

Mana Whakaora | Equity Report

A Review of the Contact Tracing Technologies

Prototype Research Programme

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Preface

This report has been prepared as a key contribution to the Contact Tracing Technologies Prototype Research Programme (the Programme).

It sits alongside two reports also contributing to the Programme; *Research Report - Te Whatu Trial of the Bluetooth-enabled Contact Tracing Card* (University of Otago) and *Co-Design Report - Evaluation of the Co-Design Process of Te Whatu Trial of the Bluetooth-enabled Contact Tracing Card* (University of Waikato).

All three reports have a particular focus area; the Research report out of the Trial, evaluation of the Co-Design of the Trial and Equity lens across the Programme. Each should be read independently noting that there may be references to each across all three Reports.

Acknowledgements

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We also wish to acknowledge the goodwill of all agencies and partners involved in the Programme.

Ki a koutou nō ngā pūmanawa e waru o Te Arawa ōtira ki te Manatū Hauora, kei te mihi, kei te mihi, kei te mihi.

*He rangi tā Matawhāiti
he rangi tā Matawhānui*

*The person with a narrow vision sees a narrow horizon
The person with a wide vision sees a wide horizon*

Disclaimer

This Report has been prepared under contract for professional services between the University of Waikato and Ministry of Health.

The content and recommendations are based on the Author's own observations and experiences as part of the Programme. The views expressed herein are not the expressed views of the University of Waikato.

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1. Executive Summary

Mana Whakaora / Equity Report in the title of this report is an expression of maintaining the health and wellbeing of all people encapsulated in the phrase “*kia whakaora te mana o te tangata*”.

Taking an equity position in the Programme is complex but represents an opportunity to do things differently – how to reimagine ‘a system many of moving parts and players’ wherein the arrival of COVID-19 has highlighted, exposed (and exacerbated in some instances) the shortcomings of it such that to return to the pre-Pandemic conditions is not acceptable and nor should it be an option.

It requires a depth of understanding underpinned by the Principles of Te Tiriti o Waitangi to bring about opportunities to approach things consistent with the Principles of *Partnership, Protection and Participation*.

It requires courage to set policy differently that privileges responsiveness to Māori and our vulnerable communities that results in an intricate weave or lattice in the provision and delivery of services to address such complexities.

Fundamentally it does not subscribe to a one-size fits all approach but highlights the need to better understand nuanced approaches for a given situation in order to deliver fit for purpose outcomes for Māori and priority communities in Aotearoa New Zealand.

The first part of this report in the Background section provides insight into the Programme Guiding Principle to Uphold the Principles of Te Tiriti o Waitangi and how this has been operationalised in evaluating the Programme through an equity lense. It serves as a reminder of the legacy of New Zealand’s founding document(s) and offers a way forward in applying these Principles in a contemporary setting in respect of contact tracing using digital technologies.

What follows is a treatise on equity versus equality. Notwithstanding Te Tiriti o Waitangi and embodied concepts of tino rangatiratanga and mana motuhake, it will come as no surprise that numerous frameworks have been developed, multi-year strategies in place and annual actions plans underway which have an emphasis on equity outcomes in health, Māori health, disabled, Māori disabled, elderly, Pacific peoples, Asian New Zealand and Rural New Zealand communities. It would therefore be remiss in the context of this Programme to ignore this extant body of work and an overview of this is provided to give insight into the complexities of taking an equity approach in the Programme. Similarly, multiple frameworks abound in the Information and Communications Sector and a overview of those of direct relevance to the Programme are included such as Māori data sovereignty, digital inclusion, data protection and use, the Privacy Act 2020 and Algorithm Charter for New Zealand. Finally, the Background section concludes with references to the international context including New Zealand’s participation in the United Nations and Māori participation in global indigenous data networks.

The second part of this report follows with our approach taken in the Programme, describes the context and setting, underlying assumptions, and roles and functions of the agencies and partners involved.

The Programme and related workstreams of the Technical Trials, Te Arawa Field Trial for Community Use, MIQ Trials, Privacy and Security, Interoperability and Market Research are described using the evaluation framework through which an equity lense is applied. From this evaluation, 26 equity observations are highlighted.

Key lessons learned with equity as a Principled approach are offered as it relates to co-design, trust, data, digital inclusion and costs and benefits.

Recommendations that inform future next steps are described under three broad areas; People and Community, Process and Policy and building Trust and Confidence in the use of Technologies.

Maintaining momentum and self-care vigilance amongst all New Zealanders at a time of high uncertainty needs careful and deliberate consideration.

This Programme has exceeded it's own scope embracing an equity dimension. In doing so, it highlights that working in and alongside our Māori and vulnerable communities /S possible and key learnings must inform the broader national contact tracing system.

Creation of Government policies grounded in equity for Māori and vulnerable communities is also necessary and such policies need to respond to ensure equitable investment for equitable outcomes.

2. Purpose

The purpose of this report is to provide an equity lens across the Contact Tracing Technologies Research Programme (the Programme) and in doing so, identify and evaluate opportunities for collaboration across Government (such as Ministry of Health, Department of Internal Affairs, Office of the Government Chief Digital Information, Office of the Privacy Commissioner), Iwi, hapū and whānau as partners under Te Tiriti o Waitangi, key stakeholder interest groups, partners (incl. technology suppliers). Furthermore, recommendations in this report might inform the All of Government COVID response along with bolstering the Māori-Crown Relationship.

Through an equity lens, we are able to assess how responsive the Programme is to Māori and priority (often vulnerable) communities in Aotearoa New Zealand, recognising first and foremost that when we lift up vulnerable members of communities, we lift up the potential for everyone to succeed as the best versions of themselves.

3. Background¹

The Public Private Partnership group (PPP) produced a report in June 2020 recommending the Government consider nationally deploying Bluetooth-enabled 'CovidCards' to improve contact tracing. Following the release of this report and as directed by Cabinet [CAB-20-MIN-0175], the Government Chief Digital Information Officer (GCDO) and the PPP led cross-agency work to independently trial the CovidCard and assess the potential benefits for contact tracing. This initial trial found the prototype CovidCard performed under controlled conditions.

On 3 August 2020, Cabinet agreed to further testing and a field trial of the CovidCard to test whether it could improve contact tracing [CAB-20-MIN-0370]. Cabinet also noted the need to explore the potential value of other digital technologies in our contact tracing system and that there were broader issues to consider regarding the deployment of digital solutions, such as:

- a) the importance of maintaining social licence and buy in across diverse communities
- b) the interoperability of digital technologies across platforms, and their fit within the wider contact tracing system.

Through an equity lens, this report also provides an opportunity to reimagine and strengthen the Māori-Crown relationship wherein the arrival of COVID-19 has highlighted, exposed (and exacerbated in some instances) the shortcomings of the current system such that to return to the pre-Pandemic conditions is not acceptable and nor should it be an option.

It would be remiss to evaluate the Programme without due consideration of the guiding Principle to uphold the Principles of Te Tiriti o Waitangi. Similarly, it is impossible to review equity across the Programme without understanding the diversity of population and contexts in Aotearoa New Zealand; from equity in health, equity for Māori in health, equity for the disabled and Māori disabled, equity for the Elderly, equity for Pacific Peoples, equity for Asian New Zealanders and Rural New Zealanders. As a primer, the ensuing Background section is a must read.

Guiding Principle to Uphold the Principles of Te Tiriti o Waitangi

The Programme Charter includes a Commitment to Upholding Te Tiriti o Waitangi as a Guiding Principle such that the Programme collective efforts reflect a genuine commitment to partnering with Māori as tangata whenua.

Upon closer reference to Te Tiriti o Waitangi, there are several ways to interpret this when extracting key words from the te reo Māori and English versions and understanding the development of the 'Treaty Principles'² in a modern context that might have application in the Programme.

¹ 20201119 Report back on the Bluetooth-Enabled Contact Tracing Cards Cabinet Paper - DRAFT

² <https://nzhistory.govt.nz/files/documents/treaty-kawharu-footnotes.pdf>

Te Tiriti (signatories = 512)	Translation	English (signatories = 39)	Principles ³
Article 1: Kawanatanga	Appoint a Governor to control <i>her</i> people	Article 1: Sovereignty	Partnership
Article 2: Tinorangatiratanga (taonga, hoko)	Authority	Article 2: Possession	Protection
Article 3: Tikanga rite tahi	Same rights	Article 3: Same rights	Participation
Article 4: Ritenga	Religious freedom	Not included	Not included

Figure 1: Principles of Te Tiriti o Waitangi⁴

In this report where there is reference to the 'Principles of Te Tiriti o Waitangi', these are taken to refer to *Partnership, Protection and Participation*. This report will refer to these Principles in evaluating the Programme and application of an equity lens (taken to be meaningful participation within Article 3).

Indeed, that "The Treaty of Waitangi guarantees equity by recognising health as a taonga"⁵ in the context of this report means that the Programme's 'responsiveness to Māori' is a prominent feature.

'Equity, Policy, Privacy and Legal' is one of five themes in the Programme Evaluation Framework. It seeks to interrogate the following:

- How does the system uphold Te Tiriti o Waitangi and Māori Data Sovereignty?
- How does the system address health equity considerations?
- What are the Privacy Implications of the system?
- What policy is required to support its implementation?

In assessing the workstreams in the Programme, these questions form the basis of said assessment.

