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Academic Perspectives of Wellbeing

EVIDENCE BRIEF FOR SOCIAL WELLBEING AGENCY

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1. Background and context

1.1 Purpose

This report aims to provide information about aspects of parental and whānau wellbeing that have the greatest potential for improving the wellbeing of children. The brief is prepared for the Social Wellbeing Agency to enable them to provide advice for the wider social sector about aspects of parental wellbeing that have the greatest potential to improve child wellbeing.

The focus of this report is the first five years of life, with a particular focus on the first thousand days of a child's development. The early years of a child's life are critical stages in the life course, acknowledged for shaping lifetime development and wellbeing across multiple domains, including health and wellbeing, cognitive and educational outcomes, peer relationships and social connectedness, engagement in society and economic wellbeing. The report provides a high level summary of what key parental and family/whānau factors shape and influence child wellbeing in their early years. The focus on the first thousand days of development is important because trajectories for later wellbeing outcomes are initiated during these years. The evidence presented in this report summarizes key findings from existing longitudinal evidence where feasible and relevant. Specific findings from *Growing Up in New Zealand*, New Zealand's largest contemporary longitudinal study of child development, are also provided to add context to why these factors matter and how important they are in terms of burden of contemporary poor child wellbeing.

The evidence brief is provided to facilitate the translation of existing research findings into information that has utility to inform where there may be policy levers that can be activated to improve the wellbeing of children growing up in New Zealand today, from their earliest years.

1.2 Context

Longitudinal studies collect information from the same group of individuals over time and can provide insights into how the capacity of individuals, their parents and families, communities and wider social environments operate together to influence the health and wellbeing of the individuals being followed. Longitudinal information from cohorts of children followed from around the time of their birth can provide age-appropriate developmental information and evidence about what may support parents, families, communities, and society more generally to optimise all children's development and wellbeing. This information can then be translated into evidence to inform a concurrent policy context and provide salient information to inform future policy development.

In the New Zealand context a new longitudinal study of children and families was established in 2008 to provide context-relevant evidence about what shapes contemporary children's wellbeing and development. This study was deemed necessary because New Zealand children have continued to rank very poorly in terms of their wellbeing when compared to children growing up in other high-income countries (Adamson, 2010; Adamson et al., 2007; Baker et al., 2012; NZ Child and Youth Epidemiology Service, 2011; OECD, 2014). These international comparisons also hide unacceptable inequalities in child wellbeing outcomes for groups within the New Zealand population. Specifically, Māori and Pacific New Zealand children and those growing up in the greatest poverty experience wellbeing outcomes that are much worse than the population average, and the gaps have been persistent despite widespread acknowledgement that they exist. Consequently, it is important to understand the drivers of wellbeing for all children growing up in New Zealand today to ensure that effective support can be provided where it is needed most, and strategies can be developed based on lived realities of contemporary children and families to enable these inequalities not only to be repeatedly measured but also to be effectively reduced. This report summarises key findings related to the wellbeing of the children in the context of their parents, families and whānau across their early years to contribute knowledge with utility to inform these strategies.

1.3 Approach

Why prioritise Growing Up in New Zealand

Growing Up in New Zealand is New Zealand's largest contemporary longitudinal study of child development which began by recruiting mothers and their partners of the potential cohort in pregnancy from 2008. Importantly, the study is of sufficient size to have adequate statistical power to examine what shapes child wellbeing outcomes across the diversity of current births with respect to the distribution of the main ethnicities of both parents and children and the distribution of key socio-economic characteristics of contemporary New Zealand parents and families/whānau.

The study has collected extensive longitudinal information about parental, family and whānau wellbeing, background and evolving socioeconomic status and the children's families and home environments as well as social connections that are important for intergenerational wellbeing from pregnancy and throughout the cohort children's early lives. In terms of providing evidence to inform policy, the findings from this study are especially salient because the distribution of parental and family characteristics and the child wellbeing outcomes represent the context and the lived realities of contemporary New Zealand children and their families.

Why the first 1000 days matter

Evidence that the first thousand days of a child's life (from conception until the end of their second year of life) are critical for setting life course wellbeing trajectories is now well accepted and well established. Based on several decades of research, it is apparent that there is a strong relationship between early measures of child wellbeing (including size at birth, early postnatal growth, early feeding and attachment, development of pro-social behaviours) in the first thousand days and future life course opportunities for health, wealth, and social and economic wellbeing at a population level. While the trajectories that are set in the first thousand days are not necessarily deterministic at an individual level, they are however indicative of likely life-course outcomes for groups of children. Importantly pathways are less predictive at the individual level, which creates challenges when strategies are being developed to potentially mitigate the life course impacts of a less than optimal start to life (Baldwin et al., 2021; Morton et al., 2020a).

During the first thousand days of life a child undergoes their most rapid developmental period, and they are at their most adaptable. From conception, a developing fetus is responding to changes in their environment facilitated via the wellbeing of their mother, including across her own life course to that point (Morton et al., 2014d), and

by her current wellbeing that is shaped by her interactions and responses to stressors and cues in her proximal and distal family and wider social environments (Moore et al., 2017). Research from different scientific fields have provided different theories to link the wellbeing in the first thousand days of life with life course wellbeing. The Developmental Origins of Adult Disease paradigm has taken a largely biological approach to explaining how experiences in the first thousand days of development might be linked to life course health and wellbeing (Gluckman & Hanson, 2006). A social determinants of health framework has added the importance of the social context experienced by individuals over time to this approach, acknowledging that life course health and wellbeing inequalities result from the translation of relative social advantage and experiences of adversity into biological phenomena which ultimately determine cumulative wellbeing as well as resilience (Graham & Power, 2004). The different research approaches are integrated into a life course approach to health and wellbeing that posits that an individual develops as a result of the dynamic interactions between their own potential (genomic and innate) and the proximal and distal environments around them, and this is the conceptual framework applied to this evidence summary (Ben-Shlomo & Kuh, 2004).

The importance of the first thousand days for setting life course wellbeing trajectories is now largely accepted across disciplines, and priority is now being given at policy tables to understand better how to use this evidence to inform context-relevant, targeted, time appropriate and cost-effective strategies to support and intervene to improve the wellbeing of individuals and populations (C. Law, 2010).

Why focus on parents/whānau/home and wider societal environments

During the first thousand days of a child's life, they are most immediately dependent on their parents and immediate families and whānau to provide the best environments to enable them to grow and thrive. In turn, the families are dependent on their relationships and interactions with informal and formal structures created within the wider societal environment that either facilitate or hinder their ability to provide that support.

Of importance too is that early-life exposure to disadvantage appears to result in multiple co-morbidities, which tend to cluster and accumulate to diminish life course opportunities, often resulting from the clustering and accumulation of parental/whānau poor wellbeing and hardships (Russell et al., 2020). To explore what parental and broader family/whānau factors may be of most importance and potentially amenable to modification or mitigation, it is essential to draw on evidence that collects information about multiple factors acting at several time points from a well-defined and calibrated population of interest, in this case, children growing up in New Zealand today.

1.4 Conceptual framework

The **conceptual framework** that is applied to the evidential summary is grounded in life course epidemiology and a broad social determinants of health and wellbeing approach (Figure 1).

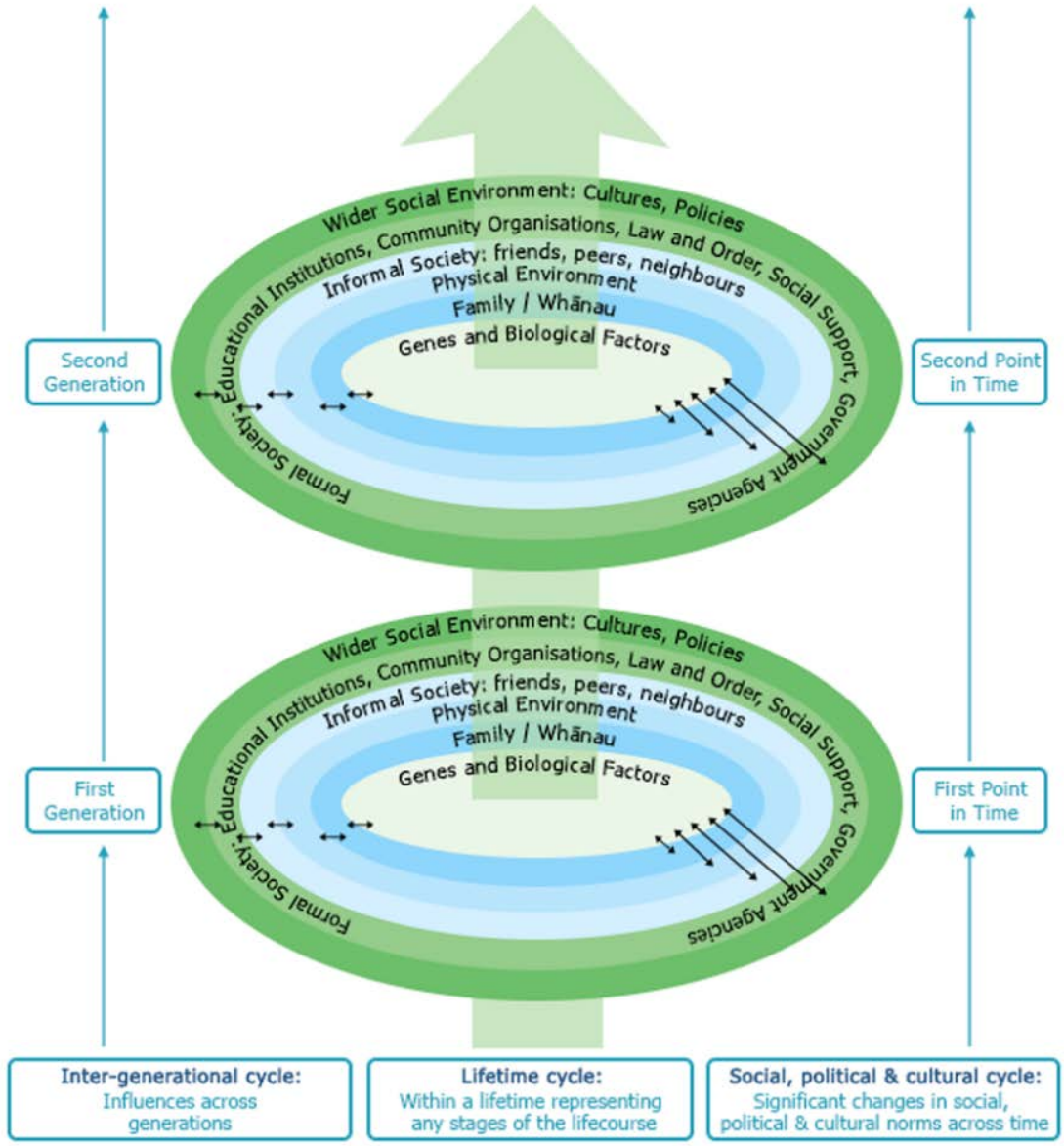


Figure 1. Social determinants and life-course conceptual framework applied to this evidence brief (Shulruf et al., 2007)

The framework acknowledges that children do not grow up as passive recipients of the impact of the people and environments around them but instead develop in dynamic interaction with these environments over time. The environments range from the most

proximal to the more distal formal policy and global environments, with the most influential environment in the first thousand days of life being the immediate psychosocial and physical environment provided by their parents and their immediate families/whānau and households. The framework explicitly acknowledges the inter-related and highly correlated exposures and environments that impact the wellbeing of parents, family and whānau and, therefore, their capacity to provide optimal early life environments for their children.

This framework is appropriate for understanding what supports wellbeing at multiple levels (from the family and whānau to informal societal supports) as well as elucidating the set of parental, family, neighbourhood and societal risk factors that predispose children to poorer wellbeing. The challenge is ranking the relative importance of these key characteristics given how interrelated and highly correlated they are in reality across time.

1.5 Report Outline

In Section 2 a high level summary of available evidence linking key aspects of parental, family and whānau wellbeing with child wellbeing is provided. Findings based on existing evidence collated from the early years of the *Growing Up in New Zealand* study are provided and where available context relevant estimates of the proportion of parents and/or families who are exposed to specific risks as well as estimates of the relative burden of poor wellbeing experienced by contemporary children are described.

Suggestions are provided about where there might be potential opportunities to intervene to improve child wellbeing based on the summarised evidence for the key parental and family/whānau wellbeing aspects considered, and these factors are aligned to the six wellbeing outcomes set out in the Child and Youth Wellbeing Strategy.

In Section 3 the strength of the evidence summarised is assessed using an expert high level approach based on an explicit set of parameters to address the important question about what are the most important potential parental and family/whānau wellbeing targets for action to improve child wellbeing in their earliest years.

In Section 4 a brief discussion attempts to draw together the evidence and suggestions for action provided in Section 2. This is to facilitate further discussions with policy experts and to highlight where more detailed analyses of the existing evidence may be required.

2. Key findings

Key findings relating to the impact of parental and family/whānau wellbeing on children's early wellbeing are summarised below. A brief rationale for the importance of each factor for the development of child wellbeing is provided where evidence is available. This is augmented by a summary of salient findings based on the longitudinal information from the first thousand days of *Growing Up in New Zealand* to align with the current New Zealand context and estimate the current burden of poor child wellbeing. Impacts on wellbeing beyond the first thousand days are described where appropriate.

Aspects of parental and family/whānau wellbeing considered:

- Adequate parental preparation for pregnancy
- Optimising parental mental, physical and psychosocial wellbeing throughout the perinatal period
- Wrapping support around parents in the context of their diverse families and whānau
- Supporting positive family relationships and home environments
- Enabling access to safe, affordable and secure housing
- Supporting engagement and participation of parents with existing services and in wider society
- Supporting parental and family/whānau social and economic wellbeing
- Creating safe and supportive neighbourhoods and communities

Each set of factors relevant to a particular aspect of parental and family/whānau is presented in a summary table that aligns the key findings to salient indicators in the Child and Youth Wellbeing Framework (CYWF).

In Section 3, basic high level metrics are applied to the collective evidence relating to the multiple parental and family/whānau factors, described in Section 2, to provide best estimates of the relative importance of these aspects for improving child wellbeing.

More complex multivariable and life-course statistical modelling is recommended to obtain more robust and directly comparable estimates of the relative effect of each to further assess which aspects of parent/whānau wellbeing potentially have the greatest capacity to impact child wellbeing across the life course.

2.1 Adequate parental preparation for pregnancy

Influences on child wellbeing begin well before pregnancy. Parental characteristics including maternal completed education, maternal age at the time of pregnancy and parental health-related behaviours including smoking, alcohol intake and use of illicit drugs have all been shown to impact on the wellbeing of children from before their conception (Moore et al., 2017).

Giving every child the best possible start to life begins with all parents (mothers and partners) being in a state of wellbeing and preparation which offers the best opportunity for them to achieve healthy adult lives, including but not limited to growing a healthy infant (or infants) from before conception.

Being adequately prepared to provide the best beginning to the first thousand days of a child's life (from conception to the end of the child's second year of life) is particularly problematic when pregnancy is unplanned. During the first trimester the fetus is developing rapidly and insults in this period can be particularly problematic, as they impact basic biological processes such as the rate of cell division and the early development of the immune system, having profound implications for an infant's future life course wellbeing (Moore et al., 2017). Findings from the Christchurch Health and Development Study indicate that unplanned pregnancy is associated with a modest increased risk of adverse family socioeconomic outcomes, family dysfunction and poorer parent-child relationship outcomes in adolescence (Boden et al., 2015).

Unplanned pregnancies were reported for four out of ten (40%) of the over 6800 pregnancies of mothers in *Growing Up in New Zealand* cohort. Unplanned pregnancies were more commonly reported by younger mothers (mean age of 28 years compared to 32 years for planned pregnancies), those without a current partner and mothers with fewer completed educational qualifications (22% had completed post NCEA qualifications compared to almost half of all mothers where pregnancy was planned). Of note is that unplanned pregnancies were reported as often for subsequent births (40%) as for first births (Morton et al., 2010).

