbeing, the evidence indicates that these changes in family composition are not necessarily bad (Golombok, 2020).

Family employment patterns have shifted over recent decades away from that of a breadwinning father and stay-at-home mother (Warren et al., 2020). There has been significant changes in the labour market, with a decline in men's participation and an increase in women's employment (Richardson, 2005). Fewer women leave the labour force or take time out of the labour force when they have children (Warren et al., 2020). Average weekly housing costs have grown over time, especially for families with dependent children, with single-parent families experiencing the greatest burden (Warren & Qu, 2020).

The conditions under which families are raising young children have also changed dramatically. These includes: changes to the home environments – houses are bigger but playspace is smaller (Hall, 2007); changes to the physical environment – reduced access to parks and safe places to play (Sustainable Development Commission, 2008; Wood, 2009); more safety concerns leading to children doing less walking and cycling to school, and less risk-taking generally (Perrin et al., 2007).

Many families feel disconnected from their neighbourhoods and communities (Leigh, 2010: Ulferts, 2020). This has weakened the informal social support and safety net for a lot of families, requiring more families to assume full responsibility for their children's welfare, rather than relying on the extended family and community as a whole to join in the oversight, protection, and nurturing of children (Ulferts, 2020). When

looked at from the perspective of the parent of young children, one of the most striking features of today's urban environments is that there is often no dedicated facility for young children and their parents – no places where parents and children can meet with other parents and children and that they both look forward to going to. In the absence of anywhere more appropriate, some families resort to excursions to shopping malls. More advantaged parents create their own opportunities, but more disadvantaged families are unable to do this easily, being constrained by lack of transport or the absence of social connections.

Economic pressures and social changes now mean that many parents need to work while their children are young. This has led to different ways of caring for young children, particularly the expansion of paid child care. This has led to the very idea of a nuclear family as the standard setting for raising children in the Western world being questioned (Brooks, 2020). Historically, the nuclear family is a relatively recent Western-specific phenomenon. In other cultures and periods, parenting has depended upon childrearing being shared with other caregivers (known as alloparenting) (Hrdy, 2009; Konner, 2010). This is captured by the frequently-cited African saying that 'It takes a village to raise a child.' While there is no serious challenge yet to the modern Western idea of the nuclear family as being solely responsible for child, it is important for the sake of children and families that we provide families with more community support and a more shared versions of caregiving, particularly during the crucial early years (Bruner, 2007a).

2.2 The current status of children and families

How are Australian children and families faring in these changed social and economic conditions? While the majority of children are doing well, a minority are not, and there are unacceptably high levels of some child, family and societal indicators.

Some indicators of child health and wellbeing are not as positive as we might expect. These include school readiness, mental health, obesity, and aspects of physical health.

- ***School readiness***. According to the latest Australian Early Development Census report (Department of Education and Training, 2019), a majority of children are developmentally on track for each of the five AEDC domains. However, by the time they start school, over 21 per cent of Australian children were vulnerable in one or more key areas of development, and 11 per cent were vulnerable in two or more. While the gap between Aboriginal and Torres Strait Islander and non-Indigenous children has narrowed since the first AEDC report in 2009, there are still two in five Aboriginal and Torres Strait Islander children who are vulnerable in one or more key areas of development. Nearly a third of children from the most disadvantaged backgrounds were considered to be developmentally vulnerable, more than twice the rate of their counterparts from the least disadvantaged areas. The effect of disadvantage is evident across all key areas of development, and is not changing over time. Overall, although there have been some statistically significant improvements in the proportion of developmentally vulnerable Australian children since 2009, the overall percentage remains high. These findings are of concern because children who start school behind their peers find it hard to catch up (Cunha et al., 2006; Halle et al., 2012; Shonkoff & Phillips, 2000.

- ***Mental health.*** Emotional disorders are increasingly common in many countries, including Australia (Ford, 2020; ARACY, 2018). The Australian Research Alliance for Children and Youth's latest Report Card on the wellbeing of young Australians (ARACY, 2018) shows that mental health is a growing issue for young Australians, particularly amongst young Aboriginal and Torres Strait Islanders. Concerns about rising mental health issues have prompted a Productivity Commission inquiry (Productivity Commission (2020), and a Royal Commission Into Victoria's Mental Health Services, due to report in February 2021.[4]

- ***Overweight and obesity***. According to the Australian Institute of Health and Welfare (2020a), overweight and obesity affects 25% of Australian children and adolescents, and is associated with poorer health and wellbeing and higher health-care costs. Some children and adolescents are more likely to be overweight or obese, such as children living in disadvantaged areas. Many factors contribute to the development of overweight and obesity, including environmental influences and individual behaviours.

- ***Diabetes, allergies and asthma***. Based on self-reported data from the ABS National Health Survey 2017–18 (ABS, 2019), the two leading chronic health conditions for children aged 0–14 were asthma and hayfever and allergic rhinitis. Both these are diseases of the respiratory system and affect about 10% (around 400,000) of children. Asthma rates have not altered over the last decade (AIHW, 2020a). Food allergies, on the other hand, are on the rise (O'Loughlin and Hiscock, 2020).

Some indices of family functioning, such as family violence, and child abuse and neglect, are also disturbingly high.

- ***Child abuse and neglect.*** According to the Australian Institute of Health and Welfare (2020), 62,700 claims of child maltreatment were substantiated for 47,500 children in 2018/19. Emotional abuse was the most common primary type of abuse substantiated for children (54%), followed by neglect (21%), physical abuse (15%), and sexual abuse (10%). Children in younger age groups were more likely to be the subjects of substantiations than those in older age group, with infants (children aged under 1) the most likely of all. Aboriginal and Torres Strait Islander children are grossly over-represented in child protection and out-of-home care services compared to non-Indigenous children (Child Family Community Australia, 2017). Poverty, assimilation policies, intergenerational trauma and discrimination and forced child removals have all contributed to the over-representation of Aboriginal and Torres Strait Islander children in care, as have cultural differences in childrearing practices and family structure (Child Family Community Australia, 2017).

- ***Family violence***. Family, domestic and sexual violence is a major national health and welfare issue that can have lifelong impacts for victims and perpetrators. It affects people of all ages and from all

[4] See submissions from Oberklaid (2020) (https://rcvmhs.vic.gov.au/download_file/view/2379/465) and Moore (2020) (https://rcvmhs.vic.gov.au/download_file/view/2380/465)

backgrounds, but predominantly affects women and children (AIHW, 2019). Children exposed to family violence can experience serious emotional, psychological, social, behavioural and developmental consequences as a result of experiencing violence. Infants and young children are especially at risk (Campo, 2015; Sety, 2011). Family violence is also the leading cause of homelessness for children (Campo, 2015). Concerns about high rates of family violence prompted the Victorian Government to conduct a Royal Commission Into Family Violence (2016)[5].

Societal indices also show that there are major problems facing families of young children. These include poverty, economic and social inequities, and social exclusion.

- ***Poverty.*** The latest analysis of Australian data shows that 13.6% of the population was living in poverty in 2018 (Davidson et al., 2020a). This included 774,000 children aged under 15. This is considerably higher than in many other developed countries, and has remained high for over 30 years (Productivity Commission, 2018). This is a concern because children from households that experience several years of income poverty are more likely to have substantially worse health and impaired psychological well-being, and impaired cognitive and emotional development throughout the lifespan (Duncan et al., 2013; Hackman et al., 2010; Luby, 2015; Noble et al., 2015; Vera-Toscano & Wilkins, 2020; Yoshikawa et al, 2012). Children from a disadvantaged background often struggle to move up the economic ladder. Experiencing just a single year of income poverty during childhood is associated with lower earnings in early adulthood, compared with never having experienced poverty as a child, and experiencing multiple years of income poverty during childhood worsens the socio-economic outcomes of children in adulthood (Vera-Toscano & Wilkins, 2020).

- ***Economic, social and health inequities***. Inequities are preventable differences in health and wellbeing outcomes between those who are economically or socially disadvantaged and those who are better off (Braveman, 2006, 2014). As noted already, In Australia, there is a wide gulf between the incomes of those with the lowest and those with the highest incomes, and this gap has grown strongly over the last 20 years or so (Davidson et al., 2020b). This means that Australia's continued prosperity has not been shared equally among families. While most families have benefited from economic and social change, those with fewer resources have not, and are struggling to cope with the demands of parenting in a rapidly changing world. A report on the state of Australia's mothers (Save the Children, 2016) found that where mothers lived, their cultural background and their economic resources helped determine their health and wellbeing. Mothers living in rural areas, mothers who are Aboriginal or Torres Strait Islander, and mothers in lower socio-economic households are generally worse off across all indicators examined, including health (maternal mortality, child mortality, antenatal care), education (child development, women's education), income (average household income) and relative socio-economic disadvantage.

[5] https://www.vic.gov.au/about-royal-commission-family-violence

As a result, there are significant inequities in children's health, development and wellbeing (Goldfeld et al., 2018a, 2019; Keeley, 2015; Marmot, 2015, 2016; Sollis, 2019). Maternal and child health inequities emerge even before birth (Keating et al., 2020). These inequities follow social gradients: the more disadvantaged one's circumstances, the worse one's long term health and wellbeing outcomes are likely to be (Adler & Stewart, 2010). Social gradients represent more than just disparities between the poor and the wealthy, but are continuous: at any given point along the socioeconomic continuum, one is likely to experience inferior health outcomes to those above them (Marmot & Wilkinson, 2006). For children, it is the circumstances in which they live, learn and develop that drive differential health and developmental outcomes: the more disadvantaged their circumstances, the poorer their health and developmental outcomes (Goldfeld et al., 2018a).

These inequities in health, development and wellbeing are evident from birth, and, despite overall improvements in health outcomes, continue to grow (Berry, 2017). Gaps in both cognitive and noncognitive skills between children from advantaged and disadvantaged backgrounds open up in infancy, and widen progressively in the preschool years (Heckman & Mosso, 2014). These disparities compromise future education, employment and opportunities (Brinkman et al., 2012; Goldfeld et al., 2018a; Heckman & Mosso, 2014; Woolfenden et al., 2013).

- ***Social exclusion*** is also a significant problem. Miranti and colleagues (2018) found that, in 2016, one in six Australian children aged 0-14 years were living in poverty but many children were also socially excluded, lacking the opportunities and family resources to be socially connected and to be able to participate fully in their local communities. Among other adverse effects, child social exclusion affects educational attainment – the prevalence of low AEDC scores was twice as high in areas of highest social exclusion rates compared to those with the lowest rates. A local community's risk of child social exclusion is highly persistent over time. In those areas where social inclusion rates improved, the key drivers of improvement in child social exclusion were above-average improvement in the socio-economic well-being of families in these areas and in their educational attainment, and reduced exposure to increases in housing stress.

Many of the factors just reviewed are wicked or complex problems, with multiple causes and resistant to direct solutions.

This is a worrying list. While most children and families are not showing sign of poor outcomes and are not affected by the major social factors, a significant minority are. Most of these levels of poor functioning have not shifted, and some appear to be worsening.

Why this should be so is puzzling. Keating and Hertzman (1999) famously dubbed this 'modernity's paradox':

> A puzzling paradox confronts observers of modern society. We are witnesses to a dramatic expansion of market-based economies whose capacity for wealth generation is awesome in comparison to both the distant and the recent past. At the same time, there is a growing perception

> of substantial threats to the health and well-being of today's children and youth in the very societies that benefit most from this abundance.

The paradox lies in the fact that every improvement comes with unintended consequences, side effects that can be bad for our health and wellbeing (with the poorest members of society most likely to be negatively affected). The challenge is to understand these side effects so that we can address them.

How does Australia compare with other comparable countries? This varies according to the dimensions and indicators chosen. One international comparison focusing on mothers (Save the Children, 2015) found that Australia was one of the top 10 places to be a mother world-wide. However, the latest report from UNICEF (UNICEF Innocenti, 2020) includes a league table that rates Australia as 32 out of 38 other rich (OECD and EU) countries in terms of child well-being outcomes (based on indices of mental well-being, physical health, and academic and social skills.)

Australian governments of all political persuasions have done (and continue to do) much to protect families from the adverse effects of social and economic changes. Despite this, the problems persist. In the next section, we look at what strategies have been used to address these problems.

2.3 What has been tried

In seeking to address the complex challenges faced by families experiencing socio-economic vulnerability, a common approach of governments and others has been to focus on efforts to improve existing services or the service system. This has included actions such as:

- expanding the provision of existing services (e.g., providing preschool programs for 3 year olds, and home visiting programs from pregnancy to 2 years)
- seeking to improve the quality of early childhood and parenting programs
- identifying evidence-based interventions for children and parents
- seeking to integrate the available services more effectively (e.g., through place-based initiatives).

This service-focused approach can be distinguished from an approach that seeks to improve the conditions under which families are raising young children. These conditions include social connections, housing, income, employment opportunities, transport, urban environments, healthy physical environments, easily accessible facilities, access to green spaces, and neighbourhood safety. These two approaches are complementary: the service-focused approach seeks to improve child and family outcomes by providing direct services to children and parents, whereas the approach that focuses on improving conditions seeks to improve child and family outcomes by removing sources of stress and providing positive resources that promote family functioning and parental wellbeing. Neither approach is likely to be sufficient on its own.

To date, more effort has gone into improving services and service systems than on improving the conditions under which families are raising young children. So far, this approach has not been sufficient to make a significant improvement to the child and family outcomes that are of concern – such as school

readiness, child protection rates, mental health issues, obesity, and intergenerational disadvantage. The rates of these complex or 'wicked' problems remain stubbornly high.

There are a number of reasons why this might be so. One is that, although we know a lot about how to provide effective models of all these services, we fail to do so consistently or equitably, or fail to scale up effective interventions effectively (Blasé & Fixsen, 2013; Britto et al., 2018; Fixen et al., 2005). Many of the existing services still reflect the form they took when first established many decades ago – stand-alone services with separate funding streams. Although the conditions under which families are raising their children have changed dramatically, the services have not changed nearly as much, and may no longer be as fit for purpose as they once were. While these services still work reasonably well for most families, they appear to be failing the most disadvantaged, and a rethink of how we support these families is overdue.

A second reason why our best efforts have not yet produced significant improvements is the difficulty in overcoming service 'silos', with departments and agencies focusing solely on the services they are funded to provide, and being uninterested or unable to work with other agencies to integrate support for families (Barnes et al., 2018). This results in families receiving fragmented services, or no service at all when they cannot locate the right agency. The fragmentation of services is particularly problematic for the families of children below school age because there is often no universal service that all families use during these years. While all children are known to the service system at birth and at school entry, the contact they have with early childhood and other services between those two points varies greatly (Barnes et al., 2018).

Another reason why the service-focussed approach is failing to produce significant improvements is that it ignores important factors that can compromise family functioning and lead to poor child and family outcomes. While they play an important role in determining outcomes, services are not the only factor in shaping many child and family outcomes. The conditions under which families are raising young children have as much if not greater impact. Any effort to improve outcomes must address these conditions if they are to succeed. Most services are designed to tackle the presenting ('downstream') problems rather than the direct conditions that precipitate or sustain these problems ('midstream' problems), or the factors that produce these conditions (the 'upstream' problems, the 'causes of the causes') (Lovell & Bibby, 2018; Marmot, 2016; Ratcliff, 2017)

A fourth problem with the service-focussed approach is that professionals and governments frame the problems to be addressed. While this professional perspective is perfectly valid, it is not the only way of framing the issues. Families and communities are likely to frame their challenges in different ways.[6] Unless their perspectives and circumstances are understood, then the solutions that professionals devise are not likely to be seen by families and communities as relevant, and are therefore less likely to be acceptable to them or succeed in making a difference to the outcomes of interest.

[6] See report by the Southern Initiative and Auckland Co-design Lab (2017) for an example of how parents frame the challenges they face.

If the current approach is not making as much as a difference as we would like, what should we do instead? This paper tackles this question from two different perspectives.

The first involves an attempt to reimagine the early childhood environment for children and families. Rather than starting from a service perspective – where the key question is *How can we get better outcomes by improving or extending services for families* – we will start from a child and family perspective. The key questions to be addressed are:

- *What are the core needs of children, parents and families?*
- *What are the conditions that parents need in order to be able to meet the needs of the children and families?*
- *How well are we meeting these needs?*

The second approach is to review what we have learned from our efforts to support young children and their families, particularly through integrated child and family initiatives. The key question explored in this section is:

- *What role could integrated child and family centres play in meeting the needs of all children and families, and children experiencing socio-economic vulnerabilities in particular?*

3. CHILD AND FAMILY NEEDS

This section reviews the evidence regarding child development and what children need to develop well, and the conditions families need to be able to meet their children's needs. The section concludes with a ***Core care conditions for children and families*** framework that integrates the findings from these reviews. The purpose of the Framework is to provide a comprehensive picture of child and family needs that can be used later in the paper to explore what contribution child and family centres can make to meeting these needs, and to consider how the needs that child and family centres cannot meet can be addressed.

(It is important to note that this analysis does not focus specifically on children and families who are experiencing socio-economic vulnerability, but instead considers the needs of *all* children and families. This is so we can approach the question of how best to meet the needs of those who are socio-economically disadvantaged from the perspective of how well we are doing at meeting the needs of all children.)

3.1 Children's developmental needs

This section begins with some key features of child development and learning, then looks at what conditions children need to flourish.

3.1.1 Key features of child development

The key features of child development are described under four headings: the nature of early development, children and parents, children's learning, and implications for action.

The nature of early development

- ***The early years are critically important for development*** (Belsky et al., 2020; Black et al., 2017; Britto, 2017; Britto et al., 2017; NASEM, 2019a; Shonkoff & Richter, 2013; Siegel, 2020; Sroufe, 2021). What happens during this period can have lifelong consequences for children's health and wellbeing (Centre on the Developing Child at Harvard University, 2010; Fox et al., 2010; Shonkoff et al., 2012; Zeanah & Zeanah, 2018). They establish a foundation of development that will help children grow, learn and thrive.

- ***The first 1000 days – the period from conception to the end of the second year – are particularly important*** (Berry, 2017; CCCH, 2018; Darling et al., 2020; Karakochuk et al., 2017; Miguel et al., 2019; Moore et al., 2017). This is the period when we are most 'developmentally plastic', that is, most responsive to external influences (Ismail et al., 2017). As a result, experiences and exposures during this period have a disproportionate influence on later health and development (Gluckman et al., 2015; Heindel & Vandenberg, 2015; Prescott, 2015). Major physiological systems develop rapidly in pregnancy and early childhood (NASEM, 2019a). When considering the entire life course, it is early experiences, pre- and postnatally, that are the most powerful in working together with individual genetic makeup to influence the physical, mental, and cognitive development of the child (Halfon et al., 2018; NASEM, 2019a).

- ***Early developmental plasticity is a double-edged sword***. The foetus and infant are more susceptible to both positive and negative experiences. If the conditions are positive, children will thrive, but exposure to adverse experiences early in life can be damaging for long-term development and learning (Allen & Donkin, 2015; Friedman et al., 2015; Nelson, 2018; Shonkoff et al., 2012; Teicher & Samson, 2016). There is a clear inequalities dimension to Adverse Childhood Experiences (ACEs). While all ACEs are present across society, inequalities in wealth, disadvantage and the existence of poverty impact on the chances of experiencing ACE. Children growing up in disadvantaged areas, in poverty, and those of a lower socioeconomic status are more likely to be exposed to ACEs compared to their more advantaged peers – and more likely to experience co-occurring ACEs (Allen & Donkin, 2015). The more adverse experiences children have, the more damaging the effects (Allen & Donkin, 2015; Bellis et al., 2019; Guinosso et al., 2016; Hughes et al., 2017; Quach et al., 2017).

- ***Early experiences and exposures shape all aspects of development, biological as well as neurological*** (Moore et al., 2017; Centre of the Developing Child, 2020). It is not just brain development and learning that are being shaped, but also health and wellbeing. Major physiological systems develop rapidly during pregnancy and early childhood (NASEM, 2019a). All biological systems in the body interact with

each other and adapt to the contexts in which a child is developing – for better or for worse (Boyce et al., 2021; National Scientific Council on the Developing Child, 2020).

Children and parents

- ***The health and wellbeing of parents prior to conception impact on the development of the child*** (Chavatte-Palmer et al., 2016; Genuis & Genuis, 2016; Lane et al. 2014; Mørkve Knudsen et al., 2018; Moore et al., 2017; NASEM, 2019a; Schmidt, 2018; Stephenson et al., 2018). The importance of preconception health care is also increasingly being recognised (Barker et al., 2018; Bateson & Black, 2018; Stephenson et al, 2018). Preconception care involves interventions that aim to identify and modify the various biomedical, behavioural, and social risks to the health of people of child bearing age.

- ***What parents transfer to the children are not only their genes***. Parents also transfer the ways in which this genetic inheritance has been modified by experiences and exposures, and by their life-styles and even those of their parents. This intergenerational transfer can affect biological as well neurological function of the developing child (e.g., Mørkve Knudsen et al., 2018). Parents also pass on environments, since they are highly likely to be raising their children in the same environments that may have produced the modifications in their own physiological and neurobiological functioning (Blackburn & Eppel, 2017; Lieberman, D., 2013; Moore, 2015). In this way, risk and protective factors can be transferred intergenerationally (Jablonka & Lamb, 2014; Lieberman, 2013, D.; NASEM, 2019a).

- ***Development is transactional***. The developing child plays an important role in interactions and development: the child shapes the environment at the same time as the environment shapes the child (Bornstein, 2009; NASEM, 2019a; Sameroff, 2009). Factors in the child that can play a role in shaping parental behaviour include temperamental characteristics, such as what are known as differential susceptibilities (Belsky & van Ijzendoorn, 2015, 2017; Boyce, 2019; Boyce et al., 2021; van Ijzendoorn & Bakermans-Kranenburg, 2015): some children are more acutely responsive to environmental experiences, both positive and negative – the children who are most negatively affected by adverse experiences also benefit the most from supportive ones. Children's responsiveness to caregivers may also be affected by developmental disabilities and delays (Moore, 2009).