Equity versus Equality

It is important to raise the distinction in the Programme when applying an equity lens and to also start from a place of common understanding and interpretation of key concepts.

Equity in Health

It is useful to provide some definitions of key terms referred to throughout, starting with the difference between equity and equality.

³ New Zealand Māori Council v Attorney General, [1987] 1 NZLR 641, (1987) 6 NZAR 353

⁴ <https://nzhistory.govt.nz/files/documents/treaty-kawharu-footnotes.pdf>

⁵ https://www.health.govt.nz/system/files/documents/publications/achieving-equity-in-health-outcomes-important-paper-highlights-nov18_1.pdf

Equality can be described as the state of being **equal**, especially in terms of status, rights **or** opportunities. ... **Equality** is 'sameness', while **equity** is an ethical construct that recognises that different groups may require different approaches and resources to achieve the same outcomes – Ministry of Health⁶ (emphasis added)

The Ministry of Health definition of equity is:

In Aotearoa New Zealand, people have differences in health that are not only avoidable but unfair and unjust. Equity recognises different people with different levels of advantage require different approaches and resources to get equitable health outcomes.

This definition of equity was signed-off by Director-General of Health, Dr Ashley Bloomfield, in March 2019.

An equitable playing field is essential to improve health outcomes for Māori, Pacific Peoples, those with disabilities and other groups⁷

Equity for Māori in Health

He Korowai Oranga – New Zealand's Māori Health Strategy

Māori life expectancy is considerably lower than that for non-Māori, overall mortality rates are higher for Māori than for non-Māori at nearly all ages and Māori health status is unequal with non-Māori across almost all chronic and infectious diseases as well as injuries, including suicide⁸.

Set against this backdrop, *He Korowai Oranga*: Māori Health Strategy sets the overarching framework to guide the Government and the health and disability to achieve the best outcomes for Māori.⁹

Pae Ora or Healthy Futures is predicated upon three elements; *mauri ora* (healthy individuals), *whānau ora* (healthy families) and *wai ora* (healthy environments) with the Treaty of Waitangi Principles of Partnership, Protection and Participation sitting between Māori and Crown aspirations and contributions.

Weaving three key threads in the strategy relate to *Rangatiratanga*, Building on the Gains and Equity.

⁶ https://www.health.govt.nz/system/files/documents/publications/achieving-equity-in-health-outcomes-important-paper-highlights-nov18_1.pdf

⁷ <https://www.health.govt.nz/about-ministry/what-we-do/work-programme-2019-20/achieving-equity>

⁸ <https://www.health.govt.nz/our-work/populations/maori-health/he-korowai-oranga/key-threads/equity>

⁹ <https://www.health.govt.nz/publication/guide-he-korowai-oranga-maori-health-strategy>

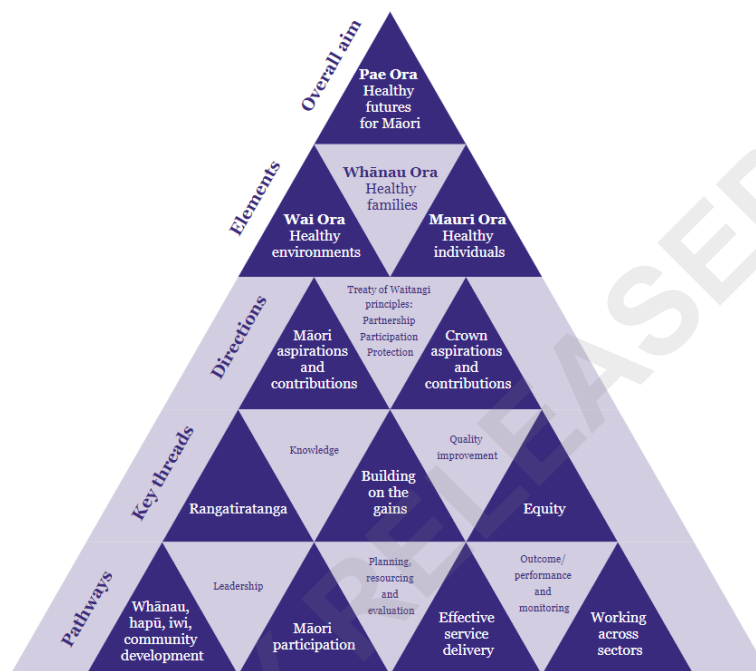


Figure 2: He Korowai Oranga: Māori Health Strategy

If *He Korowai Oranga* is the overarching framework, *Whakamaua: Māori Health Action Plan 2020-2025* gives effect to the strategy and guides the whole and disability system and Government for the next five years. It focuses on four high-level outcomes to realise the vision of *Pae Ora*:

1. Iwi, hapū, whānau and Māori communities can exercise their authority to improve their health and wellbeing.
2. The health and disability system is fair and sustainable and delivers more equitable outcomes for Māori.
3. The health and disability system addresses racism and discrimination in all its forms.
4. The inclusion and protection of mātauranga Māori throughout the health and disability system.

Not surprisingly, it also makes reference to protecting the health of iwi, hapū and whānau and Māori communities in the face of the COVID-19 pandemic.

Equity of Health Care for Māori – A Framework

Acknowledging that there are disparate health indicators for Māori across the health indicators, the *Equity of Health Care for Māori*¹⁰ framework guides health practitioners, health organisations and the health system to achieve equitable health care for Māori.

There are three actions that support the framework.

¹⁰ <https://www.health.govt.nz/publication/equity-health-care-maori-framework>

- **Leadership:** by championing the provision of high-quality health care that delivers equitable health outcomes for Māori.
- **Knowledge:** by developing a knowledge base about ways to effectively deliver and monitor high quality health care for Māori.
- **Commitment:** to providing high quality health care that meets the health care needs and aspirations of Māori.

With the arrival of COVID-19 earlier this year, additional commentaries serve as reminders that equity in indigenous health requires further attention.^{11,12}

He Pikinga Waiora (Enhancing Wellbeing) Co-Design Implementation Framework

Developed in 2016, *He Pikinga Waiora*¹³ (Oetzel J; Scott N; Hudson M; Masters B; Rarere M; Foote J; Beaton A; Ehau T) has indigenous self-determination at its core. Comprised of four elements (Cultural – Centredness, Community Engagement, Systems Thinking and Integrated Knowledge Translation), these have conceptual fit with Kaupapa Māori aspirations and all have demonstrated evidence of positive implementation outcomes.

Intended as a planning tool to guide successful interventions, *He Pikinga Waiora* is the underlying framework that was selected for co-design of the Te Arawa Trial, including Research Protocol, Ethics and Implementation of the Trial.

Due to timing (urgency with the pandemic), it was not possible to utilise *He Pikinga Waiora* as envisaged. It will however, be used to evaluate the co-design of the implementation of the Te Arawa Trial. The “Co-Design Report - Evaluation of the Co-Design Process of Te Whatu Trial of the Bluetooth-enabled Contact Tracing Card” will be prepared at the conclusion of the Trial.

Equity for the Disabled

Creating a non-disabling society is at the core of the *New Zealand Disability Strategy*¹⁴.

“Disability is something that happens when people with impairments face barriers in society; it is society that disables us, not our impairments, this is the thing all disabled people have in common. It is something that happens when the world we live in has been designed by people who assume that everyone is the same.”

A 2013 survey, reveals that one in four New Zealanders are limited by a physical, sensory, learning, mental health or other impairment. 26% of the Māori population were identified as ‘disabled’ compared to 24% of New Zealand’s total population.

¹¹ <https://onlinelibrary.wiley.com/doi/full/10.1111/1753-6405.13015>

¹² <https://thespinoff.co.nz/atea/04-09-2020/maori-are-50-more-likely-to-die-from-covid-19-at-a-bare-minimum/>

¹³ Oetzel et al. Globalization and Health (2017) 13:69 DOI 10.1186/s12992-017-0295-8

¹⁴ <https://www.odi.govt.nz/home/about-disability/key-facts-about-disability-in-new-zealand/>

Whāia te Ao Mārama 2018 to 2020: The Māori Disability Action Plan

Capitlising on progress made during 2012 to 2017, *Whāia Te Ao Mārama 2018 to 2020* is a culturally anchored approach to give effect to the vision where *tāngata whaikaha* (Māori with disabilities) pursue a good life with support.

Most Māori disabled people identify as Māori first. The importance of their cultural identity, which encompasses language, whānau, cultural principles, practices and linkages to the land through genealogy, is paramount to how they live their day to day lives in both Te Ao Māori and Te Ao Pakeha. - New Zealand Disability Strategy 2016 to 2026.¹⁵

It incorporates four outcomes into the Action Plan where *tāngata whaikaha*;

1. **Te Rangatira:** are informed, consider options and make decisions for self
2. **Te Ao Māori:** are active in whānau, hapū and iwi including hui, tanghanga, iwi development and celebrations
3. **Te Ao Hurihuri:** are active in the wider community, including social networks
4. **Ngā Tūhonohono:** can connect between te ao Māori and te ao hurihuri while maintaining their mana

Elderly / Aged Population¹⁶

The “*Healthy Ageing Strategy: A Strategic Framework*” was launched in 2016 and sets the direction for the health and wellbeing of older people with a vision for “older people [to] live well, age well and have a respectful end of life in age-friendly communities”. Connected to the New Zealand Health Strategy theme of Value and High performance has an increased focus on equity for vulnerable population groups.