The rate of unplanned pregnancy is actually somewhat higher at 46% of all pregnancies according to the recent 2014/15 New Zealand Health Survey. The higher overall rate at a population level likely reflects that younger teenage mothers (aged less than 16 years especially), who have high rates of unplanned pregnancy, were less likely to enrol their children in the longitudinal study, usually because of their age (they required consent from

their parents) as well as uncertainty about their own and their potential child's longer term future.

The high overall prevalence of unplanned pregnancy highlights the importance of population-wide public health measures to improve the health of all adults. Of most salience is that unplanned pregnancy limits the opportunity parents have to make choices and take action on recommended behavioural changes such as stopping drinking alcohol and stopping smoking, adapting their nutritional intake, being physically and mentally as well as they are able to be, and taking folic acid either in the first trimester of pregnancy or before conception.

Maternal nutrition and dietary changes

There is now strong evidence that the nutritional environment that a fetus experiences via the nutritional status of the mother in its earliest days of development is associated with its own growth trajectory in utero as well as with the child's potential growth and risk of obesity in their first thousand days and into later childhood as well as with risk for chronic diseases such as diabetes, cancer and cardiovascular diseases in later life (Davies et al., 2016; Harding, 2001).

Whether a pregnancy was planned or not, overall adherence to the current Ministry of Health recommended nutritional guidelines by mothers of the *Growing Up in New Zealand* cohort was poor. While 90% of all mothers reported making some dietary changes during their pregnancy, most pregnant mothers did not comply with current Ministry of Health guidelines relating to the recommended quantity and diversity of dietary intake in pregnancy, with only 3% of all the mothers meeting all of the guidelines (Morton et al., 2010). The recommendations in the Ministry of Health guidelines are based on a synthesis of the existing best quality evidence about the types of macro- and micro-nutrients that are associated with providing an optimal nutritional environment for babies in utero as measured by the perinatal wellbeing of the children at birth (Castro et al., 2021; Harding, 2001). Perhaps not unexpectedly, adherence to guidelines was lowest in pregnancies that were not planned. Prospective parents who were younger and experiencing more economic hardship. Parents who reported having less family support were also less likely to be enabled to action the choices they may have wished to make during their pregnancy, despite usually having sufficient information and knowledge about why these changes were potentially important for their child's wellbeing (Morton et al., 2012).

However, mothers also reported that the information available to support their decision-making and actions around recommended dietary changes was not easy to assess and that in many cases, they received contradictory information from multiple sources,

including differing information from health professionals (see Figure 2 from Morton et al. (2010)). Also, if the information did not align to firmly held maternal or family/whānau beliefs about what constituted "good nutrition", then the information was less likely to be turned into action according to self-reports from mothers in the cohort.

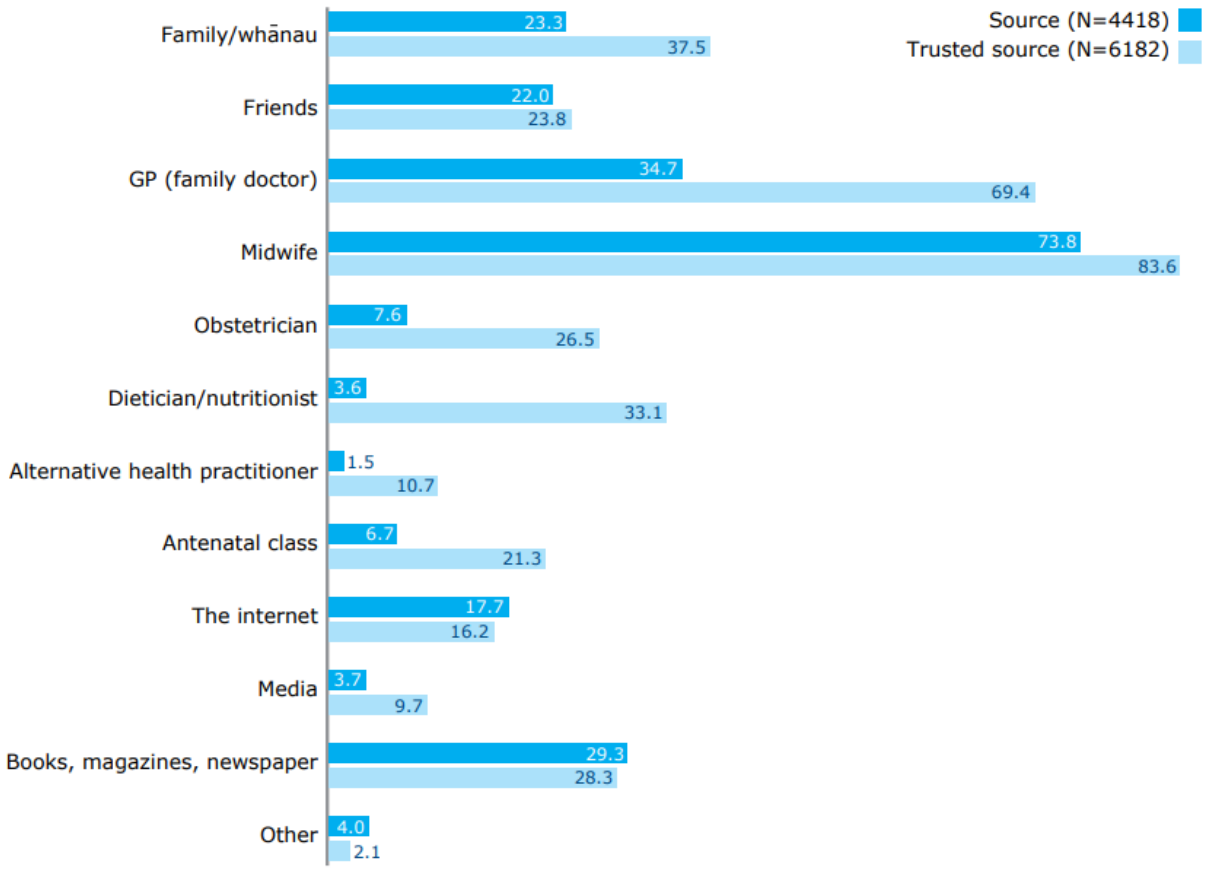


Figure 2. Sources of information about nutrition during pregnancy by mothers (%)

Note: Mothers selected multiple responses so responses will total to more than 100%. Source refers to whether mothers accessed nutritional information from that source, and trusted source indicates whether they trusted that source.

Nutritional supplements (e.g. folic acid)

In terms of specific supplements used, nine out of ten of all the mothers in *Growing Up in New Zealand* did not take folic acid as recommended (starting prior to pregnancy and then reducing after the first trimester), and one in six mothers did not take any folic acid across the entire perinatal period (from pre-conception until birth). Dietary supplementation of folic acid is recommended to reduce the impact of neural tube defects. While the absolute prevalence of neural tube defects is relatively low at a population level, the impacts are

great as a neural tube defect is life-altering for infants affected, resulting in reduced wellbeing and life-long costs associated with health and related supports. To reduce the risk of neural tube defects, it is necessary to begin supplementation periconceptually (Milunsky et al., 1989). Where a pregnancy is unplanned there is little or no chance for a mother to begin supplementation prior to conception, hence recommendations to fortify basic foods, such as bread and flour, at a population level so that all potential parents might benefit. Importantly the *Growing Up in New Zealand* evidence demonstrated that mothers who are most likely to experience an unplanned pregnancy do differentially consume greater quantities of the foods that are now planned to be supplemented.

Parental smoking

Maternal smoking has been shown to be associated with compromised fertility (Mitchell et al., 2006), and maternal smoking that continues into pregnancy has been shown to have long term and serious consequences for child health, including reduced growth of the fetus in utero as well as negative impacts on normal brain and central nervous system development (K. L. Law et al., 2003). Exposure to environmental tobacco from others smoking around the pregnant mother (passive smoking) during her pregnancy has also been associated with poorer perinatal outcomes, including a higher risk of preterm delivery and delivering a small for gestational age infant (Collaco et al., 2017).

In the *Growing Up in New Zealand* cohort 11% of all mothers continued to smoke throughout their pregnancies (beyond their first trimester), however, this differed according to whether the pregnancy was planned or not. In unplanned pregnancies, 21% of mothers continued to smoke beyond their first trimester, compared to only 4% of mothers where the pregnancy was planned (Morton et al., 2010). Mothers were more likely to smoke tobacco throughout their pregnancies if they lived in the highest deprivation areas (17% compared to 5% in the least deprived areas) and if they had less completed maternal education (43% of mothers who had no formal secondary school qualifications smoked throughout pregnancy compared to just 2% who had completed tertiary level education). Seven percent of all Growing Up in New Zealand mothers reported being regularly in the vicinity of other smokers (passive smoking), half of whom were smokers themselves during pregnancy, potentially adding a double burden of impact in terms of reducing the chances of their child having the best start to life.

Maternal alcohol in pregnancy

Exposure to alcohol in pregnancy, especially during the first trimester, is considered to be a major cause of cognitive impairment and neurodevelopmental problems in children globally and is potentially one of the most common preventable causes of poor child wellbeing. Alcohol has a range of potential effects on the developing fetus that include

physical, learning and behavioural impacts, and which collectively can result in fetal alcohol spectrum disorder (FASD). The spectrum of disorders remain quite poorly recognised in early childhood, and the effects may not be evident until middle childhood, when they can be indicative of lifelong cognitive and behavioural challenges (Elliott et al., 2008; Moore et al., 2017).

For mothers in the *Growing Up in New Zealand* cohort, 70% reported regularly consuming alcohol prior to their pregnancy. Furthermore, more than one in twenty reported consuming alcohol at a level categorised as dangerous (reporting regularly consuming more than 20 standard drinks per week). For mothers who reported an unplanned pregnancy, 69% reported that they had stopped drinking alcohol after becoming aware they were pregnant sometime before the end of their first trimester. In the planned group, 83% of mothers reported stopping drinking alcohol throughout their first trimester (Morton et al., 2010).

Partners of pregnant mothers were also asked about changes to their diets and their behaviours during the mother's pregnancy. Almost half (46%) of all partners did not report making any changes to their diets or to their smoking and alcohol-related behaviours while the mothers were pregnant. Early comparisons of this information collected from both parents suggest that it is easier for mothers to modify their behaviours in pregnancy if they are supported and enabled to do so by their partners and others in their families/whānau (Morton et al., 2010).

Potential intervention points

- Provide support for all potential parents to experience wellbeing throughout their reproductive lives (starting in the teenage years).
- Support initiatives to stop smoking and drug-taking and reduce alcohol consumption in all young people prior to their reproductive years as well as throughout adulthood
- Enable opportunities for all health carers/professionals (school nurses, primary health carers) to have routine discussions about planned reproduction with young people when they have either routine or specific primary health care visits (including advice for the prevention of pregnancy as appropriate).
- Recognise that education and the provision of information are important for parents during pregnancy, but that economic and household circumstances, including financial stress and material hardship, often constrain opportunities to enact

change. Systemic change is required to ensure all families can engage easily in healthy behaviours

- Simplify the dietary guidelines for prospective parents and provide accessible and consistent guidance via trusted sites/outlets for the information that all prospective pregnant women and their partners are likely to access.
- Provide more balanced nutritional information that has utility and is context relevant for real families lives. Limit the use of "don't eat this" messages which are ever present for pregnant mothers via multiple sources (trusted or not)
- Remove cost and barriers to operationalise desired changes in behaviours. Fortifying basic foods with folic acid is an excellent example of this given the higher consumption of these foodstuffs by mothers at greatest risk of unplanned pregnancy, therefore removing barriers to start taking folic acid supplements at an appropriate time prior to conception

Table 1. Relevant Child and Youth Wellbeing Framework Outcomes and Indicators

Unplanned pregnancy		
CYWF Outcomes	CYWF Wellbeing Indicators	Related Family/Whānau Characteristics[1]
Happy and Healthy  *"they have the best possible health starting from before birth"*	Prenatal care Prenatal exposure to toxins	Young mothers Lack of formal educational qualifications Maternal smoking and drinking
Loved, Safe and Nurtured  *"they and their families are supported to make healthy choices around relationships, sexual health, alcohol, tobacco and other drugs"*	Making positive choices	Unplanned pregnancy Lack of preparation for pregnancy (first and subsequent births) *Enabling dietary change and supplementation*[2]

[1]Derived from *Growing Up in New Zealand* evidence
[2]Note the family/whānau characteristics that are *italicised* are strengths-based

2.2 Optimising parental mental, physical and psychosocial wellbeing throughout the perinatal period

Parental wellbeing matters for child wellbeing from conception onwards and parents, especially mothers, deserve to be in the best physical and mental health prior to and during their pregnancies to give every child the best start in life.

Good maternal mental, physical and psychosocial wellbeing are all important and often related determinants of the immediate environment that is provided for a developing infant, both in utero and postnatally (Moore et al., 2017). If a mother is experiencing poor wellbeing (mental, physical or psychosocial) around the time her child is born this can disrupt the quality and consistency of the care-giving environment she is able to provide.

Maternal depression

The disruptive impact of poor maternal mental health has been shown to persist throughout the pre-school years and potentially into adulthood in evidence from the US. In particular, children born to mothers who were experiencing depressive symptoms during their first year of life had reduced cognitive scores at age four years as well as a greater prevalence of behavioural problems, both of which potentially predispose those children to life-long reductions in their human capital (Frank & Meara, 2009).

Unfortunately, the rates of depressive symptoms that were measured in the *Growing Up in New Zealand* mothers suggest that experiencing poor mental wellbeing in late pregnancy, and therefore potentially around the time of the birth of a child, is common. Based on routine screening using the Edinburgh Depression Score, as many as 1 in 8 mothers (12%) in the study were experiencing symptoms characteristic of depression late in their pregnancies, and in the majority of cases (80% of those with high scores), mothers were not receiving any pharmacological treatment for depression in pregnancy (Svardal et al., 2021). Experiencing poorer maternal mental health in the *Growing Up in New Zealand* study was more common for younger mothers (less than 30 years of age at the time of pregnancy); as well as those who identified as Pacific, Māori or Asian (in comparison to NZ European mothers). Additionally receiving pharmacological treatment for depressive symptoms was also less common for mothers who identified as Māori or Pacific (Svardal et al., 2021). Experiencing greater depressive symptoms in late pregnancy was more likely if mothers had had a previous diagnosis of depression or anxiety and if the pregnancy was unplanned (Morton et al., 2012).

In the *Growing Up in New Zealand* study, depression scores tended to improve on average for the cohort of mothers over their child's first year of life. In particular, the overall

proportion of mothers experiencing depressive symptoms had dropped to eight percent by the time their infants were nine months of age; however, there was significant flux. Approximately half of the mothers experiencing postnatal symptoms were newly identified as having depressive symptoms when their children were nine months of age, and half of the mothers who were experiencing depressive symptoms in late pregnancy did not have significant depressive symptoms by the time their infants were nine months of age.

If the household financial situation was reported as having worsened in the postnatal period, or if physical or psychological inter-partner conflict was reported by the mother, then postnatal mental wellbeing was worse for mothers experiencing these relationship and family influences after the birth of their child (Morton et al., 2012).

By contrast, mothers who had returned to work by the time their children were nine months old and those reporting higher levels of external family support (informal or formal) tended to have better mental wellbeing measured during the postnatal period. Understanding the direction of these relationships between returning to work, support and mental health is challenging however as being depressed means mothers are less likely to be well enough to consider returning to the workplace, and lacking support means that returning to work is also potentially more challenging.

