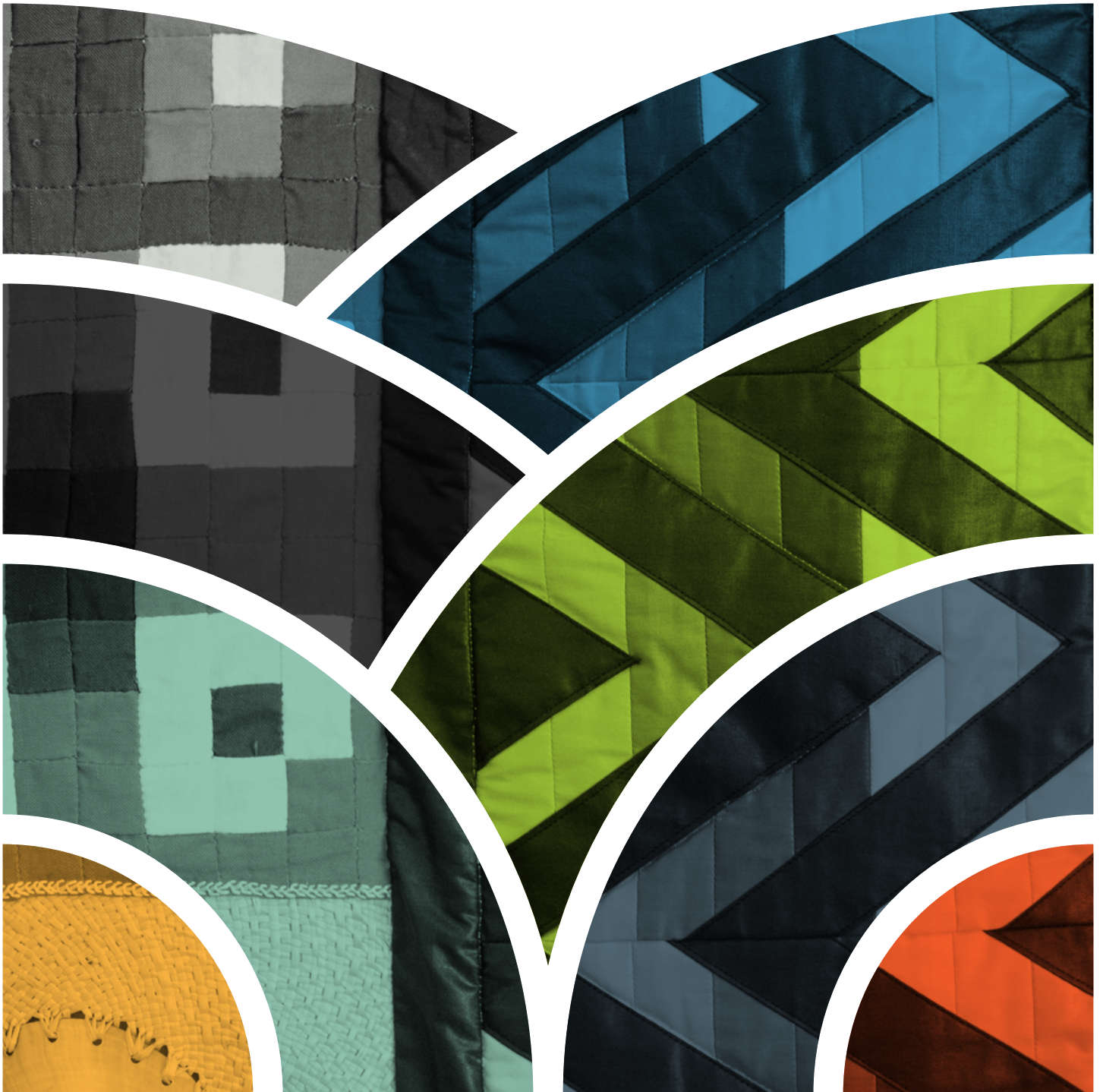


Opportunities to make a positive impact in the first *1,000 days of a child's life*

February 2015



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1. Executive summary

**Tangata ako ana i te whare,
te turanga ki te marae, tau ana**

A person who is taught at home,
will stand collected on the marae.