The 2018 Census highlighted the make-up of the 65+ age group is changing with more people living longer (432,000 being 65-75 years old, 228,500 being 75-84 years old and 86,800 being 85 years or older). “*Better Later Life – He Oranga Kaumātua 2019-2034*”¹⁷ identifies five key areas of action including the promotion of healthy ageing and improving equitable access to health and social services.

The “*National Science Challenge for Ageing Well – Kia eke kairangi ki te taikaumātuatanga*” has embarked on a multi-year research and faceted programme. The Focus Area Research for 2019-2024 has been committed to two areas; Ageing in Māori and Health and Wellbeing in Ageing.

¹⁵ <https://www.health.govt.nz/system/files/documents/publications/whaia-te-ao-marama-2018-to-2022.pdf>, p. 2

¹⁶ <https://www.health.govt.nz/our-work/life-stages/health-older-people/healthy-ageing-strategy-update>

¹⁷ <http://www.superseniors.msd.govt.nz/documents/better-later-life/better-later-life-strategy.pdf>, p.32

Including older people, diversity and flexibility have been highlighted as key for designing services for this demographic along with the importance of co-design and a whānau-centred partnership approach is taken while not losing an individual's view. With these comments in mind, how might digital technologies enable contact tracing for this population requires for the Aged requires further scrutiny.

Equity for Pacific Peoples

Pacific Peoples make up 8.1% of New Zealand's total population¹⁸ and there are more than 40 different Pacific ethnic groups.¹⁹ Since the publication of the first Pacific Health and Disability Action Plan in 2002, there is documentation supporting the poor health of Pacific peoples and worsening trends compared to other New Zealanders.²⁰ As it relates to Equity, there are several challenges such as data challenges in terms of the numerous but disparate sources of information collected for different purposes means that Pacific health data can be hard to find. This is exacerbated further when equity measures often group Māori and Pacific data together or present Māori / non-Māori comparisons.

In "A review of evidence about health equity for Pacific Peoples in New Zealand" published in 2019, the report provided insights into the demographic and social indicators for Pacific Peoples' - considered to have the greatest influence on health - with 66% living in the Auckland region of which 54% reside in the Counties Manukau DHB region. While close to 60% are New Zealand born, there are high concentrations in Mangere and Otara (59% of the local population) and in Manukau (24% of the local population). Pacific peoples are reported to have high levels of social contact with 73% reporting face to face contact with family and 87% face to face contact with friends at least once a week. Taken with some of the social challenges (24% report not having enough money to meet their everyday needs, 40% report living in homes that are always cold, 10% reporting problems with housing with that is damp and/or mouldy) all contribute to a life expectancy rate for Pacific Peoples that has improved more slowly than other New Zealanders.

These nuances at a glance between Pacific Peoples, Māori and Pākehā/European New Zealanders invite closer scrutiny in the development and delivery of health services, including how might digital technologies enable contact tracing set against these nuanced indicators.

Equity for Asian New Zealanders

There has not been a significant review of health equity for Asian New Zealanders in this report, however "In the shadow of Exclusion: The State of New Zealand Asian Health"²¹ published in 2019 provided a timely reminder of the 19th century historical context of Asian settlers who made

¹⁸ <https://www.stats.govt.nz/news/ethnic-group-summaries-reveal-new-zealands-multicultural-make-up>

¹⁹ <https://www.health.govt.nz/our-work/populations/pacific-health/tagata-pasifika-new-zealand>

²⁰ Ryan D., Grey C., Mischewski B. (2019). Tofa Sali: A review of evidence about health equity for Pacific Peoples in New Zealand. Wellington: Pacific Perspectives Ltd, p.2.

²¹ <http://www.nzmsj.com/in-the-shadow-of-exclusion-the-state-of-new-zealand-asian-health.html>

New Zealand their home. The geographical spread and diversity in the 2018 Census reported a population of 15.1% of the total population. One broad critique in the 2019 Report noted that reporting of health outcomes for Asian New Zealanders is done 'without making a concerted effort to examine the statistics and the communities they aim to represent, one cannot assume New Zealand's health care policies are actually effective'.²² This is consistent with earlier references made in the aforementioned sections which observed a greater need to understand the nuances within Māori and Pacific peoples populations.

The study went on to say that while Asians may have the lowest usage of primary health care providers, it cannot be assumed that the lack of usage reflects a lack of need.²³

Other Migrant Groups

Other migrant groups according to the 2018 Census include the Middle Eastern, Latin American, African population (1.5%) and other ethnic population (1.2%). With these smaller populations, this report does not focus on equity outcomes with the added proviso that what is good for Māori is good for *all* New Zealanders, including these migrant groups.

Rural Health

The final distinct population in New Zealand is the rural population, of which one in four New Zealanders live in rural areas or in small towns. According to the Ministry of Health, of this population, there is a greater number of Māori, older people and children living in these areas.

Environmental Health Indicators New Zealand lists the rural population in 2018 as 16.3% of the total population.²⁴ Māori have a higher proportion of the population living in small urban areas (14.7% of the Māori population) and rural areas (18.0%), compared with the total population (10.0% and 16.3% respectively).

By contrast, most Pacific peoples in New Zealand live in major urban areas (75.7%) or large urban areas (11.6%).²⁵

It has been difficult to locate more robust data during the preparation of the Report that provides useful and meaningful information about New Zealand's rural population. One might infer that similarly, it is difficult to understand the state of equity of health outcomes for rural New Zealanders also.

²² Ibid.

²³ Ibid.

²⁴ <https://ehinz.ac.nz/indicators/population-vulnerability/urbanrural-profile/>

²⁵ Ibid.

Tino Rangatiratanga and Mana Motuhake

In the context of the Programme with a guiding principle to uphold the Principles of Te Tiriti o Waitangi, tino rangatiratanga and mana motuhake are explored through an equity lense below.

Tino rangatiratanga and mana motuhake represent notions of separate identity, autonomy, self-government, self-determination, independence and sovereignty. In contemporary Aotearoa New Zealand these concepts endure today where iwi, hapū and whānau assert their autonomy and authority over their traditional lands in the form of mana whenua.

The partnership with Te Arawa demonstrates how parties (Government's agent in the Ministry of Health and Te Arawa Reference Group) can act and for Te Arawa tino rangatiratanga and mana motuhake be asserted in the Trial; from defining the Trial boundaries in a Māori way (bounded by Waikuta stream to the south, Awahou stream in the north east and Mamaku ranges in the north west), Te Arawa's requirements for trial registration data to be held by Te Arawa as kaitiaki and for the values of Te Rangikāheke²⁶, a respected rangatira from 1850 to guide the tikanga and kawa expressed as 'Te Arawatanga'.

These values espoused in 1850 whilst traditional in focus, have modern day application in Te Arawa today:

He toa, is courageous

Kōrero taua, is strategic in war

Mahi Kai, is a provider of food

Tangohanga, is generous and facilitates celebratory feasts

Pupuri pahi, through hospitality delays the departure of guests

Kōrero Rūnanga, communicates well in tribal council forums

Kōrero Manuhiri, is welcoming of guests

Atawhai pahi iti, rahi, cares for guests both great and small

Recognising tino rangatiratanga and mana motuhake or 'autonomy' and self-determination of Māori (in this instance Te Arawa) as part of the Programme engagement demonstrates how the Treaty Principles leading with *Partnership*, *Protection* and *Participation* can be a powerful lever to deliver equitable outcomes (in the Community Field Trial).

It is noted that tino rangatiratanga and mana motuhake as described above would reveal itself differently across different iwi where different rangatira values would be the basis for expressing mana motuhake in it's various manifestations.

²⁶ <https://teara.govt.nz/en/biographies/1t66/te-rangikaheke-wiremu-maihi>

Related Data Frameworks

A review of selected Frameworks was also undertaken (largely from publicly available sources in use across the various agencies involved in the Programme) and related domains under consideration in the Programme (Māori, health, data, privacy etc).

Te Mana Raraunga | Māori Data Sovereignty Network

Te Mana Raraunga, the Māori Data Sovereignty Network (TMR) is an advocacy group established in 2015 to consider the implications of the United Nations Declaration on the Rights of Indigenous Peoples (UNDRIP) for the collection, ownership and application of data pertaining to indigenous peoples and what these might mean for indigenous peoples' sovereignty. In its charter, Te Mana Raraunga considers:

- Data is a living tāonga²⁷ and is of strategic value to Māori
- Māori data refers to data produced by Māori or that is about Māori and the environments we have relationships with
- Māori data is subject to the rights articulated in the Treaty of Waitangi and the UN's Declaration on the rights of Indigenous Peoples, to which Aotearoa New Zealand is a signatory

Two frameworks that are useful to consider in the context of the Programme and Māori Data Sovereignty, Data Governance, Data rights and interests are the **Mana-Mahi Framework** and **Māori Data Audit Tool**.