A British survey that followed up children born to mothers with depressive symptoms during pregnancy and into the postnatal period demonstrated that children born to mothers with poorer mental health tended to be at greater risk of antisocial behaviour during middle childhood and that the impacts of poor maternal wellbeing applied across the socioeconomic spectrum, although greater economic wellbeing did seem to partially attenuate the relationship with poor child behaviour over time (Kim-Cohen et al., 2005)

Partner wellbeing

The mental health of other adults in the family home also has an important impact on the nature of the adult relationships and the quality of the wider environment provided to support children's wellbeing in their early years. Partners (usually prospective dads) are especially important in terms of the support they provide to the mothers in the perinatal period (Underwood et al., 2017). In the *Growing Up in New Zealand* study, partners were also interviewed and asked about their wellbeing in late pregnancy and in the postnatal period, including depressive symptoms. A surprising finding was that "new dads also seem to get the perinatal blues" (Underwood et al., 2017). Twice as many new dads experienced depressive symptoms as males in the general population of the same age who were not experiencing the birth of a new baby, although the rates were much lower for fathers than reported by the mothers (6% of new dads compared to 3% of males in the general

population). However, depressive symptoms in fathers appeared to become more prevalent after their baby was born. In terms of parental wellbeing, if a partner (father) was experiencing depressive symptoms, this tended to increase the likelihood that the mother's mental wellbeing was also negatively impacted (but not vice versa). Akin to passive smoking, this double parental burden of poor mental health may likely exacerbate the impact on the immediate environment on the child's immediate and longer term wellbeing (Kim-Cohen et al., 2005).

Maternal stress (psychosocial wellbeing)

Transition to pregnancy and to parenthood is generally a time of increased stress for all parents; however, higher levels of maternal stress have been linked to significant adverse child wellbeing. Adverse outcomes for children include reduced size at birth, reduced maternal bonding in the immediate postnatal period and an increased risk of behavioural and emotional problems during childhood (Matvienko-Sikar et al., 2021). Stress is a multifaceted construct that covers psychological stress and physiological stress at an individual level as well as exposure to external stressors in the wider environment (see Section 2.7). Maternal psychological stress is often assessed by measuring perceived ability to take control over a situation or by assessing available capacity or resources to cope with a particular event or experience. The exact biological mechanisms and the timing of the transfer of maternal stress into poorer child wellbeing outcomes are not completely understood. It is thought that maternal stress is likely impacting on child wellbeing through multiple pathways, with current theories suggesting it is likely that maternal stress influences the epigenome of the developing infant and thus creates life-long changes in offspring stress responsiveness to their environments (Shonkoff et al., 2012). During pregnancy, for example, maternal stress can lead to greater engagement in stress-related health behaviours such as smoking, alcohol or substance abuse, as well as reduced physical activity. In the postnatal period, high levels of maternal stress may impact the initiation or duration of breastfeeding (Matvienko-Sikar et al., 2021). There is also some evidence from the *Growing Up in New Zealand* cohort that increased levels of maternal perceived psychosocial stress during pregnancy are associated with the development of childhood obesity and that the greater duration of exposure to stress the greater the impact on child physical wellbeing may be (Farewell et al., 2018).

While the impact of maternal mental, physical and psychosocial wellbeing is often considered separately, it is also clear from the *Growing Up in New Zealand* cohort that these multiple stressors tend to cluster and are more common for mothers who are subject to greater external stressors (material hardship, financial stress, relationship conflict). For example, in late pregnancy, depressive symptoms were more commonly reported for

mothers who concurrently rated their general physical wellbeing as only poor or fair, and those who reported greater psychosocial stress in their relationships and in their family environments (Morton et al., 2012).

Possible intervention points

- Systematic routine screening for depressive symptoms early and throughout pregnancy for all mothers, with an extension of screening to partners. This may mean welcoming partners to antenatal appointments, or offering partners a tailored antenatal appointment, and equipping Lead Maternity Carers with the tools to screen and then refer as required for early treatment to optimise parental mental wellbeing and provide appropriate support to new parents from before the birth of their child to give children the best start to life.
- Giving greater priority to assessing the mental health of mothers who have experienced prior mental health issues and recognising that the additional stresses experienced by younger mothers, those living in financial hardship and with less support from their partners or externally to their household are more likely to have poor mental wellbeing in pregnancy that can persist into the postnatal period and therefore significantly impact on their ability to provide appropriate care to their child around the time of birth and beyond.
- Seeking solutions to maternal wellbeing that acknowledge the importance of the support of wider family/whānau and from communities, especially for parents and families who may have recently moved to New Zealand
- Developing culturally appropriate services and diagnostic criteria to assess the mental wellbeing of mothers from diverse ethnicities, as currently Māori and Pasifika mothers are more likely to be identified with depressive symptoms but less likely to be receiving treatment (including pharmacological interventions)
- Wrapping support around young and socially isolated mothers to facilitate them being empowered and enabled to provide care for their new-born infants.
- Enabling parents to be open about their mental wellbeing – introducing screening without stigma given the commonality of experiencing perinatal depressive and anxiety symptoms and the relative safety of treatments (including pharmacology)
- Recognizing that high levels of maternal stress in pregnancy may have long-term implications for the wellbeing of the children (behaviours and peer relationships, stress response, obesity) and that intervening early to reduce stress will be beneficial for both mothers and children's wellbeing
- Reducing or buffering the impact of external stressors during pregnancy to optimise wellbeing for mothers and children (see Section 2.7 and 2.8).

Table 2. Relevant Child and Youth Wellbeing Framework Outcomes and Indicators

Parental Wellbeing in Pregnancy		
CYWF Outcomes	CYWF Wellbeing Indicators	Related Family/Whānau Characteristics[1]
Happy and Healthy  *"they have the best possible health starting from before birth"*	Mental wellbeing Subjective health status	Young mothers Non-European ethnicity Poorer general parental wellbeing pre-pregnancy (including prior mental ill-health) Unplanned pregnancy
Loved, Safe and Nurtured  *"they feel loved and supported"*	Feeling safe Family/whānau wellbeing	Maternal psychosocial stress High levels of family stress Passive smoking in the household (not mother) *Mothers enabled to return to work postnatally*[2] *Good levels of external support*

[1] Derived from *Growing Up in New Zealand* evidence

[2] Note the family/whānau characteristics that are *italicised* are strengths-based

2.3 Wrapping support around parents in the context of their diverse families and whānau

Parents having children in New Zealand today are more likely to be migrants than in recent generations, and family structures are more diverse than before (Morton et al., 2010). Over one third (35%) of the 6853 children in the *Growing Up in New Zealand* cohort were born to at least one parent who did not grow up in New Zealand themselves. Often parents in the cohort reported that they had moved to New Zealand as adults, with the specific intention to build a better life for their children.

This diversity of parents of the new generation of New Zealanders means that children are growing up in households that are both culturally diverse and diverse in their structure (as below). For example, more than 30 languages were being spoken by parents of the cohort in their homes around the time of their birth, and only 80% of the families used English as their primary language at home, although almost all parents (97%) said they could hold a conversation in English (Morton et al., 2010).

Migrant parents' wellbeing

Recent reviews of the health of migrants in the perinatal period have demonstrated that newer migrants to high-income countries (such as New Zealand) tend to have poorer mental health during pregnancy and tend to experience more financial hardship and less social support than those who have lived in that context for the majority or all of their lives (Anderson et al., 2017).

Supporting the wellbeing of parents who are recent migrants may require a different set of considerations than are currently applied to the delivery of services in pregnancy and in the immediate postnatal period. Currently, population services, which are often universal, are rarely designed to appropriately support the diverse needs and wellbeing aspirations of our increasingly diverse population. While migrant parents are generally healthier than adults of a similar age in the populations they leave behind (healthy migrant effect), those who migrate to New Zealand tend to have children with poorer perinatal outcomes (size at birth, preterm delivery) when compared to children of New Zealand born parents, or those who have lived in New Zealand for longer periods of time (Bollini et al., 2009).

Diverse identities and intergenerational wellbeing

Parents in the *Growing Up in New Zealand* study shared detailed information about their own ethnic identities and backgrounds during pregnancy, and prospective parents were also asked what ethnic group they thought their child would identify with postnatally.

Having a strong sense of identity is important for parental wellbeing and important for the intergenerational transfer of strong identities to enhance children's wellbeing. During pregnancy, mothers of the cohort children and their partners reported that they expected one in four (24%) of their children to identify as Māori, one in five (21%) as a Pacific ethnicity, and one in six (16%) as an Asian ethnicity, with seven out of ten (73%) expected to identify as New Zealand European. Almost half the children were expected to identify with more than one ethnic group (48%).

For almost all metrics associated with parental outcomes in New Zealand, we see inequalities in outcomes by ethnicity. Māori and Pacific parents are over-represented in measures of poorer physical wellbeing in pregnancy (higher rates of unplanned pregnancies, higher proportions of maternal and paternal smoking, greater likelihood of parental obesity, less adherence to nutritional guidelines), and they also tend to be over-represented in measures of poor maternal mental wellbeing (higher depression and anxiety scores on average). In the postnatal period children who are identified as Māori or Pacific by their parents also tend to be over-represented in poorer wellbeing statistics, including being at greater risk of respiratory infections and hospitalisations for severe infections during infancy, experiencing more frequent ear and throat infections in their first thousand days, and being more likely to be classified as overweight and obese in the pre-school years (Morton et al., 2014b).

Experiences of clustering of environmental adversities over the first thousand days are also unequally distributed by ethnicity, with more parents who identify as Māori, Pacific and to a lesser extent Asian, as well as those living in areas of high deprivation (with considerable overlap between ethnic identity and deprivation area), experiencing greater rates of unemployment, less total household income and more financial hardship and financial stress (Morton et al., 2014c). Poorer parental and child wellbeing, while being greater in those who identify with non-European ethnicities, does not result from ethnic background or cultural identity alone. The poorer intergenerational wellbeing is much more likely to be the result of exposure to, and the accumulation of, intergenerational stressors and hardships experienced over time (Section 2.7). Understanding how to reduce exposure to these external stressors for non-European parents in New Zealand is essential if the wellbeing of all New Zealand children is to improve.

One area that requires attention is reducing exposure to systemic discrimination, which contributes to patterns of intergenerational wellbeing. Unfortunately, discrimination based on ethnicity is still highly prevalent within New Zealand society, both for those who are non-European New Zealanders and for more recent migrants. Feeling accepted and

welcome within society is important for parents wellbeing as well as for their children's (Bécares & Atatoa-Carr, 2016).

Te Reo Māori – revitalisation of a taonga

Being able to participate in society and that society valuing the aspects of your culture that are important to who you are, and to your identity, contributes to psychosocial wellbeing for parents and for their children. In Aotearoa, New Zealand the value and importance of Te Reo Māori has changed significantly over time. Being able to engage in a conversation using Te Reo Māori has not always been viewed as advantageous, nor has the language always been generally accepted as a taonga (a treasure) and essential for wellbeing by non-Māori New Zealanders.

It is therefore promising to see the intergenerational trends in Te Reo Māori use from parents to children within the *Growing Up in New Zealand* cohort. During pregnancy, only 5% of all cohort parents reported that they could hold a conversation in Te Reo Māori, but by the end of their first thousand days, 12 percent of the children were reported as being able to understand some Te Reo by their parents. By the age of four and a half around 10 percent were reported to be regularly speaking Te Reo (Morton et al., 2017) and over 75% of all children in the cohort were able to use some Te Reo Māori. Parental reports in the pre-school period also indicated that the benefits of Te Reo Māori were increasingly valued by parents of cohort children who identified as non-Māori. Having community support for sharing and nurturing Te Reo was also apparent in that greater Te Reo Māori proficiency was associated with living in neighbourhoods where there were higher proportions of Māori whānau. Also if a parent reported being culturally connected and fluent in Te Reo Māori then there was a greater likelihood that their children would also report being fluent before school entry (Morton et al., 2017).

At the eight year interview all children in the cohort were administered a Te Reo Māori vocabulary test, which has yet to be fully interrogated. However children reporting being able to engage in Te Reo conversations at eight already viewed themselves as having better overall general wellbeing than their peers who could not engage in Te Reo Māori conversations. Parents' role in connecting their children with their cultures was also apparent at the most recent eight year interview, with children whose parents reported regularly discussing their culture and identity with them having stronger identities, better self-reported health and a better sense of who they were than those who did not (Morton et al., 2020b).

Possible intervention points:

The diversity of the families having children in New Zealand today creates challenges for the delivery of culturally appropriate and accessible care that meets the needs of all parents and optimises their own and their children's wellbeing:

- Language may be a barrier to engagement and traditional values may not align with the services that are structured according to population diversity that existed a generation ago
- While the diversity of the new generation of children represented in the *Growing Up in New Zealand* cohort is now being acknowledged, when the "Before We Are Born" report was released in 2010 the reality of the diversity of contemporary NZ parents reported was significantly challenged as being specific to the study and not reflective of lived realities – hence services designed for this population are likely to be lagging behind in terms of addressing diversity
- Future-proofing of services and delivery of appropriate services needs to be constantly reviewed to keep up with demographic trends
- All forms of systemic discrimination need to be addressed if wellbeing is to be enhanced for all and inequalities reduced
- Different knowledge systems and ways of knowing the world should be included and valued in terms of supporting intergenerational wellbeing. Families and parents need to be enabled to see themselves reflected in the services and activities that are available for them
- Multiple languages should be acknowledged, celebrated, and included in population services
- Policies that strengthen cultural identity and sense of self are required (for parents and children – especially for new migrants)
- Supporting networks of Te Reo Māori use and learning with household and community spaces where Te Reo Māori can thrive.
- Embracing Te Tiriti o Waitangi in all aspects of service delivery and expectations for community participation
- Continuing to celebrate our diversity and cultural treasures (taonga) - as we are beginning to do more in Aotearoa, New Zealand (e.g. mainstream education, newsreaders, Matariki celebrations)
- Building a multicultural (rather than mono- or bi-cultural) society informed by Te Tiriti o Waitangi, by understanding and celebrating the experiences of the diverse

communities that make up Aotearoa New Zealand, in the places we live, work and play.

Table 3. Relevant Child and Youth Wellbeing Framework Outcomes and Indicators

Diverse Families/Whānau		
CYWF Outcomes	CYWF Wellbeing Indicators	Related Family/Whānau Characteristics[1]
Accepted, Respected and Connected *"they live free from racism and discrimination"* *"they are connected to their culture, language, beliefs and identity"*	Ability to be themselves Sense of belonging Social support Support for cultural identity Languages	Migrant status Cultural background and place of birth outside NZ Limited time in NZ prior to pregnancy *Languages used and understood* [2] *Family values and expectations align* *Identifying as Māori, Pacific or Asian* *Support for discussing and sharing cultural values and identities*

[1] Derived from *Growing Up in New Zealand* evidence

[2] Note the family/whānau characteristics that are *italicised* are strengths-based

2.4 Supporting positive family relationships and home environments

Increasingly in New Zealand, this new generation of children are being raised in extended family/whānau households, which are often multi-generational. Therefore the health and wellbeing of all those in the extended family household can impact children's health and wellbeing in both positive and negative ways. In terms of negative impacts, many extended households are living in overcrowded situations (defined most simply as having two or more people per bedroom in a dwelling). Overcrowding has been associated with poorer child wellbeing outcomes such as avoidable admissions to hospital with respiratory infections in early life and Streptococcal infections in later childhood that are associated with Rheumatic fever and its sequelae of chronic medical issues (cardiac and renal predominantly) throughout the life course (Oliver et al., 2017).

Household structure and wellbeing

Within the *Growing Up in New Zealand* study, one in four of the cohort children (25%) were born into an extended family household (with other related adults living in the household with the child and one or both child's parents) and one in five children were living in this type of household environment at the time they were preparing to start formal schooling. Sole mothers (living alone with their cohort child and/or other children) were relatively uncommon in the perinatal period for this generation (3%). However, at the time the cohort were born there was a greater emphasis on providing support for sole parents than recognising the importance of extended families for supporting early child wellbeing. Most services continue to be parent and mother-centric and some could benefit from acknowledging the influence of other adults in the household (e.g. the allocation of income support based on metrics that are currently aligned to nuclear family household structures).

