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Koi Tū
Evidence
Brief

Early investment:
A key to reversing intergenerational disadvantage and inequity in Aotearoa New Zealand

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December 2023

Ahakoa he iti, he iti pounamu
Although it is small, it is precious

A tribute to Chloe Wright, a remarkable woman and philanthropist

We were deeply saddened to learn of the passing of Chloe Wright, a cherished member of our Koi Tū family and a remarkable philanthropist. On behalf of Koi Tū: The Centre for Informed Futures, we extend our condolences to her family, friends, and loved ones.

Chloe's unwavering support as CEO and co-founder of the Wright Family Foundation has left an indelible mark on many New Zealand organisations, including Koi Tū. Her generosity and dedication were instrumental in establishing the Knowledge Hub for Maternal and Child Health at Koi Tū, which has had a profound impact on our ability to provide the latest evidence-based research to policy and decision makers.

Chloe's commitment to our cause went beyond the Knowledge Hub. Her recent commitment through the Wright Family Foundation is a testament to her visionary philanthropy. The three-year programme will explore the impact of technology on societal wellbeing. Chloe's generosity will do much towards creating a better future for all New Zealanders.

Chloe's legacy will forever be intertwined with Koi Tū's mission to inform and inspire a brighter future. Her passion for New Zealand and its people, especially mothers and children, will be deeply missed.

Sir Peter Gluckman
Director
Koi Tū: The Centre for Informed Futures

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Koi Tū: The Centre for Informed Futures is a research centre and an independent, non-partisan think tank at Waipapa Taumata Rau, University of Auckland with associate members across New Zealand and the world.

We address critical long-term national and global challenges arising from rapid and far-reaching social, economic, technological, and environmental change.

Our name, Koi Tū, was gifted by Ngāti Whātua Ōrākei. It means 'the sharp end of the spear'. Like our namesake, Koi Tū aims to get to the heart of longterm issues challenging our future.

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The context

Aotearoa New Zealand has a problem with persistent child poverty and the resulting intergenerational fallout.[1,2] It accelerated dramatically in the late 1980s, when government policies that privatised significant sectors of the economy resulted in considerable job loss and community breakdown. Soon after, the universal family benefit was abolished.[3] Parental support systems, particularly home visiting services such as Public Health Nursing and Plunket, were weakened by a lack of adequate dedicated funding. In addition, wages fell and market rents were introduced for social housing. The accompanying dramatic escalation in whānau and child poverty persists today (Figure 1). Children born into deprivation from the late 1980s are now a cohort of new parents whose children are at greater risk of experiencing a continuing cycle of disadvantage.

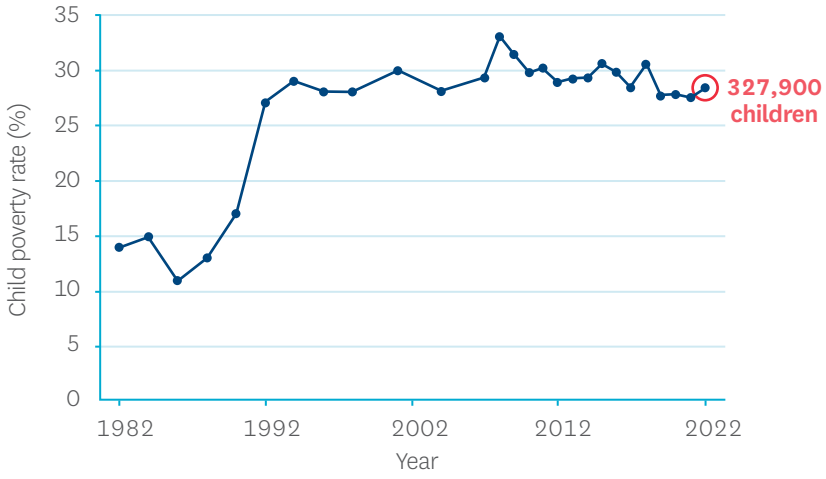

Figure 1. Child poverty rate as measured by number of children living in households with income less than 60% of median after housing costs. Data from Boston and Chapple[4] and StatsNZ.[5]

Despite some notable policies in recent years that introduced fiscal and social interventions to reduce child poverty, its rate has remained stubbornly high. New Zealand babies are disproportionately born in more economically deprived areas,[6] and in 2022 the Child Poverty Indicators report showed mixed progress in immediate and longer-term measures of child poverty.[7] To effect more significant change, a more comprehensive systems approach needs to be added to current initiatives.