The **Mana-Mahi Framework** leverages the approach taken during the last 25 years of Treaty settlement negotiations in Aotearoa New Zealand that advocates a Māori-led approach to engagement whereby 'mana' conversations precede detailed 'mahi' conversations. In this manner the focus is on establishing relationships through Māori values of *whanaungatanga*, bringing together 'chiefly' lines in *rangatiratanga*, under a mantle of *kotahitanga* or unity. The 'mahi' or more transactional discussions follow now having a 'common' *whakapapa* or lineage of the discussions, and incorporating *manaakitanga*, the ability to uplift and add mana to the work to be done and *kaitiakitanga*, bringing a level of care, oversight and responsibility.

²⁷ Where reference to 'taonga' in Te Tiriti o Waitangi as expressed in Article 2.

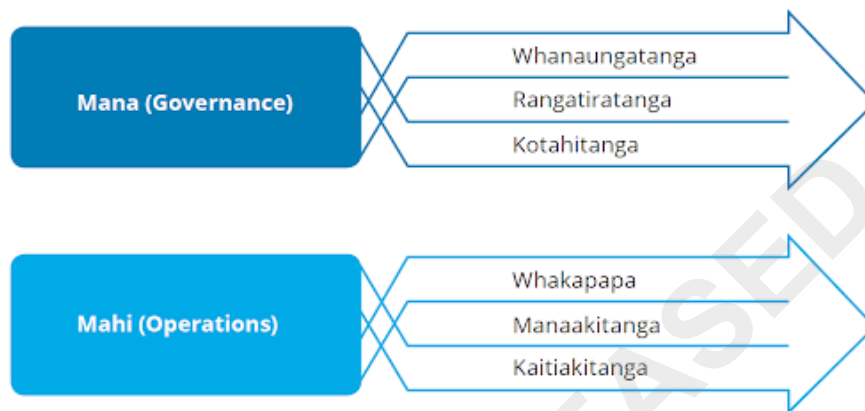


Figure 3: Mana-Mahi Framework²⁸

The **Māori Data Audit Tool** can be applied in circumstances to assess whether the Māori worldview that data is taonga have been given due insight and consideration. It seeks to provide understanding into:

A. Does the agreement recognise Māori Data (what Māori data encompasses)?

- Is the Māori data definition consistent with the TMR charter
- Is ethnicity data collected
- Is Iwi affiliation collected

B. Does the data sharing agreement allow the creation of additional Māori-specific/iwi-specific data sets?

C. Does the agreement recognise Treaty relationships?

- Are Māori involved in the Governance
- Are Māori involved in the data sharing approval process
- Are Māori involved in decision-making for issues that have been escalated
- Are Iwi involved in the Governance
- Are Iwi involved in the data sharing approval process
- Are Iwi involved in decision-making for issues that have been escalated

D. Does the agreement recognise Māori rights to data and interests in data?

- Exclusive rights (Maori/Iwi organisation)
 - Indigenous knowledge
 - Client relationship management system
- Shared rights (Iwi/Māori and agencies)
 - Service level information
 - Clinical information
- Shared interests
 - Research/audit
 - Quality improvement/programme development/health gain

²⁸ Adapted infographic from <https://www2.deloitte.com/nz/en/pages/public-sector/articles/equity-through-design.html>

E. What mechanisms are in place to protect Māori data?

F. Is the agreement specific about the purpose and use of data?

- Is there a process to ensure data is used with a development focus rather than a deprivation focus?

G. To what extent are the Te Mana Raraunga principles given effect to?

- Whanaungatanga & Whakapapa
- Rangatiratanga
- Kotahitanga
- Manaakitanga
- Kaitiakitanga

Both the **Mana-Mahi Framework** and **Māori Data Audit Tool** have been utilised in assessing the Programme providing both insight into opportunities while highlighting areas for further interrogation.

To demonstrate the evolving space, an additional commentary of Māori Data Sovereignty can be found here²⁹.

Digital Inclusion

Te Whata Kōrero: A Storehouse of Māori Aspirations³⁰, is part of the Digital Inclusion Blueprint published in 2019. Developed in conjunction with the Department of Internal Affairs is a call to action for tāngata whenua to provide leadership on digital inclusion-related issues, alongside Government. The Four elements of Digital Inclusion³¹ are defined as:

- **Trust:** Trusting in the internet and online services; and having the digital literacy to manage personal information and understand and avoid scams, harmful communication and misleading information. This element also touches on online safety, digital understanding, confidence and resilience.
- **Motivation:** Understanding how the internet and digital technology can help us connect, learn, or access opportunities, and consequently have a meaningful reason to engage with the digital world.
- **Access:** Having access to digital devices, services, software, and content that meet our needs at a cost we can afford; and being able to connect to the internet where you work, live and play. Access is a broad element, which can be broken into three key parts: connectivity, affordability and accessibility.
- **Skills:** Having the know-how to use the internet and digital technology in ways that are appropriate and beneficial for each of us.

²⁹ <https://www.taiuru.maori.nz/maori-data-sovereignty-with-ai-algorithms-iot-and-machine-learning-rights-afforded-to-maori-crown-obligations-with-legal-instruments/>

³⁰ <https://www.digital.govt.nz/assets/Documents/113Digital-Inclusion-BlueprintTe-Mahere-mo-te-Whakaurunga-Matihiko.pdf>

³¹ Ibid.

It creates a space for co-designing digital solutions with a focus on improving digital inclusiveness with the above elements of mind, incorporating Māori Principles *before* prioritising end-user design.

Te Mahere mō te Whakarunga Matihiko, the Strategy for a Digital Public Service³² developed in 2020, recognises that not every group (or community) has the same level of trust in the Public Service. It identifies eight collective behaviours that will characterise a modern, agile and adaptive public service in Aotearoa New Zealand. These are:

- Act as a unified public service
- Make people-centred decisions
- Collaborate & co-create
- Digital transformation in accordance with tikanga Māori
- Act quickly and innovate
- Prioritise value for money
- Foster a learning environment
- Strive for an open and accountable public service

Data Protection & Use Policy

In 2017, the Social Investment Agency was asked to develop a Data Protection Protection and Use Policy³³. This was adopted by Cabinet in January 2020.

It is grounded in Five Principles that articulate the values and behaviours to underpin the respectful, trustworthy and transparent use of data across the social sector:

- **He Tāngata:** Are the purposes of collection and use clearly focused on positive outcomes (whether for individuals, groups or wider society) and is the information to be collected or used necessary to achieve those outcomes?
- **Manaakitanga:** Is the collection or use of people's information for particular purposes sufficiently respectful of them or the cultures, communities or groups to which they belong? Does it support or detract from their wellbeing?
- **Mana whakahaere:** To what extent, given the purposes of collecting personal information, can an agency allow people to opt out of providing their information?
- **Mahitahitanga:** To what extent can involving others help to formulate and double-check the appropriateness of proposed collections and uses of people's information?
- **Kaitiakitanga:** How, as kaitiaki or stewards of people's information, can the purposes of collecting or using that information be framed in a manner that is easy to explain to people and that fosters their understanding and trust in what is being done with their information?

³² <https://www.digital.govt.nz/assets/Digital-government/Strategy/Strategy-for-a-Digital-Public-Service.pdf>

³³ <https://dpup.swa.govt.nz/>

Privacy Act 2020

The Privacy Act 2020 comes into effect on 1 December 2020 and repeals and replaces the Privacy Act 1993. Key changes³⁴ relate to strengthening privacy protections. It promotes early intervention and risk management by agencies (the name used for any organisation or person that handles personal information) and enhances the role of the Privacy Commissioner.³⁵

Requirements for agencies to report privacy breaches, the ability for the Privacy Commissioner to issue compliance notices to require an agency to do something, or stop doing something, clarity of decision-making process on access requests and strengthening cross-border protections where New Zealand agencies will have to take reasonable steps to ensure that personal information sent overseas is protected by comparable privacy standards are notable with respect to equity in the use of digital technologies enabling contact tracing. For example, the new Privacy Act 2020 also clarifies that when a New Zealand agency engages an overseas service provider, it will have to comply with New Zealand privacy laws.

Additional changes include class actions, new criminal offences and strengthening the Privacy Commissioner's information gathering power.

Algorithm Charter for New Zealand

The Ministry of Health and 25 other Government agencies have signed up to the Algorithm Charter for New Zealand³⁶, with the signatories making commitments to demonstrate transparency and accountability in the use of data. At the heart of the Charter is how Government agencies use data to help inform, improve and deliver services from simple algorithms (often used to standardise business processes) to the more complex algorithms (used to support human decision making or general insights from large complex data sets).