Over the early childhood years, household structures have changed frequently for many children in the cohort (see Figure 3 below – from Morton et al. (2020b)). The types of households that cohort children are experiencing over time differs according to the ethnic identity of their parents. For example, it is common throughout childhood for children whose mothers identify as Pacific or Asian to live in extended family households (54% and 30% respectively at the time of the child's birth), and less common for NZ European children to do so (13%) around the time of a child's birth.

The proportion of children growing up with sole parents (most often mothers) had increased three-fold to approximately 10% of all families of children in the cohort by the time they were eight years of age. This increase was usually because of a dissolution of a

prior parental relationship and/or a parent moving out of an extended family household situation. Mothers who are parenting their children alone reported that they feel much less supported in their parenting role than those in the cohort who have other adults living with them and their child (Morton et al., 2020b).

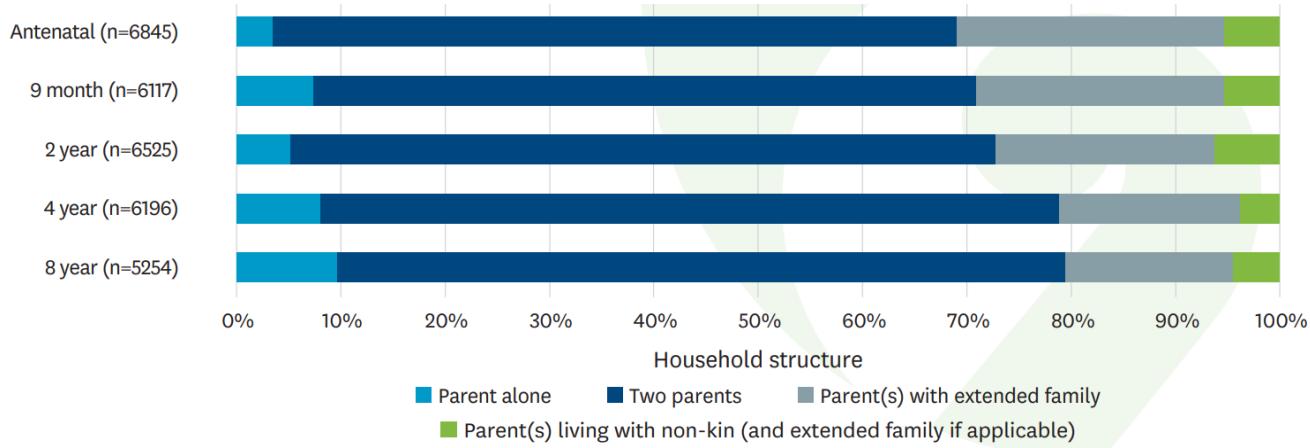


Figure 3. Household structure at each face-to-face interview in the first eight years

Changes in home environments may either reduce or increase support and stress for parents caring for young children and may result in an improvement in the environment children are exposed to (for example, removing a child from a dysfunctional or violent relationship), or it may make the environment more challenging (moving to more over-crowded or less secure environment). Regardless the change itself potentially creates some short-term stress in terms of perturbing the environment where children are growing up.

Parental conflict

As well as any changes in caregivers for a child, the nature of the inter-parental relationship is an important source of either support or stress for parents during pregnancy and thereafter. The quality of the interparental relationship impacts the wellbeing of both parents as well as the wellbeing of their children.

Pregnancy introduces stress into an existing relationship (whether planned or not), and it has been recognized as a time when domestic violence tends to worsen in terms of physical and psychological violence, particularly towards mothers (Moore et al., 2017). Research also shows that abuse during pregnancy strongly predicts the likelihood of abuse continuing in the postnatal period. In addition to the harm to the wellbeing of the mother,

witnessing inter-parental violence can be particularly harmful for the wellbeing of children. Children who have witnessed interparental violence in their earliest years have been shown to have poorer psychological wellbeing, manifesting in eating and sleep disturbances as well as slower development throughout early childhood when compared to their peers and lower levels of social competence in later life (Moore et al., 2017).

Within the *Growing Up in New Zealand* cohort, there has been a consistent report of approximately one in ten children who regularly witness interparental conflict (including emotional, psychological and physical conflict). Four percent of the cohort children have been reported as regularly being present when their parents engage in physical conflict (Morton et al., 2017; Morton et al., 2020b). At a population level, this potentially translates into a great burden of life course poor wellbeing for the children so exposed. Parental conflict, therefore, remains a serious issue to be addressed if we are to see improvements in both parental and child wellbeing across the life course. Children inevitably learn behaviours from observing their parents' behaviours and the way they engage with each other. Given the rates of reported conflict, it seems highly likely that the rates of bullying that we also see reported consistently within the *Growing Up in New Zealand* cohort from early childhood suggest that the exposure of children to inappropriate adult behaviours may be significantly greater than the reported levels of interparental conflict. Before entry to formal schooling, one in three of the children are reported by their mothers as being regularly bullied by their peers, and 10% of the cohort are reported as experiencing persistent bullying between 2 and 4 years of age (Morton et al., 2017).

At the eight-year data collection wave children reported bullying behaviours for themselves and the maternal reports were borne out with 35% of all the children reported being regularly bullied, 14% at least weekly and 15% reporting bullying as being physical in nature. These high rates of parental and child reports of bullying in early childhood are particularly concerning when we reflect on the very high rates of bullying reported by New Zealand adolescents (compared to teenagers in other OECD countries) and they suggest that bullying does start early and potentially becomes normalised (Morton et al., 2020b). Being exposed to bullying in childhood, especially chronically, is associated with poor mental and physical wellbeing in children and poor emotional adjustment that can persist into lifelong mental health and social issues (Center on the Developing Child, 2010; Moore et al., 2017).

Possible intervention points

Acknowledging the diversity and changes in household structures is important for supporting the wellbeing of this generation of New Zealand children from early life:

- Many children are growing up in extended family households, especially in their first thousand days, and therefore their wellbeing is influenced by multiple adults and often by multiple generations.
- Multi-generational families should be a more prominent consideration when developing strategies to support families to improve child wellbeing as these households outnumber households in which children are living with a sole parent in their first thousand days.
- Household overcrowding, which is traditionally viewed as a risk factor for poor child wellbeing, may also be protective in terms of the transmission of intergenerational identity and wellbeing in extended family households. These household structures may enable childcare to be managed effectively and efficiently, which can promote parental return to work – however, homes need to be large enough to house large family groups appropriately.
- Address policy assumptions and other barriers in social services that may be present for non-nuclear family structures (e.g. the provision of income support)
- Acknowledging extended families in finding solutions to manage the current housing crisis – for example making it easier for non-kin or extended family to group together to afford to rent or buy a house
- Continue to provide accessible and meaningful support for parents experiencing conflict and violence in their homes. Ensure that parents can access support at times when they are more likely to be experiencing impacts on their mental wellbeing, and when they are likely also prioritising the care of their infants or children, therefore removing themselves from a violent relationship or seeking support may be especially difficult
- Recognise that interparental conflict is exacerbated in homes that are experiencing significant external stressors (parental unemployment, significant financial stress, material hardship) and that reducing external stressors and wrapping sufficient support around all families with young children is required, in addition to support services for affected individuals, to help prevent conflict escalating in all homes.

Table 4. Relevant Child and Youth Wellbeing Framework Outcomes and Indicators

Diverse Families and Whānau		
CYWF Outcomes	CYWF Wellbeing Indicators	Related Family/Whānau Characteristics[1]
Have What They Need  *"they and their parents or caregivers have a good standard of material wellbeing"*	Material Wellbeing Housing Quality	*Have a current partner*[2] *Relationship is stable* *Family support at home*
Loved, Safe and Nurtured  *"they have family, whānau and homes that are loving, safe and nurturing"* *"they are able to spend quality time with their parents, family and whānau"*	Feeling safe Family/whānau wellbeing	*Strong extended family relationships* *Diverse cultural values* *Multigenerational households* Overcrowding

[1] Derived from *Growing Up in New Zealand* evidence

[2] Note the family/whānau characteristics that are *italicised* are strengths-based

2.5 Home environment (tenure, stability, safety, warmth)

The physical environments that children experience in their early years also impact on their wellbeing. Whether a home environment has features that allow children to grow and explore in a safe way can mean the difference between experiencing preventable injuries or facilitating safe exploration that can enhance cognitive wellbeing. Stability of the physical home environment is also important for child wellbeing in their early years, as is the quality of the homes that children grow up in (especially in terms of ambient temperature and dampness experienced).

Safe environments

Many of the homes that families were living in during their children's first thousand days did not adhere to current recommended safety guidelines. This is important because unintentional injuries are common for New Zealand children and they most commonly occur in the children's homes where they spend the vast majority of their lives (Growing Up in New Zealand, 2014). By the age of two years almost one in three of the cohort had had a significant injury requiring medical treatment according to their parents. Therefore safety features, designed to prevent injury, are important for children's homes and for their safety. However it was reported that more than one in five (21%) of the homes that the children were spending time in over their first thousand days did not have working smoke alarms, almost 25% of homes did not have a safe fenced play area and 40% did not have a fully fenced driveway. These safety features were by far less common in rental properties and for families living in the highest deprivation areas (Morton et al., 2014b). This is problematic because of the high rates of renting for families having children in New Zealand today. At birth almost half of the *Growing Up in New Zealand* cohort were born to families/parents who were living in rental accommodation, the majority in private rentals (40% in private and 8% in public rentals), and at two years a similar proportion (45%) of the cohort were living in rental accommodation.

Warm and dry homes

Many of the homes the children are growing up in in their earliest years were also reported as being regularly damp and cold, including the bedrooms that the children sleep in. Experiencing damp and cold environments has negative impacts on wellbeing for all age groups in a population, but children are particularly sensitive to cold and damp environments. Experiencing colder environments is associated with greater risks of respiratory illnesses, including serious events requiring hospital admission (Ingham et al., 2019; Lai et al., 2017). Experiencing cold and damp homes in addition to overcrowding is also associated with Rheumatic fever and its chronic sequelae which disproportionately impact Māori and Pacific New Zealand children (Oliver et al., 2017).

Unfortunately too many of our current children are living with families in homes that are regularly cold and/or damp. In the first year of life just over one in five (22%) of the *Growing Up in New Zealand* families reported that the bedrooms their infants were sleeping in were often or always cold and damp. While the rates of reporting damp and cold housing increased with increasing area level deprivation

reports came from all deprivation areas (10% in the most advantaged area level quintile compared to 30% of homes for families in the most disadvantaged quintile - NZDep2006 9 or 10). Almost one in five families (19%) also reported putting up with feeling cold to save on heating costs when their children were 9 months of age. By the time the children were eight years of age, one in three of the children were reported to be living in homes that were regularly cold on average. For those living in the highest deprivation areas this was the case for more than half of all the children. Almost four in ten (37%) children also experienced exposure to dampness and mould. The rates of exposure were higher for homes of families with children who identified as Māori or Pacific (partly explained by area level deprivation).

At the eight year interview (2017-2019) the children in the cohort were provided with small hand-held temperature and humidity monitors to measure the temperatures and relative humidity in their bedrooms and classrooms throughout two assigned days, including when they went to bed at night. Overall these direct measures demonstrated that 60% of the cohort children were regularly experiencing less than optimal temperatures in their bedrooms when they went to bed at night, and that this experience of either being too cold (almost 50%) or too hot and humid impacted on their concurrent physical and mental wellbeing. Associations between less than optimal direct temperature measurements and the likelihood that children were experiencing poor wellbeing in terms of asthma, allergy and respiratory illness were apparent. Also being too cold (or too hot) was associated with poorer child mental wellbeing (depression and anxiety) in middle childhood. Children's exposure to less than optimal temperatures and indoor climates occurred more frequently for children who were living in families experiencing the most significant financial stress and the greatest economic hardship (Lai et al., 2017).

Stability of home environments

As well as current physical conditions, the stability of home environments is also important for families and for children's wellbeing. Regular residential mobility, especially if necessitated because of changes in employment and economic circumstances, can impact on children's development and life course trajectories of wellbeing (Jelleyman & Spencer, 2008; Morton et al., 2014a). High rates of residential mobility during childhood have been associated with increases in behavioural problems in early childhood and more engagement in risk-taking behaviours in adolescence. Frequent mobility is also associated with discontinuity of engagement in health services (Jelleyman & Spencer, 2008).

Residential mobility can mean children are moving to more stable and secure environments which can be positive for children's wellbeing in the medium to longer term. However overall greater family residential mobility tends to be associated with poorer child wellbeing at a population level because it tends to occur most often for families who are already burdened by financial hardship and instability in employment and relationships (Jelleyman, 2008).

This generation of families with young children appears to be highly mobile. For example only one in three of all the *Growing Up in New Zealand* cohort children and their families had *not* moved house at least once during their pre-school years and a few families (less than 1% overall) had experienced more than ten moves in less than five years (Morton et al., 2017). By the time the children were eight years

of age only one in four of all the *Growing Up in New Zealand* cohort children had not experienced any residential mobility at all during their short lives (Morton et al., 2020b).

During the first year of the children's lives (when 26% of the cohort moved house) the mutual impact of each of the child, family and household factors associated with residential mobility showed that mobility was most likely for: children who were identified as NZ European in comparison to Māori, Pacific and Asian children (which was in contrast to the univariate association of high mobility for Māori); if the cohort child was the first birth in the family rather than a subsequent birth; if both parents were in employment (although this was a marginal effect); and if parents had previously been in extended family or living with non-kin antenatally. The most important determinant of mobility in the children's first year of life was tenure type in the antenatal period, with the greatest mobility seen for parents and families who were living in private rentals in late pregnancy. Around the time of birth of the cohort almost half of the families were living in rental accommodation (with less than 10% of the cohort in public rental accommodation). For those families in private rentals in late pregnancy, 40% moved before their child was 9 months of age, with the majority of this group of families (69%) moving to another private rental property (rather than into potentially more secure home ownership). Mobility was less common for families in public rentals compared to private rentals (25% in public rentals moved) and only 20% of families who owned their homes (with or without a mortgage) moved in the perinatal period. Interestingly, families who reported better neighbourhood integration and feeling safe and secure in their current neighbourhoods in late pregnancy, regardless of tenure, were significantly less likely to move in their child's first year of life (Morton et al., 2014a).

In the second half of the first thousand days (from 9 months to two years), 32% of all the families moved house at least once. The familial, household, neighbourhood and socio-demographic factors associated with mobility in that period were examined collectively once again. Maternal factors that remained important for predicting high residential mobility in this period included being a mother who was younger than 30 years old when her child was born and mothers who identified themselves as Māori or NZ European were more likely to have experienced a residential move than Asian or Pacific mothers.

If mothers had experienced a change in their relationship status then residential mobility was also more likely during a child's early life. Such a change was not uncommon, with ten percent of the children experiencing at least one change in their parents' relationship (either dissolution of a relationship or a new partner) during their first year of life. This meant that children experienced changes in the adults who were living in their homes and providing the proximal environments to support their early development and wellbeing as well as potentially experiencing a change in their physical environment (Morton et al., 2012).

Higher residential mobility was seen for families at both extremes of financial wellbeing. Higher levels of financial stress were associated with an increased chance of mobility, as was moving to and maintaining a higher level of family or household income. In the second half of the child's first thousand days again

the most significant predictor of residential mobility was whether the family were living in a private rental when their child was 9 months of age.

Less residential mobility was seen for families who reported higher levels of external family support. However the reported quality of the home environment (in terms of reported damp and mould) did not seem to impact on mobility after adjusting for other family and socio-demographic factors (Morton et al., 2014a).

The pattern of mobility across the early years from birth to eight is very mixed across the cohort and mobility can mean that families and their children are moving to either more or less stable environments. Mobility can also result from combinations of push or pull factors (such as employment mobility – into a better job or at the other end of the spectrum becoming unemployed).