A child who is given proper values at home
and cherished within family will not only behave
well amongst the family but also within society
and throughout life.

Good health begins early in life. In healthy families, babies learn that they can count on their family to provide a healthy and safe environment characterised by warm, supportive and responsive interactions. Unfortunately, poor health also begins early. Babies and young children who grow up in families that are characterised by anger and aggression, where relationships are cold, unsupportive, and neglectful, are vulnerable to poor mental and physical health outcomes that endure into adulthood. ^[1]

There is growing evidence that we can increase the odds of favourable developmental outcomes for babies born into vulnerable families through planned, evidence-based and culturally appropriate interventions during infancy and early childhood.^[2] We also know that such early investment is extremely cost effective.

There are also a number of broad philosophies that are associated with positive outcomes:

Intervene early, using the best available evidence, in the lives of those clusters of parents who are the most vulnerable

Develop innovative learning programmes on “baby friendly” environments and the importance of the first 1,000 days

Use a strengths-based philosophy that is inclusive and culturally responsive at every stage, and that is based and developed in people’s own communities

Reward success and excellence

Focus on initiatives that include both parents and babies.

This report discusses findings from a literature review about what is effective in addressing vulnerability in the first 1,000 days.



2.

Introduction

“There is no such thing as a baby – meaning that if you set out to describe a baby, you will find you are describing a baby and someone. A baby cannot exist alone, but is essentially part of a relationship.”^[3]

This well-known quote by child expert Donald Winnicott reminds us of the vulnerability of the baby who is dependent on having a good enough parent. This parent/caregiver provides an environment that is nurturing and safe enough so that babies can grow to their fullest potential and enjoy a good life as productive members of society. In today’s culturally diverse world, the emphasis is not exclusively on the parent but must also include family, whether biologically based or socially/culturally arranged.



3. The first 1,000 days

**He kai poutaka me kinikini atua, He kai
poutaka me horehore atu, Mā te tamaiti te iho**

Pinch off a bit of the potted bird, peel off a bit of the potted bird,
but have the inside for the child^[4]