That the use of algorithms might be used to mitigate the risk of human bias, is also one of the criticisms of them from some Māori data experts.³⁷

³⁴ <https://www.privacy.org.nz/assets/Privacy-Act-2020-content/Comparing-the-Privacy-Acts-1993-and-2020.pdf>

³⁵ <https://www.justice.govt.nz/justice-sector-policy/key-initiatives/privacy/>

³⁶ <https://data.govt.nz/use-data/data-ethics/government-algorithm-transparency-and-accountability/algorithm-charter>

³⁷ <https://www.taiuru.maori.nz/nz-algorithm-charter-further-risks-maori/>

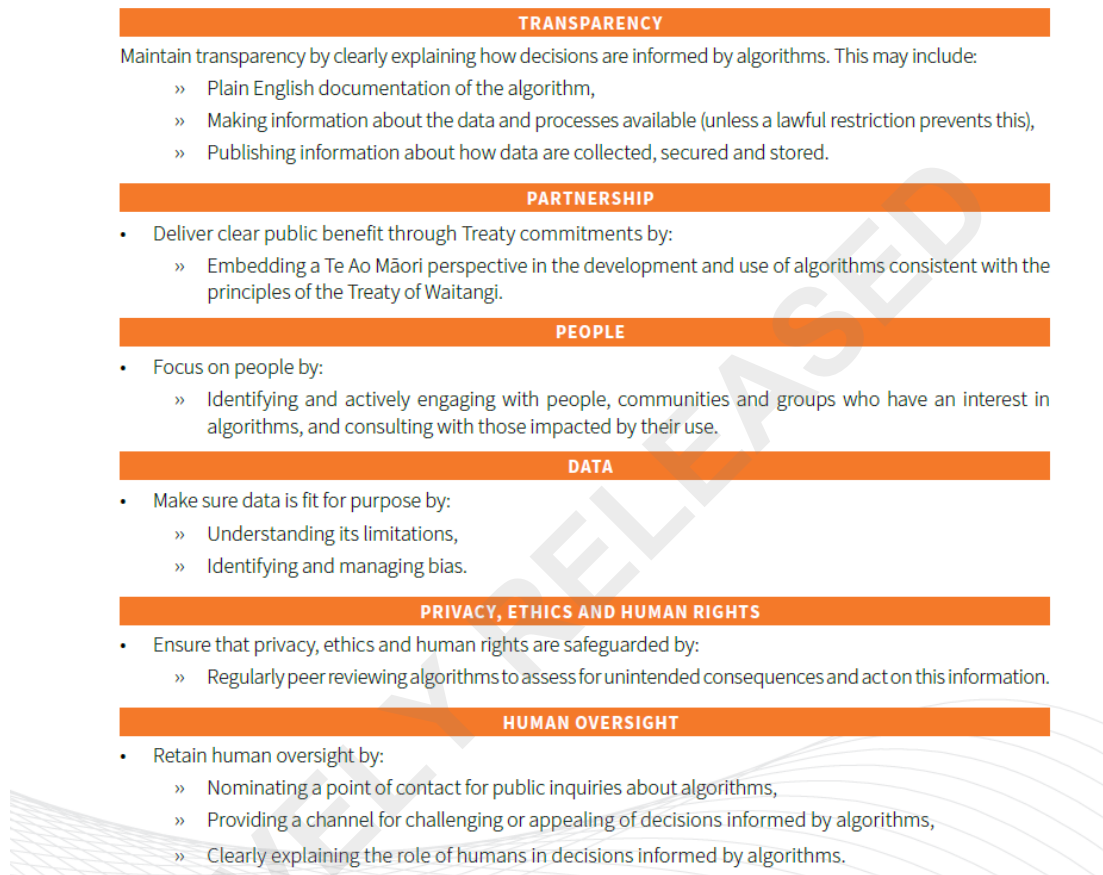


Figure 4: Algorithm Charter for New Zealand Commitments

These commitments have been referred to in the Programme workstream concerned with Interoperability, and whilst shows the opportunity for capturing the learnings from the Te Arawa Trial, does not delve far enough into embedding a te ao Māori perspective in the development and use of algorithms consistent with the Principles of Te Tiriti o Waitangi.

In summary, from a scan of the landscape for frameworks developed in Aotearoa New Zealand that are of relevance to the Programme, it is clear that there are several key interests and viewpoints contained in each. Identifying salient elements to carry forward in the Programme creates an opportunity to bring multiple viewpoints across several domains forward,

Equity Frameworks – International Indigenous Contexts

International indigenous contexts in relation to data are included as a reference. These are useful to demonstrate that the global indigenous data space is alive and well. Māori have been a key stakeholder group in these many spaces for several years.

Global Indigenous Data Alliance

The Global Indigenous Data Alliance³⁸ promotes indigenous control of indigenous data. An international network, “it advances Indigenous data sovereignty and governance, asserts indigenous peoples’ rights and interests in data, advocates for data for the self-determined wellbeing of indigenous peoples and reinforces the rights to engage in decision-making in accordance with indigenous values and collective interests”.³⁹

FAIR Principles

Developed by the Open Data Movement, the FAIR Principles⁴⁰ (developed in 2016) promotes open data movement (findable, accessible, interoperable, reusable) has a primary focus on those characteristics of data that will facilitate increased data sharing among entities. Opponents argue that it ignores power differentials and historical contexts.

CARE Principles⁴¹

Developed by the Global Data Indigenous Alliance, The CARE principles complement the existing FAIR principles encouraging open and other data movements to consider both people and purpose in their advocacy and pursuits. These include:

- **Collective Benefit.** Data ecosystems shall be designed and function in ways that enable Indigenous Peoples to derive benefit from the data
- **Authority to Control.** Authority to control such data be empowered. Indigenous data governance enables Indigenous Peoples and governing bodies to determine how Indigenous Peoples, as well as Indigenous lands, territories, resources, knowledges and geographical indicators, are represented and identified within data
- **Responsibility.** Those working with Indigenous data have a responsibility to share how those data are used to support Indigenous Peoples’ self-determination and collective benefit. Accountability requires meaningful and openly available evidence of these efforts and the benefits accruing to Indigenous Peoples
- **Ethics.** Indigenous Peoples’ rights and wellbeing should be the primary concern at all stages of the data life cycle and across the data ecosystem

ENRICH⁴²

Enrich focuses on Equity for Indigenous Research and Innovation and centres indigenous rights to develop, control and govern indigenous data. As an international network it leverages GIDA and Local Contexts to provide a hub and spoke model for knowledge exchange and sharing of resources.

³⁸ <https://www.gida-global.org/>

³⁹ Ibid.

⁴⁰ <https://www.go-fair.org/fair-principles/>

⁴¹ <https://www.gida-global.org/care>

⁴² <https://www.enrich-hub.org/>

OECD 'Digital Divide'

According to the Organisation for Economic Co-operation and Development (OECD)⁴³ “the ‘digital divide’ – is a term that refers to the gaps in access to information and communication technology (ICT) – threatens the ICT ‘have-nots’, whether individuals, groups or entire countries...The OECD outline several gaps between the ‘haves’ and ‘have nots’ within the digital divide that need to be addressed for equitable digital inclusion:

- **Access to digital devices.** Equitable access is key to digital inclusion in contemporary society and education
- **Access to internet connectivity** is paramount to digital inclusion at school and at home
- **Digital technology gaps** within education systems. The learning digital divide within formal education speaks to digital technology gaps that exist between schools or school districts, in terms of resourcing and supply of digital equipment, resource materials, internet connectivity, and integration of digital technology within the wider teaching/learning context”

In Aotearoa New Zealand this includes access (to digital devices, high speed internet infrastructure) and affordability (of digital devices and internet service plans).

United Nations Declaration on the Rights of Indigenous Peoples⁴⁴

New Zealand is a signatory to United Nations Declaration on the Rights of Indigenous Peoples adopted by the General Assembly in 2007. In the Press release of the time, the Declaration addresses both individual and collective rights, cultural rights and identity, rights to education, health, employment, language and others. The Declaration explicitly encourages harmonious and cooperative relations between States and Indigenous Peoples.⁴⁵

United Nations Convention on the Rights of Persons with Disabilities⁴⁶

New Zealand Government signed the United Nations Convention on the Rights of Persons with Disabilities in 2007. There are eight Guiding Principles:⁴⁷

1. Respect for inherent dignity, individual autonomy including the freedom to make one's own choices, and independence of persons
2. Non-discrimination
3. Full and effective participation and inclusion in society

⁴³ <https://www.oecd.org/site/schoolingfortomorrowknowledgebase/themes/ict/bridgingthedigitaldivide.htm>

⁴⁴ <https://www.un.org/development/desa/indigenouspeoples/declaration-on-the-rights-of-indigenous-peoples.html>

⁴⁵ https://www.un.org/esa/socdev/unpfii/documents/Declaration_ip_pressrelease.pdf

⁴⁶ <https://www.un.org/development/desa/disabilities/convention-on-the-rights-of-persons-with-disabilities.html>

⁴⁷ <https://www.un.org/development/desa/disabilities/convention-on-the-rights-of-persons-with-disabilities/guiding-principles-of-the-convention.html>

4. Respect for difference and acceptance of persons with disabilities as part of human diversity and humanity
5. Equality of opportunity
6. Accessibility
7. Equality between men and women
8. Respect for the evolving capacities of children with disabilities and respect for the right of children with disabilities to preserve their identities

4. Our Approach

At the time of joining the Programme in early September 2020, it had already been underway for three weeks and the Programme Charter, Governance Structure, Workstreams and budget well defined but not finalised.

It would be fair to say that the inclusion of the equity lens was a late but welcome addition to the Programme.

The initial approach taken was to meet with each of the Programme workstream leads, understand their respective briefs, status and attend meetings to understand, analyse and reflect or input both a Māori voice and equity voice into the discussions. This has proven to be both challenging and insightful at the same time.

5. Context

New Zealand's response to COVID-19 is well documented as decisive and swift leading with an elimination strategy. As recently as 25 November 2020, New Zealand was rated top of the new Bloomberg COVID resilience ranking out of 53 countries.⁴⁸

The Government approach has been one of caution with multiple comparisons to the international contexts of Ireland, UK, Singapore, Japan, Taiwan and South Korea.