Māori and Pasifika populations are disproportionately affected by child poverty and intergenerational disadvantage. This has occurred against the backdrop of New Zealand's colonial history and has led to significant disadvantage and inequity for Māori, leading to differences in health outcomes that are persistent, avoidable and unjust.[8,9] This disadvantages our whole society and conflicts with the agreements inherent in Te Tiriti o Waitangi.

The impact of intergenerational disadvantage

As a result of the drastic increase in child poverty since the late 1980s, large numbers of tamariki have been born into environments of deprivation and potential toxic stress,[i] placing them at major risk of compromised lifelong outcomes.

The impact generally begins as early as *in utero*. During pregnancy, the growing fetus may be exposed to poor nutrition, alcohol, tobacco and other illicit drugs, which increase the risk of negative lifelong

i Toxic stress refers to excessive or prolonged activation of a child's physiological stress response systems due to experiences of severe stress without the protection of supportive caregivers. Toxic stress affects many aspects of physiology including brain development and the immune, nervous and endocrine (hormonal) systems. It is also linked to increased risk of many chronic diseases in later life.[10]

behavioural, physical and mental health impacts. Having a suboptimal nutritional state during pregnancy, whether due to inadequate caloric intake, an imbalanced dietary pattern, maternal obesity or gestational diabetes, is closely linked to poorer metabolic health in the child. Exposure to tobacco smoking during pregnancy is associated with similar childhood outcomes. These prenatal experiences are linked to chronic diseases in adulthood such as obesity, type 2 diabetes, cardiovascular disease and other conditions.[11] There is also growing evidence that fathers who have poorer physical and mental health or are exposed to alcohol, tobacco or recreational drugs at the time of conception pass on increased disease risk to their children.[12]

Active parent/caregiver interactions in the first years of life through play and interactive reading are key to brain development, and the absence of such interactions contributes significantly to a greater risk of impaired development of executive functions. Having impaired executive functions affects many critical abilities such as learning, paying attention, exerting self-control and displaying empathy. This may set a child on a lifelong path of great challenges that include educational underachievement, financial instability, poorer physical and mental health, poorer interpersonal skills and antisocial behaviour.[13]

Thus, multiple modifiable factors acting through pregnancy and infancy may pose challenges to socioemotional and cognitive development as well as increase the risk of non-communicable diseases. These contribute significantly to increased morbidity and early mortality. Such outcomes are critical factors in the persistence of inequity,[12] and are also a massive burden on the health system.

Maternal mental distress, including depression and anxiety during and after pregnancy, is increasingly being recognised to leave a harmful intergenerational legacy. Around 15% of New Zealand women are affected by perinatal distress severe enough to be considered clinically significant, and up to half of all mothers may be affected to some extent.[14] In addition to the impact on women and their whānau, maternal mental distress may have profound consequences for the child, including on development of their brain and executive functions. This can occur in several ways.

First, mental distress may interfere with feelings of attachment (bonding) starting during pregnancy, and then, postnatally, affect the quality and quantity of parent-child interactions.[15] The absence of a secure attachment and active interaction with their parent can compromise the child's early brain growth, providing a suboptimal foundation that in turn affects the later development of their executive functions.[16] Second, depression during pregnancy – even at subclinical levels – may directly affect the growing fetus' brain development through a biological mechanism and lead to poorer executive functions in the child.[17,18] Female children may themselves grow up to be at greater risk of prenatal depression and of having babies who are similarly impacted, thus feeding an intergenerational cycle of disadvantage.