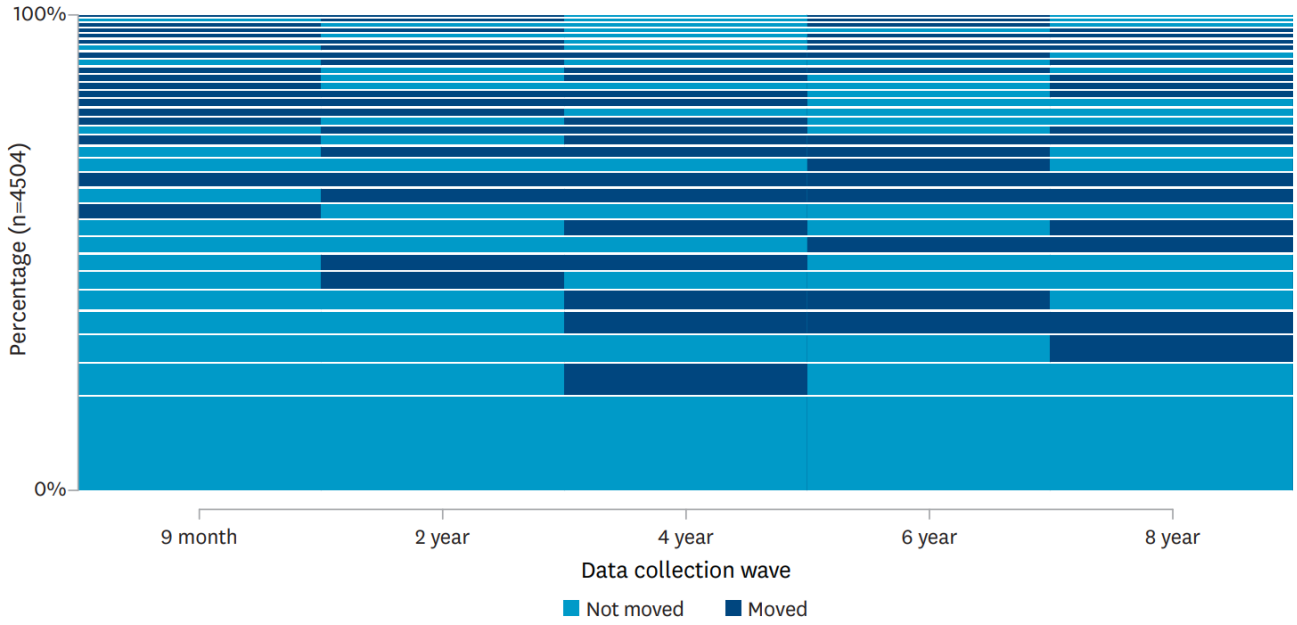


Figure 4. Sequence complexity for experience of residential mobility from the nine months to eight-year DCW (n=4504).

Throughout childhood, up to and including age eight, the most important factor for predicting residential mobility remained household tenure at each point at which this was measured. If a family was in rental accommodation when their child was born or at any subsequent measurement point, they were more likely to move in the next time period, and most often, to be moving between private rental properties rather than into more secure home ownership.

Given that rental properties are also likely to be less safe and more often cold and damp, this mobility adds to the burden of poor child wellbeing for families who are needing to move between rental properties frequently during their children's preschool years. Ongoing residential mobility that extends beyond the preschool period (up to age eight) exacerbates the risks of poor physical and mental wellbeing for children

in families that continue to move house. By eight these children are more likely to be overweight or obese, and have higher depression and anxiety scores than their peers (Morton et al., 2020b).

Possible intervention points:

- Warrants of fitness policies to continue to be strengthened and enforced for rental properties
- Continue to make progress in ensuring all families have access to safe, affordable, and secure homes – regardless of tenure
- Consider options such as rent-to-own or rent-for-life so families can have more control over their environments and stability for their children
- Build and continue to upgrade homes to ensure they are warm and dry, regardless of whether for rent or ownership, and support young families to be able to afford to heat their homes adequately
- Value renting as a form of housing tenure and find ways to ensure families renting have greater security of tenure and are not disadvantaged at any life course stage

Table 5. Relevant Child and Youth Wellbeing Framework Outcomes and Indicators

Safe, Warm and Stable Homes		
CYWF Outcomes	CYWF Wellbeing Indicators	Related Family/Whānau Characteristics[1]
Loved, Safe and Nurtured  *"they are safe from unintentional harm"* *"they feel loved and supported"*	Feeling safe Injury prevalence	Tenure – rental properties Family poverty High residential mobility Lack of control and autonomy over home environments *Better neighbourhood integration* *Perceived neighbourhood safety* *External family support*
Have What they Need  *"they and their parents or caregivers have a good standard of material wellbeing"* *"they live in stable housing that is affordable, warm and dry"*	Material wellbeing Child poverty Housing quality Housing affordability	Birth order (first birth) Maternal ethnicity (NZ European/Māori) Overcrowding (down-scaling) Tenure - Private rental *Household income increasing* [2]

[1] Derived from *Growing Up in New Zealand* evidence

[2] Note the family/whānau characteristics that are *italicised* are strengths-based

2.6 Supporting engagement and participation of parents with existing services and in wider society

From the perinatal period there are multiple services that are designed to support parents as they prepare for the birth of their child and as they develop in their early years. In general, these services are designed to be universal, based on a "one-size-fits-all" model which is intended to reach and serve all families and whānau. The overarching objective of these services is to ensure that parents wellbeing is supported so that they can provide the best possible care for their children, who will then thrive as a result.

Evidence from the *Growing Up in New Zealand* parents over the first thousand days of their child's life confirms that the inverse care law more often applies to the actual reach of universal services. Unfortunately, those families who potentially have the greatest need are the least likely to engage and vice versa (McVie et al., 2019; Morton et al., 2015).

Continuity of care in the perinatal period

Continuity of care in the perinatal period is associated with maternal and child wellbeing in pregnancy and postnatally. Importantly mothers who have good continuity of care and who are satisfied with their care are more likely to initiate and sustain breastfeeding of their infants and to report better physical and mental wellbeing in the perinatal period. There is also evidence that suggests that continuity of care provides the greatest benefit to mothers who are from the most deprived areas and who have less support available to them from their families and communities (D'haenens et al., 2019).

Unfortunately, evidence from *Growing Up in New Zealand* suggests that engaging with current services that are designed to support healthy pregnancies and healthy babies does not occur with the same ease for all mothers. While almost all mothers of the cohort were cared for by a Lead Maternity Carer (98% by their last trimester), there were some differences in the time taken to find and engage with a Lead Maternity Carer (LMC) and particularly to engage with a mother's first choice of carer. Mothers living in more deprived and rural areas reported having less choice available to them in terms of who would care for them during their pregnancy. The same group of mothers also reported more challenges in navigating the transition back to primary health care providers and to Well Child services after their babies were born (Morton et al., 2012). These challenges may be specific to the New Zealand context, where our LMC pregnancy care system means most primary care physicians no longer care for women during pregnancy, and so some discontinuity is inevitable. However, it does seem that mothers who are least enabled to negotiate transitions between services are most likely to experience the greatest challenges in connecting services up for themselves and their infants across the perinatal period.

Turning parental antenatal intention and postnatal realities

Recruiting and engaging potential parents of the *Growing Up in New Zealand* cohort during pregnancy rather than at birth or postnatally provided unique opportunities to question them about their intentions for postnatal care of their infants, likely to impact on their early wellbeing, before they were even born. We asked about intentions for postnatal immunisations in the first year of life; intentions around parental

leave, return to work and childcare; and perhaps most importantly, aspirations (hopes and dreams) for their children's futures. We then followed up in the postnatal period to see whether these intentions regarding immunisation and parental leave had been fulfilled and again prior to school entry for an update on parental aspirations for the children (hopes and dreams).

Immunisations

Throughout the first thousand days of a child's life, both incomplete and late immunisations are associated with a greater risk of significant respiratory illness requiring hospitalisation (Saraf et al., 2021). Experiencing serious respiratory illnesses in infancy can lead to long-term health issues (e.g. bronchiectasis).

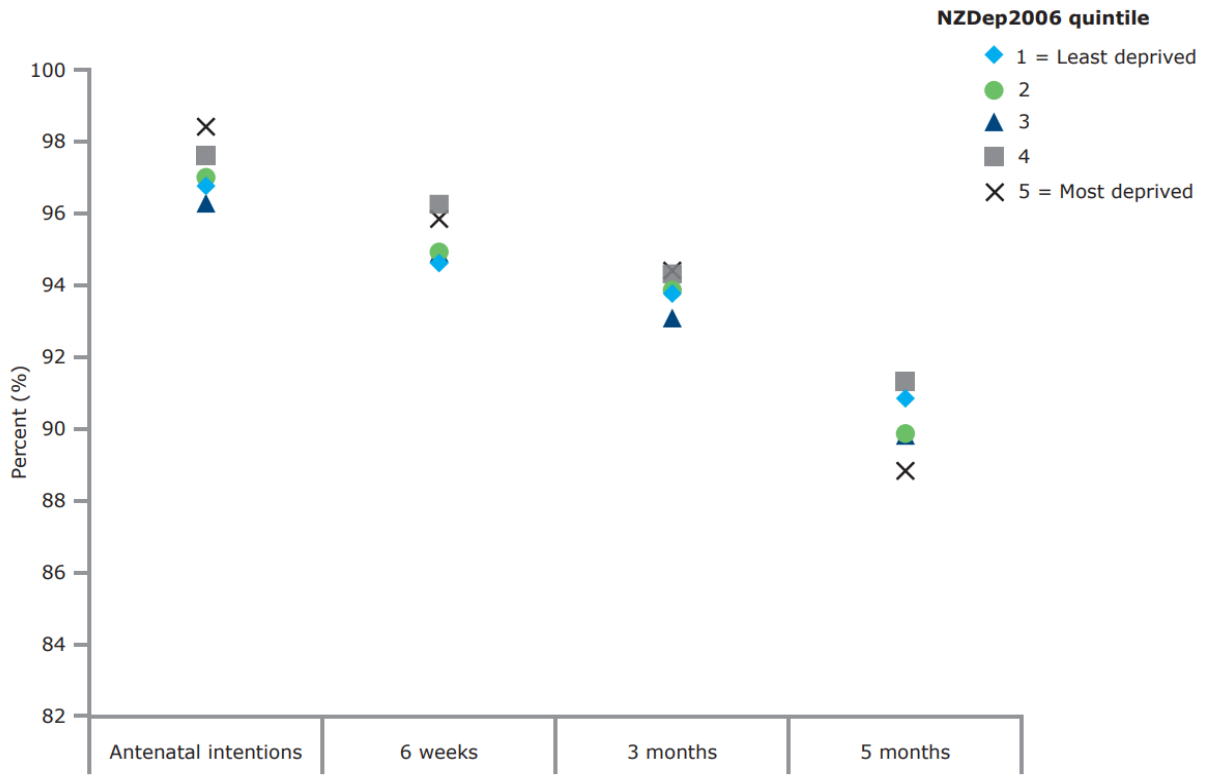


Figure 5. Immunisation intentions and coverage by area level deprivation

Within the *Growing Up in New Zealand* cohort antenatal intentions for immunising the children after birth were universally high across all groups (approximately 97% of all parents expected their children to be fully immunised). They were highest for parents who identified as Māori or Pacific and in those families who lived in the most deprived areas. However in the postnatal period patterns ran counter to these intentions with completion rates being least for those living in the greatest adversity in the first year of life (as illustrated in Figure 5 from Morton et al. (2012). Additionally (not shown but a similar pattern) by the end of the first year of life rates of completed immunisations had moved from the highest to the lowest for the children of parents who identified as Māori or Pacific (Morton et al. (2012)).

Comparing intentions to realities suggests that parental knowledge about the importance of immunisations and intentions to immunise are not the major barriers for families living in the most

deprived areas. Rather it appears that the barriers relate to ease of accessing immunisations for families who are experiencing greater hardship and who report having more time pressures and constraints due to inflexible working conditions. In the case of the lagging rates for Māori and Pacific families/whānau it is also possible that maternal experience of health-care racism and discrimination, reported more often by non-European mothers, may contribute to whether mothers feel comfortable accessing universal immunisation services. Follow up of infectious disease hospitalisations in the first year of life for infants in the *Growing Up in New Zealand* cohort has demonstrated a potential impact of these delayed immunisations and the impact of discrimination. Linkage with hospital records demonstrated that Māori and Pacific children were 50% and 250% more likely respectively to be admitted to hospital with a serious vaccine preventable illness when compared to NZ European children in the cohort in their first year of life. During that same time period, mothers of cohort children who identified themselves as Māori were also 60% more likely to report experiences of health-care racism compared to NZ European mothers (Hobbs et al., 2017).

Supporting parental employment in the perinatal period - Paid parental leave

Managing childcare and maintaining continuity of employment creates challenges for most parents and families following the birth or addition of a new infant to a household. Paid parental leave offers one potential way for new parents to manage both childcare and employment while protecting their financial security. However, when the *Growing Up in New Zealand parents* were asked in late pregnancy about their preferred duration of paid parental leave, it was clear that the period of leave most parents hoped for did not match the reality likely to be facing most families.

Follow up in the postnatal period demonstrated that choice around the amount of time that parents could take leave for in the immediate period after the birth of their child was especially constrained for those parents reporting greater financial stress and less control over, or greater concerns regarding, job security. In general, both parents were only able to take half the parental leave that they had hoped to take (5 months instead of the desired 10-12 months on average for mothers, and 2 weeks instead of 4 to 6 weeks desired by fathers). Additionally, most parents reported that paid parental leave did not offer enough financial support on its own to provide sufficient financial security in the postnatal period. Many households reported using multiple forms of leave, including annual leave, sick leave and unpaid parental leave, as well as paid parental leave to allow at least one parent to be home with their infant in the first few months of life. Anecdotally parents reported that the most difficult challenge in the postnatal period was balancing the need to have more time with their family but still have access to sufficient financial support to enable them to provide a stable and safe environment to promote their child's wellbeing (Morton et al., 2012). Of note is that extended family households often provided an advantage in this area because older relatives could, and often did, provide childcare and support for parental return to work at no real financial cost and potentially with substantial benefit to the family and parental wellbeing.

Since the time that *Growing Up in New Zealand* asked parents about their intentions and realities around parental leave, there have been some changes to the Paid Parental Leave conditions, with a longer duration now available to parents and an increase in the amount of financial support available. However,

these measures still fall somewhat short of what parents said they would like in terms of spending quality time with their child in the early part of their first thousand days, and still lag behind other OECD countries.

Engagement in free health checks

After being cared for by an LMC during pregnancy, the intention of the current health system is that parents and their infants will transition to Well Child health services. Services such as Well Child Tamariki Ora and later pre-school oral health checks are provided universally and freely in New Zealand with a view to supporting the wellbeing of all children in their early years of life. However, information from the *Growing Up in New Zealand* cohort revealed that while 90% of all the cohort children had been enrolled by their parents in the free oral health service, only 70% had used this service before they were 54 months old (Morton et al., 2017). Service use was also not equally distributed, with only 50% of children who were identified as Māori and 33% of those identified as Pacific by their parents utilising this free service in their pre-school years.

Engagement of families and their children in the Well Child Tamariki Ora (WCTO) service was similarly skewed, with more financially advantaged families engaging with this service from the earliest checks in the postnatal period, and those families with children who identified as Māori or Pacific being more likely not to engage at all throughout their pre-school years. This included missing out on the Before School Check when they were four years of age, potentially reducing opportunities to remediate any wellbeing issues that had not been identified earlier in their lives and not allowing adequate time for treatment prior to entry to formal schooling. Missing out on these opportunities also means children have less opportunity to engage fully in their learning journey when they enter formal schooling (Morton et al., 2018).

Overall the information provided by the parents in the cohort about accessing services for their children highlighted that inequities in access to services were not just cost related. Rather barriers related to parental opportunities to access services that often related to their design (e.g. time of day services were available, location of services, transport options, ability to make appointments given inflexible parental work and the impact of carer commitments). Barriers unfortunately also related to the cultural alignment of values of the diverse families with the core values of the existing services.