Its approach is not without its critics when it comes to reopening the borders, establishing a travel bubble with Australia or parts of the Pacific, its stance on priority visas, quarantine charges and the list goes on. For the most part, these are economic based variables and arguments, yet very little has been commented on in relation to equity – how would New Zealand fare using a COVID-19 equity measure?

As at 04 December 2020, the worldwide numbers are dire; reported positive COVID-19 cases are in excess of 65.1 Million, recovered cases of 41.9 Million and deaths of 1.5 Million.

⁴⁸ <https://www.nzherald.co.nz/nz/politics/covid-19-coronavirus-new-zealands-response-rated-best-in-the-world/YQGXONNKDZ6G7OK5CAHK7YZEPE/>

In Aotearoa New Zealand these numbers are 2,069 positive cases, 1,974 recovered cases and 25 deaths⁴⁹.

In exploring the use of digital technologies for contact tracing, the Ministry of Health research indicates that there are currently three countries utilising a centralised Bluetooth model – Singapore, Australia and France. All of these continue to have problems with Apple phones and battery life. Singapore is also using a hardware equivalent to the the Bluetooth Enabled Contact Tracing Card (the Card) used in the Te Arawa Community Field Trial (the Trial). Recent conversations with the Ministry of Health, confirm Singapore continue with a bluetooth app and hardware model (along with QR code scanning), and it has been identified that Contact Tracers in Singapore are finding in 30-40% of cases, finding those with hardware tokens is difficult as they don't have phones to contact these contacts.⁵⁰

Internationally, there are now almost 40 jurisdictions using the Google and Apple EN framework, with many more in development. Recently the UK has updated their app to modify their use of the framework, a flaw in the technical implementation meant notifications were being incorrectly sent, however this was not expected. The current modelled level of accuracy is around 85%. Recent Ministry of Health conversations with a number of Asia Pacific countries has highlighted interoperability of the EN service internationally, with work underway to allow exchange of data to support contact tracing.⁵¹

In the context of the Programme, it should be noted that much of the research and insights obtained during COVID-19 have not often highlighted issues of equity amongst New Zealand's vulnerable communities. Individual rights as to privacy and security of data certainly, issues of trust between an individual and Government absolutely, but somewhat silent in relation to equity in contact tracing.

6. Assumptions

Three key assumptions during evaluation of the Programme are highlighted in this report:

Data: governance, storage, ownership (individual vs collective rights and interests, cultural license and social license), access, privacy, security, collection, sharing, merging, deletion or sunseting of data have been evaluated against the two prevailing options in terms of centralised or decentralised conceptual data models. For Māori, kaitiakitanga of data extends beyond security, access and privacy.

⁴⁹ <https://www.health.govt.nz/our-work/diseases-and-conditions/covid-19-novel-coronavirus/covid-19-data-and-statistics/covid-19-current-cases>

⁵⁰ 20201119 Report back on the Bluetooth-Enabled Contact Tracing Cards Cabinet Paper - DRAFT

⁵¹ Ibid

That there might be an 'AND' or hybrid options needs to be explored more fully to ensure data models are designed with equity at the forefront versus a pure technology play.

Technology Interoperability: Given there is no one size fits all technology available today, increasing the coverage across all communities is fundamental to the effectiveness of contact tracing, as higher uptake means more people can be quickly notified and outbreaks can be controlled earlier.

This also requires digital technologies being able to collect and share the same form of data as each other, as technologies that store centralised data and those storing decentralised data do not interoperate and will add little benefit if deployed together. However, within both conceptual data models it is possible to take a nuanced approach to consider the requirements of iwi and other key community groups, such as churches or transport networks. Operationalising this requires further scrutiny.⁵²

The Programme was limited in scope to Bluetooth Enabled Contact Tracing Card and EN Framework only.

National Contact Tracing Programme: New Zealand's current approach to contact tracing involves both manual and digital contact tracing solutions. Manual contact tracing and case investigation involves investigators conducting interviews to trace previous movements and identify close contacts.⁵³

A lack of diversity across the contact tracing system in the Public Health Units (PHUs) means the clinical personnel involved are not often representative of New Zealand's communities and this may impact on success in identifying close contacts or this may take longer such that the virus is spreading further unchecked. Given there is no one size fits all approach and that contact tracing will likely continue to be a mix of low tech and high tech, is it possible to explore options such as a two-person interview approach (clinician and community leader) to assist with context rich, accurate and timely contact tracing?

7. Roles & Functions

Government Agencies

There are multiple Government Agencies involved in the Programme. These include the Ministry of Health (Programme lead and lead for Community Field Trial with Te Arawa), Department of Internal Affairs (lead for MIQ Managed isolation trials), Ministry of Business Innovation and

⁵² 20201119 Report back on the Bluetooth-Enabled Contact Tracing Cards Cabinet Paper - DRAFT

⁵³ Ibid where "close contacts" are people that have been exposed to a suspected, confirmed or probable case and are at higher risk of infection. This includes people that have contact with a case in any setting within two metres for 15 minutes or more. Around 80% of close contacts are currently found through this process.

Employment, Defence Technology Agency, office of the Government Chief Digital Officer and Office of the Privacy Commissioner.

The Ministry of Health is also responsible for the overall Programme budget.

Te Arawa Reference Group

Comprised of Tā Tamihana (Toby) Curtis (Ngāti Pikiao), Monty Morrison (Ngāti Whakaue, Ngāti Tūwharetoa) and Kirikowhai Mikaere (Tuhourangi, Ngāti Whakaue) represents the aspirations of Te Arawa and commitment as a Treaty partner as well as a continuation of the Te Arawa COVID-19 Response Hub efforts undertaken during level 4 alert lockdown.

Due acknowledgement needs to also be accorded to Te Arawa for partnering in the Community Field Trial as Te Arawa but also on behalf of te iwi Māori.

The Te Arawa Reference Group is part of the Governance Group consisting of; Dr. Ashley Bloomfield, Director of Health; Paul James, Chief Executive, Department of Internal Affairs, Government Chief Digital Officer; Megan Main, Ministry of Business, Innovation and Employment; Shayne Hunter, Deputy Director General, Data and Digital Ministry of Health, Ann-Marie Cavanagh, Deputy Government Chief Digital Officer, Department of Internal Affairs.

University Partners

University of Otago

Tim Chambers was the lead Researcher from the University of Otago. He had developed the research protocol for the technical trial approved by Cabinet [CAB-20-MIN-0175] in June 2020 and would bring this experience into the co-design of the proposed research for Te Arawa trial. The University of Otago team included;

Tim Chambers, Senior Research Fellow (Department of Public Health), Dr. Karyn MacLennan Taranaki (Ngā Mahanga), Research Fellow, Ngāi Tahu Māori Health Research Unit and Professor Sarah Derrett, Department of Social and Preventative Medicine.

University of Waikato

The University of Waikato was approached by the Ministry of Health in September at the request of the Te Arawa Reference Group to assist with the Programme and in two respects; firstly, to identify a Māori health researcher to co-design the research protocol and proposed trial in Te Arawa and secondly to identify a data and technology specialist to provide an equity lense across the Programme. The assembled team included:

Nikki Barrett (Ngāti Haua, Ngāti Pōrou) Māori health researcher, Bridget Masters-Awatere (Te Rarawa, Ngai te Rangi, Tūwharetoa ki Kawerau) Māori health advisor and Vanessa Clark (Waikato) in the capacity of data and technology specialist.

Privacy Consultants

Paul Holmes and Lee Patton of INFO By Design were engaged to bring a Privacy lense and insights into the Programme and liase between the office of the Privacy Commissioner.

Technology Suppliers

With the arrival of COVID-19 in New Zealand, the Government was in talks with a Private Public Partnership group in Verscient to trial a bluetooth-enabled COVIDcard. While the technical trial was undertaken, talks reportedly broke down with the Ministry of Health midyear and another technology supplier in Contact Harald was selected for the Te Arawa community field trial. The EN Framework promoted by Google and Apple has been under investigation during the Programme and is in scope for this report while the Covid Tracer App (Rush Digital) is not. A recently announced trial of beacon technologies by PaperKite and Rippl App is also out of scope of the Programme.⁵⁴

By omission from the Programme scope, there has not be any engagement to understand these technologies and evaluate from an equity perspective.

Similarly, existing systems in the National Contact Tracing System, EpiSurv, éclair, the CTIP interface, Consumer Health App, National Immunisation System, Community PMS, Hospital systems and other surveillance systems are all out of scope.

8. Contact Tracing Technologies Prototype Research Programme

Evaluation Framework

An evaluation framework has been established for the Programme with five themes making up the Evaluation Framework. These are:

- Accuracy & Flexibility
- Uptake & Adherence
- Ability to have Impact

⁵⁴ <https://www.scoop.co.nz/stories/BU2011/S00205/paperkite-selected-as-an-integration-partner-to-wire-up-rippl-with-the-national-contact-tracing-solution.htm>

- **Equity, Policy, Privacy and Legal**
- Cost and Lead time

This report provides a review of the Programme through an equity lens of each workstream. It identifies aspects that have worked well and areas of opportunity. Each Programme Workstream is assessed focusing on equity aspects below:

- How does the system uphold Te Tiriti o Waitangi and Māori Data Sovereignty?
- How does the system address health equity considerations?
- What are the Privacy Implications of the system?