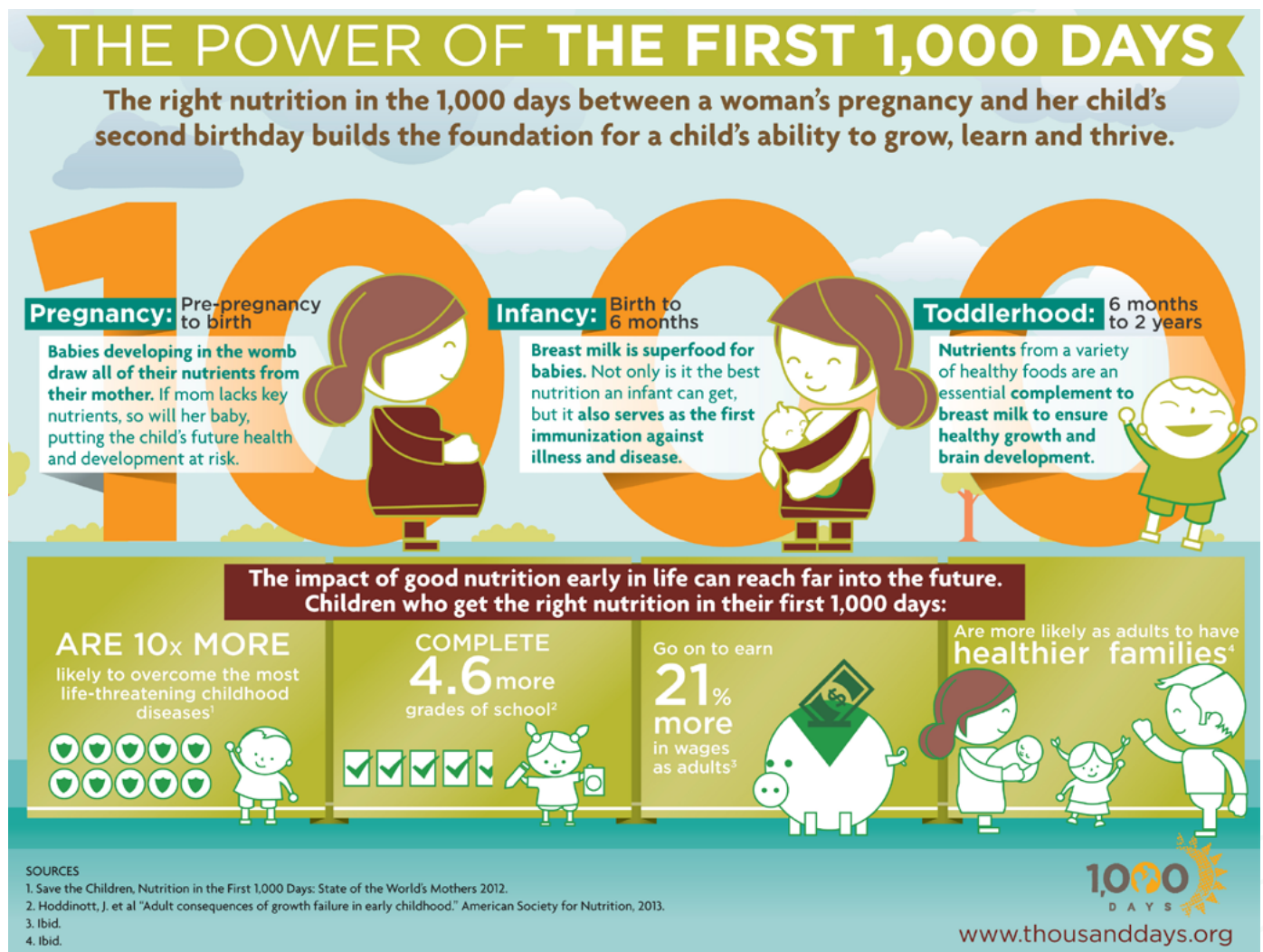
In 2008, *The Lancet* medical journal published a series of papers on maternal and child under-nutrition. These papers identified a critical window of time between the start of a woman's pregnancy and her child's second birthday (later coined "the first 1,000 days"), where nutrition lays the foundation for a person's lifelong health, cognitive development and future potential. The authors called for greater prioritising of national nutrition programmes, stronger integration with health programmes, enhanced intersectoral approaches, and a more centralising global nutrition system.^[5] The executive summary of this series concluded that, "Countries will not be able to break out of poverty and sustain economic advances without ensuring that their populations are adequately nourished" (p.3).^[6]

There has been a growing interest globally on improving maternal and infant nutrition. This includes organisations such as the World Health Assembly, First 1,000 Days of Life Movement, the United Nations and alliances between countries, such as the Scaling Up Nutrition (SUN) projects involving 42 countries. For example, the first 1,000 Days partnerships are all working to:

- communicate the importance of the 1,000 days window for impact
- advocate for greater action and investment in maternal and child nutrition
- develop partnerships among different sectors to scale up efforts to reduce malnutrition.

Economists have also shown that focusing on this period is not only cost effective, but also a good investment. It is estimated that every \$1 spent on improving nutrition can have as much as a \$138 return on investment, depending on the country.^[7]

These initiatives are not just for developing countries. They are also applicable in larger developed countries where poor nutrition is the result of unhealthy diets centred on cheaper foods. In 2012, for example, the “Healthy Chicago” initiative in the United States included a plan to turn derelict, empty lots into farms, provision of educational outreach programmes focusing on good nutrition, and dedicated “baby-friendly” hospitals that encouraged breastfeeding. Such programmes show the emphasis on the *power* of the first 1,000 days.





4. New Zealand's first 1,000 days

Nā te moa i takahi te rātā

The young rātā when trodden on by a moa will never grow straight

Like the young rātā in the whakataukī above, a baby's earliest experiences and the environments they are exposed to have a "direct and indirect effect on child development"(p.ii).^[9] This effect is enduring and stable into adulthood.^[10] When these early experiences and environments are enriching, supportive and positive, the majority of babies grow up well and go on to become positive contributing members of society, who feel loved, valued and a part of healthy whānau.