Mothers who experience socioeconomic deprivation are far more likely to experience mental distress in the perinatal period.[14,19] Such deprivation is also linked to other stressors, including financial instability and family violence, which are in turn associated with adverse childhood experiences such as physical/emotional neglect, abuse and trauma.[20] These experiences give rise to an environment of toxic stress, negatively impacting maternal mental health as well as having damaging effects on parent-child bonding and on a child's neurodevelopment, including later executive functions development. This can make it difficult for young people to develop aspirations and to have a self-determining, healthy life.

All of this perpetuates a cycle of intergenerational disadvantage: many of the children who were born into poverty are now parents themselves, or becoming parents, and are likely to find it challenging to provide an optimal environment for their children to grow up in. Very high numbers of children are caught in this cycle of disadvantage, creating an ever stronger and urgent need for New Zealand to address the underlying issues by investing in young people (as future parents), pregnancy and early childhood, and break the cycle of inequity and intergenerational disadvantage.

How do we reverse it?

While this problem may seem intractable, it is solvable. There is good evidence for long-term steps that can effectively intervene in the consequences of the poverty cycle and thereby help lift people out of it. They will cost, but failing to enact them will be more burdensome in terms of individual and whānau distress, societal safety and wellbeing, and the otherwise far more enormous future expense to health, social and justice systems.

The approaches described below are evidence-based. One operates at the systems level and the other focuses on individuals. The approaches are complementary, and both are needed.

1. The systems level: society, government, community

Key points

- A healthy society depends on healthy children. Yet in New Zealand an estimated 20–30% of children do not have their basic needs met (Figure 1). Mothers, fathers and whānau have the most important role in caring for tamariki, but the quality of support systems around them can help or hinder their capacity to be the good parents they wish to be. The size and complexity of intergenerational disadvantage mean that in order to provide the required wraparound support, a systems approach linked into wider government and community sectors is urgently needed (Figure 2).

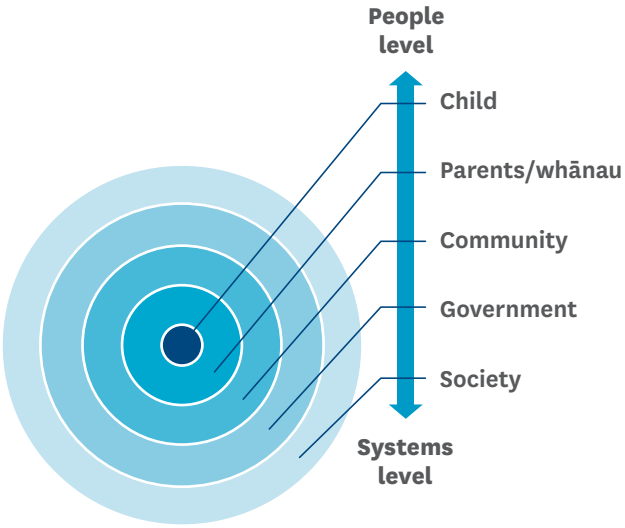

Figure 2. The 'onion ring' of a healthy society places children at its centre, cared for primarily by parents/whānau with wraparound support from the community, government and wider society.

- It is vitally important to invest early and focus spending to support the earliest stages of life, from pregnancy through to childhood to minimise the much greater later lifelong costs of largely preventable issues. Early investment yields health and social benefits, and is also one of the most cost-effective interventions there is (Box 1).[21]
- Maternal mental health, which is largely determined by the level of background stressors, is a crucial influence on a child's health outcome and the ability to form a strong parent-child bond. Appropriate systems that support all parents to achieve optimal mental wellbeing or manage mental health challenges are critically important.
- All children deserve the best possible start to promote their long-term physical, neurodevelopmental and mental health, and, in turn, their potential to contribute to society. There is a critical window of opportunity to provide support, during which the child's exposures and

Box 1. The profound return on early investment

The powerful economic impetus to act early to reduce intergenerational disadvantage has been widely demonstrated. The earlier the investment, the greater the return in human capital (Figure 3).