To a lesser degree, determining what policy is required to support its implementation while in-scope does not receive significant focus in this Report.

Technical Trials

Conducted as a technical trial to proof of concept the technology, this initial technical trial did have regard for equity in at least two ways;

Equity observation 1: The wearing of a bluetooth-enabled COVIDcard as a means to bridge the digital divide (providing meaningful universal access) in Aotearoa New Zealand includes families in low socio-economic areas, people with disabilities, Māori and Pacific youth, offenders and ex-offenders, older age groups ⁵⁵.

Equity observation 2: The solution architecture put up by the Public Private Partnership group included the implementation of a standalone centralised data repository – one that would be independent of Central Government to ensure concerns related to trust, privacy and security would be built into the approach from day one.

As the technical trial was completed and a new technology supplier carried forward into the Te Arawa Community Field Trial, the Bluetooth-enabled Contact Tracing Card, (the Card) was subject to the same scrutiny by the Defence Technology Agency. The first observation about the Card being an equitable option holds true while the second observation does not. A third observation is offered below.

Equity observation 3: The technology supplier and supporting infrastructure for the centralised card data repository was offshore, however the Te Arawa Trial was able to demonstrate that it is possible to decouple the storage of registration data containing Personal Identifiable Information (hosted in Auckland, New Zealand) from card contact tracing data containing data strings (hosted on Microsoft Azure in Sydney Australia). This is promising and should be carried forward into the conceptual data flow for consideration supporting Māori Data Sovereignty rights and interests.

⁵⁵ <https://www.mbie.govt.nz/dmsdocument/3228-digital-new-zealanders-the-pulse-of-our-nation-pdf>. p.55.

Te Arawa Field Trial (Community Technology Use)

An equity approach taken during the planning for the Community Field Trial was an aspirational one of 'co-design'. A full evaluation of the co-design using *He Pikinga Waiora* as the basis, is yet to be finalised as Community Field Trial with Te Arawa is presently in its concluding stages at the time of this Report. It may include similar references to statements included below but these should not infer an outcome.

Equity-based commentary of note includes;

- **Principles of Te Tiriti o Waitangi**

- In *Partnership, Possession and Participation* has been at the forefront of the planning for the Community Field Trial with some key nuances referred to below. This is consistent with references made to upholding the Principles Te Tiriti o Waitangi in *He Korowai Oranga, Pae Ora* and *Whakamaua: Māori Health Action Plan 2020-2025*.

- **Mana-Mahi Framework**

- Behaviours (although not specifically referred to) underpinned the establishment of the Terms of Reference between Te Arawa and the Ministry of Health. The '*mana conversations*' were consistent with behaviour one might observe during treaty negotiations and forming a partnership approach. Areas of inclusion in terms of including Te Arawa in the cross-Agency Governance Group, inclusion of an overarching Guiding Principle (to uphold the Principles of Te Tiriti o Waitangi) during establishment of the Programme Charter were not placeholder spaces but realised only after specific requests to be included or accommodated. The additional inclusion of a Māori Health Researcher was at the prompting of Te Arawa, as was the inclusion of a Māori data specialist and equity lens across the Programme. That these requests were supported by the Ministry in good faith demonstrates the value in partnership that carried into the Trial.
- **Equity observation 4:** A series of mana conversations upfront was the basis of determining what were "non-negotiables" of each partner and due consideration of these as a baseline paved the way for future discussions. Future engagements with iwi and vulnerable community leaders should create partner spaces (in Governance as an example) without a request by one 'partner' of the other for inclusion.

- **Mana-Mahi Framework**

- In relation to '*mahi conversations*' this has been both aspirational and challenging. Aspirational in creating the space for a 'for the community, by the community' approach and challenging in that aspirations of pure co-design of the Community Trial with a kaupapa Māori-led approach have not been fully realised in the Trial. For example, the Research Protocol used in the Trial was developed on the back of the Technical Trials. This meant that much of the thinking had already been done and other some superficial inclusion of te reo Māori, the Research Protocol was not born out of a co-design process and this was duly acknowledged across the board. The co-design, planning and implementation of the Trial will be evaluated separately and will generate

- significant learnings for both the Community of Ngongotahā and Te Arawa as well as the Ministry (partners and suppliers) to carry forward into the future. Aspects of the Community Trial timeline (notably urgency during a pandemic and New Zealand Election 2020) did not permit elements to occur in a more community-led organic way.
- **Equity observation 5:** Allocation of more time to create the space for pure co-design to occur.
 - **Equity observation 6:** Opportunity to carry forward the existing Frameworks in Health; **Equity of Health Care for Māori** and **He Pikinga Waiora** as working models to operationalise 'the Partnership'.
 - **Tino Rangatiratanga Mana Motuhake**
 - Giving life to the expressed concepts of self-determination and autonomy to recognise and be led by Te Arawa tikanga and kawa, the Trial was able to achieve this in a meaningful 'for Te Arawa, by Te Arawa' way. Taking a strengths-based approach, early indicators are that a localised, high trust, community-based imperative is possible.
 - **Equity observation 7:** Intentional bi-directional shifting of power (and the proverbial pen) and resourcing such as budget to the partner Te Arawa (and community by extension) to lead out with in a show of good faith and trust to demonstrate willingness to relinquish power (where the Ministry is an agent of the Crown). In practice, this reciprocity of trust might have aided community-led responses to community needs more quickly.
 - **Māori Data Audit Tool**
 - Applied across the Field Trial registration website and infrastructure set-up particularly in respect of data, privacy and security demonstrates that it is possible to meet the needs of a Community if there is willingness to explore it. A key strength being that data storage options DO exist in Aotearoa New Zealand and this is demonstrated in ensuring this requirement of the community is possible. This creates an AND option in addition to the 'default' options to use large technology platforms such as Microsoft Azure or Amazon Web Services (presently offshore).
 - **Equity observation 8:** The genuine willingness to explore how might things be done differently with the collection and storage of the Trial registration data provided assurances that Māori data sovereignty concerns can be addressed and protected effectively.

MIQ Trials (Facility Use)

Initial meetings with the Department of Internal Affairs and MBIE were held in September and October timeframe. At the time of drafting this report however, this has been descoped from the Programme. Comments below are on the basis of initial workstream interactions.

Equity observation 9: An initial sharing of information raised a concern of human rights in managed quarantine facilities and what assurances travellers to New Zealand had with respect to their human rights whilst in such facilities.

Equity observation 10: A further extension beyond MIQ trials in a closed environment, was also highlighted as a concern that closed trials might have application in other settings in New Zealand such as prisons, police holding cells and the like. Notions of creeping surveillance while trialled in the MIQ context could be applied in another without due consideration or robust discussion of upholding Te Tiriti o Waitangi, implications for tangata whenua and human rights *if* the technology was proven to be a success.

Privacy and Security

A specialist privacy consultant in Info By Design, was engaged to perform Privacy Impact Assessments of the Programme, the Field Trial Ethics Application, the Field Trial platform as well as liaise with the Office of the Privacy Commission.

Equity considerations in the collection, use and storage of data has been included along with data security, privacy and access assessment in accordance with Privacy legislation.

Equity observation 11: An area for future discussion is for the Office of the Privacy Commissioner and privacy consultants to take a Tiriti-led approach to topics such as Māori data sovereignty, collective rights and interests, cultural license and social license. If these perspectives can be included in addition to legislative compliance, asserting the nuanced perspectives of Māori and vulnerable communities particularly in respect of privacy assurances and improving trust might surface more prominently. In this manner, the Principles of Te Tiriti o Waitangi in *Partnership, Protection and Participation* would also be more prominent.

Interoperability

Several workshops have been conducted throughout the duration of the Programme. This workstream brief being to create a framework for digital contact tracing data and to review and assess technologies that may assist with contact tracing in Aotearoa New Zealand. In short, it has and continues to be a monumental task. In addition, understanding how these technologies might sit across the entire process from Pre-border activities, Border management and the Community is complex. Introducing an equity approach into the discussions has been challenging but necessary given a backdrop of existing (and yet to be released) technologies, none of which guarantees success in contact tracing.

A key focus of this workstream being “coverage” of digital technologies supporting contact tracing and formulating an end to end contact tracing data flow.