Parental aspirations for children's future (life course) wellbeing:

In terms of parents hopes and dreams recorded in pregnancy for their as yet unborn children who would be in the *Growing Up in New Zealand* study, parental aspirations were almost universally related to children having the best educational opportunities, the best possible future growing up in New Zealand and better opportunities than their parents had had (often growing up in other countries). Unlike many of the inequalities that we observe after birth for children's wellbeing by socioeconomic status or ethnic identity (Hobbs et al., 2017), aspirations for children to be healthy and happy were universal and not patterned by parental background or socio-economic status. However, by the time the children were

preparing to enter formal schooling at four and a half, parental expectations for their children's future educational achievement were already beginning to differ according to the extent and duration of parental disadvantage and experience of hardship throughout their children's first thousand days of life. Perhaps sadder than statistics that describe differences in child wellbeing are the gaps that emerge so early in terms of blunted parental aspirations for their children's future for children growing up in families who have been burdened with the greatest disadvantage in terms of social and economic stress.

Possible intervention points

- Continuity of care from pre-pregnancy through the perinatal and into the postnatal period is important for all parents to ensure maternal wellbeing is optimised and the benefits are passed on to her child
- Continuity of care is especially important for younger mothers and those who are more socially isolated from family or external supports. Providing a navigator to assist with transitioning through this journey may be of use to parents who are less well connected with their wider families, their communities and/or current services.
- Recognition of the complex lives that some families face and the challenges this creates for them to utilise existing universal services
- Acknowledge that current services may not be context-relevant for this generation, and that lack of engagement does not always mean lack of intent or desire to engage
- Re-configure the delivery of health services (such as immunisations) to be whānau centred (using service models such as Whānau Ora) rather than health sector centred.
- Engagement with universal services is not universal – triaging families according to need and tailoring services to match may provide a more effective way to ensure population coverage for routine health checks and reduce inequalities in current access and use.
- Barriers to accessing services are not just cost – barriers relate to opportunities to access (time of day, location, transport, parental work and carer commitments); they are also related to the cultural alignment of values of our diverse families with the core values of the existing services
- Co-design services with communities who are currently "missing out" disproportionately to identify and mitigate barriers to access and develop shared solutions to support and achieve parental wellbeing aspirations for their children
- Parental return to work is a stressful time and current parental leave policies may not be flexible enough to meet the diverse needs of current parents and families and optimally support parental as well as child wellbeing
- Seek innovative and tangible ways to keep hope alive in the face of adversity, so that parental aspirations for their children can become reality

Table 6. Relevant Child and Youth Wellbeing Framework Outcomes and Indicators

Engagement and participation		
CYWF Outcomes	CYWF Wellbeing Indicators	Related Family/Whānau Characteristics[1]
Accepted, Respected and Connected  *"they feel accepted, respected and valued at home, school in the community and online"* *"they live free from racism and discrimination"*	Sense of belonging Social support Experience of discrimination	Identifying as Māori or Pacific Living in areas of high deprivation *Support parental employment* [2]
Happy and Healthy  *"they have the best possible health, starting from birth"*	Prenatal care Subjective health status Preventable admissions to hospital	Lack of awareness or acceptability of current services *Engaging early to enable continuity* *Being able to enact choices*
Have What They Need  *"parents or caregivers have the skills and support they need to access quality employment"*	Material wellbeing Child poverty: Low income	Exposure to poverty Identifying as Māori or Pacific Living in areas of high deprivation *Prioritise and value parental leave*
Involved and Empowered  *"they have their voices, perspectives and opinions listened to and taken into account"*	Making positive choices	Constrained choice *Family support* *Services meet actual needs* *Aspirations attainable*

[1] Derived from *Growing Up in New Zealand* evidence

[2] Note the family/whānau characteristics that are *italicised* are strengths-based

2.7 Supporting parental and family/whānau social and economic wellbeing

Parental socio-economic status, variously measured by individual-level proxy characteristics including completed parental education, parental employment, parental and household incomes (total and relative), as well as collective measures such as the deprivation area that a family resides in, each show a graded association with multiple measures of both parental wellbeing and child wellbeing from early life. A significant body of evidence supports strong and consistent relationships between exposure to what are collectively referred to as the social determinants of health and adverse health and wellbeing outcomes across the life course and across generations (Kramer et al., 2000; Moore et al., 2017). Life course wellbeing trajectories for children have their origins in the first thousand days of a child's development and the potential of these trajectories are strongly influenced by the parental and family wellbeing and socio-economic characteristics that shape early life environments for the developing child (Heckman, 2007). While this early life period is not completely deterministic, it is theorised that it is easier to establish the foundations of good wellbeing in the first thousand days than it is to remediate the impacts of disadvantage later in the life course (Center on the Developing Child, 2010).

While individual measures of parental and family/whānau wellbeing and socioeconomic status show a strong graded relationship with child wellbeing across the life course, their individual effects on later life outcomes have been found to be relatively modest (Fergusson & Horwood, 2003). More recent work has investigated the effects on child wellbeing of exposures to multiple parental and family risk factors (Luthar, 2003). This work has been commonly carried out using longitudinal studies, which are able to track the impact of the early family environment and multiple measures of parental wellbeing on children's wellbeing over time (Sabates & Dex, 2012).

Synthesizing the evidence

We have previously undertaken a multivariable analysis of the clustering of parental and family wellbeing factors, which necessarily include socio-economic factors, using evidence collected from the *Growing Up in New Zealand* parents and families over their children's first thousand days (Morton et al., 2014c). The modelling included a consideration of how multiple indicators of parental and whānau wellbeing cluster and accumulate over the first thousand days of the children's lives and how differential exposure to this clustering was associated with measures of child wellbeing in the pre-school period. The overarching aim of the multivariable modelling was twofold. Firstly the aim was to better understand what parental and family/whānau characteristics, acting over what time points, meant that contemporary New Zealand children were at risk of establishing early life wellbeing trajectories that would likely set them up for a lifetime of poor wellbeing. Secondly the aim was to understand what parental and family/whānau risk factors might be protective for children in their early years and potentially mitigate the impacts of exposure to parental adversity from birth. High level results are summarised for the first objective in this section and opportunities for intervention that arose from the second aim are described in Section 2.8.

Poor parental and family/whānau wellbeing factors cluster

Child wellbeing trajectories established in the first thousand days of life are highly sensitive to the combination of capitals available to parents and families from before pregnancy and throughout the perinatal period. These capitals include economic capital (e.g. parental employment and leave, household income, receiving government benefits), psychosocial capitals (e.g. informal and formal supports, behaviours, neighbourhood integration and connectedness), and human capitals (e.g. relationship status and stability, parental mental and physical health, interparental conflict). If these capitals are lacking for families then they tend to experience higher levels of psychosocial stress and financial hardship and parental wellbeing is diminished.

Children who were growing up in families that experienced a persistent lack of economic, social, physical and psychological capitals over their first thousand days were shown to be already falling behind their peers in terms of multiple measures of their own wellbeing by the end of their first thousand days of life as further described below (Morton et al., 2014c).

Determining what parental and family/whānau factors have the greatest impact on child wellbeing in the first thousand days

Using information collected directly from families in the longitudinal cohort study, it was possible to determine different patterns of cumulative exposure to adversity (clustering of socio-economic and direct parental wellbeing measures) that parents and families experience and which collectively shape the ability to provide a supportive environment to enable children to thrive in their early years. The factors that were considered collectively included more than financial resources, or traditional poverty indicators based on relative income, during this critical period of children's development. Indicators based only on income tend to be a poor way to rank the relative financial resources available to families during the perinatal period and over a child's first thousand days. This is because taking a cut in salary, or reducing to one parental income, usually to enable parents to take leave to focus on parental duties, is often a luxury as much as it may be a necessity. Therefore measures of relative absolute income in this period do not necessarily correlate as well with relative parental wellbeing or the ranked ability of families to support a child's early developmental wellbeing overall which contrasts with how these measures tend to operate at other times in the life course. During the immediate perinatal period, lower incomes may actually represent a real disadvantage, or they may be an indication that that family has sufficient wealth and support (including human and social capitals) to support their child's early development and nurture their wellbeing with less need to rely on immediate financial income.

Taking this complexity into account within the longitudinal study, we used a combination of capitals as listed in Figure 6 below (economic, physical, social and human) rather than relying on a single indicator to assess the lived realities of the parental and family socio-economic environments in terms of parental wellbeing and the ability of parents and families/whānau to support the development of their children's wellbeing during their first thousand days of their lives.

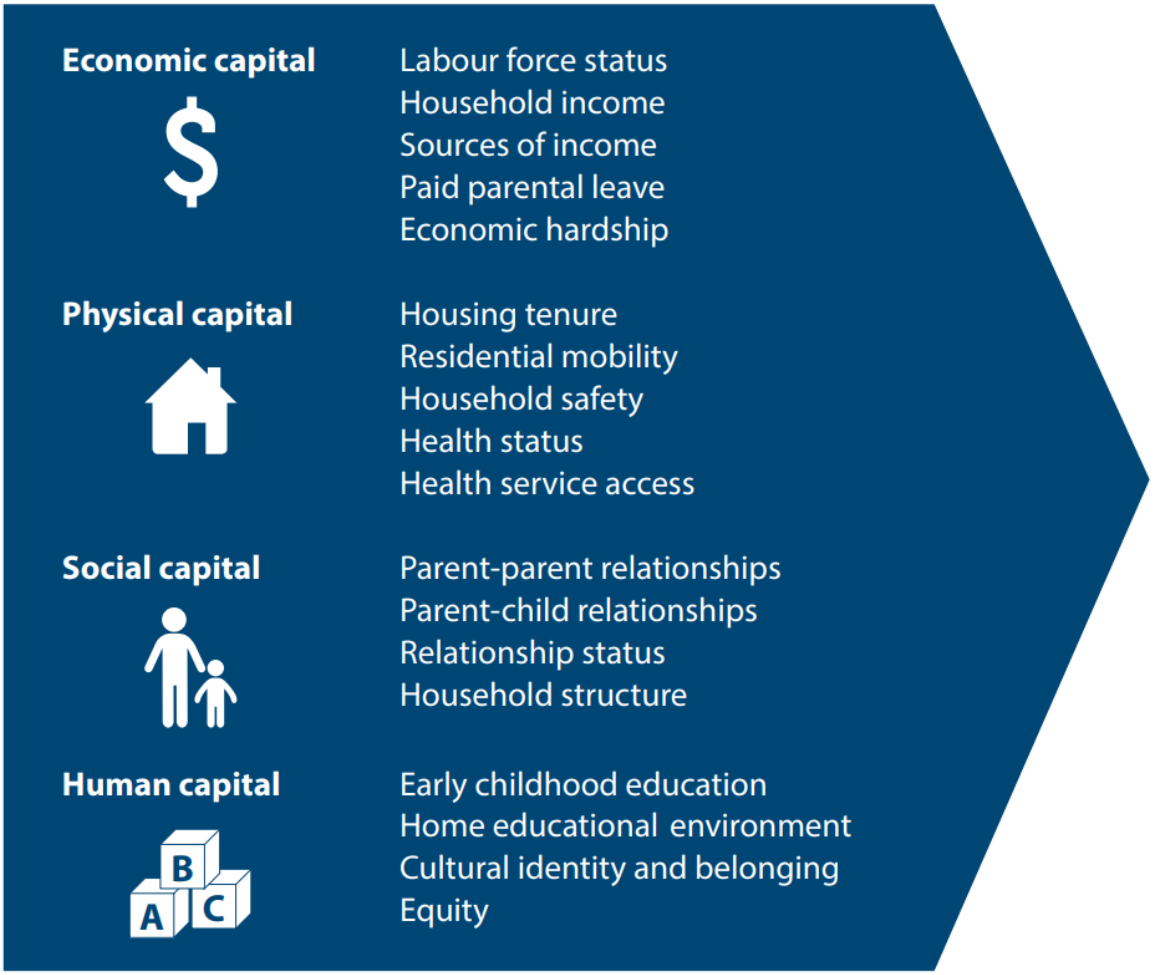


Figure 6. Types of economic, physical, social and human capitals (that contribute to parental and family wellbeing) available to support the development and wellbeing of *Growing Up in New Zealand* children during their first 1000 days

In the longitudinal study, these capitals are assessed over time using a set of proximal and distal parental and family/whānau indicators as well as home environment indicators listed in Table 7 below. These indicators represent a mix of proxy socio-economic characteristics and parental wellbeing indicators that can be measured relatively routinely at a population level in the perinatal period. Each of these parental and family/whānau indicators is known to be individually associated with child wellbeing in the first thousand days of a child's life. Each indicator is also variously associated with life course wellbeing given how important the first thousand days are for setting future life course wellbeing trajectories (Heckman, 2007; Sabates & Dex, 2012).

Within families and whānau in a population, these wellbeing indicators tend to cluster, albeit not uniformly across the population as was seen for the *Growing Up in New Zealand* parents and families (Morton et al., 2014c).

Table 7. Parental and family/whānau wellbeing indicators used to assess early life adversity

Variable Proximity	Variables
Proximal Family Variables	Maternal depression (EPDS>12)
	Maternal physical wellbeing (poor/fair)
	Maternal smoking in pregnancy (after first trimester)
	Maternal age (teenage pregnancy)
Distal Family Variables	Relationship status (no partner/single)
	Maternal education (no secondary school qualification)
	Financial stress (regular money worries)
Home environment	Deprivation area (NZDep2006 decile 9 or 10)
	Unemployment (mother not in work or on parental leave)
	Tenure (public rental)
	Income tested benefit (yes/no)
	Overcrowding (>=2 per bedroom)

Exposure to the type and number of these indicators was unequally distributed according to maternal ethnicity, with a greater absolute number of indicators being experienced by Māori and Pacific mothers across the first thousand days of their child's life. Of the twelve indicators listed in Table 7, the most commonly experienced parental, family and whānau poor wellbeing indicators experienced by children in the cohort across their first thousand days were: families living in a high deprivation area (28% antenatally and 25% at two years); serious financial stress (20% antenatally and 20% at two years); maternal depression (12% antenatally and 8% at nine months); and overcrowding (11% antenatally and 20% at two years). Poorer parental and family/whānau wellbeing indicators that usually tended to cluster together (co-occur) across the cohort included being a young (teenage) mother, maternal smoking, being on an income tested benefit, living in a public rental home, having no partner and not having any formal secondary school qualifications. This was in contrast to financial stress, maternal depression and poor physical wellbeing (including maternal disability) that commonly occurred as single parental poor wellbeing indicators (Morton et al., 2015).

Given that the indicators that cluster together are not always the same set of indicators at an individual or family level but that the burden experienced by families appears to be similar in terms of the impact on both parental and child wellbeing according to the absolute number experienced (Sabates & Dex, 2012) we defined **high levels of parental and family/whānau adversity (and therefore poorer wellbeing)** at any one timepoint as experiencing any four or more of the twelve proximal, distal family and home environmental indicators (regardless of which four) listed in Table 7 above. This burden of significant cumulative disadvantage is sometimes also described as "toxic stress" (Center on the Developing Child, 2010).

At any of the three timepoints *during the first thousand days* of their children's lives that these indicators were measured (late pregnancy, 9 months and 2 year data collections), more than one in eight of the *Growing Up in New Zealand* families were experiencing significant adversity or "toxic stress" using this classification of the number of indicators they were experiencing at that time – specifically 12.9% of the families were experiencing significant adversity in late pregnancy, 12.5% at nine months and 13.2% of the children's families when they were two years old.

Also it is important to note that while the proportions of cohort parents and families who were experiencing significant toxic stress (or adversity) at each of the three time points across the first thousand days were similar at a population level, there was some flux in the individual families and children who were in the different exposure groups, and therefore potentially having their wellbeing impacted by this clustering of adversity and poorer parental and family/whānau wellbeing over time (Figure 7 below).