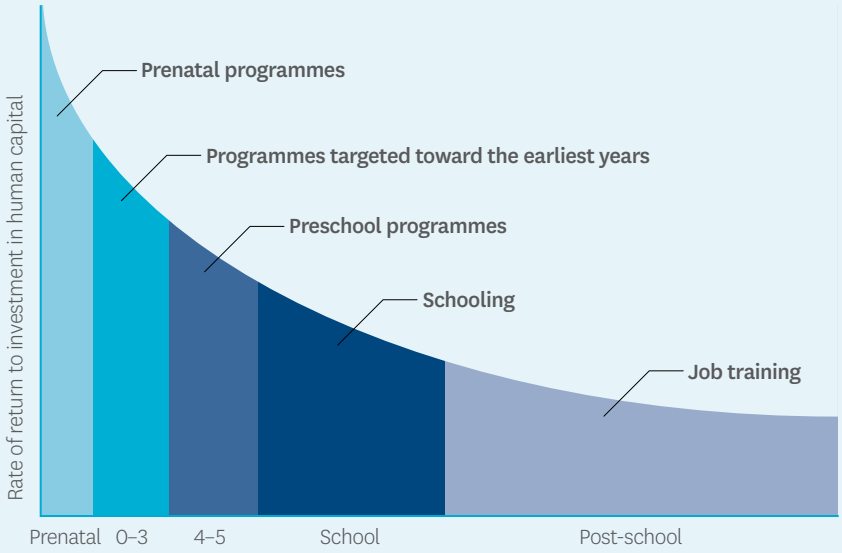

Figure 3. Investment in the earlier stages of life promotes child success, greater productivity and reduced social spending, yielding greater overall economic benefits. Adapted from Heckman.[21]

There is a wealth of evidence that access to high-quality, rigorously evaluated early childhood interventions for at-risk children can lead to numerous lifelong benefits.[24] One example is a set of closely related programmes – the Carolina Abecedarian Project and Carolina Approach to Responsive Education – that provided enriched care from 8 weeks of age until 5 years. These programmes had a positive impact on children's cognitive and socioemotional skills, with longer-term benefits on education, employment, risky behaviours, and cardiovascular and metabolic health.[25,26] Economic analyses demonstrated the immense value offered by this form of early intervention, with every dollar spent on the programmes providing an estimated $7 of future benefits, and a return on investment as high as 13.7% per year, per child over a lifetime.[27]

Another example is the High/Scope Perry Preschool Project targeting disadvantaged 3- to 4-year-olds. Attendees outperformed non-attendees in language and cognitive performance and high school completion; then, as adults, they were more likely to be employed, have a higher income and have fewer interactions with the corrections system.[28] This programme has been estimated to provide a return of $7 to $12 for every dollar invested.[29] Remarkably, it triggered broader positive ripples: participants' siblings also benefitted in education and employment outcomes, and their children were much less likely to be suspended from school and more likely to achieve higher levels of education and employment, and to have better health.[30,31]

In New Zealand, the Dunedin Longitudinal Study showed that just 20% of the cohort was consistently involved in a highly disproportionate share of health and social outcomes that incur a heavy economic burden, including 80% of social welfare benefit use, 77% of overnight hospital stays and 97% of criminal convictions.[32] Members of this high-cost group tended, as children, to be socioeconomically deprived and have poorer executive functions. Had these high-cost members received interventions in early life, much of this later-life cost would likely have been prevented.

experiences influence the trajectory of their long-term outcomes. This is generally referred to as the 'first 2,000 days'[ii, 22] and spans the point of conception through to about five years of age.