Children's learning

- ***Learning is a lifelong process of growth, development and adaptation*** (Shuey & Kankaraš, 2018). Learning in the early years is partly the result of natural processes (children's maturation and their engagement with caregivers and environments) but is also shaped by intentional experiences and supports provided in the context of relationships with others (Shuey & Kankaraš, 2018).

- ***The key domains of early learning*** include: communication, language and literacy skills; numeracy and other non-verbal cognitive skills; self-regulation; and social and emotional wellbeing (NASEM, 2019a; OECD, 2015; Raver & Blair, 2016; Shuey & Kankaraš, 2018). Mastering these skills early is

important for children's wellbeing in the early years, but also because they have long-term benefits for schooling and adulthood: later life outcomes that are linked with early learning include physical health, mental health, education, socioeconomic status, employment, antisocial or criminal behaviours, relationship quality, leadership and social engagement (Shuey & Kankaraš, 2018). For those who do not master these skills early, making up ground later in life can be difficult.

- ***Children learn / adapt from birth and their development and learning is cumulative***, with later development and learning building upon earlier learning and development (Cunha & Heckman, 2009; Sroufe, 2021). Development always builds upon itself, with each emerging capacity providing the foundation for future development (Sroufe, 2021). Early learning makes it easier to acquire additional knowledge and skills in the future (Shuey & Kankaraš, 2018).

- ***Children are competent learners who flourish when adults give them opportunities to play and explore, and hold high expectations of them*** (Christakis, 2016; Gopnik, 2016). Direct teaching is not as effective in building young children's knowledge as providing them with stable, safe environments where play and self-directed learning can flourish (Early Childhood Australia, 2013; Christakis, 2016; Gopnik, 2016; Pascoe & Brennan, 2017).

- ***Children learn in every environment in which they spend time*** (Shuey & Kankaraš, 2018). Their development and learning are therefore shaped by the nature and quality of these environments, and the physical, social and learning opportunities these environments provide.

- ***Children's health and development are strongly shaped by the social, economic and environmental conditions into which they are born and grow*** (Braveman et al., 2011; Lovell & Bibby, 2018; Marmot & Wilkinson, 2006; Moore et al., 2015, 2017; Ratcliff, 2017; Shuey & Kankaraš, 2018; Spencer, 2018; Tarazi et al., 2016; WHO Commission on the Social Determinants of Health, 2008). These social conditions, known as the *social determinants of health*, ultimately work through biological pathways to shape our health and wellbeing. Key social determinants include: socioeconomic status, parental/carer educational attainment, parental/carer employment status, poverty, geographic location, disability, gender, and social connectivity. Social determinants play a critical role in the first 1000 days as it is during this period that a number of vital skills and abilities develop (Moore et al., 2015, 2017; Dyson et al., 2010; Hertzman & Boyce, 2010).

- ***Children continue to be shaped by their environments as they grow.*** Important as the early years are, development is probabilistic rather than deterministic (Belsky et al., 2020; NASEM, 2019a; Sroufe, 2021; Sroufe et al., 2020): early exposures and experiences set children on developmental trajectories, but these can be altered if there are significant changes in the environments that have shaped their early development. Part of the reason why early development is predictive of later development is that the environments that have shaped early development tend not to change (Moore, 2007). This highlights the need to provide children who have stressed or deprived early experiences with more caring and responsive environments as they grow.

Implications for action

- ***It is important to intervene as early as possible in the developmental sequence in order to have maximum preventive effect*** (Boyce et al., 2021; Fox et al., 2015; Moore & McDonald, 2013; NASEM, 2019a; Prevention Institute, 2019; Yousafzai, 2020). The most effective form of prevention is to improve the early lives of disadvantaged children (Heckman, 2012). This means focusing much more on improving the conditions under which families are raising young children (Moore & McDonald, 2013).

- ***Investing in early years services is also important, as they are cost effective, reduce demand on later services, and promote health and wellbeing in adulthood*** (Campbell et al., 2014; Fox et al., 2015; Garcia & Heckman, 2020; Garcia et al., 2019; NASEM, 2019a; Shonkoff & Richter, 2013). Getting it right in the early years reduces downstream expenditure on remedial education, school failure, poor health, mental illness, welfare recipiency, substance misuse and criminal justice. Expenditure on evidence-based prevention initiatives can reduce incidence and prevalence at a population-level (Fox et al. 2015). Quality early childhood education and care is best considered as an investment rather than a cost, since it provides a strong return of 2-4 times the costs (Pascoe & Brennan, 2017; Yoshikawa et al., 2013). The benefits can be even larger for the most severely disadvantaged children: unless given effective help in the early years, they are highly likely to end up as adults who, although small in numbers, account for a disproportionally large cumulative economic burden (Belsky, 2020; Caspi et al., 2016).

- ***The economic returns of investments in the early years are higher than those in later years*** (Karoly, 2016; Karoly et al., 2005; Heckman & Mosso, 2014; Teager et al., 2019). Although it is possible to shape the development and wellbeing of children and young people when they are older, it becomes progressively harder and more costly to do so (Fox et al., 2015; Heckman & Mosso, 2014). It is most cost effective to invest in early intervention that resolves issues as they emerge and are malleable, rather than responding to crisis, stress and trauma, which is both more challenging and more expensive to resolve (Fox et al., 2015; NASEM, 2019a).

3.1.2 What children need to develop well

There is a wealth of evidence now available regarding child development and the factors that shape development and learning. A number of frameworks have been developed to capture these key factors (see Appendix 1). These include two international examples – the *Nurturing Care Framework* (WHO, UNICEF and World Bank Group, 2018) and the UNICEF Innocenti framework (UNICEF Innocenti, 2020) – and two Australian frameworks – the *Early Years Learning Framework* (DEEWR, 2009) and *The Nest* (ARACY, 2014).

The most high profile of these is the *Nurturing Care Framework* launched by the WHO, UNICEF and World Bank in 2018. This, and a subsequent WHO–UNICEF–*Lancet* Commission (Clark et al, 2020), propose that meeting all children's needs for nurturing care is of such importance that it should be seen as central to the achievement of the United Nations' 2015-2030 *Sustainable Development Goals* (United Nations, 2015). This framework describes five core components that young children need to develop well: *good health*; *adequate nutrition; responsive caregiving; opportunities for early learning*; and *security and safety*. Recently,

Black and colleagues (2021) have extended the Nurturing Care Framework, proposing a comprehensive, multisectoral, multilevel life-course conceptualisation of human capital development from preconception to adolescence. They identify six developmental periods (preconception/ prenatal, newborn/birth, infancy/toddlerhood, preschool, middle childhood and adolescence), and outline actions at each level to promoting resilience and adaptive developmental trajectories while mitigating negative consequences of adversities.

Also based on evidence regarding the developmental needs of children, the Australian Research Alliance for Children and Youth's *The Nest* framework (ARACY, 2014) focuses on six wellbeing domains: *being loved and safe; having material basics; being healthy; learning; participating;* and *positive sense of culture and identity.*

Drawing on these frameworks and other research, here is a list of the key conditions that children need to develop well. These are grouped under six headings: relational needs, safety and protection needs, health and nutrition needs, learning and activity needs, environmental and material needs, and service needs.

Relational needs

- ***Positive early caregiving relationships***. The early caregiving environment is crucial for long-term development and learning (Dykas & Cassidy, 2013; NASEM, 2019a; NSCDC, 2004; Siegel, 2020). Positive relationships with caregivers are the building blocks for subsequent relationships and child outcomes (NASEM, 2019a, 2019b). The single most important factor in promoting positive psychosocial, emotional, and behavioural well-being is having a strong, secure attachment to their primary caregivers (Axford et al., 2018; NASEM, 2019a, 2019b; Siegel, 2020). Responsive caregiving is the means through which secure attachments develop: parents who are consistently responsive to their child's distress help their children to become 'securely' attached (Axford et al., 2018; Britto et al., 2017; WHO, UNICEF and World Bank, 2018; Zeifman, 2013). Whereas secure attachment is associated with better outcomes across a range of domains in childhood, insecure and disorganised attachment, which are disproportionately common in disadvantaged social groups, are associated with a range of later problems, including behavioural and mental health problems (Axford et al., 2018; Siegel, 2020).

  The development of emotional self-regulation and executive regulation are key developmental tasks upon which much later development and learning depends (NASEM, 2019a, 2019b). These skills are learned by infants and toddlers are co-regulated by trusted caregivers (Centre on the Developing Child, 2016b; Zeifman, 2013). *Self-regulation* helps us to draw on the right skills at the right time, respond effectively to the world around us, and resist inappropriate responses. *Executive function* includes the ability to focus and sustain attention, set goals, follow rules, solve problems, and delay gratification.

  There are several factors that may interfere with the development of secure attachments between infants and caregivers. The parent may have problems being fully responsive to the child, either because of mental health issues (e.g., post-natal depression) or a compromised attachment history of their own. The parents may also be preoccupied by stressful family circumstances (e.g., housing or financial insecurity, family violence). The child may also be difficult to engage, for example, being slow to respond because of developmental problems.

- ***Exposure to a range of other adults, families and children*.** As children grow, they need exposure to a range of other caregivers, families and children. While attachments to their parents are primary, young children can also benefit significantly from relationships with other responsive caregivers both within and outside the family (Centre on the Developing Child, 2016b). Close relationships with other nurturing and reliably available adults do not interfere with the strength of a young child's primary relationship with his or her parents. In fact, multiple caregivers can promote young children's social and emotional development. However, frequent disruptions in care and high staff turnover and poor-quality interactions in early childhood program settings can undermine children's ability to establish secure expectations about whether and how their needs will be met.

Safety and protection needs

- ***Protection from child abuse***. Child abuse and neglect are associated with a marked increase in risk for major psychiatric disorders (major depression, bipolar disorder, post-traumatic stress disorder, substance and alcohol abuse, and others) and medical disorders (cardiovascular disease, diabetes, irritable bowel syndrome, asthma, and others) (Nemeroff, 2016; Teicher & Samson, 2016). Evidence from the NSW Child Development Study (Department of Family and Community Services, 2018) confirms that exposure to any form of childhood maltreatment is associated with an increased risk of developmental vulnerability at age five. Children exposed to multiple maltreatment types were more likely to be vulnerable on multiple developmental domains, relative to non-maltreated children. These remain strong after controlling for the influence of other contributing factors.

- ***Protection from neglect.*** Neglect can be as damaging if not more so than actual abuse (Centre on the Developing Child, 2016b; National Scientific Committee on the Developing Child, 2012; Teicher & Samson, 2016). When compared with children who have been victimized by overt physical maltreatment, young children who experienced prolonged periods of neglect exhibit more serious cognitive impairments, attention problems, language deficits, academic difficulties, withdrawn behaviour, and problems with peer interaction as they get older. This suggests that sustained disruption of serve and return interactions in early relationships may be more damaging to the developing architecture of the brain than physical trauma, yet it often receives less attention.

- ***Protection from family violence*** (Axford et al., 2018; Campo, 2015; Kaspiew et al., 2017). Significant numbers of Australian children are exposed to domestic and family violence (Campo, 2015). Family violence can be very harmful for children's physical health, development (emotional, social, cognitive), relationships and behaviour, in part because of its adverse effects on parents' capacity to protect and interact positively with their children. In the antenatal period, domestic abuse is associated with poor birth outcomes, including a greater risk of miscarriage, preterm birth, low birthweight and neonatal death. For infants and toddlers, it can affect developmental milestones, including language learning. Early life stress, such as exposure to violence, is related to neurocognitive deficits, including executive functioning (the ability to organise and synthesise information) and problems with self-regulation. Domestic and family violence often co-occurs with child abuse including child sexual abuse (Campo,

2015). Women in regional, rural and remote areas are more likely than women in urban areas to experience domestic and family violence (Campo & Tayton, 2015).

- ***Protection from sustained toxic stress***. Healthy brain development requires protection from excessive stress, not just enrichment in a stimulating environment (Centre on the Developing Child, 2016). Exposure to multiple sources of stress has widespread physiological and neurobiological effects (Boyce et al., 2021; Bright & Thompson, 2018; Centre on the Developing Child, 2020; Guinosso et al., 2016; Hughes et al., 2017; National Scientific Council on the Developing Child, 2005/2014, 2020; NASEM, 2019a; Price et al., 2013). In addition to the adverse effects of toxic stress on the brain and nervous system, it also affects every other organ system in the child's body, impacting short- and long-term health (NASEM, 2019a). As a result of these physiological and biological effects, exposure to toxic stress substantially increases later-life risk for lower educational achievement and physical illnesses, including obesity and type 2 diabetes, cardiovascular disease, substance abuse, mental illness, cancer, and infectious disease (NASEM, 2019a).

Health and nutrition needs

- ***Adequate nutrition***. Early life nutrition in the foetus, infant and young child can have profound effects on long-term health (Davies et al., 2016; Scott, 2020), as well as being related to behavioural and emotional problems in later childhood (Jacka et al., 2013). Recommended postnatal nutrition takes the form of exclusive breastfeeding (from immediately after birth to the age of 6 months), followed by the introduction of complementary foods that are frequent and diverse enough, and which contain the micronutrients they need for the rapid growth of their body and brain (NASEM, 2020a; WHO, UNICEF and World Bank, 2018). Babies who are not breastfed, and women who do not breastfeed, are at an increased chance of many health risks in both the short and long term (Smith et al., 2018). However, socio-economically marginalised populations are less likely to initiate and sustain breastfeeding than their peers and face significant barriers to doing so (Axford et al., 2018). Children from poorer backgrounds are less likely to have been breastfed and also less likely to eat fruit or have breakfast every day, which is important given evidence that breakfast contributes to better behaviour and cognitive performance in school. Only a small proportion of young Australian children have diets that meet national guidelines for eating vegetables and avoiding junk food (Spence et al., 2018). Food safety and family food security are also important issues (NASEM, 2020a; WHO, UNICEF and World Bank, 2018). Low-income families are more likely to buy cheaper and less nutritious food owing to a lack of money and limited access to shops selling healthy food (Axford et al., 2018). Food insecurity can have serious developmental consequences for children, including compromised mental and physical health and poor academic performance (Fiese et al., 2011).

- ***Establishing a healthy microbiome*** (Giles & Couper, 2020; Moore et al., 2017; Wopereis et al., 2014). The first 1000 days is critical for the development of a healthy microbiome, especially the gut microbiome. Just as the human epigenome is developmentally programmed by the early environment, so too is the human microbiome (Logan et al., 2016). Children reach a mature microbiome by the second or third year of life, and the unique composition established tends to persist for life. Because of the intricate

two-way connections between the gut microbiota, the brain and the immune system, the gut microbiome has an effect on both physical and mental health throughout our lives (Blaser, 2014; Collen, 2015; Dietert, 2016; Mayer, 2016).

- ***Protection from environmental toxins during and after pregnancy*** (Moore et al., 2017). This includes those that the mother ingests during pregnancy and while breastfeeding (smoking, alcohol and drugs). For instance, evidence from the NSW Child Development Study (Department of Family and Community Services, 2018) shows that children rated as developmentally vulnerable at point of school entry are more likely to have mothers who smoked during pregnancy. Children may also be exposed to toxins in the home and in the physical surroundings. Many of these environmental toxins are used domestically (as cleaners, fire retardants, or in plastics), while others are industrial and agricultural (e.g. lead) (Heyer & Meredith, 2017; Landrigan, 2016).

- ***Establishing healthy sleep habits***. Sleep is a major factor in a child's overall development. Sleep, of good quality and of sufficient duration, is a cornerstone of normal physical, cognitive, language and emotional development (Petit & Montplaisir, 2012). While short-term sleeping problems in young children are common (Hiscock et al., 2007; Hiscock & Davey, 2012; Petit & Montplaisir, 2012), unresolved problems are associated with poorer child health-related quality of life, more behaviour problems, and higher rates of attention-deficit/hyperactivity disorder (Hiscock et al., 2007; Quach et al., 2018) and can have adverse effects on socioemotional development and language development (Petit & Montplaisir, 2012). Resolving sleep problems early is critical (Hiscock & Fisher, 2014; Petit & Montplaisir, 2012).

- ***Establishing good health care practices***. Young children's good health is the result of caregivers who monitor their children's physical and emotional condition, have hygiene practices which minimise infections, make use of promotive and preventive health services, and seek care and appropriate treatment for children's illnesses (ARACY, 2014; WHO, UNICEF & World Bank, 2018). Establishing good oral and oral care practices early is critical. Poor oral health is associated with increased risk of chronic disease later in life, including stroke and cardiovascular disease (AIHW 2019). Children with poor oral health are also more likely to miss school and perform poorly in school (Jackson et al. 2011).

Learning and activity needs

- ***Opportunities for early learning.*** Children learn from birth, and what they learn depends upon the richness of their interactions with caregivers, and the opportunities they are given to play and explore, and the support they are given to develop skills (Shuey & Kankaraš, 2018; WHO, UNICEF & World Bank, 2018). Cognitive, language and literacy all develop through social interactions, in particular those with parents and other adults (Axford et al., 2018; Shuey & Kankaraš, 2018).

  Early learning occurs in both home and ECEC environments. Home learning environments play a profoundly important role in the development of young children (Axford et al., 2018; Melhuish, 2015; Shuey & Kankaraš, 2018; Yu & Daraganova, 2015). A positive home learning environment has benefits for children's cognitive, social and physical development over and above the effect of socio-demographic

factors such as parent education and family income (Axford et al., 2018). When children are provided with a range of learning opportunities in the home, their cognitive, language and social development all improve (Fox et al., 2015; Heckman & Mosso, 2014; Melhuish, 2015; Shuey & Kankaraš, 2018). The home learning environment can have up to twice the size of effect of early childhood programs, which limits the extent to which even high quality early childhood services can compensate for inadequacies in the child's home learning environment (Melhuish, 2015). Children from advantaged homes typically receive more enriched home learning, are read to more, hear more words, have more books and are taken on more out-of-home activities, whereas children in chaotic households or experiencing high levels of risk have poorer outcomes and receive poorer quality home learning (Axford et al., 2018; Shuey & Kankaraš, 2018; Yu & Daraganova, 2015).

- ***Opportunities to play and explore*.** Play in which children take the lead and make personal choices is essential for supporting children's cognitive, social, emotional and physical development and learning in their early years and beyond (Axford et al. 2018; Gopnick, 2016).

- ***Opportunities to be physically active*.** Young children also need opportunities to move and be physically active, with evidence that increased activity is associated with better physical health (including reduced obesity) and motor and cognitive development (Axford et al., 2018; Bradley, 2015; Carson et al., 2017; Lieberman, D., 2013).

- ***Opportunities to participate meaningfully in home, community and ECEC settings.*** Participation is a major driver of development and learning, and helps build a child's growing sense of agency and competence.

- ***Positive sense of culture and identity*** (ARACY, 2014). Having a positive sense of culture and identity is central to the wellbeing of children and youth, and is particularly important for Aboriginal and Torres Strait Islander and other culturally and linguistically diverse (CALD) children and youth. This outcome includes having a sense of spiritual wellbeing.

Environmental and material needs

- ***Safe and healthy physical environments***. This includes safe and healthy physical environments as well as community environments that include safe places where children can play (Leventhal, Dupéré & Shuey, 2015; WHO, UNICEF and World Bank Group, 2018). Exposure to air pollution has detrimental effects on children's neuropsychological development, as well as their likelihood of developing cardiovascular and pulmonary diseases (Payne-Sturges et al., 2019; Suades-González et al., 2015). Where we live affects our health and wellbeing (Giles-Corti et al., 2016; Villanueva et al., 2015). Physical features of neighbourhoods are related to child health behaviours, including the way children play, walk or cycle, and move independently through their neighbourhood. These physical neighbourhood features include access to facilities and services (e.g. schools, child care and health care) located within walking distance, provision of public transport infrastructure, traffic exposure and residential density (Villanueva et al., 2016). Living in higher quality neighbourhood environments can act as a buffer

against the negative consequences of low family socioeconomic status on children's stress physiology and physical health (Roubinov et al, 2018).

- ***Exposure to green spaces.*** Having access to green spaces also contributes significantly to children's long-term physical and mental health (Engemann et al., 2019; Louv, 2005, 2011; Miri et al., 2020; Myers, 2020).

- ***Housing security, quality and affordability.*** A child's access to safe, stable and adequate shelter is a basic human need, and is important for physical and mental health (AIHW, 2020b; O'Donnell & Kingsley, 2020). Homelessness is particularly damaging, especially for young children (Gibson & Johnstone, 2010; Jelleyman & Spencer, 2008; McCoy-Roth et al., 2012). Of concern, children constitute a third of people attending homelessness services (Kirkman et al., 2009). The type and quality of housing also matters. A growing number of families are raising children in private, inner-city apartments, and find that these are not well suited to children's needs (Andrews et al., 2018). In general, children in Australia live in homes that are in good physical condition: less than 5 per cent of children live in homes that are in bad external condition or overcrowded (Sartbayeva, 2016). However, 17 per cent of Indigenous children live in overcrowded housing, and 38 per cent live in houses that need repairs (Sartbayeva, 2016). Children living in overcrowded housing have an increased risk of emotional and behavioural problems and reduced school performance (Solari & Mare, 2012). Housing affordability is another challenge. For socioeconomically vulnerable families, housing options have been contracting, fewer families with lower incomes able to afford home purchase, and a decline in social housing accessibility for many (Stone & Reynolds, 2016). Increased housing stress may compromise parental mental health and reduce the money available to spend on children's food, healthcare and education (Robinson & Adams, 2008; Taylor & Edwards, 2012). In contrast, better housing affordability is often associated with better health, academic achievement and school engagement for children (Clair, 2018).

Service needs

- ***Access to health services*** (ARACY, 2014; WHO, UNICEF & World Bank, 2018). Having ready access to core health services – antenatal services, maternal and child health services, paediatric services, dental services – is essential. Australian evidence indicates that suggest that children from low-income or single-parent families may require additional support services during the first two years of life and that maintaining or increasing access to free or very low-cost primary health-care services for disadvantaged families will promote equity in health (Hayes et al., 2018). Young children who are developmentally vulnerable and socioeconomically disadvantaged are less likely to access health services than their non-disadvantaged peers (Woolfenden et al., 2020).