However, the opposite is also true: when babies grow up in impoverished, abusive, neglectful and/or punitive environments, they are more likely to carry a significant burden (socially, physically and economically) and thus never reach their full potential. Through more than 30 years of research across multiple scientific disciplines, the importance of early life experiences on healthy social and emotional development has been highlighted, with global agreement that what happens early matters.

James Heckman, winner of the 2000 Nobel Economics Prize, and fellow economist Dimitiry Masterov (2006)^[11] state:

The available evidence on the technology of skill formation shows the self-productivity of early investment... At current levels of public support, America under-invests in the early years of its disadvantaged children. Redirecting funds toward the early years, before schools currently operate, is a sound investment in the productivity and safety of American society (p. 36).

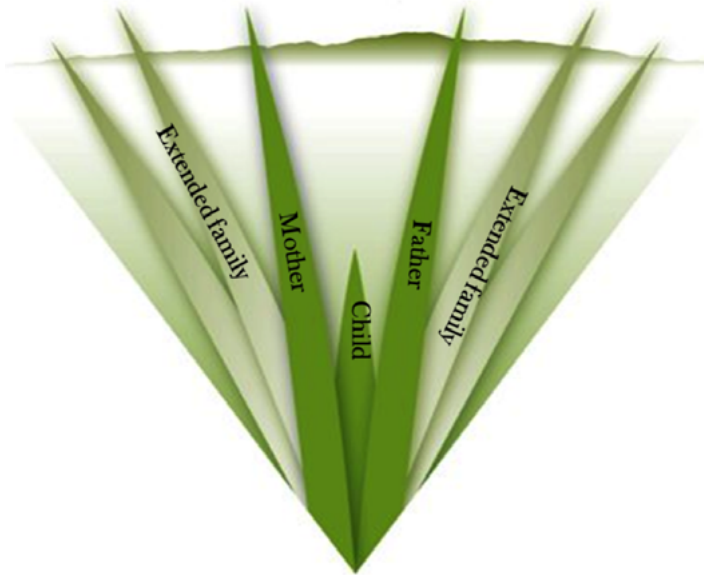
The New Zealand Government has acknowledged "the increasingly comprehensive body of knowledge that shows the importance of having a positive childhood, especially in the early years of life, and a warm and caring relationship with a parent or caregiver."^[12] Thus intervening early has become an important social issue as the overwhelming international research has shown that getting help and support early not only works but is also more cost effective. Heckman (2011) says, "Investing early allows us to shape the future; investing later chains us to fixing the missed opportunities of the past" (p.36).^[13]



5. Principles underpinning this report

**Hutia te rito o te harakeke
Kei hea te komako e ko?**

If the centre shoot of the flax bush were plucked
Where would the bellbird sing?



WHENUA

Harakeke (flax) symbolically represents whānau (family) where the rito (baby) grows from within the centre of the plant, surrounded and protected by the outer fronds or whānau members. The awahi rito (parents) are the closest fronds to the rito. The outer fronds represent extended whānau (e.g. grandparents, aunts and uncles, siblings, cousins).

Weavers who harvest harakeke are taught to cut from the outside of the plant, using a straight, downward cut. This ensures that falling rain drains to the outside of the plant and does not pool in the centre where it may well rot or drown the rito. This image also allows us to focus on the quality of the whenua or earth in which the harakeke grows; namely, the environmental conditions that will either support or work against the healthy development of a baby.

We can extend this metaphor to look at how this relates to the first 1,000 days of a baby's life and interventions that help support vulnerable whānau. These interventions should be sourced from and sit within the local mana whenua or community in which vulnerable whānau live. This helps ensure that the protocols for what is known to work continue and that interventions are culturally and contextually responsive.

Communities want their own solutions to their own needs, priorities and aspirations. They also want interventions that are good value for money, with the evidence of what works being trialled and adapted to meet their unique mana whenua challenges and strengths. Huriwai (2002)^[14] described a process of “redefining and reorienting existing models of health, treatment, and care, and identifying specific Māori healing processes and outcomes” (p. 1263). He also described a move toward “Dedicated Māori (DM) treatment services” (p. 1263), where a range of Māori processes were seen as vital to the healing process, as Māori began to take control of their own journey of healing in New Zealand.