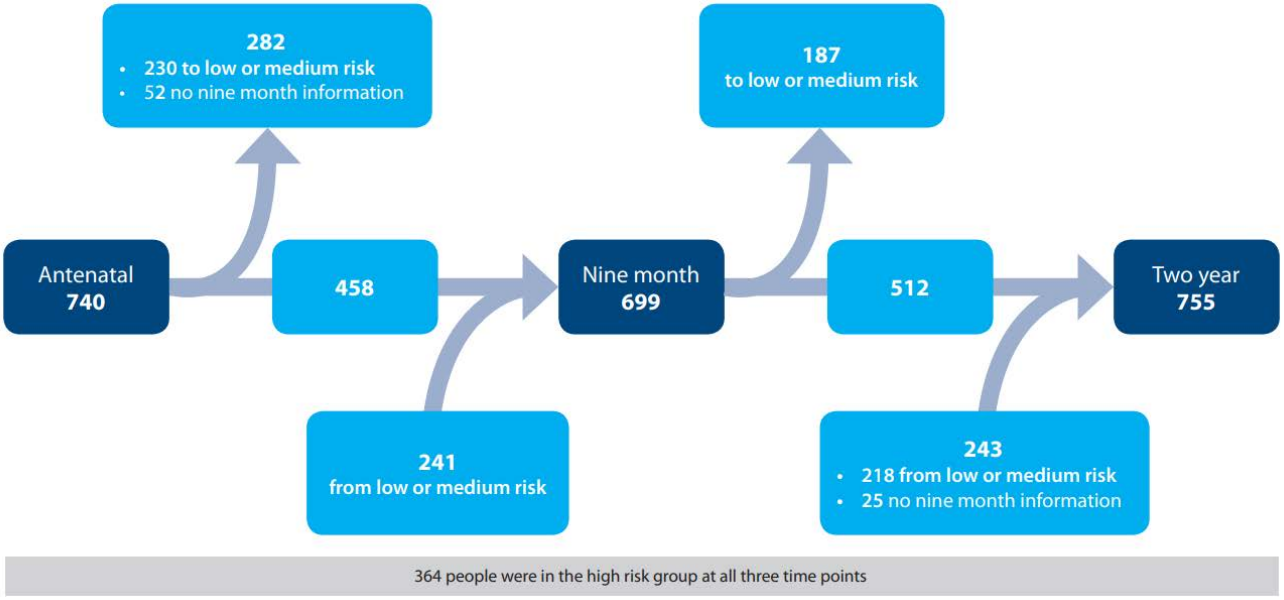


Figure 7. Flux in individual family experiences of exposure to high adversity (experiencing four or more poor parent and family wellbeing indicators) during the first thousand days of their child's life

Being exposed to persistently high socio-economic disadvantage and adversity over the first thousand days of a child's life (at each of the three times the indicators were measured) was associated with multiple poor child wellbeing outcomes and a less than optimal start to life for children born to parents experiencing high "toxic stress" in that period. Impacts were seen in terms of children's physical wellbeing: less completed and timely immunisations; children were more likely to be overweight or obesity; they experienced more serious and repeated respiratory infections; they suffered more accidents and injuries, as well as the children's psychosocial wellbeing: they were at greater risk of displaying abnormal behaviours and less self-regulation in the pre-school period, and cognitive development: there were measurable impacts on early literacy and numeracy and less readiness for school at four (The

Southern Initiative & Auckland Co-Design Lab, 2017; Wallander et al., 2019 & 2021; Russell et al., 2020;).

An example of the differential impact of the different exposures to clustering and accumulation (duration) of parental and family/whānau adversity on child wellbeing in the pre-school period is illustrated in Figure 8 below.

In the Figure 8 below: **H** refers to exposure to high socio-economic disadvantage or adversity (experiencing four or more of the twelve parental and family poor wellbeing indicators) at each of the three measurement points over the first thousand days (antenatal, 9 months and two years); **M** refers to medium exposure, that is experiencing between one and three indicators; and **L** for low refers to experiencing none of the twelve indicators in Table 7. **Not high** means either medium or low exposure. Figure 8 specifically illustrates the graded and lasting impact of experiencing different levels of parental and family adversity for different periods of time on the likelihood of children experiencing abnormal behaviour by the time they are four and a half years of age. Children who experienced the greatest parental adversity (poor wellbeing) throughout their first thousand days of life were 11 times more likely to be categorised as having behavioural issues than their peers before the enter formal schooling (noting across the child population we would expect approximately 10% of all children to be classified as having abnormal behaviour at this age).

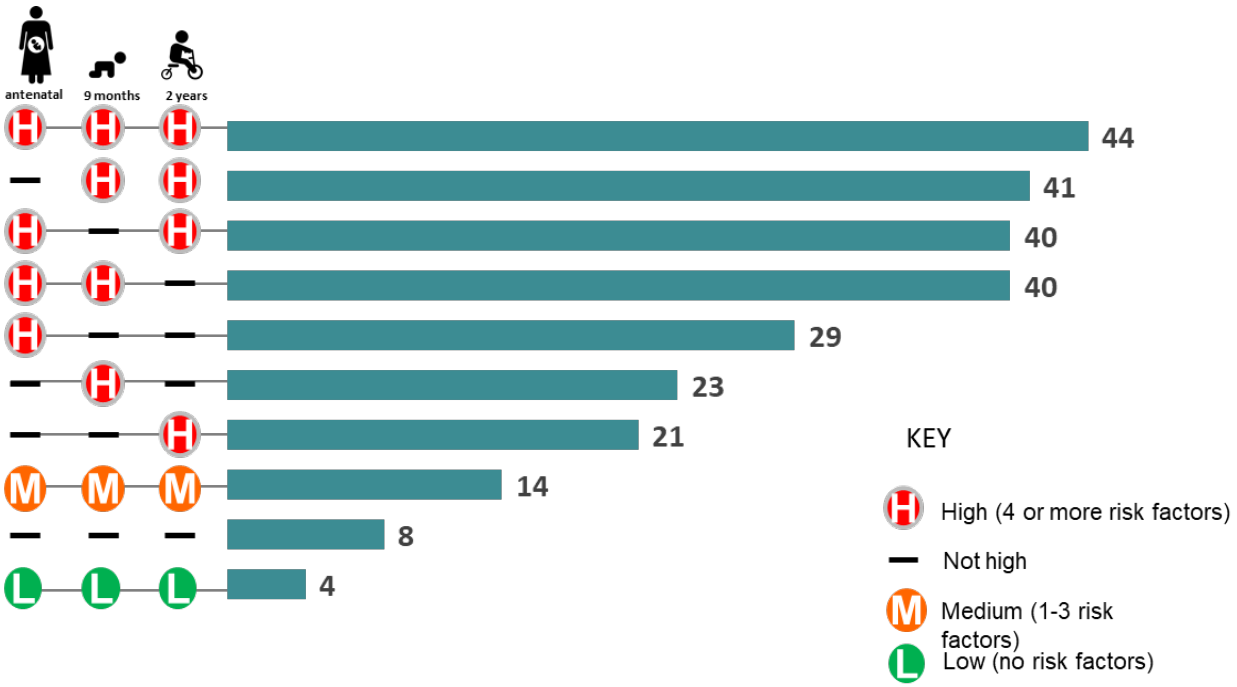


Figure 8. The graded impact of exposure to poor parental wellbeing (high, medium and low adversity) over time on child wellbeing (abnormal behaviour on the SDQ test shown here)

Of note is that the graded pattern shown for the example of the differential impact of clustering of parental wellbeing indicators on children's behavioural classification at four years of age looks very similar if the child wellbeing outcome variable is changed to measures of physical wellbeing (e.g. overweight and

obesity), or early literacy and numeracy, or overall readiness for school (Wallander et al., 2019, 2021). The graded relationship between cumulative exposure to parental and family/whānau poor wellbeing is evident for multiple measures of child wellbeing in the pre-school period.

Additional parental and family/whānau characteristics impacting child wellbeing

The set of twelve indicators used to represent parental, and family/whānau wellbeing (as in Table 7) were the same used in international research that had highlighted how important it was to consider the cumulative and inter-dependent impact of parental and family characteristics of the early life environment when attempting to understand what shapes child wellbeing in early life (Sabates & Dex, 2015). In addition to these indicators, there were additional parental and family wellbeing indicators measured in the *Growing Up in New Zealand* study that could be added to the models to determine their importance for child wellbeing alongside the twelve used in the initial modelling.

Maternal wellbeing characteristics (not otherwise represented in the 12 wellbeing indicators included in the clustering model) that were also associated with children experiencing the greatest early life adversity (experiencing four or more of the proximal, distal or home environment indicators listed in Table 7) throughout the first thousand days included: mothers for whom pregnancy was unplanned; those with a current disability; those experiencing higher perceived psychosocial stress; and those born outside New Zealand who had moved to NZ only within the five years prior to the birth of their cohort child (new migrants).

Family/whānau wellbeing characteristics (not otherwise represented in the 12 wellbeing indicators included in the clustering model) that were also associated with children experiencing the greatest early life adversity (experiencing four or more of the proximal, distal or home environment indicators listed in Table 7) included: families experiencing inter-parental relationship stress; those with less extended family support; and those reporting persistently high levels of financial stress. Similarly, children in families who reported being less integrated into their neighbourhoods and having less support outside their families were also more likely to be experiencing the greatest adversity throughout their early years, with their children, therefore, more likely to be experiencing poorer wellbeing than their peers (Morton et al., 2015).

This example of synthesizing the evidence in a multivariable model that considered the co-occurrence of parental and family/whānau wellbeing indicators provided the set of parental and family wellbeing indicators that high level metrics are applied to in Section 3.

Of note is that by the time the cohort children reached middle childhood (ages 8-9 years), the longitudinal picture that has emerged regarding the impact of cumulative and persistent exposure to parental and family/whānau socio-economic disadvantage and poor wellbeing is one of a growing disproportionate burden of poorer overall child wellbeing outcomes and more limited opportunities for groups of children growing up in families facing persistent adversity when wellbeing outcomes are compared to their peers (Morton et al., 2020). The gaps that were emerging in terms of impact on child wellbeing during the first thousand days of life and before school entry have been further exacerbated by the cumulative experience

of adversity for children with parents and families/whānau who have been chronically burdened by economic, physical and psychosocial external and internal stressors beyond the perinatal period (Morton et al., 2020). This provides initial support for the assertion that the setting of early life wellbeing trajectories is important for future life course wellbeing, and therefore intervening early may offer the best chance to improve wellbeing for all.

Possible intervention points

- The identification of combinations or clusters of parental and family/whānau risk factors that are most often associated with poorer child wellbeing in early life may be more useful for effective targeting of interventions than targeting according to single parent or family risk factors
- Acknowledging that parental and family/whānau risk factors tend to cluster, but that it is the absolute number of risks experienced rather than the specific risks at any point, and the duration of exposure that appears to have the greatest impact on both parental and child wellbeing in early life
- Exposure to toxic stress is not equally distributed across population groups - with Māori and Pacific families and their children carrying the greatest burden at any one time point as well as over time – this clustering and accumulation of risks may provide a better way to conceptualise inequalities in health which are not easily explained by traditional risk factors alone
- Recognizing that exposure to specific risk factors may not be consistent over time, but clustering of risks may be commonly experienced – understanding what risks change, when, why and for whom can help to find ways to intervene to reduce toxic stress and improve wellbeing
- Potentially utilising the set of twelve parental and family indicators listed in Table 7 as a routine checklist to triage and rank the relative need parents and families have for wrap-around support from late pregnancy and throughout the first thousand days may offer the chance to reduce the impact of experiencing persistent toxic stress on child wellbeing and improve wellbeing for all by reducing inequalities in wellbeing from before birth

Table 8. Relevant Child and Youth Wellbeing Framework Outcomes and Indicators

Social and Economic wellbeing		
CYWF Outcomes	CYWF Wellbeing Indicators	Related Family/Whānau Characteristics[1]
Have What They Need  *"they and their parents or caregivers have a good standard of material wellbeing"* *"their parents or caregivers have the skills and support they need to access quality employment"*	Material Wellbeing Child poverty Food insecurity Housing Quality Housing affordability	Parental unemployment High area deprivation High financial stress Incomplete maternal education Young maternal age

		Rental tenure and mobility Cold and damp homes *Stable relationships*[2] *Family support*
Happy and Healthy  *"they have the best possible health, starting from birth"* *"they live in healthy, sustainable environments"*	Prenatal care Subjective health status Preventable admissions to hospital Mental wellbeing	Unplanned pregnancy Maternal depression Maternal stress Maternal physical wellbeing Inter-parental conflict Overcrowding *Timely immunisations* *Continuity of care* *Accessible services*

[1] Derived from *Growing Up in New Zealand* evidence

[2] Note the family/whānau characteristics that are *italicised* are strengths-based

2.8 Creating safe and supportive neighbourhoods and communities – possibilities for intervention

Based on the synthesis and multivariable modelling of collective stressors and poor parental wellbeing described in Section 2.7, it is important to also consider that while the risks of poor wellbeing are significant for children exposed to persistent family adversity and poorer parental and family wellbeing across their first thousand days that not all children who experience this clustering of adversity have poorer wellbeing relative to their peers who have not experienced this clustering of disadvantage.

Poorer wellbeing is not inevitable or ubiquitous for individuals within groups of children whose families and whānau are experiencing the highest levels of parental and family adversity and the poorest parental and family wellbeing over time (for example, see Figure 8, where 56% of children experiencing the greatest adversity across their first thousand days did not show abnormal behaviour at four years of age).

Growing Up in New Zealand longitudinal information gathered directly from the families themselves can also be utilised to understand what parental and family/whānau behaviours and characteristics might confer resilience in terms of protecting the wellbeing of children who are experiencing persistent early life adversity and who are exposed to significant poor parental and family wellbeing.

What creates resilience in the face of adversity?

This approach was recently utilised in a collaborative project with South Auckland co-design experts and in turn, with their communities who currently experience the greatest burden of early life poverty and disadvantage (The Southern Initiative & Auckland Co-Design Lab, 2017). The longitudinal information collected specifically from the 1252 children and their families/whānau in the cohort who have been growing up in South Auckland was examined to understand what parental and family characteristics can create resilience and promote child wellbeing in the face of persistent parental and family socioeconomic adversity and poor wellbeing. This approach involving going beyond modelling risk factors described in Section 2.7 to find parental and whānau resilience factors that were associated with protecting children who had been exposed to adversity throughout their first thousand days from developing poor wellbeing and falling behind their peers.

The information about potential resilience factors that could protect child wellbeing was used alongside communities and community experts to scope potential context-relevant and real-life strategies that might be employed to potentially help mitigate the impact of the burden of exposure to early adversity and poor parental and family wellbeing based on the evidence collected directly from the families in the study and the communities themselves.

The collection of information from the families and children in South Auckland demonstrated that if families had good informal networks and support systems, if they had safe places to gather to support each other (outside their home environments), and if services could come to those safe spaces rather

than families and parents needing to reach out to find and connect with services individually, then children in families and whānau who had that kind of informal and formal support wrapped around them in their first thousand days were much less likely to experience the same cumulative and multiple impacts on their wellbeing compared to the children in the cohort living in families and whānau without those informal and formal connections and supports.

This information was used by South Auckland experts and communities and transformed into a "loud libraries" initiative, with safe spaces established in local libraries to enable parents and children to gather and talk and for support agencies to come to the families and children. Further information is awaited to assess whether this reasonably simple opportunity for intervention can better enable all children in those communities most impacted by adversity to achieve their potential and thrive in their early years and reduce the gaps in their wellbeing compared to their peers.