- ***Prompt identification of children's health and development problems*** (Glascoe et al., 2016, McDonald et al., 2012; Oberklaid et al., 2013). Early identification of any health or developmental problems that children are experiencing is essential so that they and their families can have access to health and other services to address the problem early.

- ***Support for children with developmental disabilities and delays*** (Daelmans et al., 2015; Fox et al., 2015; Hebbeler & Spiker, 2016; Raver & Childress, 2015; Wertlieb, 2019; WHO, UNICEF & World Bank, 2018). The needs of children with developmental disabilities and delays include access to early childhood intervention services, as well as exposure to the same range of caregiving experiences and other environments as other children. Children with disabilities and developmental difficulties have the same core needs as other children, including responsive caregiving (Moore, 2009). They also need to have the same opportunities to participate in mainstream community and ECEC settings (Wertlieb, 2019). However, there is evidence that children with disabilities, while generally engaged and included in the family and home environment, are more likely to be experiencing significant social exclusion both at school and in the community (Sollis, 2019). They are also more likely to experience deprivation across all dimensions including being up to three times more likely to lack relationships with friends, and around two times more likely to have mental health concerns (Sollis, 2019).

3.1.3 Conclusions and implications for child and family centres

Some of children's needs are unique to them (such as their needs for responsive caregiving and protection from harm) while others they share with the rest of the family (the need for material basics, and healthy physical environments).

What is apparent from this list is that some of children's needs can be met by families, others require a wider range of caregivers, others depend upon access to high quality services, and still others on the actions and policies of local, state and federal governments.

Implications for child and family centres

What role can integrated child and family centres play in meeting children's developmental needs? They could address a number of children's needs, as identified in Box 2.

Box 2. Key features of child and family centres for addressing children's developmental needs

- Be staffed by responsive caregiving adults who are able to build attachments with children and promote the development of self-regulation and other core skills
- Provide children with exposure to a range of other children, families and caregivers
- Provide a safe and positive relational environment where the child is protected from any abuse or neglect
- Promote healthy nutrition practices
- Promote good hygiene and health care practices
- Provide a safe and healthy physical environment free of environmental toxins
- Provide opportunities and support for early learning, including high quality early childhood education and care services
- Provide opportunities for physical activity and play
- Start early – at least from infancy – also pregnancy?
- Provide access to a range of health and other services
- Enable early identification of developmental and health issues
- Work with the child and family together in a holistic way
- Facilitate referrals to other services for children with additional developmental or health needs
- Be inclusive of children with additional health, mental health and developmental needs

Next we consider the needs of families. Just as children depend upon their families for most of their core needs, families depend upon the care and support they receive from others.

3.2 Parent and family needs

This section begins with a summary of factors affecting parenting and family functioning, then looks at what conditions parents and families need in order to meet their children's needs.

3.2.1 Factors affecting parenting and family functioning

Parent's ability to provide their children with the nurturing care they need is shaped by a range of factors:

- *personal factors* (their own histories and capabilities, mental health and physical health),
- *social factors* (support they receive from partners, family, social networks, and communities),
- *immediate environmental factors* (physical and built environments in which they live),
- *service factors* (access to universal health and ECEC services, additional services according to need), and
- *material wellbeing* (finances, housing).

Personal factors

- ***Parent physical health*** (Axford et al., 2018). The mother's physical and mental health and behaviour affect the environment in the womb, which in turn can affect the cellular growth and development of the brain and other organs in the foetus. This has lifelong effects (positive and negative) on the developing child's learning, behaviour and physical and mental health. Good health in pregnancy is also important in preventing a child being born prematurely and/or with a low birth weight, both of which are strongly associated with poorer outcomes.

  The effects on outcomes of poor maternal health behaviours (poor nutrition, smoking, heavy alcohol consumption, the use of illicit drugs) during pregnancy are compounded by poor behaviours both before pregnancy (e.g. obesity, lack of exercise) and after pregnancy (e.g. not initiating / persisting with breastfeeding). These tend to cluster together in certain individuals.

- ***Parent mental health*** (Axford et al, 2018). Parental mental health problems can compromise responsive caregiving parenting. Axford (2018) found higher rates of mental health problems are associated with poverty and socio-economic disadvantage. Mental health problems such as stress, anxiety and depression are common in the perinatal period. Factors that affect maternal mental health include unresolved trauma, family violence, alcohol or substance misuse and earlier mental health. Maternal mental health problems can adversely affect the foetus and impair mother-infant interaction (leading to less secure attachment), with later harmful effects on the child's cognitive development, behaviour and social-emotional well-being. Perinatal anxiety and depression are also common in men and can adversely affect a father's interaction with his infant, leading for instance to less reading, singing and storytime, and increasing the risk of later child psychopathology. The adverse effects of

poor parental mental health on parent-child interaction and children's learning extend beyond the perinatal period.

- ***Parental nutrition***. This includes: mother's nutrition during pregnancy (which affects her health and well-being, as well as the developing child's nutrition and growth) (Centre on the Developing Child, 2016b). The foundations of lifelong health begin with the well-being of the future mother before she becomes pregnant. Preventive health care for pregnant women and their young children is essential for supporting physical, emotional, and cognitive development. Programs that help meet children's early nutritional needs also promote healthy brain development and overall well-being.

- ***Parental knowledge of child development*** (Gadsen et al., 2016). Parental knowledge of child development is positively associated with quality parent-child interactions and the likelihood of parents' engagement in practices that promote their children's healthy development and learning. Research also indicates that parents with knowledge of evidence-based parenting practices, especially those related to promoting children's physical health and safety (e.g., injury prevention, how to sooth a crying infant), are more likely than those without such knowledge to engage in those practices.

- ***Use of positive parenting practices*** (Centre on the Developing Child, 2017; Gadsen et al., 2016; Ulferts, 2020; WHO, UNICEF and World Bank, 2018). The core features of positive parenting practices – or responsive caregiving (WHO, UNICEF and World Bank, 2018) – have been identified by Gadsen and colleagues as follows:
  - contingent responsiveness ("serve and return") – adult behaviour that occurs immediately after a child's behaviour and that is related to the child's focus of attention, such as a parent smiling back at a child;
  - showing warmth and sensitivity;
  - routines and low levels of household chaos;
  - shared book reading and talking to children;
  - practices that promote children's health and safety—in particular receipt of prenatal care, breastfeeding, vaccination, ensuring children's adequate nutrition and physical activity, monitoring, and household/vehicle safety; and
  - use of appropriate (less harsh) discipline.

  Parents vary in their ability to provide these kinds of care and responsive caregiving. If their own attachments and caregiving experiences in the earliest stages of their lives were suboptimal, then they will lack the positive preconscious mental models that would normally be elicited by the parenting experience.

- ***Family violence*** (AIHW, 2019; Axford et al. 2018; Kaspiew et al., 2017). For both male and female victims, domestic abuse is associated with an increased risk of poor physical and health, depressive symptoms, substance use and injury. Inter–parental conflict and domestic and family violence are common in

Australian families, and are associated with poorer wellbeing outcomes for mothers and children. Sustained exposure is particularly damaging (Kaspiew et al., 2017).

Social factors

- ***The social conditions in which people live have a greater impact on their health and development than the health and other services they receive*** (Braveman & Gottlieb, 2014; CCCH, 2018; Moore et al., 2017; Prevention Institute, 2019). This is especially true for those living in the most challenging circumstances, including families with young children. Finding ways of improving these conditions under which such families are raising their children must become a major goal for communities and service systems (Ratliff, 2017).

- ***Positive personal relationships and social networks are a critical aspect of the social conditions in which we live***. We are wired to connect with others (Christakis, 2019; Lieberman, M., 2015) and our health and wellbeing are shaped by the quality and extent of our close personal relationships, our wider social networks, and even the general level of civility in the wider society (Barnes et al., 2006; Dunbar, 2021; Edwards & Bromfield, 2009; Hawkley & Cacioppo, 2013; Hertz, 2020; Pinker, 2015; Popkin et al., 2010). There is evidence that our immediate social networks – those people we mix with on a regular basis – have a significant influence on our ideas, emotions, health, relationships, behaviour, and even our politics (Christakis & Fowler, 2009; Pinker, 2015). Even 'consequential strangers' – people outside our circle of family and close friends, such as casual acquaintances – are important for personal and community wellbeing (Blau & Fingerman, 2009). Loneliness and social isolation are major contributors to mental health, physical health, and social problems (Cacioppo & Patrick, 2008; Hawkley & Cacioppo, 2013; Hertz, 2020). The radical changes in social environments that have occurred over the last half century or so have made loneliness and social isolation more likely (Hertz, 2020). The more isolated and lonely people are, the less likely they are to be tolerant or accepting of others whom they perceive as different, which makes them less accepting of inclusion policies and practices (Hertz, 2020).

  Positive social support has many beneficial effects on parenting. Support during pregnancy reduces the likelihood of maternal stress, depression and risk taking behaviours during and after pregnancy (Kawachi & Berkman, 2001; Rini et al., 2006). Social support also greatly affects parental care-giving capacity by promoting positive mental health and resilience during challenging periods (Green et al., 2007; Palamaro Munsell et al., 2012). Importantly, positive social support reduces the likelihood of child maltreatment, especially for those families experiencing multiple challenges (such as poverty, depression, unemployment) (Bishop & Leadbeater, 1999; MacLeod & Nelson, 2000). The more adverse a person's circumstance and the fewer resources they have, the more important it is for them to have secure supportive relationships with one or more people in their lives (Ungar, 2013; Ungar et al., 2013).

- ***Safety and inclusiveness of communities*** (Goldfeld et al., 2018). Key qualities that make communities supportive include social capital, level of community trust and sense of safety; acceptance of those from different backgrounds, no exclusion or rejection on the basis of race or religion or sexual orientation or disability.

- ***Developing a sense of agency and empowerment***. Wellbeing is shaped by having the opportunity to participate meaningfully and make valuable contributions to social life (Nussbaum, 2011; Sen, 1985, 2005). Feeling disempowered by lack of opportunities and inequalities can have profound negative effects on physical and mental health (Wilkinson & Pickett, 2018).

Immediate environmental factors

- ***Healthy local environments***. Air pollution is a grave risk to human health that affects nearly everyone in the world and nearly every organ in the body (Schraufnagel et al., 2019). Environmental pollution affects morbidity and mortality in young children, and can have long-lasting effects (Frey & Usemann, 2019). Reducing pollution at its source can have a rapid and substantial impact on health. Reducing exposure to environmental toxins is also a priority (Moore et al., 2017).

- ***Quality of built environment, availability of local transport and access to safe recreational facilities*** (Bagnall et al., 2018; Bradley, 2015; Goldfeld et al., 2018; Goldhagen, 2017; What Works Wellbeing, 2018) all contribute to parental and family wellbeing.

- ***Exposure to green spaces*** (Bagnall et al., 2018; Myers, 2020; Jones, 2020). Having access to green spaces also contributes significantly to parental health and well-being.

- ***Food environments*** (Carolan, 2018). The poorest areas have the highest concentration of fast food outlets and the fewest fresh food suppliers (Ulmer et al., 2014; Villanueva et al., 2016).

Service factors

- ***Ready access to affordable health care services for parents and children*** (Dalziel et al., 2018; Goldfeld et al., 2018). Australian evidence suggests that income-related inequalities exist in government Medicare, spending particularly in the first few years of life, with children from lower income families receiving less specialist care spending (Dalziel et al., 2018).

- ***Access to affordable early childhood education and care*** **(ECEC) services**. The cost of ECEC services remains a barrier for some families, stopping them from using them at all or limiting them to fewer hours than they would like (KPMG, 2020; Thorpe and Staton, 2019). In 2018, low-income families were spending nearly twice the proportion of their weekly income on ECEC as high-income families (Productivity Commission, 2019). A lack of access to affordable child care that meets their family's needs is cited by mothers as a key reason for not being employed in the capacity they wish to be (ABS, 2017b).

- ***Access to early childhood intervention services for parents and children.*** Evidence that early childhood intervention programs for children and families can be effective (Nores & Barnett, 2010).

- ***Services that are culturally sensitive and inclusive*** (Hanson & Lynch, 2010; Hanson & Espinosa, 2016; Siraj-Blatchford & Clarke, 2000; Vuckovic, 2008). Culturally and linguistically sensitive and individually tailored services are essential to the effective delivery of human services (Hanson & Espinosa, 2016).

Material resources factors

- ***Material resources are among the social determinants shaping child and family outcomes***. A systematic review of European studies of social inequalities in early childhood health and development by Pillas and colleagues (2014) found that a range of social determinants – neighbourhood deprivation, lower parental income/wealth, lower educational attainment, lower occupational social class, parental unemployment, higher parental job strain/heavy physical occupational demands, lack of housing tenure, and material deprivation in the household – were all are all independently associated with a wide range of adverse health and developmental outcomes in early childhood.

- ***Poverty limits compromises family functioning and limits parents' capacity to provide the conditions children need for healthy development and learning*** (Axford et al., 2018; Braveman et al., 2018; Cooper & Stewart, 2017; Moore et al., 2017; Noble et al., 2015; Yoshikawa et al., 2012). Family income affects a wide range of children's outcomes, including their cognitive development and school achievement, social and behavioural development, and health (including birthweight) (Cooper & Stewart, 2017). Poverty adds to parental stress and increases the likelihood of maternal mental health problems, hence compromising care-giving. It can also reduce the quality and regular availability of nutrition provided, limit the capacity of families to provide their children with adequate learning opportunities, and expose children to sustained levels of stress (Axford et al., 2018; Braveman et al., 2018; Cooper & Stewart, 2017; Moore et al., 2017; Yoshikawa et al., 2012). Poverty and scarcity undermine people's capacity to plan and take action to address the multiple challenges they face (Mullainathan & Shafir, 2013; Karelis, 2007). Being at the bottom of the socioeconomic gradient has corrosive effects upon our health and wellbeing (Wilkinson & Pickett, 2018). The poorer families are, the more likely it is that mothers will experience depression (Reeves & Krause, 2019) and their children will experience child abuse and neglect (Bywaters et al., 2016). Although poverty does not always lead to abuse and neglect, and is not the only contributing factor, the greater the economic hardship experienced by the family, the greater the likelihood and severity of child abuse and neglect (Bywaters et al., 2016).

  Poverty affects a wide range of people in every community, even the richest (Stanely et al., 2007; Tanton et al., 2018). Being poor in a well-off community may be even more damaging than being poor in a disadvantaged community; the chances of social isolation are greater because well-off communities provide fewer services for poor people and poor families cannot afford to access services or reciprocate socially. Poverty is greatest in single parent families, the unemployed, and those who do not own their own homes (Tanton et al., 2018). Children in families living below the poverty line suffer effects far wider than just their material basics, being more likely to face food insecurity, to lack good relationships with friends, and to be missing out on learning at home (Sollis, 2019).

- ***Employment*** (Sollis, 2019). Children in jobless families were more likely to suffer stress and deprivation than children in families where an adult works. They are more than four times more likely to be homeless than children, nearly twice as likely to be bullied or face social exclusion, and almost two and a half times more likely to be missing out on learning at home (Sollis, 2019).

- ***The quality and security of housing can have a significant impact on family functioning and children's health, development and well-being*** (Axford, et al., 2018; Dockery et al., 2010; Moore et al., 2017; Sandstrom & Huerta, 2013). Some of these effects are long-lasting and continue into adulthood (Dockery et al., 2010). Substandard housing, rented or otherwise, can have direct effects on children's health, especially when children are very young and are living in housing that lacks heating or cooling, or is vermin-infested or mouldy, or where there are frequent difficulties in getting essential repairs done. Overcrowding is another factor that has adverse effects on development and wellbeing.

  Stress resulting from housing affordability has direct and indirect effects on families and children: it affects children most during early childhood via its adverse impact on the family's ability to access basic necessities (Dockery et al., 2010). Housing affordability stress is much more common in families who are in private rental accommodation, compared to those who are paying off a mortgage (Warren, 2018). It is also more common in one-parent families, families with young children, families where the parent was born overseas, and families from the lowest income level (Stone & Reynolds, 2016).

- ***Homelessness*** is particularly damaging, especially for families with young children (Gibson & Johnstone, 2010; Jelleyman & Spencer, 2008; McCoy-Roth et al., 2012). It is difficult for stressed parents to ensure their children's safety, and provide them with security, stability, and the chance to become and remain part of a community (Jelleyman & Spencer, 2008). Most families who become homeless are women with dependent children (Tischler, 2008).

- ***Food security and quality can both have an impact on family health and wellbeing***, as well as levels of stress. Food quality depends on what families can afford, what food preparation facilities and skills they have, and the local food environment. Food security depends upon level and stability of family finances, and the family's management of household finances.

3.2.2 What parents and families need to be able to meet their children's needs

What conditions do parents families need in order to meet their children's needs? Various roadmaps and frameworks for supporting families have been developed, including those by Centre on the Developing Child (2017), Braveman et al. (2018), NASEM (2019a), and Ulferts (2020). The following list draws on these frameworks and other research.

- ***Having strong parent and family support networks*** (NASEM, 2019a; Ulferts, 2020). Just as children depend upon the nurturing care they receive from parents, so capacity to provide their children with nurturing care is in turn shaped by the nurturing care they receive from others. This includes their extended family, friends, other parents, and the wider community.

- ***Having access to dedicated child and family facilities*** (Goldfeld et al., 2018). Our communities often do not provide dedicated child and family facilities where families of young children can meet on a regular basis. Such places are important for building social support networks for families, and can also serve as important sites for the delivery of a range of early childhood, family support and health care services. The peer group learning that occurs between parents who meet regularly can help parents develop their knowledge and parenting skills (Melhuish, 2015). These networks can also help families to access family and/or early intervention services (Kang, 2012). Without adequate social networks, the opportunity to be 'introduced' to services may be limited (McArthur & Winkworth, 2017; Winkworth et al., 2010a, 2010b).

- ***Living in safe environments.*** Parents' wellbeing and functioning depend upon the environments in which they spend their time. If those environments are stressful (because of family violence) or isolated, then their wellbeing and functioning (including parenting) will suffer. We need to ensure that parents have access to a range of safe environments.

- ***Reduce stress on parents and families*** (Centre on the Developing Child, 2016b, 2017, 2020; Ulferts, 2020). At population level, the ultimate strategy for preventing the negative effects of stress on the largest number of people would be to reduce poverty, violence, discrimination, and other threats to child well-being as a societal goal. At the individual level, greater impacts are more likely when services focus on explicit needs, promote warm and responsive caregiving, and strengthen the ability of parents and other adults to scaffold the development of young children's adaptive capabilities (Centre on the Developing Child, 2016b).

- ***Foster caregiver wellbeing*** (NASEM, 2019b). Effective parenting presupposes the caregivers' own well-being. It is critical to ensure that children's mothers have the necessary supports for maintaining good physical health, and good mental health and psychological well-being.

- ***Support for parents in providing responsive caregiving for their children*** (Centre on the Developing Child, 2016a, 2016b, 2017). Adults who care for young children – whether they are parents, relatives, friends, or staff in early childhood programs – need both capabilities and knowledge to support their children's development and learning. Caregivers who struggle with the serious, daily stresses of low-wage jobs, community or family violence, and/or chaotic home environments often require additional support and opportunities to strengthen the skills that are essential for providing the stability and responsiveness that young children need.

- ***Promote healthy maternal nutrition.*** Support the health and nutrition of children and mothers before, during, and after pregnancy (Centre on the Developing Child, 2016b). The foundations of lifelong health begin with the well-being of the future mother before she becomes pregnant. Preventive health care for pregnant women and their young children is essential for supporting physical, emotional, and cognitive development. Programs that help meet children's early nutritional needs also promote healthy brain development and overall well-being.

- ***Improve home learning environments***. Given the importance of the home learning environment, helping parents provide more positive learning experiences for their children is a priority. If this key environment does not change, then we cannot expect as much improvement in child outcomes. As Melhuish and van der Merwe (2018) note, all parents are interested in their children doing well, but they often lack confidence and knowledge about how to help, and appreciate the knowledge and expertise of practitioners, as well as being treated as partners with ideas that are valued.

- ***Provide learning opportunities for parents***. Just as children's learning depends upon the learning and other opportunities (affordances) their environments provide, so parental functioning and wellbeing depend upon the opportunities they have to learn / participate – again participation is a driver of development and learning.

- ***Address social determinants of family health and wellbeing*** (Braveman et al., 2018; National Scientific Council on the Developing Child, 2020). There is an urgent need for more effective strategies to support young children by confronting poverty, racism, violence, housing instability, food insecurity, and other sources of chronic adversity that impose significant stresses on their families. Services and supports must move beyond a sole focus on children and parents to an intentional, 'upstream' focus on macro-level policies that systematically threaten the health and wellbeing of families affected by structural inequities and systemic racism. Poverty alleviation should be a major goal (NASEM, 2019c; Ulferts, 2020).

- ***Protection from systemic racism*** (Braveman et al., 2018). Race-based unfair treatment built into institutions, policies, and practices constrain parents' ability to provide healthy living conditions for their children, and affect children's health (Priest et al., 2020). The health consequences of unhealthy living conditions can accumulate across lifetimes and generations (Gee et al., 2012). Young children can suffer the effects of racism experienced by their parents years or even decades ago.

- ***Provide opportunities to develop capabilities and sense of agency*** (Nussbaum, 2011; Sen, 1985, 2005). Just as children need opportunities to learn and participate, so do parents. This can take the form of opportunities for parents to develop employment and other skills. It can also take the form of opportunities to participate in decisions about the services they receive.

3.2.3 Conclusions and implications for child and family centres

Some family needs can be met by the families themselves, others require having a positive support network, others depend upon access to high quality services, and still others on the actions and policies of local, state and federal governments.

As is the case for children, relationships are central to the wellbeing and functioning of parents and children. Just as children need secure relationships with a core caregiver or caregivers, so parents need secure relationships with a small core personal support group. And just as children also need to be able to meet and engage with a wider group of children, families and adults, so parents need to be able to build wider social networks, including those involving other parents.

Relationships with professionals also matter. Just as children need ECEC caregivers who are responsive and caring, so parents need professionals who are responsive and supportive. The more marginalised they are, the more important it is that professionals are able to engage effectively with them.