6. Vulnerability in the first 1,000 days?

**He hono tangata e kore e motu,
Ka pā he taura waka e motu**

A human bond cannot be severed,
unlike a canoe rope that can be broken



Vulnerable children are children whose wellbeing is at significant risk of harm now and into the future as a consequence of the environment in which they are being raised and, in some cases, due to their own complex needs (e.g. disability). Environmental factors that influence a child's vulnerability include not having their basic emotional, physical, social, developmental and/or cultural needs met at home or in their wider community.^[15]

Recently the Growing Up in New Zealand (GUINZ) study released the first in its series of Vulnerability Reports, *Exploring the definition of vulnerability for children in their first 1000 days*.^[16] This report showed that risk factors and adverse outcomes tend to cluster, with the three most common clustering of risk factors describing mothers who were:

1. Young, single and without formal educational qualifications; who are likely to continue smoking in pregnancy and be in receipt of an income-tested benefit

2. Living in areas of high deprivation, in overcrowded, rental housing

3. Experiencing high levels of physical, emotional and/or financial stress during late pregnancy or during the postnatal period. (p. 61)

In general, Pacific and Māori children were most likely to have more risk factors and to be over-exposed to each of the three clusters, meaning that they are disproportionately more at risk.

The report further suggests that by using this system of clustering risk factors, services may be able to design preventive support for babies who are likely to be exposed to vulnerability before their birth and during their early childhood. For example, not all children born to teen parents experience the same level of risk of poor developmental outcomes, but a clustering with other factors (e.g. maternal relationship status, education level, smoking during pregnancy and receipt of an income-tested benefit) would identify those mothers in need of the greatest support before their children are born. Given that Māori and Pacific mothers were more likely to have more risk factors and to be over-exposed to each of the three clusters, it will be imperative that culturally responsive programmes and providers are included in any plans for supporting resiliency in whānau.

In 2009, the Organisation for Economic Cooperation and Development (OECD) suggested a framework for improving the lives of children that included a directive to:

- invest early in children's lives

- concentrate on improving the lot of vulnerable children

- design interventions for children that reinforce positive development across their life cycle and across a range of wellbeing outcomes

- regularly collect high-quality information on children's wellbeing that is nationally and internationally comparable

- continuously experiment with policies and programmes for children, rigorously evaluating them to see whether they enhance child wellbeing, and reallocating money from programmes that don't work to those that do (OECD, 2009).^[19]

A similar mandate was offered in a 2011 report commissioned by the New Zealand based “Every Child Counts” coalition, *1000 days to get it right for every child*. The effectiveness of public investment in New Zealand children.^[17] They believe that a positive, economically sustainable future for New Zealand is only possible if:

- children are placed at the centre of government policy and planning

- child poverty is eradicated

- child maltreatment is reduced

- every child is given a good start in their early years

- the status of children and of the child-rearing roles of families, whānau, hapū and iwi is increased.

The report called for an “immediate increase in the public spend on children” (p. 3) and acknowledged the increasing evidence that the first 1,000 days is when a child is most vulnerable to the long-term consequences of deprivation. Deprivation significantly impacts on child development by restricting access to resources (including healthcare, good housing and nutrition), causing disruption and stress for families, and increasing the risk of social isolation. The report argues that associated with deprivation is poverty and that one in four New Zealand children grow up in poverty (half of whom are Māori or Pacific).

In 2012, the New Zealand Government report *Vulnerable children and families* used data from the New Zealand General Social Survey 2010 to look at households with vulnerable children. They used 11 indicators (related to poor child outcomes) to identify households with at-risk children. The factors included cigarette smoking, being a victim of crime/discrimination in the previous 12 months, living in a high deprivation area, feeling isolated some/most of the time, poor physical or mental health, low economic standard of living, more than one housing problem, living in an overcrowded house, and limited access to facilities.^[18] Māori made up 43% of the high-risk households although they make up less than 15% of the population. This again stresses the need for culturally responsive solutions and interventions.



7. What does not work

In 2009, the OECD released a report, *Doing better for children*,^[19] and recommended that governments should avoid certain things.