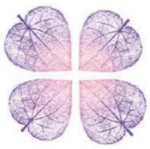
Applying approaches to support resilience will not alleviate the clustering of adversity and poor wellbeing that parents, families and whānau in the most deprived areas of New Zealand are experiencing in the short term, but it may mean that a further generation of New Zealand children are not left as far behind as we try to solve the wicked and entrenched, intergenerational systemic social problems that too many parents and families are experiencing in New Zealand today. This burden, which is inequitably spread across groups in the population, reduces their own wellbeing and therefore their capacity to support their children's wellbeing over their first thousand days (Morton et al., 2014c; Morton et al., 2015; The Southern Initiative & Auckland Co-Design Lab, 2017).

Possible intervention points

- Co-design services with communities who are currently "missing out" disproportionately to identify and mitigate barriers to access and develop shared solutions to support and achieve culturally appropriate services that meet the needs of diverse communities and those bearing the greatest burden of early life toxic stress and adversity
- Barriers to engaging with services may relate to a lack of parental empowerment and confidence about engaging as well as accessibility and appropriateness of services
- Create safe environments for young and socially isolated parents and families to gather with their babies and children to share stories and wisdom and to support each other through this critical life transition
- Wrap support around young families to ensure that they are enabled to navigate the first years of their child's life as part of a supportive community and society rather than navigating the multitude of issues they must face alone
- Work across agencies to find joined up solutions to engaging with the most vulnerable (young, new migrant, socially excluded, less empowered) parents and families on their terms and spaces and ways that are contextually relevant and enabling

- Recognize that solutions to economic disadvantage should not be limited to building financial capital – that long term solutions require strategies that build physical, social and human capital for families and communities as well

Table 9. Relevant Child and Youth Wellbeing Framework Outcomes and Indicators

Supportive neighbourhoods and communities		
CYWF Outcomes	CYWF Wellbeing Indicators	Related Family/Whānau Characteristics[1]
Accepted, Respected and Connected  *"they feel accepted, respected and valued at home, school in the community and online"* *"they feel manaakitanga: kindness, respect and care for others"* **"***they have stable and healthy relationships"*	Ability to be themselves Sense of belonging Social support Support for cultural identity	Identifying as Māori or Pacific Living in areas of high deprivation Social isolation Unplanned pregnancy Young maternal age Lack of maternal education Lack of neighbourhood integration
Have What They Need  *"they have a good standard of material wellbeing"*	Material wellbeing Child poverty: Low income Housing quality and affordability	Exposure to poverty Identifying as Māori or Pacific Living in areas of high deprivation Stable, warm, accessible housing
Involved and Empowered  *"they have their voices, perspectives and opinions listened to and taken into account"*	Involvement in the community Making positive choices	Constrained choice *Family and external support* *Services meet actual needs*

3. Assessing the strength and utility of the evidence

Section 2 has provided a high level summary of the evidence linking parental and family/whānau wellbeing with child wellbeing in the critical first thousand days of life (that is, from conception to age two) and beyond where feasible. Specific evidence has been provided from the *Growing Up in New Zealand* longitudinal study because it is able to provide context-relevant information about how contemporary parental and whānau and contemporary New Zealand children. The children in the longitudinal cohort study are currently emerging from middle childhood (they were born in 2009 and 2010) therefore, it is not possible to assess the duration of impact of characteristics beyond these early years. Estimates of life course impacts are therefore based on results from older NZ and comparable international longitudinal studies that have followed participants through beyond early childhood and into adulthood, albeit with different groups of participants usually growing up in different economic, societal and political contexts.

3.1 Challenges in assessing the evidence

Assessing the strength of the collective evidence and comparing the importance of different aspects of parental and family/whānau wellbeing is challenging for several reasons, including that:

- Family and whānau factors are measured using validated and standardised tools wherever possible, but the accuracy of measurement in an observational study may vary between groups in the population as measures are largely self-reported
- Within the same study, measurements of different parental, family and whānau factors tend to utilise different relative scales and rankings, therefore comparing their absolute effect size within one model, and particularly across models, is problematic
- Comparing the relative strength and importance of different parental, family and whānau characteristics using models from different studies with different population and societal contexts is particularly problematic
- Most modelling of specific child wellbeing outcomes consider only the parental, family and whānau factors that are considered appropriate for inclusion *a priori* and therefore factors that may be important (but are either not measured or not measurable) cannot be considered
- Traditional risk factors are usually measured in longitudinal studies on the assumption that they are causally related to wellbeing outcomes – however, assessing causality is always challenging, particularly using observational studies where uncontrolled confounding is likely to be considerable and confounders may change over time
- The longitudinal evidence has demonstrated that the impact of clusters of family and whānau factors over time is rarely unidimensional, and usually, clustering of adversity results in multi-morbidities

- Ideally, to assess whether a particular aspect of family and/or whānau wellbeing is amenable to modification, there would be evidence from other types of studies, such as randomised controlled (or real-world) trials or evaluation studies that could add weight to the proposed strategies for intervention. These studies are rare and not sourced for this evidence summary but could be considered in supplementary evidence pieces.
- Undertaking a thorough assessment of the strength of the evidence and a robust ranking of the impact of family and whānau factors would require specific multi-variable models that utilised an appropriate life course methodology, including taking into account the correlation between variables at any one point in time as well as across time; the temporal ordering of impacts; the differential impact of variables measured more proximal to outcomes, and the trajectory of child wellbeing. Such a bespoke approach would require significant additional analyses and time and would require an additional piece of work.

3.2 Applying metrics

Acknowledging these limitations – an attempt is made to consider which parental, family and whānau wellbeing factors are most important for shaping child wellbeing, and therefore which potentially have the greatest potential to improve child wellbeing, using the available existing evidence.

The strength of the evidence for the importance of particular parental, family and whānau factors is assessed according to the following parameters (where feasible):

1. PREVALENCE: How common or prevalent is the family/whānau factor across the contemporary birth and child population (burden of exposure where measurable)?
2. CAUSAL: How likely is it that the relationship between the family/whānau factor and child wellbeing is causal (temporality, strong associations, consistent results across outcomes, plausible pathways)?
3. IMPACT: How great is the impact on child wellbeing in early life (size of the effect, burden created, multiple impacts)?
4. DURATION: How likely is it that the impact extends across the lifecourse (early impact only, sustained impact or exacerbation over time likely)?
5. MODIFIABLE: Is the parental, family/whānau factor potentially amenable to moderation or mitigation at a population or individual level (can efforts be targeted or are universal strategies required)?

Ranking is provided according to expert assessment of the evidence presented. Each aspect of parental, family and whānau wellbeing is assessed using the five parameters above and assigned either weak (+), moderate (++) or strong (+++) in terms of the evidence assessed. An overall assessment of the importance of the family/whānau wellbeing factor is provided in the far right column using the same scale (summarising the scores across the five parameters).

Table 10. An Assessment of Current Evidence (*Note the factors listed are not independent of each other)

Family/Whānau factors*	Prevalence (estimate)	Causality (likelihood)	Impact (observed)	Duration (extrapolated)	Modifiable (potential)	OVERALL
PROXIMAL FAMILY VARIABLES						
Maternal age	<10%	+++	+++	++	+	++
Maternal education (no formal sec school qualifications)	8%	+++	+++	++	+	++
Unplanned pregnancy	40%	+++	+++	++	++	+++
Maternal smoking and drinking (in pregnancy)	11%	+++	+++	+	+++	++
Maternal depression	12%	+++	++	+++	++	+++
Maternal physical wellbeing (poor or fair)	10%	+++	++	++	++	++
Maternal stress (psychosocial wellbeing)	-	+++	++	++	++	++
Inter-parental conflict (physical and psychological)	10%	+++	+++	+++	++	+++
Migrant status	30%	++	++	+	+	+
Family/Whānau factors*	**Prevalence (estimate)**	**Causality (likelihood)**	**Impact (observed)**	**Duration (extrapolated)**	**Modifiable (potential)**	**OVERALL**
DISTAL FAMILY VARIABLES						
Relationships (partnership status and instability)	10%	+++	++	++	+	++
Passive smoking in household	28%	+	++	++	++	++
High financial stress in the household	17%	+++	+++	+++	+++	+++
Parental unemployment	8%	++	++	++	++	++

Family/Whānau factors*	Prevalence (estimate)	Causality (likelihood)	Impact (observed)	Duration (extrapolated)	Modifiable (potential)	OVERALL
HOME ENVIRONMENT						
Tenure (rental properties)	40%	+++	+++	+++	+++	+++
Overcrowding	14%	++	++	++	+	++
Quality of housing (cold and damp homes)	40%	+++	+++	+++	+++	+++
High deprivation area (NZDep 9 or 10)	28%	++	+++	+++	+	+++
Household structure (extended family)	25%	+	+	+	+	+
Residential mobility (pre-school years)	60%	+++	+++	+++	+++	+++
Family/Whānau factors*	**Prevalence (estimate)**	**Causality (likelihood)**	**Impact (observed)**	**Duration (extrapolated)**	**Modifiable (potential)**	**OVERALL**
EXTERNAL SUPPORTS (PROTECTIVE)						
Social inclusion (identity, language, free from discrimination)	-	+++	++	+++	+++	+++
Extended Family support	-	+++	+++	++	++	+++
External family support	-	+++	++	+++	+++	+++
Flexible employment and quality, affordable childcare	-	++	+	++	+++	++
Engagement with services (early and continuous, culturally appropriate)	10 - 50%	++	++	++	+++	++
Neighbourhood integration and belonging	-	++	++	++	++	++

In terms of relative ranking based on this relatively simple set of metrics, the following family/whānau characteristics emerge as being strongest or potentially moderately impactful for improving child wellbeing (limitations implicit):

The strongest parental and family/whānau wellbeing factors for influencing child wellbeing in the first thousand days after applying these high-level metrics were:

- Unplanned pregnancy
- Maternal depression (in pregnancy and in the postnatal period)
- Maternal psychosocial stress (in pregnancy and in the postnatal period)
- Inter-parental conflict (physical and psychological)
- High (sustained) or escalating household financial stress
- Living in rental properties - especially private rentals (in the perinatal and postnatal period)
- Living in houses that are cold and damp
- Living in areas of high deprivation
- Experiencing frequent housing instability – residential mobility
- Social isolation - lacking informal support
- Lacking external family support/lack of connection to communities (including discrimination)

Moderately strong parental and family/whānau wellbeing factors for child wellbeing in the first thousand days were:

- Maternal age in pregnancy (being a young mother)
- Maternal education (lack of formal educational qualifications)
- Maternal smoking and drinking (continuing once pregnancy aware)
- Poorer maternal physical wellbeing (self-reported – including disability)
- Relationship status (being single and changing relationships)
- Passive smoking in the household (not the mother)
- Parental employment status (inflexible employment, persistent unemployment, access to leave and child-care)
- Overcrowding (both negative and positive components)
- Being unable to engage early with support services (e.g. LMCs, Well Child)
- Lack of neighbourhood integration

4 Discussion

The first thousand days of a child's life are critical for setting early wellbeing trajectories that set children up for later life opportunities and life course wellbeing. The specific evidence from the contemporary New Zealand longitudinal study provides strong evidence that parental and family/whānau wellbeing factors strongly influence the early life wellbeing of the current generation of New Zealand children. From the time of conception, it is also apparent that preparedness for pregnancy and preparation and readiness for the challenges that families and whānau will face once that child is born are not equitably distributed across all parents and families. The greatest burdens will inevitably fall on those parents who are the youngest, with the least formal educational qualifications and therefore with the least opportunities to create a better life either for themselves or for their children in pregnancy or thereafter.

Intergenerational disadvantage that is routinely being captured by many proxy maternal characteristics that often cluster together (age at pregnancy, completed education, unemployment) are particularly challenging to mitigate. However, some suggestions for potential interventions that could mitigate the impacts of these factors are provided in Section 2. It is reasonable to expect that pregnancy is likely to occur for the majority of young people, and therefore, better preparation for all adolescents prior to reproductive age (for themselves and for others in their community) would potentially assist a greater recognition of the importance of wrapping support around families having children from the earliest opportunity. Additionally, better support for young and socially isolated parents from early pregnancy to facilitate them engaging with support services early, as well as providing access to continuity of care, could prevent some of the challenges many are currently face in navigating a disjointed pre-natal, maternity and postnatal health system on their own. These challenges are exacerbated for newer migrants who often have additional challenges with language and alignment of their expectations and values with existing services in New Zealand, and these are now a significant group (up to one in three) of parents of this generation of children. Services need to be designed to meet the diversity of our current population of parents and families.

Perhaps more concerning is that service access and use is currently not well matched to real need. In fact, universal support services, however well-intentioned and designed, appear in many cases to be exacerbating inequities in service reach and support. Of particular concern is that our Māori and Pacific families and their children are less likely to make use of existing support services designed to enhance child wellbeing in their early years (e.g. Well Child Tamariki Ora, Pre-school Oral health service). This is especially

concerning because their needs, according to the burden of exposure to socio-economic disadvantage and adversity that these families face, are greater. Services also need to be co-designed with communities to reduce the perceived and real discrimination that non-European parents and families regularly report in terms of service provision. Unless the orientation of current services changes to address these barriers, then the ethnic and social inequalities in wellbeing we currently see for parents and children are likely to continue to increase.

Services need to be culturally acceptable and accessible. In order to ensure that services do reach all children and families and that service delivery is aligned to service need, more proportionate universal approaches (Marmot et al., 2011) should be considered to give all children an equally good start to life. Essentially this means providing disproportionately more support to those families and whānau who are already socially, physically and psychologically disadvantaged from before their children are born.

Giving every child the best start in life also means ensuring that all parents have the best wellbeing possible from before pregnancy and throughout the perinatal and postnatal period. Currently, rates of depressive symptoms measured in late pregnancy suggest that there is a large gap in optimising maternal wellbeing, especially at a crucial time for the mother and her infant. Better screening for parental mental health issues at all points across the first thousand days is required, with an increased awareness for mothers about how common and impactful mental ill health can be at this stressful time in their lives. At a societal level, we require greater acknowledgement about how prevalent mental distress is at this critical time in the life course for our children and an acceptance that support and treatment can make life better for the whole family, and it is not a reason for self-blame.

Exposure to material hardship and socio-economic disadvantage creates a complex and challenging environment for individuals and families at any point in their lives, and this is particularly the case when a new baby is being born into a family. The majority of the family and whānau risk factors that have been explored in this evidence brief are known to be associated with multiple measures of poor child wellbeing and are linked strongly to the degree and duration of exposure to complex adverse environments. Financial resources matter for child wellbeing (Cooper & Stewart, 2013) and New Zealand is still lagging behind other OECD countries in terms of the financial support packages that are available to families having children, including Paid Parental Leave (despite recent increases in amount and duration), flexible work-places that are family-friendly and accessible, and affordable child care arrangements that enable parents to return to employment at a time that is right for them and their child.

Additionally, the wider family and home contexts and environments also matter for child wellbeing. Currently, we do not have enough safe, secure, warm and affordable housing to ensure that all our children and their families are able to live in stable home environments that they can afford to heat adequately and provide the necessary resources to promote their child's wellbeing. A significant proportion of this generation's families are likely to be renting for most of their children's early years, and rental properties are the least safe, secure and stable environments for children to spend their early years in. We potentially need to look, as a collective society, at the relative value we place on quality, warm and affordable housing, including how we value rental accommodation, to ensure that every family can be proud of, invest in and live comfortably and securely in homes that meet their needs while their children are growing up.

There is some evidence, too, from the *Growing Up in New Zealand* families about how we might support and work alongside families and whānau to enable them to provide an environment that is likely to give their children the best start in life and the best opportunities for life course wellbeing. Families who have good social networks, with their own extended families as well as with their wider communities, who feel safe and integrated into their neighbourhoods, who feel accepted and celebrated for their diverse backgrounds and who can navigate the existing systems successfully to access what they need, appear to be able to mitigate the impacts that economic adversity, poor housing and intergenerational disadvantage generally confer on their children's wellbeing. We can use this evidence to build better opportunities for all families having children in New Zealand today and wrap support around them to grow a healthier future for all our tamariki and for all of our futures.

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