Implications for child and family centres

What role can integrated child and family centres play in meeting the needs of families with of young children? While there are some needs that child and family centres cannot meet (e.g. secure housing, safe neighbourhood environments, freedom from poverty), there are a number of family needs they can meet. Most importantly, they can provide a local place where children and families can go, and where they can build social networks and get support from other parents with young children. Child and family centres can also address family needs for support in developing positive parenting practices, provide access to health care and other services, and help in the early detection and management of health and developmental concerns.

Box 3 summarises the key features of child and family centres for addressing families' support needs.

Box 3. Key features of child and family centres for addressing families' support needs

- Be staffed by responsive caregiving practitioners
- Provide a safe relational environment
- Provide access to health promotion information and services
- Provide support for parents to develop positive parenting practices
- Provide support for parents to develop new employment and other skills
- Provide opportunities for parents to participate in decision-making and centre activities
- Provide access to a range of health and other services for children and parents
- Enable early identification of children's developmental and health issues, and facilitate referrals to other services for children with additional developmental or health needs
- Enable prompt identification of any additional parental and family needs, and facilitate referral to others appropriate services
- Be sensitive to and inclusive of cultural diversity

3.3 Core care conditions for children and families

As noted earlier, this paper is seeking to reimagine the early childhood environment for children and families by starting from a child and family perspective and asking what conditions they need in order to be able to meet the needs of children and families, especially those experiencing multiple challenges.

The WHO, UNICEF and World Bank Group (2018) call their framework for meeting children's needs a *nurturing care framework*. But, as we have seen, the ability of families to provide the nurturing care their children needs depends upon the nurturing care they themselves receive – from extended family, friends and local communities. To guide the re-envisioning of the early childhood years, we need to identify the core care conditions that families need as well as those their children need.

A core care conditions for children and families framework must take account of the fact that children have needs in their own right, but so do their parents / caregivers. Some of these needs are common to both but are met in different ways. For example, parents need responsive caregiving just as much as children, but the child usually gets this, initially at least, from their core caregivers, while parents usually get it from their own extended family and from social support networks.

Children and families also have shared needs. These relate to material basics and the world around the family. Accordingly, the framework below is divided into three sections: children's needs, parental / caregiver needs, and shared child and family needs.

Box 4. Core care conditions for children and families

Children's needs

- Secure relationships with primary caregivers able to provide the responsive caregiving needed to build secure attachments
- Support for developing emotional and self-regulation skills
- Positive early learning environments, in the home as well as in ECEC and community settings
- Opportunities to mix with other children of different ages, and to build social skills
- Adequate and appropriate nutrition from conception onwards
- Support to establish regular sleep patterns
- Physical opportunities to play and explore
- Protection from relationship stresses – abuse and neglect by caregivers, exposure to family or community violence

Parental / caregiver needs

- Secure time to build relationship with the newborn (paid maternity/paternity leave)
- Positive social support networks (including support from family, friends, fellow parents and neighbours)
- Safe and easily accessible places to meet other families
- Access to relationally-based family-centred services
- Access to universal services during antenatal / perinatal / postnatal periods
- Access to specialist support services to address additional personal needs (e.g. mental health issues, relational violence)
- Information about child care and development , and support for managing the challenges of parenting
- Availability of learning opportunities to build personal capabilities
- Inclusiveness of the immediate social environment – absence of racism or discrimination
- Employment opportunities and family-friendly employment conditions

Shared child and family needs

- Secure and affordable housing
- Financial / employment security
- Healthy physical environment (clean air and water, freedom from environmental toxins, green spaces)
- Safe and easily navigable built environments
- Ready access to family-friendly recreational and other facilities (libraries, swimming pools, sporting facilities, playgrounds)
- Healthy food environments that provide access to fresh food outlets
- Access to support services to address exceptional family needs (e.g. financial counselling, housing services)
- Inclusiveness of the wider society – absence of racism or discrimination

4. SUMMARY AND CONCLUSIONS

This paper began by reflecting on the rapid social changes that have occurred over the past half century, and the profound impact these have had on the conditions under which families are raising young children. Despite the rising improvements in general prosperity over this period, major social, psychological and health problems persist, especially among the more disadvantaged families.

In seeking to address the complex challenges faced by families experiencing socio-economic vulnerability, the default approach of governments and others has been to seek to improve existing services or the service system. So far, this service-focused approach has not succeeded in making any significant difference to child and family outcomes that are of concern – such as school readiness, child protection rates, mental health issues, obesity, and intergenerational disadvantage.

Since the default service-driven approach has not yet been able to improve outcomes, what should we do instead? This paper has addressed this question from two perspectives. The first involved an attempt to reimagine the early childhood environment for children and families. Rather than starting from a service perspective (asking how can we get better outcomes by improving or extending services for families), we have tried to start from the parent perspective (and ask what conditions they need in order to be able to meet their child's needs). This has generated a ***Core care conditions for children and families*** framework.

This framework can be used to address the third of key questions identified in the introduction: *How well are we supporting children and families?* More specifically, how well suited is the current early years environment for meeting the nurturing care needs of children and families?

The early childhood environment for families of infants and preschool children often lacks certain key features that are essential for the effective family functioning – especially places within the community where parents can go where they can meet other families and get access to relevant services. Instead services are delivered from different sites, and often do not provide places or activities for families and children to meet and socialise. Families of young children can be left with few or no suitable places where they can easily get go. SVA's vision of a holistic integrated early learning model would potentially fill an important gap in the early years' environment for children and families.

In the companion paper, we will build on the understanding gained so far by exploring the evidence regarding ECEC programs and parenting programs, and also explore key features of effective service systems. The core care conditions framework is used in the second paper as a template for analysing the extent to which integrated child and family centres can meet all the needs of children and families.

APPENDIX 1. CHILD DEVELOPMENT FRAMEWORKS

This Appendix contains details of four child development frameworks: two international models – the *Nurturing Care Framework* (WHO, UNICEF and World Bank Group, 2018) and the UNICEF Innocenti framework (UNICEF Innocenti, 2020) – and two Australian frameworks – the *Early Years Learning Framework* (DEEWR, 2009) and *The Nest* (ARACY, 2014).

The ***Nurturing Care Framework*** (WHO, UNICEF and World Bank Group, 2018)

The *Nurturing Care Framework* was launched by the WHO, UNICEF and World Bank in 2018. This, and a subsequent WHO–UNICEF–*Lancet* Commission (Clark et al, 2020), propose that meeting all children's needs for nurturing care is of such importance that it should be seen as central to the achievement of the United Nations' 2015-2030 *Sustainable Development Goals* (United Nations, 2015). This framework describes five core components that young children need to develop well:

- *Good health*. Young children's good health is the result of caregivers: monitoring children's physical and emotional condition; giving affectionate and appropriate responses to children's daily needs; protecting young children from household and environmental dangers; having hygiene practices which minimize infections; using promotive and preventive health services; and seeking care and appropriate treatment for children's illnesses.
- *Adequate nutrition.* This includes: mother's nutrition during pregnancy (which affects her health and well-being, as well as the developing child's nutrition and growth); exclusive breastfeeding (from immediately after birth to the age of 6 months), together with skin-to-skin body contact; from the age of 6 months, complementary foods that are frequent and diverse enough, and which contain the micronutrients they need for the rapid growth of their body and brain; and food safety and family food security.
- *Responsive caregiving* includes observing and responding to children's movements, sounds and gestures and verbal requests. It is the basis for: protecting children against injury and the negative effects of adversity; recognizing and responding to illness; enriched learning; and building trust and social relationships.
- *Opportunities for early learning***.** This includes the skills and capacities that develop through interactions with caregivers and others, the level of language and literacy exposure, and the opportunities the environment provides for exploration and play.
- *Security and safety.* This includes safe and healthy physical environments, as well as safe social / relational environments (home, community and early childhood settings)

Besides identifying the core components that children need to develop well, the Nurturing Care Framework describe the 'enabling environments' that caregivers need to identify the for children to develop in the way that's best for their whole lives, caregivers need to have time and resources for providing nurturing care. This is facilitated by enabling environments in the form of empowered communities, supportive services,

and enabling policies. (Although these factors are acknowledged as important, the Nurturing Care Framework does not elaborate on them).

Further extensions of the Nurturing Care Framework have been proposed by Clark et al. (2020) and Black et al. (2021).

The ***UNICEF Innocenti framework*** (UNICEF Innocenti, 2020)

The *UNICEF Innocenti framework* has been developed as part of an effort to understand the factors that affect child well-being in rich countries. It depicts child outcomes as a product of the world of the child, the world around the child, and the world at large:

- *The world of the child.* This includes factors experienced directly by the child such as relationships and activities involving families and peers.
- *The world around the child.* This includes resources (such as children's household economic status and the quality of the neighbourhoods they live in), and networks (the connections between people around the child, which the child may not directly experience, but which can affect their well-being)
- *The world at large.* This includes policies (national programs of direct relevance to the child, including social policy, education and health), and contexts (broader economic, social and environmental factors that influence child wellbeing either directly or indirectly).

Early Years Learning Framework (EYLF) (DEEWR, 2009)

The national *Early Years Learning Framework* was developed by the Council of Australian Governments as a contribution to realising the Council's vision that 'All children have the best start in life to create a better future for themselves and for the nation.' It is designed for early childhood educators, and provides guidance on how to extend and enrich children's learning from birth to five years and through the transition to school. However, it has a broader vision than children's learning, being based on a view of children's lives as characterised by *belonging*, *being* and *becoming*:

- *Belonging*. Experiencing *belonging* – knowing where and with whom you belong – is integral to human existence. Children belong first to a family, a cultural group, a neighbourhood and a wider community. *Belonging* acknowledges children's interdependence with others and the basis of relationships in defining identities. In early childhood, and throughout life, relationships are crucial to a sense of *belonging*.
- *Being*. *Being* recognises the significance of the here and now in children's lives. It is about the present and them knowing themselves, building and maintaining relationships with others, engaging with life's joys and complexities, and meeting challenges in everyday life. The early childhood years are not solely preparation for the future but also about the present.

- *Becoming*. Children's identities, knowledge, understandings, capacities, skills and relationships change during childhood. They are shaped by many different events and circumstances. *Becoming* reflects this process of rapid and significant change that occurs in the early years as young children learn and grow. It emphasises learning to participate fully and actively in society.

The EYLF has five learning outcomes that are designed to capture the integrated and complex learning and development of all children across the birth to five age range. The outcomes are:

- Children have a strong sense of identity
- Children are connected with and contribute to their world
- Children have a strong sense of wellbeing
- Children are confident and involved learners
- Children are effective communicators.

The Nest (ARACY, 2014)

Developed by the Australian Alliance for Children and Youth, *The Nest* is an Australian framework for national child and youth wellbeing (0-24 years) that applies to all Australian children and youth, regardless of age, gender, ability, ethnicity, race and socio-economic status. Based upon evidence regarding the developmental needs of children, it focuses on six wellbeing domains:

- *Being loved and safe.* This embraces positive family relationships and connections with others, along with personal and community safety. Children and youth who are loved and safe are confident, have a strong sense of self-identity, have high self-esteem, and are resilient. They form secure attachments, have pro-social peer connections, and positive adult role models or mentors are present in their life.
- *Having material basics.* This involves having children and youth access to the things they need to live a 'normal life', such as adequate and stable housing, with adequate clothing, healthy food, and clean water, and the materials they need to participate in education and training pathways.
- *Being healthy.* This involves children and youth have their physical, developmental, psychosocial and mental health needs met, so that they achieve their optimal developmental trajectories. They have access to services to support their growth and development, and have access to preventative measures to redress any emerging health or developmental concerns.
- *Learning.* Children and youth learn through a variety of formal and informal experiences within the classroom and more broadly in their home and in the community. Children and youth who are learning participate in and experience education that enables them to reach their full potential and maximise their life opportunities.
- *Participating.* This includes involvement with peers and the community, being able to have a voice and say on matters and, increasingly, access to technology for social connections. In practice, participating means children and youth are supported in expressing their views, their views are taken into account and they are involved in decision-making processes that affect them.

- *Positive sense of culture and identity.* Having a positive sense of culture and identity is central to the wellbeing of children and youth, and is particularly important for Aboriginal and Torres Strait Islander and other culturally and linguistically diverse (CALD) children and youth. This outcome includes having a sense of spiritual wellbeing.

The Nest framework is being used in a variety of ways by ARACY itself and organisations around Australia (see https://www.aracy.org.au/projects/the-nest). ARACY publications based on The Nest include a report card on Australian children's wellbeing (ARACY, 2018) and a review of child deprivation and opportunity in Australia (Sollis, 2019).

Other frameworks include.

Tasmanian Well-being Framework

Tasmanian Government (2018). **Tasmanian Child and Youth Wellbeing Framework** (2018). Hobart, Tasmania: Tasmanian Government. https://www.strongfamiliessafekids.tas.gov.au/__data/assets/pdf_file/0023/5549/1-Tasmanian-Child-and-Youth-Wellbeing-Framework-Web.pdf

New Zealand Child and Youth Wellbeing Strategy

https://childyouthwellbeing.govt.nz/sites/default/files/2019-08/strategy-on-a-page-child-youth-wellbeing-Sept-2019.pdf

REFERENCES

Adler, N.E. and Stewart, J. (2010). Health disparities across the lifespan: meaning, methods, and mechanisms. **Annals of the New York Academy of Sciences, 1186**: 5-23. doi: 10.1111/j.1749-6632.2009.05337.x.

Allen, M. and Donkin, A. (2015). **The Impact of Adverse Experiences in the Home on the Health of Children and Young People, and Inequalities in Prevalence and Effects.** London, UK: UCL Institute of Health Equity. https://www.instituteofhealthequity.org/Content/FileManager/adverse-experiences-book_final.pdf

Andrews, F.J., Warner, E. & Robson, B. (2018) High-rise parenting: experiences of families in private, high-rise housing in inner city Melbourne and implications for children's health. **Cities & Health**, published online 24 July 2018. DOI: 10.1080/23748834.2018.1483711

ARACY (2014). **The Nest Action Agenda: Improving the wellbeing of Australia's children and youth while growing our GDP by over 7% (2nd Ed.).** Canberra, ACT: Australian Research Alliance for Children and Youth.
http://www.aracy.org.au/documents/item/182

ARACY (2018). **Report Card 2018: The Wellbeing of young Australians.** Canberra, ACT: Australian Research Alliance for Children and Youth.
https://www.aracy.org.au/the-nest-in-action/report-card-the-wellbeing-of-young-australians

Australian Bureau of Statistics (ABS) (2019). **National Health Survey: first results, 2017–18.** ABS cat. no. 4363.0.55.001. Canberra, ACT: Australian Bureau of Statistics.

Australian Institute of Health and Welfare (AIHW) (2019. **Oral health and dental care in Australia**. Cat. no. DEN 231. Canberra: AIHW.

Australian Institute of Health and Welfare (2019). **Family, domestic and sexual violence in Australia: continuing the national story 2019.** Cat. no. FDV 3. Canberra, ACT: Australian Institute of Health and Welfare.
https://www.aihw.gov.au/reports/domestic-violence/family-domestic-sexual-violence-australia-2019/contents/table-of-contents

Australian Institute of Health and Welfare (2020a). **Overweight and obesity among Australian children and adolescents.** AIHW Cat. no: PHE 274. Canberra, ACT: Australian Institute of Health and Welfare.
https://www.aihw.gov.au/reports/overweight-obesity/overweight-obesity-australian-children-adolescents/contents/summary

Australian Institute of Health and Welfare (2020b). **Australia's children: Asthma prevalence among children**. AIHW Cat. no: CWS 69. Canberra, ACT: Australian Institute of Health and Welfare DOI:10.25816/5ebca4d0fa7dd https://www.aihw.gov.au/reports/children-youth/australias-children/contents/health/asthma-prevalence-children

Australian Institute of Health and Welfare (2020c). **Australia's children: Housing.**. AIHW Cat. no: CWS 69. Canberra, ACT: Australian Institute of Health and Welfare DOI:10.25816/5ebca4d0fa7dd https://www.aihw.gov.au/reports/children-youth/australias-children/contents/housing

Australian Institute of Health and Welfare (2020). **Overweight and obesity among Australian children and adolescents.** AIHW Cat. no: PHE 274. Canberra, ACT: Australian Institute of Health and Welfare. https://www.aihw.gov.au/reports/overweight-obesity/overweight-obesity-australian-children-adolescents/contents/summary

Australian Institute of Health and Welfare (2020). **Child protection Australia 2018–19.** Child welfare series no. 74. Cat. no. CWS 74. Canberra, ACT: Australian Institute of Health and Welfare. https://www.aihw.gov.au/reports/child-protection/child-protection-australia-2018-19/contents/summary

Australian Public Services Commission (2007). **Tackling Wicked Problems: A Public Policy Perspective.** Phillip, ACT: Australian Public Services Commission. http://www.apsc.gov.au/publications07/wickedproblems.htm

Axford, N., Albers, B., Wanner, A., Flynn, H., Rawsthorn, M. and Hobbs, T. (2018). **Improving the Early Learning Outcomes of Children Growing Up in Poverty: A Rapid Review of the Evidence**. London, UK: Save the Children UK. https://www.savethechildren.org.uk/content/dam/gb/reports/evidence-review.pdf

Bagnall, A.-M., South, J., Di Martino, S., Southby, K., Pilkington, G., Mitchell, B., Pennington, A. and Corcoran, R. (2018). **Places, spaces, people and wellbeing: full review. A systematic review of interventions to boost social relations through improvements in community infrastructure (places and spaces).** London, UK: What Works: Wellbeing Centre. https://whatworkswellbeing.org/wp-content/uploads/2020/01/Places-spaces-people-wellbeing-full-report-MAY2018-1_0119755600.pdf

Balbus, J.M., Barouki, R., Birnbaum, L.S., Etzel, R.A., Gluckman, P.D., Grandjean, P., Hancock, C., Hanson, M.A., Heindel, J.J., Hoffman, K., Jensen, G.K., Keeling, A., Neira, M., Rabadán-Diehl, C., Ralston, J. and Tang, K.-C. (2013). Early-life prevention of non-communicable diseases. **Lancet, 381** (9860): 3–4.

Balenzano, C. (2021). Promoting family well-being and social cohesion: The networking and relational approach of an innovative welfare service in the Italian context. **Child & Family Social Work, 26** (1), 100–110. https://doi.org/10.1111/cfs.12793

Barker, M., Dombrowski, S.U., Colbourn, T., Fall, C.H.D., Kriznik, N.M., Lawrence, W.T., Norris, S.A., Ngaiza, G., Patel, D., Skordis-Worrall, J., Sniehotta, F.F., Steegers-Theunissen, R., Vogel, C., Woods-Townsend, K. and Stephenson, J. (2018). Intervention strategies to improve nutrition and health behaviours before conception. **The Lancet, 391** (10132), 1853-1864. DOI: https://doi.org/10.1016/S0140-6736(18)30313-1

Barnes, J., Crociani, S., Danile. S, Feyer, F., Giudici, C., Guerra, J.C., Karwowska-Struczyk, M., Leitao, C., Leseman, P., Meijers, C., Melhuish, E., Pastori, G.G. Petrogiannis, K., Skamnakis, C., Takou, R., Van Rossum, E., Wyslowska, O. amd Zachrisson, H.D. (2018). **Comprehensive review of the literature on inter-agency working with young children, incorporating findings from case studies of good practice in inter-agency working with young children and their families within Europe.** ISOTIS (Inclusive Education and Social Support to Tackle Inequalities in Society). http://www.isotis.org/wp-content/uploads/2018/06/D6.2.-Review-on-inter-agency-working-and-good-practice.pdf

Barnes, J., MacPherson, K. and Senior, R. (2006). The impact on parenting and the home environment of early support to mothers with new babies. **Journal of Children's Services, 1** (4), 4-20.

Barouki, R., Gluckman, P. D., Grandjean, P., Hanson, M., & Heindel, J. J. (2012). Developmental origins of non-communicable disease: Implications for research and public health. **Environmental Health, 11**, 42. doi:10.1186/1476-069X-11-42

Bateson, D.J. and Black, K.I. (2018). Pre-conception care: an important yet underutilised preventive care strategy. **Medical Journal of Australia, 209** (9): 389-391. doi: 10.5694/mja18.00769

Bellis, M.A , Hughes, K., Ford, K., Rodriguez, G.R., Sethi, D. and Passmore, J. (2019). Life course health consequences and associated annual costs of adverse childhood experiences across Europe and North America: a systematic review and meta-analysis. **The Lancet Public Health, 4** (10), e517-e528. DOI:https://doi.org/10.1016/S2468-2667(19)30145-8

Belsky, J., Caspi, A., Moffitt, T.E. and Poulton, R. (2020). **The Origins of You: How Childhood Shapes Later Life.** Cambridge, Massachusetts: Harvard University Press.

Belsky, J. and van Ijzendoorn, M.H. (2015). What works for whom? Genetic moderation of intervention efficacy. **Development and Psychopathology, 27** (Special Issue 01), 1-6. doi:10.1017/S0954579414001254.

Belsky, J. and van IJzendoorn, M.H. (2017). Genetic differential susceptibility to the effects of parenting. **Current Opinion in Psychology, 15**, 125-130. https://doi.org/10.1016/j.copsyc.2017.02.021

Berry, D. (2017). Health disparities, biological embedding, and life-course health. Ch. 3 in E. Votruba-Drzal and E. Dearing (Eds.), **The Wiley Handbook of Early Childhood Development Programs, Practices, and Policies.** Hoboken, New Jersey: Wiley-Blackwell.