- Child outcomes are improved when their whānau, too, have access to needed support that is sustained until at least the start of school (that is, the first 2,000 days).
- Education of our children and young people, with attention to their respective languages and cultures, is essential to paving a way out of poverty because it enables self-esteem, aspiration, achievement and social mobility.[23]
- Most new or expectant fathers and mothers want the best life for their children. Thus, access to appropriate supports early in parenthood – ideally from conception – is the intervention most likely to assist parents to grow these aspirations, adapt their lives and enhance the lives of their children.

The approach

The systemic approach most likely to be successful in reversing the cycle of intergenerational disadvantage involves cross-sectoral initiatives from three domains: health, education and social development.

The **health approach** requires that mothers and fathers are linked to the maternity system as soon as possible following recognition of pregnancy. This acknowledges not only the well-established evidence that parental physical and mental health during the prenatal period are important for the child's health outcomes, but also that many disadvantaged young women do not engage with the health sector until pregnant. Early linkage to the maternity system provides a suitable opportunity for referral to health services and wider culturally appropriate social support arrangements. Currently about 28% of pregnant New Zealand women are not engaged with a Lead Maternity Carer (LMC/midwife) within the first trimester.[33] These women are more likely to be Māori, Pasifika or Asian, young and socioeconomically deprived. Targeted, culturally appropriate effort is required to assist all these women to achieve early LMC engagement.

With the health approach, all pregnant women and women intending to conceive would be supported to keep pregnancies as free as possible from major stressors including poverty, lack of housing, family violence, and licit and illicit drugs; to have good nutrition; and to begin to bond with and have aspirations for their prospective child. All women should also be screened for mental distress and family violence during and after pregnancy. Screening is especially important in the context of rising rates of mental distress among today's youth.[34] The goal is for healthy intending parents to experience healthy pregnancies and be well equipped to bond with their babies and provide them with the best start to life.

During the early years after birth, rapid brain development occurs and neuroplasticity is at its highest.[35] This is therefore the most effective time for intervention using a **social development approach**. LMCs are in an ideal position to identify and refer parents in need of additional support services during antenatal and postnatal periods. This is then followed through by an easily accessible, culturally appropriate social working support service involving local kaitiaki[iii] who can engage with mothers, fathers and whānau. This tailored support is designed to reduce stressors, ranging from enhancing

ii We note that compared to the narrower scope of the 'first 1,000 days', as commonly seen in the literature, this term better reflects the evidence that the critical window for effective intervention extends into the preschool age.

iii A range of terminology is used to refer to the paraprofessionals working with whānau alongside healthcare professionals to improve outcomes. While specific responsibilities vary, all roles generally involve acting as a conduit to build trust with whānau and help them identify and work towards their aspirations. The Whānau **Kaitiaki** model, adopted by Tipu Ora,[36] is based on kuia (Māori female elders) playing the role of intergenerational carer and educator with mothers, babies and the wider whānau. Other related roles (involving varying role definitions) include **paeārahi** (used by Whānau Ora), **kaiāwhina** (Plunket, Te Aka Whai Ora), **kaitakawaenga**, and **navigator**. In this brief we use *kaitiaki* as an overarching term broadly encompassing the above roles and also emphasising the mother-baby focus within whānau.

housing quality and living arrangements to managing finances and facilitating access to parenting support. This in turn enables families' parenting and their aspirations for their babies and children. Ultimately, local communities are strengthened.

In one very promising pilot programme, Tiaki Whānau, young parents are supported by kaitiaki; the programme has already begun to demonstrate the value of whānau-centred care, with increased wellbeing of parents and babies.[37] The South Auckland-based Start Well programme draws on similar principles and has successfully addressed family harm and mental distress.[38] Examples like these must be rolled out more widely but with consideration of the need to grow the kaitiaki workforce to accommodate the demand. A growing kaitiaki workforce needs nurturing, including a social working team with whom mutual support and supervision arrangements are in place. Additionally, a 'fit for purpose' professional supervision support system is essential to ensure workforce safety, reduce burnout and enable professional development for all involved. This supervision system is also needed to define, monitor and facilitate progress on workforce growth needs, identify additional gaps in services (e.g. housing, mental health and addictions support), and advocate to funders. In this way, all wider whānau and community needs are addressed (Figure 2). These supportive arrangements should be in place and remain with the child and family at least until the child starts school.