Avoid universal policies during the prenatal period which were often expensive, wasteful and focused on small percentages of pregnancies. These included universal policies such as:

- long stays in hospital after birth
- all mothers receiving a set number of home visits regardless of risk
- single focus on medical risks rather than social or environmental risks.

Avoid committing resources to universal programmes which are likely to reinforce inter-generational inequality, as they can be “captured” by advantaged children, not necessarily targeting those who are most vulnerable.

Avoid universal child payments (consider life cycle differentiating payments so that during the most vulnerable years they have the most financial support).

Other research highlights other aspects of infant interventions to avoid.

Avoid interventions with a “one size fits all approach”, especially for indigenous communities who are more responsive to a “by and for us” approach.^[20, 21]

Avoid relying only on internationally “evidence-based” interventions without considering local context.^[22]

Avoid paying for programmes that cost less because they employ less skilled staff.^[23]



8. What works

Nā tō rourou, nā taku rourou, ka ora ai te iwi

When we work together much can be accomplished

There is now good evidence from multiple international studies across different ethnic groups that interventions, such as providing enriching environments and evidence-based parenting programmes, can be effective in preventing developmental problems.^[2] Such interventions are especially effective when they are delivered to children early in their development,^[11, 24] and to first time mothers.^[25] Early skill begets later skill, while remedial investments (at an older age) are extremely costly. Parenting has therefore become an important clinical issue and parent training a big business.

Investing in parents

Barlow and colleagues (2010)^[26] reviewed the role group-based parenting programmes play in improving the emotional and behavioural adjustment of infants and toddlers under the age of three. They concluded that although there appeared to be some support for group parenting programmes, there was insufficient evidence to reach firm conclusions regarding the role these group programmes might play in the primary prevention of child developmental problems, and about the long-term effectiveness of the programmes. They concluded that further research was needed.^[26] In the following year, Barlow and colleagues also reviewed the effectiveness of parenting programmes in improving psychosocial outcomes for teenage parents and the developmental outcomes in their children. They again found some evidence of effectiveness, but could form no firm conclusions about whether these programmes resulted in any real gains or had any role in prevention or early intervention.^[27]

Barnes and Freude-Lagevardi (2003) made six recommendations for successful and effective early intervention programmes that supported optimal infant mental health. A summary of the recommendations are presented below:

1. It is most effective to target populations and communities than to try and reach individual families

2. Offering incentives (not necessarily monetary) like transportation and a free meal will increase participation significantly

3. Multiple intervention styles work better than relying on one single approach

4. A wide variety of services will be needed if the programme seeks to assist infants, parents, and the family unit

5. At-risk families will benefit more from skilled professionals as opposed to trained lay persons and volunteers

6. Not only are weekly postnatal interventions needed but pre-natal sessions as well to increase participation after the birth of the infant.^[28]

While other reports from infant specialists in New Zealand, such as Merry and colleagues (2008),^[29] strongly advocate for evidence-based parenting programmes, they also advocate for supporting unique community-led innovations. They encourage a strong community relationship, and endorse the co-location of services as providing both practical support and good community credibility.^[29]

Māori researchers, such as Pipi and colleagues (2002), have reported on the growth of Māori understanding, appreciation and research capacity.^[30] This has been tempered by Māori dissatisfaction with both the processes and outcomes of much of the research conducted by non-Māori researchers.^[20] Combined, these have strengthened the need for Kaupapa Māori research ethics^[31] as well as a more in-depth understanding of what constitutes Māori provider success.^[32]

Staff characteristics are important to the success of Māori initiatives; for example, being able to build relationships with whānau, and being able to work in a culturally responsive manner.^[29] Taking the lead from work undertaken with Māori demonstrates that it is essential that all screening, assessment, and intervention efforts are matched appropriately to the language and cultural characteristics of the children and families being served.^[23]

Investing in infants

As well as parenting, there has been a focus on raising the educational levels of infants. The *Head Start Programme* was designed in 1965 to provide early childhood services and parental support to low-income families across America. Whilst there were initially reports of good outcomes, there has been increasing criticism that the effects are not sustained over time and that when poor students were returned to poor school environments, the gains were lost.^[33] This points to the importance of taking into account environmental and systemic barriers to good developmental outcomes for babies and young children.