Bishop, S. J. and Leadbeater, B. J. (1999). Maternal social support patterns and child maltreatment: Comparison of maltreating and nonmaltreating mothers. **American Journal of Orthopsychiatry, 69** (2), 172-181. doi:10.1037/h0080419

Black, M.M., Behrman, J.R., Daelmans, B., Prado, E.L., Richter, L., Tomlinson, M., Trude, A.C.B., Wertlieb, D., Wuermli, A.J. and Yoshikawa, H. (2021). The principles of Nurturing Care promote human capital and mitigate adversities from preconception through adolescence. **BMJ Global Health, 6**: e004436. doi:10.1136/ bmjgh-2020-004436

Black, M.M., Walker, S.P., Fernald, l.C.H., Andersen, C.T., DiGirolamo, A.M., Lu, C., McCoy, D.C., Fink, G., Shawar, Y.R., Shiffman, J., Devercelli, A.E., Wodon, Q.T., Vargas-Barón, E., Grantham-McGregor, S. for the Lancet Early Childhood Development Series Steering Committee (2017). Early childhood development coming of age: science through the life course. **The Lancet, 389** (10064), 77-90, published online 4th October 2016. http://dx.doi.org/10.1016/S0140-6736(16)31389-7

Blackburn, E.H. and Epel, E. (2017). **The Telomere Effect: A Revolutionary Approach to Living Younger, Healthier, Longer**. London, UK: Orion Spring.

Blasé, K. & Fixsen, D. (2013). **Core intervention components: Identifying and operationalizing what makes programs work.** Research brief from the Office of the Assistant Secretary for Planning and Evaluation, Office of Human Services Policy, U.S. Department of Health and Human Services. Washington, DC: U.S. Department of Health and Human Services. http://aspe.hhs.gov/hsp/13/KeyIssuesforChildrenYouth/CoreIntervention/rb_CoreIntervention.pdf

Blaser, M.J. (2014). The microbiome revolution. **Journal of Clinical Investigation, 124** (10), 4162–4165. doi:10.1172/JCI78366.

Blau, M. and Fingerman, K.L. (2009). **Consequential Strangers: The Power of People Who Don't Seem to Matter. . . But Really Do.** New York: W.W. Norton.

Bloom, D.E., Cafiero, E.T., Jané-Llopis, E., Abrahams-Gessel, S., Bloom, L.R., Fathima, S., Feigl, A.B., Gaziano, T., Mowafi, M., Pandya, A., Prettner, K., Rosenberg, L., Seligman, B., Stein, A.Z., & Weinstein, C. (2011). **The Global Economic Burden of Noncommunicable Diseases.** Geneva, Switzerland: World Economic Forum. http://www3.weforum.org/docs/WEF_Harvard_HE_GlobalEconomicBurdenNonCommunicableDiseases_2011.pdf

Bornstein, M.H. (2009). Toward a model of culture<—>parent<—>child transactions. Ch 12 in A. Sameroff (Ed.), **The Transactional Model of Development: How Children and Contexts Shape Each Other**. Washington, DC: American Psychological Association.

Bowers, A.P. and Strelitz, J. with Allen, J. and Donkin, A. (2012). **An Equal Start: Improving Outcomes in Children's Centres**. London, UK: UCL Institute of Health Equity, University College London. http://www.instituteofhealthequity.org/projects/an-equal-start-improving-outcomes-in-childrens-centres/an-equal-start-improving-outcomes-in-childrens-centres-executive-summary

Boyce, W.T. (2019). **The Orchid and the Dandelion: Why Some Children Struggle and How All Can Thrive.** Allen Lane.

Boyce, W.T., Levitt, P., Martinez, F.D., McEwen, B.S. and Shonkoff, J.P. (2021). Genes, environments, and time: The biology of adversity and resilience. **Pediatrics, 147** (2): e20201651

Bradley, R. (2015). Children's housing and physical environments. In R.M. Lerner, M. Bornstein and T. Leventhal (Eds.), **Handbook of Child Psychology and Developmental Science: Ecological Settings and Processes in Developmental Systems.** New York: John Wiley & Sons.

Braveman, P. (2006). Health disparities and health equity: Concepts and measurement. **Annual Review of Public Health, 27**, 167-194. https://doi.org/10.1146/annurev.publhealth.27.021405.102103

Braveman, P. (2014). What is health equity: and how does a life-course approach take us further toward it? **Maternal and Child Health Journal, 18** (2), 366-72. doi: 10.1007/s10995-013-1226-9

Braveman P, Acker J, Arkin E, Bussel J, Wehr K, Proctor D. (2018). **Early childhood is critical to health equity**. Princeton, New Jersey: Robert Wood Johnson Foundation. https://www.rwjf.org/en/library/research/2018/05/early-childhood-is-critical-to-health-equity.html

Braveman, P., Arkin, E., Orleans, T., Proctor, D., and Plough, A. (2017). **What is Health Equity?** Princeton, New Jersey: Robert Wood Johnson Foundation. https://www.rwjf.org/en/library/research/2017/05/what-is-health-equity-.html

Braveman, P., Egerter, S. and Williams, D.R. (2011). The social determinants of health: Coming of age. **Annual Review of Public Health, 32**: 381-98. doi: 10.1146/annurev-publhealth-031210-101218.

Braveman, P. and Gottlieb, L. (2014). The social determinants of health: it's time to consider the causes of the causes. **Public Health Reports, 129** (Suppl. 2), 19-31.

Bright, M.A. and Thompson, L.A. (2018). Association of adverse childhood experiences with co-occurring health conditions in early childhood**. Journal of Developmental & Behavioral Pediatrics, 39** (1), 37–45. DOI: 10.1097/DBP.0000000000000514

Brinkman, S.A., Gialamas, A., Rahman, A., Mittinty, M.N., Gregory, T.A., Silburn, S., Goldfeld, S., Zubrick, S., Carr, V., Janus, M., Hertzman, C. & Lynch, J.W. (2012). Jurisdictional, socioeconomic and gender inequalities

in child health and development: analysis of a national census of 5-year-olds in Australia. **BMJ Open, 2** (5), e001075. doi:10.1136/bmjopen-2012-001075

Britto, P.R. (2017). **Early Moments Matter for every child.** New York: United Nations Children's Fund (UNICEF). https://www.unicef.org/media/files/UNICEF_Early_Moments_Matter_for_Every_Child_report.pdf

Britto, P.R., Lye, S.J., Proulx, K., Yousafzai, A.K., Matthews, S.G., Vaivada, T., Perez-Escamilla, R., Rao, N., Ip, P., Fernald, L.C.H., MacMillan, H., Hanson, M., Wachs, T.D., Yao, H., Yoshikawa, H., Cerezo, A., Leckman, J.F., Bhutta, Z.A. and the Early Childhood Development Interventions Review Group, for the *Lancet* Early Childhood Development Series Steering Committee (2017). Nurturing care: promoting early childhood development. **The Lancet, 389** (10064), 91-102. http://dx.doi.org/10.1016/S0140-6736(16)31390-3

Britto, P.R., Singh, M., Dua, T.,Kaur, R. and Yousafzai, A.K. (2018). What implementation evidence matters: scaling-up nurturing interventions that promote early childhood development. **Annals of the New York Academy of Sciences, 1419** (1): 5-16. DOI: 10.1111/nyas.13720

Brooks, D. (2020). The nuclear family was a mistake. **The Atlantic** (March). https://www.theatlantic.com/magazine/archive/2020/03/the-nuclear-family-was-a-mistake/605536/

Bruner, C. (Ed.) (2007). **Village building and school readiness: Closing opportunity gaps in a diverse society**. Des Moines, Iowa: State Early Childhood Policy Technical Assistance Network. https://www.buildinitiative.org/Portals/0/Uploads/Documents/Village%20Building%20and%20School%20Readiness.pdf

Bywaters, P., Bunting, L., Davidson, G., Hanratty, J., Mason, W., McCartan, C. and Steils, N. (2016). **The relationship between poverty, child abuse and neglect: an evidence review.** York, UK: Joseph Rowntree Foundation. https://www.jrf.org.uk/report/relationship-between-poverty-child-abuse-and-neglect-evidence-review

Cacioppo, J. and Patrick, W. (2008). **Loneliness: Human Nature and the Need for Social Connection.** New York: W.W. Norton.

Campbell, F., Conti, G., Heckman, J.J., Moon, S.H., Pinto, R., Pungello, E. & Pan, Y. (2014). Early childhood investments substantially boost adult health. **Science, 343** (6178), 1478-1485. DOI:10.1126/science.1248429

Campo, M. (2015). **Children's exposure to domestic and family violence: key issues and responses.** Child Family Community Australia (CFCA) Paper no. 36. Melbourne, Victoria: Australian Institute of Family Studies. https://aifs.gov.au/cfca/publications/childrens-exposure-domestic-and-family-violence

Campo, M. and Tayton, S. (2015). **Domestic and family violence in regional, rural and remote communities: An overview of key issues.** Melbourne, Victoria: Child Family Community Australia, Australian Institute of Family Studies.
https://aifs.gov.au/cfca/publications/domestic-and-family-violence-regional-rural-and-remote-communities

Carolan, M. (2018). **The Real Cost of Cheap Food (2nd Ed.).** Abingdon, Oxford: Routledge.

Carson, V., Lee, E.-Y., Hewitt, L., Jennings, C., Hunter, S., Kuzik, N., Stearns, J.A., Unrau, S.P., Poitras, V.J., Gray, C., Adamo, K.B., Janssen, I., Okely, A.D., Spence, J.C., Timmons, B.W., Sampson, M. and Tremblay, M.S. (2017). Systematic review of the relationships between physical activity and health indicators in the early years (0-4 years). **BMC Public Health, 17(Suppl 5)**: 854
https://doi.org/10.1186/s12889-017-4860-0

Caspi, A., Houts, R.M., Belsky, D.W., Harrington, H., Hogan, S., Ramrakha, S., Poulton, R. and Moffitt, T.E. (2016). Childhood forecasting of a small segment of the population with large economic burden. **Nature Human Behaviour, 1**, 0005. DOI: 10.1038/s41562-016-0005 | www.nature.com/nathumbehav 1

Centre for Community Child Health (2006). **Services for young children and families: an integrated approach.** CCCH Policy Brief No. 4. Parkville, Victoria: Centre for Community Child Health, The Royal Children's Hospital.
http://www.rch.org.au/emplibrary/ccch/PB4_Children-family_services.pdf

Centre for Community Child Health (2006). **Services for young children and families: an integrated approach.** CCCH Policy Brief No. 4. Parkville, Victoria: Centre for Community Child Health, The Royal Children's Hospital.
http://www.rch.org.au/emplibrary/ccch/PB4_Children-family_services.pdf

Centre for Community Child Health (2018). **Addressing disadvantage to optimise children's development in Australia.** *CCCH Research Snapshot*. Parkville, Victoria: Centre for Community Child Health, Murdoch Children's Research Institute.
https://www.rch.org.au/uploadedFiles/Main/Content/ccchdev/CCCH-Changing-Childrens-Chances-Research-Snapshot-May-2018.pdf

Centre for Public Impact (CPI) (2018). **The Shared Power Principle: How Governments Are Changing to Achieve Better Outcomes.** Geneva, Switzerland: Centre for Public Impact.
https://www.centreforpublicimpact.org/future-of-government/

Center on the Developing Child at Harvard University (2010). **The Foundations of Lifelong Health Are Built in Early Childhood.** Cambridge, Massachusetts: Centre on the Developing Child at Harvard University.
http://developingchild.harvard.edu/index.php/download_file/-/view/700/

Centre on the Developing Child at Harvard University (2016). **8 Things to Remember about Child Development.** Cambridge, Massachusetts: Center on the Developing Child at Harvard University. www.developingchild.harvard.edu/resources/8-things-remember-child-development/

Centre on the Developing Child at Harvard University (2016). **From Best Practices to Breakthrough Impacts: A Science-Based Approach to Building a More Promising Future for Young Children and Families.** Cambridge, Massachusetts: Center on the Developing Child at Harvard University. http://developingchild.harvard.edu/resources/from-best-practices-to-breakthrough-impacts/

Centre on the Developing Child at Harvard University (2016). **Building Core Capabilities for Life: The Science Behind the Skills Adults Need to Succeed in Parenting and in the Workplace.** Cambridge, Massachusetts: Centre on the Developing Child, Harvard University. http://developingchild.harvard.edu/wp-content/uploads/2016/03/Building-Core-Capabilities-for-Life.pdf

Centre on the Developing Child at Harvard University (2017). **Three Principles to Improve Outcomes for Children and Families.** Cambridge, Massachusetts: Center on the Developing Child at Harvard University. https://46y5eh11fhgw3ve3ytpwxt9r-wpengine.netdna-ssl.com/wp-content/uploads/2017/10/HCDC_3PrinciplesPolicyPractice.pdf

Centre on the Developing Child (2020). **What Is Inflammation? And Why Does it Matter for Child Development?** CDC Infographic. Cambridge, Massachusetts: Center on the Developing Child at Harvard University. https://developingchild.harvard.edu/resources/what-is-inflammation-and-why-does-it-matter-for-child-development/

Chavatte-Palmer, P., Vialard, F., Tarrade, A., Dupont, C., Duranthon, V. and Lévy, R. (2016). DOHaD and pre- or peri-conceptional programming. **Médécine Sciences, 32** (1), 57-65.

Child Family Community Australia (2017). **The prevalence of child abuse and neglect.** CFCA Resource Sheet. Melbourne, Victoria: Australian Institute of Family Studies. https://aifs.gov.au/cfca/publications/prevalence-child-abuse-and-neglect

Child Family Community Australia (2017). **Child protection and Aboriginal and Torres Strait Islander children - August 2017 update.** CFCA Resource Sheet. Melbourne, Victoria: Child Family Community Australia, Australian Institute of Family Studies. https://aifs.gov.au/cfca/publications/child-protection-and-aboriginal-and-torres-strait-islander-children

Christakis, E. (2016). **The Importance of Being Little: What Preschoolers Really Need from Grownups.** New York, USA: Viking.

Christakis, N.A. (2019). **Blueprint: The Evolutionary Origins of a Good Society**. New York: Little Brown Spark.

Christakis, N.A. (2020). **Apollo's Arrow: The Profound Impact of Pandemics on the Way We Live.** New York: Little Brown Spark.

Christakis, N.A. and Fowler, J.H. (2009). **Connected: The Surprising Power of Our Social Networks and How They Shape Our Lives.** New York: Little, Brown and Company.

Clair, A. (2018). Housing: an under-explored influence on children's well-being and becoming. **Child Indicators Research, 12** (2): 609–62

Clark, H., Coll-Seck, A.M., Banerjee, A., Peterson, S., Dalglish, S.L., Ameratunga, S., Balabanova, D., Bhan, M.K., Bhutta, Z.A., Borrazzo, J., Claeson, M., Doherty, T., El-Jardali, F., George, A.S., Gichaga, A., Gram, L., Hipgrave, D.B., Kwamie, A., Meng, Q., Mercer, R., Narain, S., Nsungwa-Sabiiti, J., Olumide, A.O., Osrin, D., Powell-Jackson, T., Rasanathan, K., Rasul, I., Reid, P., Requejo, J., Rohde, S.S., Rollins, N., Romedenne, M., Singh Sachdev, M., Saleh, R., Shawar, Y.R., Shiffman, J., Simon, J., Sly,, P.D., Stenberg, K., Tomlinson, M., Ved, R.R. and Costello, A. (2020). A future for the world's children? A WHO–UNICEF–*Lancet* Commission. **The Lancet, 395** (10224), 605-658. https://doi.org/10.1016/S0140-6736(19)32540-1

Collen, A. (2015). **10% Human: How Your Body's Microbes Hold the Key to Health and Happiness**. London, UK: William Collins

Committee for Economic Development of Australia (2015). **Addressing entrenched disadvantage in Australia.** Melbourne, Victoria: Committee for Economic Development of Australia. http://adminpanel.ceda.com.au/FOLDERS/Service/Files/Documents/26005~CEDAAddressingentrencheddisadvantageinAustraliaApril2015.pdf

Cooper, K. and Stewart, K. (2017). **Does Money Affect Children's Outcomes? An update.** London, UK: Centre for Analysis of Social Exclusion, London School of Economics. http://sticerd.lse.ac.uk/dps/case/cp/casepaper203.pdf

Cunha, F. and Heckman, J.J. (2009). The economics and psychology of inequality and human development. **Journal of the European Economic Association**, 7 (2-3), 320-364.

Cunha, F., Heckman, J.J., Lochner, L.J. and 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.

Daelmans, B., Black, M.M., Lombardi, J., Lucas, J., Richter, L., Silver, K., Britto, P., Yoshikawa, H., Perez-Escamilla, R., MacMillan, H., Dua, T., Bouhouch, R.R., Bhutta, Z., Darmstadt, G.L. and Rao, N. (2015). Effective interventions and strategies for improving early child development. **British Medical Journal, 351**: h4029. Published 14th September. doi: http://dx.doi.org/10.1136/bmj.h4029

Dalziel, K.M., Huang, L., Hiscock, H. and Clarke, P.M. (2018). Born equal? The distribution of government Medicare spending for children. **Social Science & Medicine, 208**, 50-54. https://doi.org/10.1016/j.socscimed.2018.04.037

Darling, J.C., Bamidis, P.D., Burberry, J. and Rudolf, M.C.J. (2020). The First Thousand Days: early, integrated and evidence-based approaches to improving child health: coming to a population near you? **Archives of Disease in Childhood,** published online 28 February 2020. doi:10.1136/archdischild-2019-316929

Davidson, P., Saunders, P., Bradbury, B. and Wong, M. (2020a). **Poverty in Australia 2020: Part 1, Overview.** ACOSS/UNSW Poverty and Inequality Partnership Report No. 3. Sydney, NSW: Australian Council of Social Service (ACOSS). http://povertyandinequality.acoss.org.au/wp-content/uploads/2020/02/Poverty-in-Australia-2020_Part-1_Overview.pdf

Davidson, P., Bradbury, B., Wong, M. and Hill, T. (2020b). **Inequality in Australia, Part 1: Overview.** Sydney, NSW: Australian Council of Social Service and UNSW (Sydney). http://povertyandinequality.acoss.org.au/wp-content/uploads/2020/09/Inequality-in-Australia-2020-Part-1_FINAL.pdf

Davies, P.S.W., Funder, J., Palmer, D.J., Sinn, J., Vickers, M.H. and Wall, C.R. (2016). Early life nutrition and the opportunity to influence long-term health: an Australasian perspective. **Journal of Developmental Origins of Health and Disease**, published online 26th January 2016. doi:10.1017/S2040174415007989.

DEEWR (2009). **Belonging, Being and Becoming: The Early Years Framework for Australia.** Canberra, ACT: Department of Education, Employment and Workplace Relations. https://docs.education.gov.au/system/files/doc/other/belonging_being_and_becoming_the_early_years_learning_framework_for_australia_0.pdf

Department of Education and Training (2019). **Australian Early Development Census – National Report 2018: A Snapshot of Early Childhood Development in Australia.** Canberra, ACT: Department of Education and Training. https://www.aedc.gov.au/resources/detail/2018-aedc-national-report

Department of Family and Community Services (2018). **Child maltreatment in early childhood: developmental vulnerability on the AEDC.** FACSIAR Evidence to Action Note. Sydney, NSW: Department of Family & Community Services. https://www.facs.nsw.gov.au/__data/assets/pdf_file/0008/547460/Child-maltreatment-in-early-childhood-developmental-vulnerability-on-the-AEDC-Evidence-to-action-Jan-2018.pdf

Dietert, R. (2016). **The Human Superorganism: How the Microbiome Is Revolutionizing the Pursuit of a Healthy Life.** New York: Dutton.

Dockery, A.M., Kendall, G., Li, J., Mahendran, A., Ong, R. and Strazdins, L. (2010). **Housing and children's development and wellbeing: a scoping study.** AHURI Final Report No. 149. Melbourne: Australian Housing and Urban Research Institute.
http://www.ahuri.edu.au/publications/download.asp?ContentID=80551_fr

Dunbar, R. (2021). **Friends: Understanding the Power of Our Most Important Relationships**. Sydney, NSW: Hachette.

Duncan, G.J., Kalil, A. and Ziol-Guest, K.M. (2013). Early childhood poverty and adult achievement, employment and health. **Family Matters, No. 93**, 27-35.

Dykas, M.J. and Cassidy, J. (2013). The first bonding experience: The basics of infant-caregiver attachment. Ch. 1 in C. Hazan and M.I. and Campa (Eds) (2013). **Human Bonding: The Science of Affectional Ties**. New York: The Guilford Press.

Dyson, A., Hertzman, C., Roberts, H., Tunstill, J. and Vaghri, Z. (2010). **Childhood development, education and health inequalities.** London, UK: Global Health Equity Group, Department of Epidemiology and Public Health, University College London.
http://www.ucl.ac.uk/gheg/marmotreview/consultation/Early_years_and_education_report

Edwards, B. and Bromfield, L.M. (2009). Neighborhood influences on young children's conduct problems and pro-social behavior: Evidence from an Australian national sample. **Children and Youth Services Review, 31** (3), 317-324.

Egger, G., Colquhoun, D. and Dixon, J. (2015). "Anthropogens" in lifestyle medicine. **American Journal of Lifestyle Medicine, 9** (3), 232-240.
http://dx.doi.org/10.1177/1559827613512596

Engemann, K., Bøcker Pedersen, C., Arge, L., Tsirogiannis, C., Mortensen, P.B. and Svenning, J.-C. (2019). Residential green space in childhood is associated with lower risk of psychiatric disorders from adolescence into adulthood. **Proceedings of the National Academy of Sciences, 116** (11) 5188-5193; DOI: 10.1073/pnas.1807504116

Fiese, B.H., Gundersen, C., Koester, B. and Washington, L. (2011). Household food insecurity: Serious concerns for child development. **Social Policy Report, 25** (3), 1-26.
http://www.srcd.org/index.php?option=com_docman&task=doc_download&gid=1265

Fixsen, D.L., Naoom, S.F., Blasé, K.A., Friedman, R.M. and Wallace, F. (2005). **Implementation Research: A Synthesis of the Literature.** (FMHI Publication #231). Tampa, Florida: The National Implementation Research Network, Louis de la Parte Florida Mental Health Institute, University of South Florida.
http://nirn.fmhi.usf.edu/resources/detail.cfm?resourceID=31

Ford, T. (2020). Editorial Perspective: Why I am now convinced that emotional disorders are increasingly common among young people in many countries. **Journal of Child Psychology and Psychiatry**, published online 10 February, 2020. doi:10.1111/jcpp.13211

Fox, S., Southwell, A., Stafford, N., Goodhue, R., Jackson, D. and Smith, C. (2015). **Better Systems, Better Chances: A Review of Research and Practice for Prevention and Early Intervention.** Canberra, ACT: Australian Research Alliance for Children and Youth (ARACY). http://www.community.nsw.gov.au/docswr/_assets/main/documents/early_intervention/tab_e_prevention_and_early_intervention_literature_review.pdf

Frey, U. and Usemann, J. (2019). Addressing the complexity of prenatal and postnatal environmental exposures affecting childhood lung function. **The Lancet Planetary Health**, published online 5 February. DOI: https://doi.org/10.1016/S2542-5196(19)30011-7

Friedman, E.M., Karlamangla, A.S., Gruenewald, T.L., Koretz, B. and Seeman, T.E. (2015). Early life adversity and adult biological risk profiles. **Psychosomatic Medicine, 77** (2): 176-185.