The longstanding importance of Plunket as a Well Child provider of care and support to large numbers of New Zealand children in increasingly complex situations should be acknowledged. It is critical that they too receive resources required to grow their services.

The **education approach** dovetails with the health approach. It must be responsive to referral needs of children and whānau and be linked to meaningful, culturally appropriate community engagement. The education approach is key to later life productivity and success; it applies to all life stages and extends beyond formal schooling. For example, parent education to promote 'serve and return' interactive play and reading between caregivers and infants for development of executive functions can help establish a strong foundation for both bonding and lifelong learning.[16] Then, increased tamariki and whānau engagement with the early childhood sector, including Kōhanga Reo (language nests), will be critical to facilitate school readiness as well as cultural and language acquisition. Serve and return interactions, such as active and engaged reading with children, should be continued at this age. Screening of preschool children can help identify those in need of targeted support for improved executive functions. Increased engagement with schools and community-led approaches are needed to enhance school attendance and achievement of potential, and ultimately employment levels.

Later, health literacy-focused education in older children or adolescents is essential to supporting the health approach. Health literacy will help people understand the importance of public health measures such as immunisations, maintaining a healthy diet and keeping physically active. Such knowledge may often otherwise not reach parents and children. In addition, as today's generation of children will become tomorrow's parents, educational programmes teaching the importance of pre-conceptional parental health for the child's health outcomes should be included in the curriculum for adolescents.[39,40]

Sustaining the health, social development and education approaches will require cross-party acknowledgement of the enormity of the challenges, the effectiveness and importance of the solutions, as well as a long-term whole-of-government/public service commitment to these solutions. This also involves committing to a progressive shift in government spending from late-stage interventions, which are relatively ineffective and expensive, to investment in early preventative interventions that are more effective and less costly.[41-43]

Rigorous anonymised data analysis is essential to help identify where resources should be directed and to assess the impact of services as they evolve. For example, the New Zealand Integrated Data Infrastructure (IDI), a large database containing anonymous information on millions of individuals, has been successfully used to study many aspects of social investment including child wellbeing, as exemplified by the Social Wellbeing Agency.[44] To be successful and sustained, the planned solutions and systems must involve partnership with local iwi and culturally appropriate organisations, and be led and governed by the community.

Next steps

- Appropriate government policies need to be developed and implemented by combining input from all involved Ministries – including Health, Social Development, Housing, Education, Women and Oranga Tamariki – and from academic and non-governmental organisation sectors. Policies must be informed by evidence rather than rhetoric, and for intergenerational impact must be focused on the long term. Policies with an indigenous lens and language are needed.
- An integrated health-social development-education model of care for the pre-conception period through to start of school should be developed. This model should link to the early childhood education sector and could be based on current Whānau Ora-styled initiatives that are culturally appropriate, enable engagement and are co-led with parents/whānau.[45] It must include relevant quantified workforce growth and development needs, and provision of professional support and guidance. This model should also define and address service gaps and investment needs across government and community sectors without creating fragmentation.
- The education component of the above model should be community-based and include leadership from local government, iwi, diverse communities and the business and production sectors. An outstanding example of a successful community- and evidence-based approach is the Icelandic initiative that dramatically lowered substance abuse in adolescents in just two decades.[46] Another useful model linking social development and education is the UNICEF initiative to establish Child Friendly Cities,[47] which includes community governance and focused service delivery initiatives such as getting young people into education and work. Local councils are best placed to lead such initiatives.
- The health, education and wider government sectors including Treasury need to define, with iwi input, the appropriate outcome metrics and ensure that relevant information systems are able to monitor progress.