The Nurse-Family Partnership programme delivered by nurses to low-income mothers of first born children in the US has had positive long-term effects on maternal and child health, with these successes replicated in multiple randomised trials.^[25] However, similar results were not found when the model was extended to paraprofessionals, suggesting that highly trained staff were an important success factor when intervening with at-risk families.^[25]

The importance of the brain in the first 1,000 days is receiving more and more attention as evidence from the field of neuroscience has shown that the early environments in which children live leave a lasting signature on the brain.^[34] The brain is vulnerable to modification by toxic stress, nutritional problems, and other negative influences. This has highlighted the importance of providing supportive and nurturing experiences for young children in the earliest years, when brain development is most rapid.^[35]

It therefore makes sense to strengthen the foundations of healthy brain architecture in all young children to maximise the return on future investments in education, health, and workforce development. Mostly what this has involved is a focus on mental health and wellbeing education programmes; however, many of the messages have not reached those who would most benefit from the information. For example, Thomas and Looney (2004)^[36] stated that there was little empirical support for the use of a mental health and wellbeing education approach in teaching parenting skills to pregnant and parenting teens. They did find that a comprehensive psychoeducation programme could change parenting beliefs and attitudes, but they did not provide any evidence of behavioural change. Thus, development of strategies which can reach the most vulnerable populations are crucial and may require us to think more creatively as we search for innovation.

Investing in families

In the 1990s, the Foundation for Child Development coined the term “two-generation programmes”^[37] to signify the fact that both generations (the parent and the child) were being held in mind during the design of strategies.^[38] The first set of two-generation strategies involved embedding some self-sufficiency programmes for parents in early childhood education programmes, and adding childcare to education and employment services for parents.

The second set of two-generation strategies targeted adolescent parents who received income-tested benefits. Although they were intended to be parent-focused, many of the programmes focused on promoting life skills, college graduation, employment, and reductions in long-term welfare dependency, rather than on quality programmes for their children. In New Zealand, one such initiative was the establishment of teen parent units attached to some low-decile schools (i.e., schools in areas of high economic deprivation), in an attempt to encourage teen parents to stay in secondary school. There has been little research into the social and emotional outcomes for the infants in these units.

Since 2008, a second wave of programmes called “two-generation 2.0” programmes^[39] have been developed with a renewed and explicit focus on promoting the human capital of low-income parents (not just those receiving income-tested benefits) and their children.^[37] The focus of these programmes is on the need for higher-level qualifications of parents (tertiary level) and the importance of high-quality early childhood education. Researchers argue that better-educated parents generally have children who are themselves better educated, healthier, wealthier, and better off in almost every way than the children of those who have had less educational opportunity, although the exact mechanisms for such outcomes are still largely unknown.^[39] Many of the second-wave programmes are still in the pilot stage.

Evaluation of interventions

In 2007, researchers from American universities including Columbia University, Georgetown University, Harvard University, Johns Hopkins University, Northwestern University, the University of Nebraska, and the University of Wisconsin, collaborated on a guide to help agencies/policy makers/funders to evaluate the quality and relevance of reported evidence on early childhood programmes.^[40]

They challenge agencies/policy makers/funders to consider five key questions.

1. Is the evaluation design strong enough to produce trustworthy evidence?

2. What programme services were actually received by participating children and families and comparison groups?

3. How much impact did the programme have?

4. Do the programme’s benefits exceed its costs?

5. How similar are the programmes, children, and families in the study to those in your constituency or community?

The importance of culture

***Tangohia te reo o te tangata ka tu tahanga
Tangohia te tikanga o te tangata
ka noho ngoikore***

**Take away a people's language
and you take away their identity
Take away a people's culture and
you take away their dignity**

Research has explored the importance of culture and the ethnic influences of the context within which the child develops.^[41] Culture impacts not only on parenting beliefs and behaviours but also on the beliefs that families hold about infant development and the roles of extended family. Indeed, culture has been found to moderate the effects of the other environments that the infant may be exposed to.^[42] Feldman and Masalha (2007)^[42] examined the effects of risk on infant development within the cultural contexts of Israeli and Palestinian families. They found that culture moderated the effects of maternal depression and family social support on toddlers' behaviour problems. Their findings have significant implications for research on risk and resilience and the role culture may play in moderating the effects of ecological risk.