Friedman, T.L. (2016). **Thank You For Being Late: An Optimist's Guide to Thriving in the Age of Accelerations.** New York: Farrar, Straus and Giroux.

Gadsden, V.L., Ford, M. and Breiner, H. (Eds.) (2016). **Parenting Matters: Supporting Parents of Children Ages 0-8.** Washington, DC: National Academies Press. doi: 10.17226/21868

Galinsky, E. (2010). **Mind in the Making: The Seven Essential Life Skills Every Child Needs.** New York: HarperStudio.

Garcia, J.L. and Heckman, J.J. (2020). **Early Childhood Education and Life-cycle Health.** NBER Working Paper No. 26880. Cambridge, Massachusetts: National Bureau of Economic Research. https://www.nber.org/papers/w26880.pdf

Garcia, J.L., Heckman, J.J., Leaf, D.E. and Prados, M.J. (2019). **Quantifying the Life-cycle Benefits of a Prototypical Early Childhood Program.** NBER Working Paper No. 23479. Issued in June 2017, revised in February 2019. Cambridge, Massachusetts: National Bureau of Economic Research. https://heckmanequation.org/www/assets/2017/01/w23479.pdf

Gee, G.C., Walsemann, K.M. and Brondolo E. (2012). A life course perspective on how racism may be related to health inequities. **American Journal of Public Health, 102** (5): 967-974. https://doi.org/10.2105/AJPH.2012.300666

Genuis, R.A. and Genuis, S.J. (2017). Preconception care: the next frontier for improving maternal-child health care. **Public Health, 149**, 57– 9. DOI: http://dx.doi.org/10.1016/j.puhe.2017.03.012

Gibson, G. (2009). **It Takes a Genome: How a Clash Between Our Genes and Modern Life Is Making Us Sick**. Upper Saddle River, New Jersey: FT Press Science.

Gibson, C. and Johnstone, T. (2010). **Investing in our future: Children's journeys through homelessness and child protection. A Scan of the Literature, Policy and Practice.** Underdale, South Australia: Australian Centre for Child Protection, University of South Australia. http://www.unisa.edu.au/childprotection/documents/HomelessnessLitscan.pdf

Giles, E.M. and Couper, J. (2020). Microbiome in health and disease. **Journal of Paediatrics and Child Health**, published online 5 June 2020. doi:10.1111/jpc.14939

Giles-Corti, B., Vernez-Moudon, A., Reis, R., Turrell, G., Dannenberg, A.L., Badland, H., Foster, S., Lowe, M., Sallis, J.F., Stevenson, M. and Owen, N. (2016). City planning and population health: a global challenge. **The Lancet, 388** (10062), 2912-2924. DOI: 10.1016/S0140-6736(16)30066-6

Giphart, R. and van Vugt, M. (2018). **Mismatch: How Our Stone Age Brain Deceives Us Every Day (And What We Can Do About It).** New York: Little, Brown & Co.

Glascoe, F.P., Marks, K.P., Poon, J.K. & Macias, M.M. (Eds.) (2016). **Identifying & Addressing Development-Behavioral Problems: A Practical Guide for Medical and Non-Medical Professionals, Trainees, Researchers and Advocates.** Moorabbin, Victoria: Hawker Brownlow Education.

Gluckman, P.D., Buklijas, T. and Hanson, M.A. (2015). The Developmental Origins of Health and Disease (DOHaD) concept: Past, present, and future. Ch. 1 in C. Rosenfeld (Ed.), **The Epigenome and Developmental Origins of Health and Disease**. London, UK: Academic Press. DOI: 10.1016/B978-0-12-801383-0.00001-3

Gluckman, P. and Hanson, M. (2006). **Mismatch: Why Our World No Longer Fits Our Bodies.** Oxford, UK: Oxford University Press.

Gluckman, P., Low, F. and Hanson, M. (2019). Evolutionary medicine, pregnancy, and the mismatch pathways to increased disease risk. In J. Schulkin and M. Power (Eds.), **Integrating Evolutionary Biology into Medical Education.** Oxford, UK: Oxford University Press. DOI: 10.1093/oso/9780198814153.003.0002

Goldfeld, S., Hiscock, H. and Dalziel, K. (2019). An unequal start: addressing child health inequities. **MJA InSight, 4**, 4 February. https://insightplus.mja.com.au/2019/4/an-unequal-start-addressing-child-health-inequities/

Goldfeld, S., O'Connor, M., Cloney, D., Gray, S., Redmond, G., Badland, H., Williams, K., Mensah, F., Woolfenden, S., Kvalsvig, A., & Kochanoff, A. (2018). Understanding child disadvantage from a social

determinants perspective. **Journal of Epidemiology & Community Health, 72**, 223-229. doi:http://dx.doi.org/10.1136/jech-2017-209036

Goldfeld, S., O'Connor, M., O'Connor, E., Chong, S., Badland, H., Woolfenden, S., Redmond, G., Williams, K., Azpitarte, F., Cloney, D., & Mensah, F. (2018). More than a snapshot in time: Pathways of disadvantage over childhood. **International Journal of Epidemiology, 47** (4), 1307-1316. DOI: 10.1093/ije/dyy086

Goldfeld, S., O'Connor, M., Chong, S., Gray, S., O'Connor, E., Woolfenden, S., Redmond, G., Williams, K., Mensah, F., Kvalsvig, A., & Badland, H. (2018). The impact of multidimensional disadvantage over childhood on developmental outcomes in Australia. **International Journal of Epidemiology, 47** (5): 1485-1496. doi:https://doi.org/10.1093/ije/ dyy087

Goldfeld, S., Villanueva, K., Lee, J.L., Robinson, R., Moriarty, A., Peel, D., Tanton, R., Giles-Corti, B., Woolcock, G., Brinkman, S. and Katz, I. (2018). **Foundational Community Factors (FCFs) for Early Childhood Development: A report on the Kids in Communities Study**. Parkville, Victoria: Murdoch Children's Research Institute for the Kids in Communities Study (KiCS) collaboration. https://www.mcri.edu.au/sites/default/files/media/kics_final_report_v2_020518.pdf

Golombok, S. (2020). **We Are Family: What Really Matters for Parents and Children**. Melbourne, Victoria: Scribe Publications.

Gopnik, A. (2016). **The Gardener and the Carpenter: What the New Science of Child Development Tells Us About the Relationship Between Parents and Children.** London, UK: The Bodley Head.

Green, B.L., Furrer, C. and McAllister, C. (2007). How do relationships support parenting? Effects of attachment style and social support on parenting behavior in an at-risk population. **American Journal of Community Psychology, 40** (1-2), 96–108. DOI: 10.1007/s10464-007-9127-y

Green, D. (2013). **The Changing Conditions of Childhood: Is a good childhood now at risk?** BSCI Discussion paper. Richmond, Victoria: Berry Street Childhood Institute. http://www.childhoodinstitute.org.au/Assets/417/1/FINALTheChangingConditionsofChildhood14082013.pdf

Grint, K. (2010). The cuckoo clock syndrome: addicted to command, allergic to leadership. **European Management Journal, 28** (4), 306–313. http://dx.doi.org/10.1016/j.emj.2010.05.002 http://wrap.warwick.ac.uk/5306/1/WRAP_Grint_200811-cuckoo_clock_3.pdf

Guinosso, S.A., Johnson, S.B. and Riley, A.W. (2016). Multiple adverse experiences and child cognitive development. **Pediatric Research 79** (1-2), 220-226; doi:10.1038/pr.2015.195

Hackman, D.A., Farah, M.J. & Meaney, M.J. (2010). Socioeconomic status and the brain: mechanistic insights from human and animal research. **Nature Reviews Neuroscience, 11**, 651-659. doi:10.1038/nrn2897

Halfon, N., Forrest, C.B., Lerner, R.M., Faustman, E.M. (Eds.) (2018). **Handbook of Life Course Health Development.** Cham, Switzerland: Springer. DOI 10.1007/978-3-319-47143-3_1

Hall, A. (2007). **Where have all the gardens gone? An investigation into the disappearance of back yards in the newer Australian suburb.** Urban Research Program Research Paper 13. Brisbane, Queensland: Urban Research Program, Griffith University.
http://www.griffith.edu.au/__data/assets/pdf_file/0019/48601/urp-rp13-hall-2007.pdf

Halle, T.G., Hair, E.C., Burchinal, M., Anderson, R., & Zaslow, M. (2012). **In the running for successful outcomes: Exploring the evidence for thresholds of school readiness.** Technical Report. Washington, DC: Office of the Assistant Secretary for Planning and Evaluation, U.S. Department of Health and Human Services.
http://aspe.hhs.gov/hsp/13/InTheRunningTechnicalReport/rpt.pdf

Hanson, M.A. and Gluckman, P.D. (2014). Early developmental conditioning of later health and disease: physiology or pathophysiology? *Physiological Reviews, 94* (4), 1027–1076. doi: 10.1152/physrev.00029.2013.

Hanson, M.J. and Lynch, E.W. (2010). Working with families from diverse backgrounds. In R. A. McWilliam (Ed.). **Working with Families of Young Children with Special Needs.** New York: Guilford Press.

Hanson, M. and Espinosa, L. (2016). Culture, ethnicity, and linguistic diversity: Implications for early childhood special education. In B. Reichow, B.A. Boyd, E.E. Barton and S.L. Odom (Eds.), **Handbook of Early Childhood Special Education.** New York: Springer. DOI: 10.1007/978-3-319-28492-7_24

Hawkley, L.C. and Cacioppo, J.T. (2013). Social connectedness and health, Ch. 12 in C. Hazan and M.I. and Campa (Eds) (2013). **Human Bonding: The Science of Affectional Ties**. New York: The Guilford Press.

Hayes, A.J., Brown, V., Tan, E.J., Chevalier, A., D'Souza, M., Rissel, C., Baur, L. A., Wen, L.M. and Moodie, M.L. (2018). Patterns and costs of health-care utilisation in Australian children: The first 5 years. **Journal of Paediatrics and Child Health, 55** (7), 802-808. doi:10.1111/jpc.14292

Head, B. and 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.
http://www.irspm2008.bus.qut.edu.au/papers/documents/pdf2/Head%20-%20Wicked%20Problems%20HeadAlford%20Final%20250308.pdf

Hebbeler, K. and Spiker, D. (2016). Supporting young children with disabilities. **The Future of Children, 26** (2), 185-205.

Heckman, J.J. (2012). Promoting social mobility. **Boston Review, Sept/Oct**, 14-34.
http://bostonreview.net/archives/BR37.5/ndf_james_heckman_social_mobility.php

Heckman, J.J. and Mosso, S. (2014). The economics of human development and social mobility. **Annual Review of Economics, 6** (1), 689-733, 08. DOI: 10.3386/w19925

Heindel, J.J., Balbus, J., Birnbaum, L., Brune-Drisse, M.N., Grandjean, P., Gray, K., Landrigan, P.J., Sly, P.D., Suk, W., Slechta, D.C., Thompson, C., and Hanson, M. (2015). Developmental origins of health and disease: Integrating environmental influences. **Endocrinology, 156** (10), 3416–3421. doi: 10.1210/EN.2015-1394.

Heindel, J.J. & Vandenberg, L.N. (2015). Developmental origins of health and disease: a paradigm for understanding disease cause and prevention. **Current Opinion in Pediatrics, 27** (2), 248-253. DOI:10.1097/MOP.0000000000000191

Hertz, N. (2020). **The Lonely Century: Coming Together in a World that's Pulling Apart.** Sydney, NSW: Hachette Australia.

Hertzman, C. & Boyce, T. (2010). How experience gets under the skin to create gradients in developmental health. **Annual Review of Public Health, 31**, 329-347. doi: 10.1146/annurev.publhealth.012809.103538.

Hewitt, B., Baxter, J., Brady, M., Coles, L., Strazdins, L., Whitehouse, G., Xiang, N. and Yerkes, M. (2017). **Millennium Mums Report, Waves 1–5**. Indooroopilly, Qld: Institute for Social Science Research.

Heyer, D.B. and Meredith, R.M. (2017). Environmental toxicology: Sensitive periods of development and neurodevelopmental disorders. **Neurotoxicology, 58**, 23–41. http://dx.doi.org/10.1016/j.neuro.2016.10.017

Hills, J., McKnight, A., Bucelli, I., Karagiannaki, E., Vizard, P. and Yang, L. with Duque, M. and Rucci, M. (2019). **Understanding the Relationship Between Poverty and Inequality: Overview Report.** London, UK: Centre for Analysis of Social Exclusion (CASE), London School of Economics. http://sticerd.lse.ac.uk/dps/case/cr/casereport119.pdf

Hiscock, H., Canterford, L., Ukoumunne, O.C. and Wake, M. (2007). Adverse associations of sleep problems in Australian preschoolers: national population study. **Pediatrics, 119** (1), 86-93.

Hiscock, H. and Davey, M.J. (2012). Sleep disorders in infants and children. **Journal of Paediatrics and Child Health, 54** (9): 941-944. doi:10.1111/jpc.12033

Hiscock, H. and Fisher, J. (2014). Sleeping like a baby? Infant sleep: Impact on caregivers and current controversies. **Journal of Paediatrics and Child Health, 51** (4): 361-4. doi: 10.1111/jpc.12752.

Hrdy, S.B. (2009). **Mothers and Others: The Evolutionary Origins of Mutual Understanding.** Cambridge, Massachusetts: The Belknap Press / Harvard University Press.

Hughes, K., Bellis, M.A., Hardcastle, K.A., Sethi, D., Butchart, A., Mikton, C., Jones, L. and Dunne, M.P. (2017). The effect of multiple adverse childhood experiences on health: a systematic review and meta-analysis. **The Lancet Public Health, 2** (8), e356 - e366. DOI: https://doi.org/10.1016/S2468-2667(17)30118-4

Ismail, F.Y., Fatemi, A. and Johnston, M.V. (2017). Cerebral plasticity: windows of opportunity in the developing brain. **European Journal of Paediatric Neurology, 21** (1), 23-48. http://dx.doi.org/10.1016/j.ejpn.2016.07.007

Jablonka, E. and Lamb, M.J. (2014). **Evolution in Four Dimensions: Genetic, Epigenetic, Behavioral, and Symbolic Variation in the History of Life (Rev.Ed.).** Cambridge, Massachusetts: MIT Press.

Jacka, F. (2019). **Brain Changer: The Good Mental Health Diet.** Sydney, NSW: Macmillan Australia.

Jacka, F.N., Ystrom, E., Brantsaeter, A.L., Karevold, E., Roth, C., Haugen, M., Meltzer, H.M, Schjolberg, S. and Berk, M. (2013). Maternal and early postnatal nutrition and mental health of offspring by age 5 years: A prospective cohort study. **Journal of the American Academy of Child & Adolescent Psychiatry, 52** (10), 1038-1047. DOI: 10.1016/j.jaac.2013.07.002

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):1900–1906. doi: 10.2105/AJPH.2010.200915.

Jelleyman, T. and Spencer, N. (2008). Residential mobility in childhood and health outcomes: a systematic review. **Journal of Epidemiology and Community Health, 62** (7), 584-592.

Jones, L. (2020). **Losing Eden: Why Our Minds Need the Wild.** London, UK: Allen Lane.

Kang, J. (2012). Pathways from social support to service use among caregivers at risk of child maltreatment. **Children and Youth Services Review, 34** (5): 933-939.

Karakochuk, C.D., Whitfield, K.C., Green, T.J. and Kraemer, K. (Eds.) (2017). **The Biology of the First 1,000 Days.** CRC Press.

Karelis, C. (2007). **The Persistence of Poverty: Why the Economics of the Well-Off Can't Help the Poor.** New Haven, Connecticut: Yale University Press.

Karoly. L.A. (2016). The economic returns to early childhood education. **The Future of Children, 26** (2), 37-55.

Karoly, L.A., Kilburn, M.R. and Cannon, J.S. (2005). **Early Childhood Interventions: Proven Results, Future Promise.** Santa Monica, California: The RAND Corporation. http://www.rand.org/pubs/monographs/2005/RAND_MG341.pdf

Kaspiew, R., Horsfall, B., Qu, L., Nicholson, J.M., Humphreys, C., Diemer, K., Nguyen, C.D., Buchanan, F., Hooker, L., Taft, A., Westrupp, E.M., Cookin, A.R., Carson, R. and Dunstan, J. (2017). **Domestic and family violence and parenting: mixed method insights into impact and support needs - final report.** Sydney, NSW: Australia's National Research Organisation for Women's Safety Limited (ANROWS). http://apo.org.au/system/files/96511/apo-nid96511-348736.pdf

Kawachi, I. and Berkman, L.F. (2014). Social capital, social cohesion, and health. In L.F. Berkman, I. Kawachi and M. Glymour (Eds.), **Social Epidemiology (2nd. Ed.).** New York: Oxford University Press USA.

Kearns, A., Beaty, M. and Barnett, G. (2007). A social-ecological perspective on health in urban environments. **NSW Public Health Bulletin, 18** (3-4), 48-50.

Keating, D.P. and Hertzman, C. (1999). Modernity's paradox. In Keating, D.P. and Hertzman, C. (Eds.). **Developmental Health and the Wealth of Nations: Social, Biological, and Educational Dynamics.** New York: The Guilford Press.

Keating, K., Murphey, D., Daily, S., Ryberg, R. and Laurore, J. (2020). **Maternal and Child Health Inequities Emerge Even Before Birth.** Washington, DC: Zero to Three and Child Trends. https://stateofbabies.org/wp-content/uploads/2020/06/Maternal-and-Child-Health-Inequities-Emerge-Even-Before-Birth.pdf

Keeley, B. (2015). **Income Inequality: The Gap between Rich and Poor.** Paris, France: OECD Publishing. DOI: http://dx.doi.org/10.1787/9789264246010-en

Kirkman, M., Keys, D., Turner, A., and Bodzak, D. (2009). **"Does camping count?" Children's experiences of homelessness.** Melbourne, Victoria: The Salvation Army Australia Southern Territory. http://www.kcwhs.unimelb.edu.au/publications/reports

Klass, P. (2020). **A Good Time to Be Born: How Science and Public Health Gave Children a Future.** New York: W.W. Norton.

Konner, M. (2010). **The Evolution of Childhood: Relationships, Emotion, Mind.** Cambridge, Massachusetts: Harvard University Press.

KPMG (2020). **The child care subsidy: options for increasing support for caregivers who want to work.** Melbourne, Victoria: KPMG. https://home.kpmg/au/en/home/insights/2020/09/child-care-subsidy-increased-support-caregivers.html

Landragin, P.J. (2016). Children's environmental health: a brief history. **Academic Pediatrics, 16** (1), 1-9. https://doi.org/10.1016/j.acap.2015.10.002

Lane, M., Robker, R.L. and Robertson, S.A. (2014). Parenting from before conception. **Science, 345** (6198): 756-760. DOI: 10.1126/science.1254400

Leigh, A. (2010). **Disconnected.** Sydney, NSW: University of New South Wales Press.

Leventhal, T., Dupéré, V. and Shuey, E. (2015). Children in neighborhoods. In R. Lerner, M. Bornstein and T. Leventhal (Eds.), **Handbook of Child Psychology and Developmental Science: Ecological Settings and Processes in Developmental Systems**. New York: John Wiley & Sons.

Li, J., McMurray, A. and Stanley, F. (2008). Modernity's paradox and the structural determinants of child health and wellbeing. **Health Sociology Review, 17** (1), 64-77.

Lieberman, D. (2013). **The Story of the Human Body: Evolution, Health and Disease.** London, UK: Allen Lane.

Lieberman, M.D. (2013). **Social: Why Our Brains are Wired to Connect.** Oxford, UK: Oxford University Press.

Logan, A.C., Jacka, F.N. and Prescott, S.L. (2016). Immune-microbiota interactions: dysbiosis as a global health issue. **Current Allergy and Asthma Reports, 16** (2), article 13. doi:10.1007/s11882-015-0590-5

Louv, R. (2005). **Last Child in the Woods: Saving Our Children from Nature-Deficit Disorder.** Chapel, North Carolina: Algonquin Books of Chapel Hill.

Louv, R. (2011). **The Nature Principle: Human Restoration and the End of Nature Deficit Disorder.** Chapel Hill, North Carolina: Algonquin Books.

Lovell, M. and Bibby, J. (2018). **What makes us healthy? An introduction to the social determinants of health.** London, UK: The Health Foundation. https://www.health.org.uk/sites/health/files/What-makes-us-healthy-quick-guide.pdf

Luby, J.L. (2015). Poverty's most insidious damage: The developing brain. **JAMA Pediatrics.** Published online July 20, 2015. doi:10.1001/jamapediatrics.2015.1682.

McArthur, M., and Winkworth, G. (2017). What do we know about the social networks of single parents who do not use supportive services? **Child & Family Social Work, 22** (2), 638-647. doi: 10.1111/cfs.12278

McCoy-Roth, M., Mackintosh, B.B. and Murphey, D. (2012). **When the Bough Breaks: The Effects of Homelessness on Young Children.** Child Trends: Early Childhood Highlights, Vol. 3 (1)(February), 1-11. http://www.childtrends.org/Files//Child_Trends-2012_02_16_ECH_Homelessness.pdf?utm_source=Homelessness+among+Young+Children&utm_campaign=Homelessness&utm_medium=email

McDonald, M., Goldfeld, S. & Moore, T. G. (2012). **The importance of universal surveillance systems for children's health and development: A review of the evidence.** Prepared for the Department of Education and Early Childhood Development. Parkville, Victoria: Murdoch Childrens Research Institute.and The Royal Children's Hospital Centre for Community Child Health.