2. The people: supporting engagement of our children, parents, whānau and community

Key points

- Maternal health outcomes are inequitable in New Zealand.[48] Access to regular primary care is not evenly distributed, and the only health professional some women ever engage with is their midwife. About 94% of women choose midwives as their Lead Maternity Carer,[33] indicating that New Zealand's pregnancy support system should be midwifery-based, but also that there needs to be seamless transfer to other professional services as the infant develops.
- Early engagement of pregnant women with the maternity system is crucial for receiving optimal antenatal care. This is also an important time to assess what additional forms of social support the woman and her whānau may require.

- For Māori, Pasifika and other currently under-served peoples, culturally appropriate, locally developed whānau-based approaches are essential.[49] Working 'with' rather than working 'on' whānau/aiga confers a high level of trust and enables sustained engagement.

The approach

The maternity system needs to be strengthened to ensure early engagement and early referrals for appropriate social support. Midwives and a supportive kaitiaki-inclusive social working system will play a central role in this. Midwives should be able to easily refer at-risk women to kaitiaki and their social working and other colleagues who, in turn, can help or refer parents for support in a broad range of areas including addictive behaviours, nutrition, mental wellbeing, financial problems and housing issues. Kaitiaki and their social working colleagues are therefore integral to **facilitating access** to healthcare and wider services. They can then support children and their whānau throughout the early years, overseeing their involvement with Well Child services and early childhood education through to the start of school life. This provides an all-important **continuity of care**. Where needed, whānau may be supported to have access to high quality parenting programs such as Incredible Years and Triple P, both of which have been evaluated in Māori whānau.[50,51] The entire process must be adaptable to ensure that every child and their family receives the support they need.

In keeping with the need to adhere to whānau-based approaches, kaitiaki should be part of culturally appropriate organisations such as Whānau Ora and its community partners, or equivalent charitable trusts such as Tipu Ora and the Southern Trust.

The proposed kaitiaki workforce will take time to grow in capacity, so its establishment is urgent. To grow and be effective, this workforce must be regularly supported by a culturally sensitive, multi-professional supervision arrangement. The supervisory system should have the capacity to identify and respond to workforce growth and development needs, and to provide professional support and guidance to those working at the coalface. While the proposed workforce is primarily intended to support mothers, fathers, their whānau, the maternity system and the child's first 2,000 days, it should also be linkable to other relevant whānau needs and culturally important, iwi/community-run initiatives.[iv]

Successful implementation of this approach will depend not only on a strengthened maternity workforce, but also on robust monitoring of progress to problem-solve and adapt services to context.[52]

Next steps

- Establish the level of need across the health system and identify suitable iwi/community-determined localities most in need of an initial pilot programme. The success of such programmes will warrant immediate wider roll-out to all "needing to be valued"[v] mothers, fathers, children and whānau to ensure a comprehensive system is in place.
- Develop a plan that includes building capacity within a culturally appropriate kaitiaki workforce. The workforce should also have supervisory support from multi-professional arrangements and the local community. The level of financial and resource commitment likely to be required as these services grow over the next decades needs to be determined and committed to.

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iv The issues of intergenerational disadvantage are of great concern to iwi and there is a high level of willingness to assist. However, the maternity system first needs to be sufficiently strengthened by the proposed kaitiaki workforce to provide clarity on how iwi can contribute most effectively.

v This term reflects the importance of regarding those requiring targeted assistance as part of the solution; they must be worked with and valued, rather than having efforts to improve outcomes imposed on them.

- Define appropriate metrics and collect relevant data to measure implementation and monitor progress.

Intergenerational disadvantage is a long-term problem, so proposed solutions will require long-term vision and commitment, necessitating cross-party assurances across the political spectrum. Measures will need to include systemic (top-down) planning and funding initiatives as well as the culturally relevant grassroots approaches. All should adopt a potential-based lens rather than a deficit-based lens. Every day of inaction results in additional tamariki not having their needs met and, in the longer-term, the potential for these tamariki to become struggling parents. This speaks to the urgency of starting now.

Mā te huruhuru, ka rere te manu
Give the bird feathers and it will fly

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