In New Zealand, Māori as tāngata whenua have their indigenous status validated in government legislation (The Treaty of Waitangi) and their holistic views of health (Te Whare Tapa Wha) recognised in the 54th World Health Organization Report.^[43]

The challenge for any interventions involving Māori is to intervene early enough to be preventive, to utilise cultural practices which reflect the absolute uniqueness of Māori,^[44] recognise the survivor qualities of Māori,^[45] and enhance Māori cultural protective factors.^[46]



9. What could work in the Bay of Plenty region?

Te toro haere whakamua, Whakamuri

At the same time the spiral is going forward
It is going back

Single-generation silo programmes

Single-generation silo programmes are individual programmes that stem from innovative, one-off research-based pilot programmes. These programmes focus on any one of the following areas identified as being effective strategies for the first 1,000 days:

- new ways of providing education about the crucial first 1,000 days for early brain development and the importance of our very first relationships
- innovative online based parent coaching programmes
- innovative parent coaching programmes involving the child and the parent together.

Two-generation 1.0 programmes

These are programmes for parent education alongside child development programmes, including good quality early childhood care.

Two-generation 2.0 programmes

These programmes focus on joint initiatives with larger funders and universities. For example, a scholarship programme for a vulnerable mother and her baby that provides a wraparound service (high quality early childcare and high quality parenting support), alongside educationally based learning supports, and accommodation in a hostel that caters for mothers and babies.

In New Zealand, the success of David Olds and his colleagues in a Nurse Home Visitation Programme (NHVP), based on the Nurse-Family Partnership model, has been replicated in an Early Start home visiting programme carried out in Christchurch with similar positive outcomes.^[25] Such an approach may be able to be utilised in the BayTrust region, provided the local communities including Māori agreed to and supported such a proposal.

In 2010, the New Zealand Public Health Advisory Committee, in their report *The Best Start in Life: Achieving effective action on child health and wellbeing*,^[47] urged the government to prioritise preventive spending (e.g. early childhood education, good childhood nutrition, maternal health during pregnancy), and protective spending (e.g. targeted housing insulation or centre-based early childhood education), rather than remedial or treatment spending that focuses on treating or managing the problems after they have emerged. This is again supported by Heckman (2011) who reported that, “We can invest early to close disparities and prevent achievement gaps, or we can pay to remediate disparities when they are harder and more expensive to close. Either way we are going to pay,” (p.36).^[13]

A number of vulnerable, high-risk families are reluctant to attend services and may actively avoid health professionals for fear of being reported to services they see as unhelpful, such as Child, Youth and Family (CYF). Many of the CYF clients are Māori and being able to provide at least some form of culturally responsive services which are co-located in local communities may be one way to better support vulnerable families. Additionally, providing practical support such as transportation to and from services may help to support more equitable access. Such is the case for anecdotal reports of a growing group of early childhood providers, in low decile areas, that are now providing a “pick up and drop back” service for their low-income families. It also means that many of these services have waiting lists for entry.



10. Conclusions

Ka rere te hue mataati

The first shoot of the gourd stretches out
When an action is started it should be followed
through until a result is produced^[48]

Investing and intervening early in the first 1,000 days of a child's life is full of potential.^[49] Whilst the New Zealand government must take a leading role in addressing vulnerability, there is also an important role for philanthropic communities, including in some of these key areas:

Upskill existing community workers in the importance of the first 1,000 days, so that those already engaged in vulnerable communities can widen their own understandings and support the dissemination of information and education.

Prioritise intervening early, using the best available evidence, in the lives of mothers/families who face the “clusters” of challenges that make them the most vulnerable (e.g. age/education, housing, stressors). This must include practical solutions to practical problems, such as evidence-based parenting programmes which provide transport of the parent and child to co-related programmes.

Support the development of “baby friendly” environments (e.g. with areas to feed infants, and prioritised parking spaces) that are also welcoming and engaging to young parents, including through the use of technology and support for web-based learning services.

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