Mackay, H. (1993). **Reinventing Australia: The Mind and Mood of Australia in the 90s.** Sydney, NSW: Angus and Robertson.

McLachlan, R., Gilfillan, G., and Gordon, J. (2013). **Deep and persistent disadvantage in Australia.** Melbourne, Victoria: Productivity Commission. http://www.pc.gov.au/__data/assets/pdf_file/0007/124549/deep-persistent-disadvantage.pdf

McLean, K., Edwards, S., Morris, H., Hallowell, L. and Swinkels, K. (2016). **Community playgroups – Connecting rural families locally pilot**. A Research Report Prepared for Playgroup Victoria. Melbourne, Victoria: Australian Catholic University. https://www.acu.edu.au/research/our-research-institutes/institute-for-learning-sciences-and-teacher-education/our-research/projects/community-playgroups

MacLeod, J. and Nelson, G. (2000). Programs for the promotion of family wellness and the prevention of child maltreatment: a meta-analytic review. **Child Abuse & Neglect, 24** (9), 1127-1149.

McNeill, J.R. and Engelke, P. (2015). **The Great Acceleration: An Environmental History of the Anthropocene since 1945.** Cambridge, Massachusetts: Belknap Press / Harvard University Press.

Marmot, M. (2015). **The Health Gap: The Challenge of an Unequal World**. London, UK: Bloomsbury Publishing.

Marmot, M. (2016). **Fair Australia: Social Justice and the Health Gap.** The Boyer Lecture Series 2016. ABC Radio National. http://www.abc.net.au/radionational/programs/boyerlectures/2016-boyer-lectures/7802472

The Marmot Review (2010). **Fair Society, Healthy Lives: Strategic review of health inequalities in England post-2010.** London, UK: Global Health Equity Group, Department of Epidemiology and Public Health, University College London. http://www.marmot-review.org.uk/

Marmot, M. and Wilkinson, R. (Eds) (2006). **Social Determinants of Health (2nd Ed.).** Oxford, UK: Oxford University Press.

Mayer, E. (2016). **The Mind-Gut Connection: How the Hidden Conversation Within Our Bodies Impacts Our Mood, Our Choices, and Our Overall Health.** New York: HarperCollins.

Melhuish, E. (2015). Early childhood environments: Long-term consequences of early childhood education and parenting. In S. Hay (Ed.), **Early Years Education and Care: New Issues for Practice from Research.** Abingdon, Oxford: Routledge.

Melhuish, E.C., Ereky-Stevens, K., Petrogiannis, K. , Ariescu, A., Penderi, E. , Rentzou, A., Tawell, A., Slot, P., Broekhuizen, M. and Leseman, P. (2015). **A review of the research on the effects of early childhood education and care (ECEC) upon child development.** Brussels, Belgium: CARE Curriculum Quality Analysis and Impact Review of European Early Childhood Education and Care (ECEC). https://ecec-care.org/fileadmin/careproject/Publications/reports/new_version_CARE_WP4_D4_1_Review_on_the_effects_of_ECEC.pdf

Melhuish, E. and van der Merwe, A. (2018). **HOME MATTERS: making the most of the home learning environment – Guidance for schools, nurseries, local authorities and public health partners.** London, UK: Department for Education. https://www.ncb.org.uk/sites/default/files/field/attachment/HLE_doc.pdf

Miguel, P.M., Pereira, L.O., Silveira, P.P. and Meaney, M.J. (2019). Early environmental influences on the development of children's brain structure and function. **Developmental Medicine & Child Neurology, 61** (10), 1127-1133. https://doi.org/10.1111/dmcn.14182

Miranti, R., Brown, L., Li, J., Tanton, R., Vidyattama, Y., Tuli, S and Rowe, P. (2018). **Child Social Exclusion, Poverty and Disadvantage in Australia.** Canberra, ACT: NATSEM, Institute for Governance and Policy Analysis (IGPA), University of Canberra. https://www.natsem.canberra.edu.au/publications/?publication=child-social-exclusion-poverty-and-disadvantage-in-australia

Miri, M., de Prado-Bert, P., Alahabadi, A., Najafi, M.L., Rad, A., Moslem, A., Aval, H.E., Ehrampoush, M.H., Bustamante, M., Sakhvidi, M.J.Z., Nawrot, T., Sunyer, J. and Dadvand, P. (2020). Association of greenspace exposure with telomere length in preschool children. **Environmental Pollution, 266** (Part 1), 115228, ISSN 0269-7491. https://doi.org/10.1016/j.envpol.2020.115228.

Moore, D.S. (2015). **The Developing Genome: An Introduction to Behavioral Epigenetics.** New York: Oxford University Press.

Moore, T.G. (2007). Changing developmental trajectories: Conditions and resources for young children and families. Paper presented at CCCH / Ross Trust seminar on *How do neighbourhoods matter for children and youth?,* Melbourne, http://www.rch.org.au/emplibrary/ccch/Sempaper_0707_TM.pdf

Moore, T.G. (2009). The nature and significance of relationships in the lives of children with and without developmental disabilities. Keynote presentation at National Conference of the Early Intervention Association of Aotearoa New Zealand ~ *Quality Practices: New Practices* ~ Auckland, 1st April. http://www.rch.org.au/emplibrary/ccch/TM_EIAANZ_Conference_09.pdf

Moore, T.G., Arefadib, N., Deery, A. and West, S. (2017). **The First Thousand Days: An Evidence Paper.** Parkville, Victoria: Centre for Community Child Health, Murdoch Children's Research Institute. https://doi.org/10.25374/MCRI.5471779 http://www.rch.org.au/uploadedFiles/Main/Content/ccchdev/CCCH-The-First-Thousand-Days-An-Evidence-Paper-September-2017.pdf

Moore, T.G. and Fry, R. (2011). **Place-based approaches to child and family services: A literature review.** Parkville, Victoria: Murdoch Childrens Research Institute and The Royal Children's Hospital Centre for Community Child Health. DOI: 10.4225/50/5577CE906382B http://www.rch.org.au/uploadedFiles/Main/Content/ccch/Place_based_services_literature_review.pdf

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, Murdoch Childrens Research Institute, The Royal Children's Hospital. DOI: 10.4225/50/5578D0A59EA66 http://www.benevolent.org.au/~/media/Benevolent/Think/Actingearlychanginglives%20pdf.ashx

Moore, T.G., McDonald, M., Carlon, L. and O'Rourke, K. (2015a). Early childhood development and the social determinants of health inequities. **Health Promotion International, 30** (suppl 2): ii102-ii115. doi:10.1093/heapro/dav031 http://heapro.oxfordjournals.org/content/30/suppl_2/ii102.full.pdf+html

Moore, T.G., McDonald, M. and McHugh-Dillon, H. (2015b). **Early childhood development and the social determinants of health inequities: A review of the evidence.** Parkville, Victoria: Centre for Community Child Health at the Murdoch Childrens Research Institute and the Royal Children's Hospital. https://www.vichealth.vic.gov.au/media-and-resources/publications/the-vichealth-framework-for-health-equity

Mørkve Knudsen, T., Rezwan, F.I., Jiang, Y., Karmaus, W., Svanes, C. and Holloway, J.W. (2018). Trans- and inter-generational epigenetic inheritance in allergic diseases. **Journal of Allergy and Clinical Immunology**, in press. DOI: https://doi.org/10.1016/j.jaci.2018.07.007

National Academies of Sciences, Engineering, and Medicine (2019a). **Vibrant and Healthy Kids: Aligning Science, Practice, and Policy to Advance Health Equity.** Washington, DC: The National Academies Press. https://doi.org/10.17226/25466. https://www.nap.edu/catalog/25466/

National Academies of Sciences, Engineering, and Medicine (2019b). **Fostering Healthy Mental, Emotional, and Behavioral Development in Children and Youth: A National Agenda.** Washington, DC: The National Academies Press. https://doi.org/10.17226/25201

National Academies of Sciences, Engineering, and Medicine (2019c). **A Roadmap to Reducing Child Poverty.** Washington, DC: The National Academies Press. https://doi.org/10.17226/25246

National Academies of Sciences, Engineering, and Medicine (2020). **Feeding Infants and Children from Birth to 24 Months: Summarizing Existing Guidance.** Washington, DC: The National Academies Press. https://doi.org/10.17226/25747.

National Scientific Council on the Developing Child (2004). **Young Children Develop in an Environment of Relationships.** NSCDC Working Paper No. 1. Waltham, Massachusetts: National Scientific Council on the Developing Child, Brandeis University. http://developingchild.harvard.edu/index.php/download_file/-/view/587/

National Scientific Council on the Developing Child. (2005/2014). **Excessive Stress Disrupts the Architecture of the Developing Brain.** *NSCDC Working Paper 3 (Updated Edition)*. Cambridge, Massachusetts: Centre on the Developing Child at Harvard University. http://developingchild.harvard.edu/resources/reports_and_working_papers/working_papers/wp3/

National Scientific Council on the Developing Child. (2012). **The Science of Neglect: The Persistent Absence of Responsive Care Disrupts the Developing Brain.** *NSCDC Working Paper 12.* Cambridge, Massachusetts: National Scientific Council on the Developing Child, Centre on the Developing Child at Harvard University. http://developingchild.harvard.edu/index.php/download_file/-/view/1249/

National Scientific Council on the Developing Child (2020). **Connecting the Brain to the Rest of the Body: Early Childhood Development and Lifelong Health Are Deeply Intertwined.** *NSCDC Working Paper No. 15.* Cambridge Massachusetts: Centre on the Developing Child, Harvard University. https://developingchild.harvard.edu/resources/connecting-the-brain-to-the-rest-of-the-body-early-childhood-development-and-lifelong-health-are-deeply-intertwined/

Nelson, C.A. (2018). The hazards of out-of-home care for children experiencing adverse home environments. **The Lancet: Child & Adolescent Health**, published online 26 July 26. DOI: https://doi.org/10.1016/S2352-4642(18)30238-4

Nemeroff, C.B. (2016). Paradise lost: The neurobiological and clinical consequences of child abuse and neglect. **Neuron, 89** (5), 892-909. https://doi.org/10.1016/j.neuron.2016.01.019

Noble, K.G., Houston, S.M., Brito, N.H., Bartsch, H., Kan, E., Kuperman, J.M., Akshoomoff, N., Amaral, D.G., Bloss, C.S., Libiger, O., Schork, N.J., Murray, S.S., Casey, B.J., Chang, L., Ernst, T.M., Frazier, J.A., Gruen, J.,

Kennedy, D., Van Zijl, P., Mostofsky, S., Kaufmann, W.E., Kenet, T., Dale, A.M., Jernigan, T.L. & Sowell, E.R. (2015). Family income, parental education and brain structure in children and adolescents. **Nature Neuroscience**, **18**, 773–778. doi:10.1038/nn.3983

Nores, M. and Barnett, W.S. (2010). Benefits of early childhood interventions across the world: (Under) investing in the very young. **Economics of Education Review, 29** (2), 271-282. DOI: 10.1016/j.econedurev.2009.09.001

Nussbaum M. (2011). **Creating Capabilities: The Human Development Approach.** Cambridge, Massachusetts: Harvard University Press.

Oberklaid, F., Baird, G., Blair, M., Melhuish, E. & Hall, D. (2013). Children's health and development: approaches to early identification and intervention. **Archives of Disease in Childhood, 98** (12), 1008-1011 doi:10.1136/archdischild-2013-304091

O'Donnell, J. and Kingsley, M. (2020). The relationship between housing and children's socio-emotional and behavioural development in Australia. **Children and Youth Services Review, 117**, 105290. https://doi.org/10.1016/j.childyouth.2020.105290.

OECD (2015). **Skills for Social Progress: The Power of Social and Emotional Skills.** OECD Skills Studies. Paris, France: OECD Publishing. http://dx.doi.org/10.1787/9789264226159-en

OECD (2015). **Early learning and development: Common understandings**. Network on Early Childhood Education and Care. Paris, France: OECD Publishing. http://www.oecd.org/edu/school/ECEC-Network-Common-Understandings-on-Early-Learning-and-Development.pdf

O'Loughlin, R. and Hiscock, H. (2020). Presentations to emergency departments by children and young people with food allergy are increasing. **Medical Journal of Australia, 213** (1): 27-29. doi: 10.5694/mja2.50604

Palamaro Munsell, E., Kilmer, R. P., Cook, J. R. and Reeve, C. L. (2012). The effects of caregiver social connections on caregiver, child, and family well-being. **American Journal of Orthopsychiatry, 82** (1), 137-145. doi:10.1111/j.1939-0025.2011.01129.x

Palfrey, J.S., Tonniges, T.F., Green, M. and Richmond, J. (2005). Introduction: Addressing the millennial morbidity—the context of community pediatrics. **Pediatrics, 115** (4 Supplement), 1121-1123.

Payne-Sturges, D.C., Marty, M.A., Perera, F., Miller, M.D., Swanson, M., Ellickson, K., Cory-Slechta, D.A., Ritz, B., Balmes, J., Anderko, L., Talbott, E.O., Gould, R. and Hertz-Picciotto, I. (2019). Healthy air, healthy brains: advancing air pollution policy to protect children's health. **American Journal of Public Health, 109** (4), 550-554. DOI: 10.2105/ajph.2018.304902

Perrin, J.M., Bloom, S.R. and Gortmaker, S.L. (2007). The increase of childhood chronic conditions in the United States. **Journal of the American Medical Association, 297** (24), 2755-2759.

Petit, D. and Montplaisir, J. (2021). Consequences of short sleep duration or poor sleep in young children. In Tremblay, R.E., Boivin, M., Peters, R.DeV. (Eds.), Petit. D, (Topic Ed.), **Encyclopedia on Early Childhood Development** [online]. http://www.child-encyclopedia.com/sleeping-behaviour/according-experts/consequences-short-sleep-duration-or-poor-sleep-young-children.

Pillas, D., Marmot, M., Naicker, K., Goldblatt, P., Morrison, J., and Pikhart, H. (2014) Social inequalities in early childhood health and development: a European-wide systematic review. **Pediatric Research, 76** (5), 418-424. https://doi.org/10.1038/pr.2014.122

Pinker, S. (2015). **The Village Effect: Why Face-to-Face Contact Matters.** London, UK: Atlantic Books.

Pinker, S. (2018). **Enlightenment Now: The Case for Reason, Science, Humanism, and Progress.** New York: Viking.

Popkin, S.J., Acs, G. and Smith, R. (2010). Understanding how place matters for kids. **Community Investments, 22** (1), 23-26, 36-37.
http://www.frbsf.org/publications/community/investments/1005/S_Popkins.pdf

Prescott, S. (2015). **Origins: An early life solution to the modern health crisis.** Perth, Western Australia: The University of Western Australia Publishing.

Prevention Institute (2019). **A System of Prevention: Achieving Health, Safety, and Wellbeing for All.** Oakland, California: Prevention Institute.
https://www.preventioninstitute.org/projects/advancing-system-prevention-achieve-health-equity

Price, L.H., Kao, H.-T., Burgers, D.E., Carpenter, L.L. and Tyrka, A.R. (2013).
Telomeres and early-life stress: An overview. **Biological Psychiatry, 73** (1), 15-23.
DOI: http://dx.doi.org/10.1016/j.biopsych.2012.06.025

Priest, N., Truong, M., Chong, S., Paradies, Y., King, T.L., Kavanagh, A., Olds, T., Craig, J.M. and Burgner, D. (2020). Experiences of racial discrimination and cardiometabolic risk among Australian children. **Brain, Behavior, and Immunity,** published online 29 February, 2020. https://doi.org/10.1016/j.bbi.2020.02.012.

Productivity Commission (2018). **Rising inequality? A stocktake of the evidence.** Commission research paper. Canberra, ACT: Productivity Commission.
https://www.pc.gov.au/research/completed/rising-inequality

Productivity Commission (2020). **Mental Health: Inquiry Report.** Productivity Commission Report no. 95. Canberra, ACT: Productivity Commission.
https://www.pc.gov.au/inquiries/completed/mental-health/report

Putnam, R. (2015). **Our Kids: The American Dream in Crisis**. New York: Simon & Schuster.

Qu, L. (2020a). **Families Then & Now: Households and Families**. Melbourne, Victoria: Australian Institute of Family Studies.
https://aifs.gov.au/publications/households-and-families

Qu, L. (2020b). **Families Then & Now: Having Children**. Melbourne, Victoria: Australian Institute of Family Studies.
https://aifs.gov.au/publications/having-children

Qu, L. (2020). **Families Then & Now: Couple Relationships**. Melbourne, Victoria: Australian Institute of Family Studies.
https://aifs.gov.au/publications/couple-relationships

Quach, J., Nguyen, C., O'Connor, M. and Wake, M. (2017). The cumulative impact of health adversities on children's later academic achievement. **Academic Pediatrics**, published online ahead of print 12th March.
http://dx.doi.org/10.1016/j.acap.2017.03.002

Quach, J., Nguyen, C., Williams, K. & Sciberras, E. (2018). Bidirectional associations between child sleep problems and internalising and externalising difficulties from preschool to early adolescence. **JAMA Pediatrics, 177** (2): e174363. doi: 10.1001/jamapediatrics.2017.4363.

Ratcliff, K.S. (2017). **The Social Determinants of Health: Looking Upstream.** Cambridge, UK: Polity.

Raver, C. and Blair, C. (2016). Neuroscientific insights: Attention, working memory and inhibitory control. **The Future of Children, 26** (2), 95-118. DOI: 10.1353/foc.2016.0014

Raver, S. and Childress, D.C. (2015). **Family-Centered Early Intervention: Supporting Infants and Toddlers in Natural Environments.** Baltimore, Maryland: Paul H. Brookes.

Reeves, R.V. and Krause, E. (2019). **The Effects of Maternal Depression on Early Childhood Development and Implications for Economic Mobility.** Washington, DC: Brookings Institute.
https://www.brookings.edu/wp-content/uploads/2019/01/ES_20190131_Reeves_Maternal_Depression2.pdf

Richardson, S. (2005). Children and the labour market. In S. Richardson and M. Prior (Eds.). **No Time to Lose: The Wellbeing of Australia's Children.** Melbourne, Victoria: Melbourne University Press.

Richardson, S. and Prior, M. (2005). Childhood today. In S. Richardson and M. Prior (Eds.). **No Time to Lose: The Wellbeing of Australia's Children.** Melbourne, Victoria: Melbourne University Press.

Rini, C., Dunkel Schetter, C., Hobel, C.J., Glynn, L.M. and Sandman, C.A. Effective social support: antecedents and consequences of partner support during pregnancy. **Personal Relationships, 13** (2): 207–229.

Ritchie (2018). From commonplace to rarer tragedy – declining child mortality across the world. **Our World in Data**, October 29.
https://ourworldindata.org/child-mortality-global-overview

Rittel, H. and Webber, M. (1973). Dilemmas in a general theory of planning. **Policy Sciences, 4**, 155-169.
http://www.uctc.net/mwebber/Rittel+Webber+Dilemmas+General_Theory_of_Planning.pdf

Robinson, E. and Adams, R. (2008). **Housing stress and the mental health and wellbeing of families.** Australian Family Relationships Clearinghouse briefing no. 12. Melbourne, Victoria: Australian Institute of Family Studies.

Rosling, H., Rosling, O. and Rönnlund, A.R. (2018). **Factfulness: Ten Reasons We're Wrong About the World – and Why Things Are Better Than You Think.** London, UK: Sceptre / Hodder & Stoughton.

Roubinov, D.S., Hagan, M.J., Boyce, W.T., Adler, N.E. and Bush, N.R. (2018). Family socioeconomic status, cortisol, and physical health in early childhood: The role of advantageous neighborhood characteristics. **Psychosomatic Medicine, 80** (5), 492–501. DOI: 10.1097/PSY.0000000000000585

Royal Commission into Family Violence (2016). **Summary and Recommendations.** Melbourne, Victoria: Royal Commission into Family Violence.
http://files.rcfv.com.au/Reports/RCFV_Full_Report_Interactive.pdf

Sameroff, A. (2009). The transactional model. Ch. 1. in A. Sameroff (Ed.), **The Transactional Model of Development: How Children and Contexts Shape Each Other**. Washington, DC: American Psychological Association.

Sandstrom, H. and Huerta, S. (2013). **The Negative Effects of Instability on Child Development: A Research Synthesis.** Low-Income Working Families Discussion Paper 3. Washington, DC: Urban Institute.
http://www.urban.org/UploadedPDF/412899-The-Negative-Effects-of-Instability-on-Child-Development.pdf?RSSFeed=UI_Poverty,AssetsandSafetyNet.xml

Sartbayeva, A. (2016). **Housing conditions and children's health**. Canberra, ACT: Department of Social Services, National Centre for Longitudinal Data.
https://www.dss.gov.au/sites/default/files/documents/08_2016/research_summary_no7_2016_-_housing_conditions_and_childrens_health_-_accessible_version_050816_2.pdf

Save the Children (2015). **The Urban Disadvantage: State of World's Mothers.** Fairfield, Connecticut: Save the Children. https://resourcecentre.savethechildren.net/library/state-worlds-mothers-2015-urban-disadvantage

Save the Children (2016). **State of Australia's Mothers**. Melbourne, Victoria: Save the Children. https://www.savethechildren.org.au/__data/assets/pdf_file/0007/143863/SOAM_report_2016.pdf

Schmidt, C.W. (2018). Chips off the old block: How a father's preconception exposures might affect the health of his children. **Environmental Health Perspectives, 126** (2). DOI:10.1289/EHP2348

Schraufnagel, D.E., Balmes, J.R., De Matteis, S., Hoffman, B., Kim, W.J., Perez-Padilla, R., Rice, M., Sood, A., Vanker A. and Wuebbles, D.J. on behalf of the Forum of International Respiratory Societies Environmental Committee (2019). Health benefits of air pollution reduction. **Annals of the American Thoracic Society, 16** (12), 1478-1487. https://doi.org/10.1513/AnnalsATS.201907-538CME

Scott, J. A. (2020). The first 1000 days: A critical period of nutritional opportunity and vulnerability. **Nutrition & Dietetics, 77** (3):295-297 DOI: 10.1111/1747-0080.12617

Sen, A. (1985). **Commodities and Capabilities.** Amsterdam & New York: North-Holland.

Sen, A. (2005). Human rights and capabilities. **Journal of Human Development, 6** (2), 151-166.

Sety, M. (2011). **The Impact of Domestic Violence on Children: A Literature Review.** Sydney, NSW: The Australian Domestic & Family Violence Clearinghouse, University of New South Wales. http://www.adfvc.unsw.edu.au/documents/ImpactofDVonChildren.pdf

Shonkoff, J.P., Garner, A.S., 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.S., Dobbins, M.I., Earls, M.F., McGuinn, L., Pascoe, J. and Wood, D.L. (2012). The lifelong effects of early childhood adversity and toxic stress. **Pediatrics, 129** (1), e232-e246; doi:10.1542/peds.2011-2663.

Shonkoff, J.P. and Phillips, D.A. (Eds) (2000). **From Neurons to Neighborhoods: The Science of Early Childhood Development.** Committee on Integrating the Science of Early Childhood Development, National Research Council and Institute of Medicine. Washington, DC: National Academy Press.

Shonkoff, J.P. and Richter, L. (2013). The powerful reach of early childhood development: A science-based foundation for sound investment. In P.R. Britto, P.L. Engle and C.M. Super, C.M. (Eds.), **Handbook of Early Childhood Development Research and Its Impact on Global Policy.** Oxford and New York: Oxford University Press.

Shuey, E. A. and Kankaraš, M. (2018). **The power and promise of early learning.** OECD Education Working Paper No. 186. Paris, France: OECD publishing. DOI: https://doi.org/10.1787/f9b2e53f-en https://www.oecd-ilibrary.org/education/the-power-and-promise-of-early-learning_f9b2e53f-en

Siegel, D.J. (2020). **The Developing Mind: How Relationships and the Brain Interact to Shape Who We Are (3rd. Ed.).** New York. Guilford Press.

Silbereisen, R.K. & Che, X. (Eds.) (2010). **Social Change and Human Development: Concept and Results**. London, UK: Sage Publications.

Siraj-Blatchford, I. and Clarke, P. (2000). **Supporting Identity, Diversity and Language in the Early Years.** Buckingham, UK: Open University Press.

Smith, J.P, Cattaneo, A., Iellamo, A., Javanparast, S., Atchan, M., Gribble, k., Hartmann, b., Salmon, L., Tawia, S., Hull, N., Linkson, M., Blake, M. and Elliott-Rudder, M. (2018). **Evidence Check: Review of effective strategies to promote breastfeeding.** Prepared for the Department of Health. Ultimo, New South Wales: Sax Institute. https://www.saxinstitute.org.au/publications/review-effective-strategies-promote-breastfeeding/

Solari, C.D. and Mare, R.D. (2012). Housing crowding effects on children's wellbeing. **Social Science Research, 41**:464–476.

Sollis, K. (2019). **To have and to have not: Measuring child deprivation and opportunity in Australia.** Canberra, ACT: Australian Research Alliance for Children and Youth. https://www.aracy.org.au/publications-resources/command/download_file/id/384/filename/ARACY_Measuring_child_deprivation_and_opportunity_in_Australia.pdf

The Southern Initiative and Auckland Co-design Lab (2017). **Early Years Challenge: Supporting parents to give tamariki a great start in life - Summary report**. Auckland, Aotearoa New Zealand: The Southern Initiative and Auckland Co-design Lab. https://auckland-colab.squarespace.com/s/Early-Years-Challenge-report-FINAL-web.pdf

Spence, A.C., Campbell, K.J., Lioret, S. and McNaughton, S.A. (2018). Early childhood vegetable, fruit, and discretionary food intakes do not meet dietary guidelines, but do show socioeconomic differences and tracking over time. **Journal of the Academy of Nutrition and Dietetics, 18** (9), P1634-1643. DOI: https://doi.org/10.1016/j.jand.2017.12.009

Spencer, N., (2018). The social determinants of child health. **Paediatrics and Child Health, 28** (3), 138-143. https://doi.org/10.1016/j.paed.2018.01.001

Stroufe, L.A. (2021). The legacy of the first 3 years. **Zero to Three Journal, 41** (3): 5-9. https://www.zerotothree.org/resources/3909-the-legacy-of-the-first-3-years

Sroufe, L. A., Egeland, B., Carlson, E. and Collins, W. A. (2020). **The development of the person: The Minnesota Study of Risk and Adaptation from birth to adulthood.** New York: Guilford Press.

Stanley, J., Mestan, K. and Ng, C.W. (2007). **Poverty amongst privilege: child social exclusion in Boroondara.** Paper presented at *Australian Social Policy Conference 2007*, University of New South Wales, Sydney, July 11-13. http://www.sprc1.sprc.unsw.edu.au/ASPC2007/abstract.asp?PaperID=76

Stanley, F., Prior, M. and Richardson, S. (2005). **Children of the Lucky Country?** South Yarra, Victoria: Macmillan Australia

Steffen, W., Broadgate, W., Deutsch, L., Gaffney, O. and Ludwig, C. (2015). The trajectory of the Anthropocene: The Great Acceleration. **The Anthropocene Review, 2** (1), 81-98, doi: 10.1177/2053019614564785

Stephenson, J., Heslehurst, N., Hall, J., Schoenaker, D.A.J.M., Hutchinson, J., Cade, J.E., Poston, L., Barrett, G., Crozier, S.R., Barker, M., Kumaran, K., Yajnik, C.S., Baird, J. and Mishra, G.D. (2018). Before the beginning: nutrition and lifestyle in the preconception period and its importance for future health. **The Lancet**, published online April 16, 2018. DOI: https://doi.org/10.1016/S0140-6736(18)30311-8

Stone, W. and Reynolds, M. (2016). **Children and Young People's Housing Disadvantage: Exposure to unaffordable private rental (2003-2014).** Melbourne, Victoria: Swinburne University of Technology. http://apo.org.au/files/Resource/swinburne_stone_reynolds_children_and_young_people_housing_disadvantage_final_report_apo_dec_2016.pdf

Suades-González, E., Gascon, M., Guxens, M. and Sunyer, J. (2015). Air pollution and neuropsychological development: A review of the latest evidence. **Endocrinology, 156** (10), 3473–3482. https://doi.org/10.1210/en.2015-1403

Sustainable Development Commission (2008). **Health, place and nature. How outdoor environments influence health and well-being: a knowledge base.** London, UK: Sustainable Development Commission. http://www.sd-commission.org.uk/publications/downloads/Outdoor_environments_and_health.pdf

Tanton, R., Peel, D. and Vidyattama, Y. (2018). **Every Suburb, Every Town: Poverty in Victoria**. Prepared for Victorian Council of Social Services. Canberra, ACT: NATSEM, Institute for Governance and Policy Analysis (IGPA), University of Canberra. https://vcoss.org.au/wp-content/uploads/2018/11/Every-suburb-Every-town-Poverty-in-Victoria-VCOSS.pdf

Tarazi, C., Skeer, M., Fiscella, K., Dean, S., & Dammann, O. (2016). Everything is connected: social determinants of pediatric health and disease.
Pediatric Research, 79 (1-2), 125–126. doi:10.1038/pr.2015.220

Tayler, C. and the E4Kids Research Team (2016). **The E4Kids study: Assessing the effectiveness of Australian early childhood education and care programs - Overview of findings at 2016.** Final report to the Partner Organisations of the Effective Early Educational Experiences (E4Kids) study. Melbourne, Victoria: Melbourne Graduate School of Education, The University of Melbourne.
http://education.unimelb.edu.au/__data/assets/pdf_file/0004/2310907/E4Kids-Report-3.0_WEB.pdf

Taylor, M. and Edwards, B. (2012). **Housing and children's wellbeing and development; Evidence from a national longitudinal study.** Family Matters no. 91. Melbourne, Victoria: Australian Institute of Family Studies.

Teager, W., Fox, S. and Stafford, N. (2019). **How Australia can invest early and return more: A new look at the $15b cost and opportunity.** Early Intervention Foundation, The Front Project and CoLab at the Telethon Kids Institute, Australia.
https://colab.telethonkids.org.au/siteassets/media-docs---colab/coli/finalhow-australia-can-invest-in-children-and-return-more---final.pdf

Teicher, M. H. and Samson, J. A. (2016). Annual Research Review: Enduring neurobiological effects of childhood abuse and neglect. **Journal of Child Psychology and Psychiatry**, 57 (3), 241-266.
doi: 10.1111/jcpp.12507

Thorpe, K. and Staton, S. (2019). **State of early learning in Australia 2019**. Fyshwick, ACT: Early Learning: Everyone Benefits.
http://www.earlychildhoodaustralia.org.au/wp-content/uploads/2019/11/ELEB-SOEL-Report-2019-Final.pdf

Tischler, V. (2008). Resettlement and reintegration: Single mothers' reflections after homelessness. **Community, Work and Family, 11** (3), 243-252.

Trask, B.S. (2010). **Globalization and Families: Accelerated Systemic Social Change.** New York: Springer.

Ulferts, H. (2020). **Why parenting matters for children in the 21st century: An evidence-based framework for understanding parenting and its impact on child development.** OECD Education Working Paper No. 222. Paris, France: OECD Publishing.
http://www.oecd.org/officialdocuments/publicdisplaydocumentpdf/?cote=EDU/WKP(2020)10&docLanguage=En

Ulmer, J.M., Chapman, J.E., Kershaw, S.E. & Campbell, M. (2014). Application of an evidence-based tool to evaluate health impacts of changes to the built environment. **Canadian Journal of Public Health, 106** (1) (Suppl. 1): eS26-eS32.

Ungar, M. (2013). The impact of youth-adult relationships on resilience. International **Journal of Child, Youth and Family Studies, 4** (3), 328–336. DOI: http://dx.doi.org/10.18357/ijcyfs43201312431

Ungar, M., Ghazinour, M. and Richter, J. (2013). Annual Research Review: What is resilience within the social ecology of human development? **Journal of Child Psychology and Psychiatry, 54** (4), 348–366. doi: 10.1111/jcpp.12025

UNICEF Innocenti (2020). **Worlds of Influence: Understanding what shapes child well-being in rich countries.** Innocenti Report Card 16. Florence, Italy: UNICEF Office of Research – Innocenti. https://www.unicef-irc.org/publications/pdf/Report-Card-16-Worlds-of-Influence-child-wellbeing.pdf

United Nations (2011). **Political declaration of the High-level Meeting of the General Assembly on the Prevention and Control of Non-communicable Diseases**. United Nations General Assembly 66th Session, 19-20 September. New York: United Nations. http://www.un.org/ga/search/view_doc.asp?symbol=A/66/L.1

United Nations (2015). **Transforming our world: the 2030 Agenda for Sustainable Development**. Draft resolution submitted by the President of the General Assembly, 12th August 2016: Draft outcome document of the United Nations summit for the adoption of the post-2015 development agenda, 12th August. New York: United Nations.
http://www.un.org/ga/search/view_doc.asp?symbol=A/69/L.85&Lang=E

van Ijzendoorn, M.H. and Bakermans-Kranenburg, M.J. (2015). Genetic differential susceptibility on trial: Meta-analytic support from randomized controlled experiments. **Development and Psychopathology, 27** (Special Issue 01), 151-162. doi:10.1017/S0954579414001369.

Vera-Toscano, E. and Wilkins, R. (2020). **Does poverty in childhood beget poverty in adulthood in Australia?** Melbourne, Victoria: Melbourne Institute: Applied Economic & Social Research, University of Melbourne.
https://melbourneinstitute.unimelb.edu.au/__data/assets/pdf_file/0008/3522482/Breaking-Down-Barriers-Report-1-October-2020.pdf

Villanueva, K., Badland, H., Giles-Corti, B. and Goldfeld, S. (2015). Using spatial analysis of the Australian Early Development Index to advance our understanding of 'neighbourhood effects' research on child health and development. **Journal of Paediatrics and Child Health, 51** (6), 577–579. doi: 10.1111/jpc.12822

Villanueva, K., Badland, H., Kvalsvig, A., O'Connor, M., Christian, H., Woolcock, G.,

Giles-Corti, B. and Goldfeld, S. (2016). Can the neighborhood built environment make a difference to children's development? Building the research agenda to create evidence for place-based children's policy. **Academic Pediatrics**, **16** (1), 10-19. DOI:10.1016/j.acap.2015.09.006

Vinson, T. (2007). **Dropping off the Edge: The distribution of disadvantage in Australia.** Richmond, Victoria: Jesuit Social Services and Catholic Social Services Australia. http://www.australiandisadvantage.org.au/

Vuckovic, A. (2008). Making the multicultural learning environment flourish: The importance of the child–teacher relationship in educating young children about diversity. **Australian Journal of Early Childhood, 33** (1), 9-16.

Warren, D. (2018). **Children's housing experiences.** Chapter in LSAC Annual Statistical Report 2017. Melbourne, Victoria: Australian Institute of Family Studies. https://growingupinaustralia.gov.au/publications/childrens-housing-experiences

Warren, D. and Qu, L. (2020). **Families Then & Now: Housing**. Melbourne, Victoria: Australian Institute of Family Studies. https://aifs.gov.au/publications/housing

Warren, D., Qu. L. and Baxter, J. (2020). **Families Then & Now: How We Worked.** Melbourne, Victoria: Australian Institute of Family Studies. https://aifs.gov.au/publications/how-we-worked

Weber, E.P. and Khademian, A.M. (2008). Wicked problems, knowledge challenges, and collaborative capacity builders in network settings. **Public Administration Review, 68** (2), 334-349.

Wells, K. (2009). **Childhood in Global Perspective.** Oxford, UK: Polity

Wertlieb, D. (2019). Nurturing care framework for inclusive early childhood development: opportunities and challenges. **Developmental Medicine and Child Neurology, 61** (11), 1275-1280. doi:10.1111/dmcn.14234

What Works Wellbeing (2018). **Places, spaces, people and wellbeing.** London, UK: What Works Wellbeing. https://whatworkswellbeing.org/wp-content/uploads/2020/01/Places-spaces-people-wellbeing-May2018V2_0119660900.pdf

Wilkinson, R. and Pickett, K. (2018). **The Inner Level: How More Equal Societies Reduce Stress, Restore Sanity and Improve Everyone's Wellbeing.** London, UK: Allen Lane.

Winkworth, G., McArthur, M., Layton, M. and Thompson, L. (2010a). Someone to check in on me: social capital, social support and vulnerable parents with very young children in the Australian Capital Territory. **Child & Family Social Work, 15** (2), 206-215.

Winkworth, G., McArthur, M., Layton, M., Thomson, L. and Wilson, F. (2010b). Opportunities lost--why some parents of young children are not well-connected to the service systems designed to assist them. **Australian Social Work, 63** (4), 431 – 444.

Wood, L. (2009). **Parks and open space: for the health and wellbeing of children and young people.** Woden, ACT: Australian Research Alliance for Children and Youth. http://www.aracy.org.au/publicationDocuments/REP_parks_and_open_space_for_the_health_and_wellbeing_of_children_and_young_people_2009.pdf

Woolfenden, S., Galea, C., Badland, H., Sheedy, H.S., Williams, K., Kavanagh, A.M., Reddihough, D., Goldfeld, S., Lingam, R., Badawi and O'Connor, M. (2020). Use of health services by preschool-aged children who are developmentally vulnerable and socioeconomically disadvantaged: testing the inverse care law. **Journal of Epidemiology and Community Health, 74** (6), 495-501. DOI: 10.1136/jech-2019-213384

Woolfenden, S., Goldfeld, S., Raman, S., Eapen, V., Kemp, L. and Williams, K. (2013). Inequity in child health: The importance of early childhood development. **Journal of Paediatrics and Child Health, 49** (9), E365–E369. doi: 10.1111/jpc.12171

Wopereis, H., Oozeer, R., Knipping, K., Belzer, C., Knol, J. (2014). The first thousand days - intestinal microbiology of early life: establishing a symbiosis. **Pediatric Allergy and Immunology, 25** (5), 428–438. DOI: 10.1111/pai.12232

WHO Commission on Social Determinants of Health (2008). **Closing the gap in a generation: Health equity through action on the social determinants of health.** Final Report of the WHO Commission on Social Determinants of Health. Geneva, Switzerland: World Health Organisation. http://whqlibdoc.who.int/publications/2008/9789241563703_eng.pdf

World Health Organization, United Nations Children's Fund, and World Bank Group (2018). **Nurturing care for early childhood development: a framework for helping children survive and thrive to transform health and human potential.** Geneva, Switzerland: World Health Organization. https://apps.who.int/iris/bitstream/handle/10665/272603/9789241514064-eng.pdf

Yoshikawa, H., Aber, J.L. and Beardslee, W.R. (2012). The effects of poverty on the mental, emotional, and behavioral health of children and youth: Implications for prevention. **American Psychologist, 67** (4), 272-284.

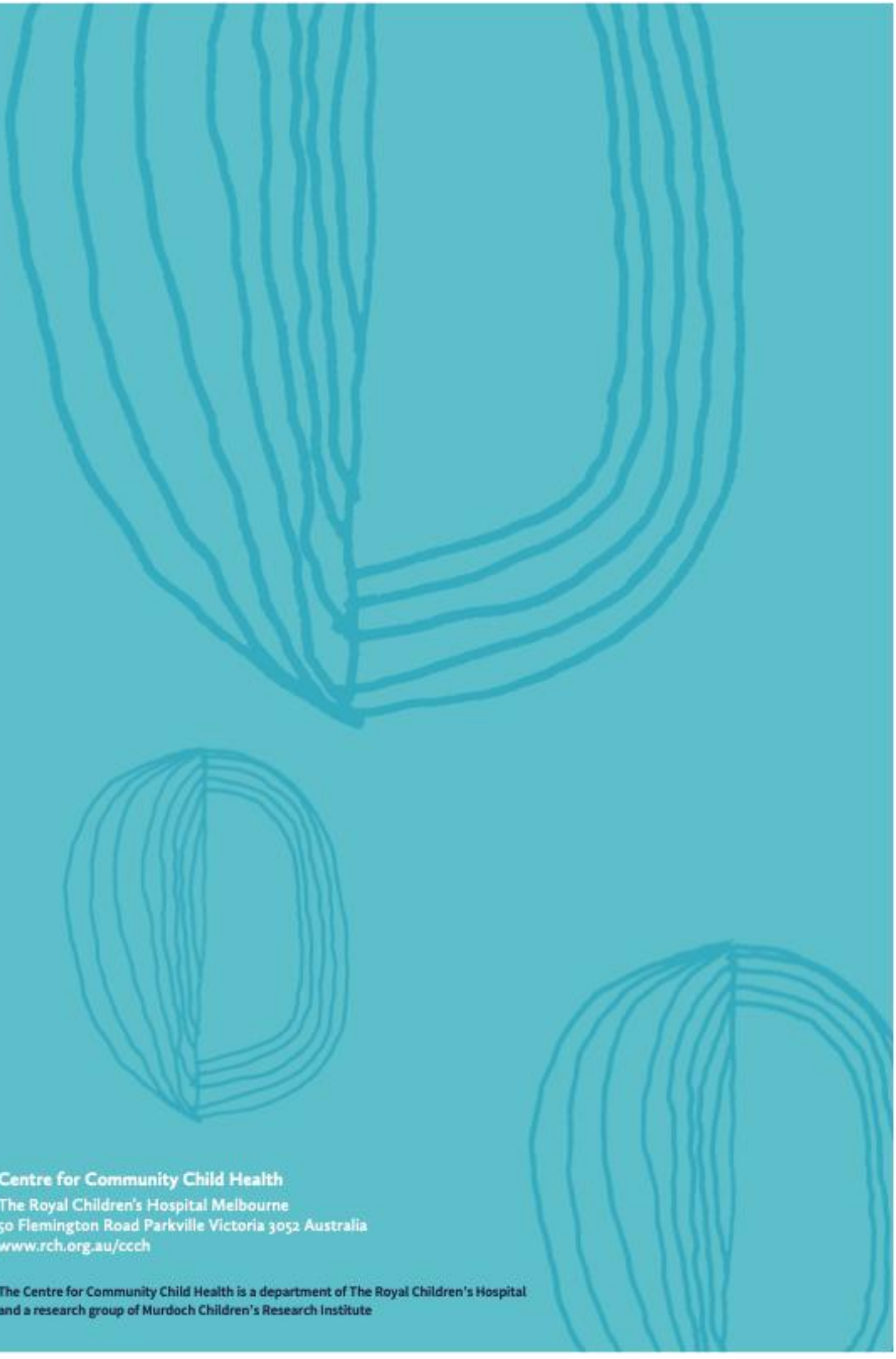
Yousafzai, A.K. (2020). If not now, then when? The importance of intervening early to provide family-based environments for all children. **The Lancet Child & Adolescent Health**, published online June 23, 2020 DOI: https://doi.org/10.1016/S2352-4642(20)30187-5

Yu, M. and Daraganova, G. (2015). **Children's early home learning environment and learning outcomes in the early years of school.** Ch. 4 in the Longitudinal Study of Australian Children Annual Statistical Report 2014. Melbourne, Victoria: Australian Institute of Family Studies. http://www.growingupinaustralia.gov.au/pubs/asr/2014/asr2014d.pdf4.1

Zeanah, C.H. (2018). **Handbook of Infant Mental Health (4th Ed.).** New York: Guildford Press.

Zeanah, C.H. and Zeanah, P.D. (2018). Infant mental health: The science of early experience. Ch. 1 in C.H. Zeanah (Ed.). **Handbook of Infant Mental Health (4th Ed.).** New York: Guildford Press.

Zeifman, D.M. (2013). Built to bond: Coevolution, coregulation, and plasticity in parent-infant bonds. Ch. 2 in C. Hazan and M.I. and Campa (Eds) (2013). **Human Bonding: The Science of Affectional Ties**. New York: The Guilford Press.



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