Key points in relation to equity;

- **Focus**

- Presently there is no direct engagement with specific leaders at Google and Apple who both have a philanthropic role and responsibility relating to developing nations and indigenous peoples – rather, the workstream has focused on the New Zealand Government as a *user* of the EN Framework and associated services
- **Equity observation 12:** New Zealand Government to establish a direct engagement with Google and Apple regarding indigenous peoples and data concerns seeking assurances on impacts for indigenous peoples. The Kāhui Rāraunga (Data Iwi Leaders Group) has offered it's support for this direction and is willing to provide a letter of support as well as to mobilise it's network in support of such an approach
- Potential for International focus to ignore local Aotearoa New Zealand contexts. An international perspective is a useful comparison initially to uncover trends, however local contexts across Aotearoa New Zealand are diverse. The 'lived experiences' and nuances between communities (e.g., suburbs within a city, socio-economic landscape, social settings, regional difference, iwi preparedness etc.) must be reflected better in technology assessments targeting these communities.
- **Equity observation 13:** End to end process workflows informing technology decisions designed with our vulnerable communities at the forefront, rather than designing for the masses in terms of uptake and return on investment. Convening a small independently facilitated workgroup to focus on developing an end to end data workflow or logic model⁵⁶ would be necessary next step to create a body of knowledge that can be used by All of Government agencies when tasked with reviewing technologies and ensuring they are fit for purpose.
- **Equity observation 14:** How and what the Programme responds to means that a one-size fits all framework is unlikely and should not be encouraged or accepted.
- **Data**
 - With technology changing at a rapid pace, interoperability for contact tracing purposes must consider using a hybrid of technologies. Intricate understanding of where does the data (individual and anonymised) flow and where does it need to flow to enhance contact tracing in vulnerable communities?
 - **Equity observation 15:** The current National Contact Tracing System does not require that either centralised and decentralised approaches store data inside the current (NTCS) system. It DOES however require the ability to access data as and when a positive case is identified. Both approaches require a human decision today in order to trigger accessing the contact tracing information of a positive case. What is the decision criteria today and what does it need to evolve to in order to remove some of the perceived shortcomings in the contact tracing process such as systemic bias in PHUs, lack of diversity of team, ability to understand nuanced scenarios such that a 'decision' is an informed 'lived one' one rather than a transaction (to pull the trigger or not to). The Te Arawa Trial has demonstrated that community-led and community-based contact tracing is possible and key learnings must feed into reimagining the national contact tracing process.

⁵⁶ [Superu \(2017\) Making Sense of Evaluation: A handbook for everyone](#)

- As suggested above in **Equity observation 13**, convening a small independently facilitated workgroup to focus on developing an end to end data workflow or logic model would be necessary next step.
- **Trust**
 - Design of the Framework for contact tracing was inclusive of the actors in the business processes in the broader ecosystem; pre-border, border management and community (DHB, PHUs etc.). It was not informed however with input from our vulnerable communities and lacked 'lived experience' voices and contexts in the scenario planning.
 - **Equity observation 16:** The Treaty Principles of partnering, protection and participation require more attention. For example, partnering with those vulnerable community leaders that suffered high numbers of positive cases of COVID in the Americold Coolstore Outbreak and for the Framework to be informed by 'lived experience' on the ground voices alongside health clinician voices.
- **Digital Inclusion**
 - Bridging the digital divide is a key focus for the Programme when we consider the following groups are most at risk of digital exclusion and, as a result, should be prioritised in terms of targeted support; families with children in low socio-economic communities, people living in rural communities, people with disabilities, migrants and refugees with English as a second language, Māori & Pacific peoples youth, offenders and ex-offenders and the elderly.⁵⁷ Affordability of devices and services (internet plans for dial-up, broadband and fibre) and access (rural New Zealand) are key impediments to digital inclusion.
 - **Equity observation 17:** Iwi and through marae, other 'known, semi-closed' communities such as transport networks, places of worship (churches, mosques), kohanga reo, early childhood centres and schools are all examples where existing infrastructure exists or is being developed to provide wifi access across many of these spaces. Further investigation as to how might wireless bluetooth enabled access-points on a given network serve that community for contact tracing purposes is recommended. One such example is the Te Puni Kōkiri Marae Digital Connectivity⁵⁸ Programme that rolled out in February 2019. It could provide a genuine opportunity to extend and assist with contact tracing during a discrete marae event (during tangihanga as an example). As a 'trusted' community environment, the need to build trust is an extension of existing trust in these setting and becomes a leverage opportunity rather than having to build new.
- **Use of Algorithms**
 - The workstream, under the Ministry of Health has adopted the Algorithm Charter for New Zealand with a commitment to demonstrate transparency and accountability in the use of data. It references the Trial with Te Arawa as consultation with Māori however this 'consultation' should be viewed with caution.

⁵⁷ <https://www.mbie.govt.nz/dmsdocument/3228-digital-new-zealanders-the-pulse-of-our-nation-pdf>

⁵⁸ <https://www.tpk.govt.nz/en/whakamahia/marae-digital-connectivity>

- **Equity observation 18:** It is unlikely that learnings from the Te Arawa Trial will delve into embedding a te ao Māori perspective in the development and use of algorithms consistent with the Principles of Te Tiriti o Waitangi. Rather a more meaningful mana conversation with representatives from Te Kāhui Raraunga (Māori Data Iwi Leaders Group) is recommended.
- **Equity observation 19:** Opportunity for Te Kāhui Raraunga (Māori Data Iwi Leaders Group) to appoint an independent cryptographer to provide assurances that the algorithms in proposed technologies of interest are reviewed as part of the technology proof of concept/testing /procurement process/cooling off period in any contract negotiations and provide assurances that the Government is upholding it's commitment to the Principles of Te Tiriti o Waitangi, protection of Māori rights and interests in the data where data is taonga, and cultural license are respected.

Market Research

The Colmar Brunton research conducted reached into many parts of New Zealand with a view to testing the sentiment of wearables for contact tracing purposes across the community.

Key comments in relation to equity:

- **Sample size**

- The sample was reflective of parts of the community e.g., Māori sample equivalent to 15% of the total New Zealand population. The sample did not have comparable reach into disabled communities however. Nor was there representative Rangatahi or Youth voice in the under 18 age group (understandably for Privacy considerations).
- **Equity observation 20:** Equity in the sample size where the sample relied on participants to have access to a telephone and internet – when in fact however, it is the population who are digitally excluded who are of key interest!
- **Equity observation 21:** Additional emphasis required for disabled community and youth voices in order to derive meaningful insight from these communities.
- **Equity observation 22:** Preserving independence with a card was highlighted as a key enabler to participate in society (where QR codes displayed at certain heights that meant that person in a wheel chair could not complete the scan themselves, needed to ask a stranger etc). Greater insights from disabled peoples is recommended.

- **Trust**

- Different communities have different levels of trust when it comes to data privacy and security of information that may be held and collected about them. The differences were highlighted by ethnicity and also gender.
- **Equity observation 23:** Transparency of where the data is stored and who has access to the data was key to building trust at a community level in the context of the Trial. Serious consideration of an independent data repository must be given more attention as well as what safeguards are going to be put in place to alleviate these concerns. A marketing exercise lacks respect for these concerns if the root concerns are not attended to.

- **Equity observation 24:** Understanding the causes for the lack of Trust in Māori responses did not gain much attention (the reasons for the lack of trust were not interrogated beyond privacy and security) however set against a backdrop of 180 years of Treaty grievances, intergenerational systemic bias across multiple Government institutions and over representation in negative statistics, it is difficult to assess whether positive reactions to questions of trust was a realistic expectation. Trust at a community level in the context of digital contact tracing must be acknowledged against New Zealand's historical context also.
- **Language**
 - Keeping language simple for greater understanding across all communities in Aotearoa New Zealand is necessary in order to increase awareness and build trust.
 - **Equity observation 25:** For example, 'about your data' or 'data about you' is preferred in communications rather than blanket statements that 'the card contains no personal data' (which while technically correct) is misleading when a card needs to be registered to an individual user and said individual is required to provide personal information in order to register.
 - **Equity observation 26:** Transparent, open and simple communications is required.

9. Equity as a 'Principled' Approach

This report is evidence that a Tiriti o Waitangi-led 'Principled' approach is possible.

Acknowledging that there is more to be done, leading intentionally with equity across each of the three Principles of *Partnership*, *Possession* and *Participation* means that our vulnerable communities and their voices are listened to, heard and acted upon.

In the context of the Programme, the table below highlights the 'negotiated' spaces for engagement between the 'partners' in the trial being Te Arawa and the Ministry of Health.

Treaty Principle	Operationalising 'Negotiated' Frameworks	Applications
Article 1: Partnership	Te Tiriti Principles Tino Rangatiratanga Mana Motuhake Mana-Mahi Framework (mana conversations) Terms of Reference	Engagement approach between Iwi and Priority communities and Government to build High Trust in good faith e.g., Terms of Reference, in relation to Equitable investment for Equitable outcomes
Article 2: Protection	He Pikinga Waiora Implementation Framework Māori Data Sovereignty Māori Data Audit Tool Assessment of Domain Specific frameworks	Outside in approach to co-design (with community requirements, lived experiences and nuances at the forefront) Community-based e.g., community resilience, upskilling opportunities, data (access, security and privacy)
Article 3: Participation	Māori-led Mana-Mahi Framework (mahi conversations) Mahi Ngātahi (co-design)	Strengths-based, power sharing, resource provision and resources handed over Locally-led e.g., mobilising local community, training, tikanga and kawa

Figure 5: 'Principled' Negotiated Frameworks

Lessons Learned

Co-Design vs Time to Implementation

The numerous health frameworks of *He Korowai Oranga* (New Zealand's Māori Health Strategy) together with *Pae Ora* (Health Futures), *Whakamaui: Māori Health Action Plan 2020-2025*, *Equity of Health Care for Māori Framework*, *He Pikinga Waiora Co-Design Implementation Framework*, the *New Zealand Disabled Strategy* and *Whāia Te Ao Mārama 2018 to 2020* (Māori Disability Action Plan) **ALL** espouse the importance to co-design programmes that are community-led, localised and predicated on high trust for achieving equitable outcomes for Māori. Furthermore, understanding the nuanced contexts of Pacific Peoples, Asian New Zealanders, disabled peoples, elderly and rural New Zealand settings suggest that a one-sized fits all approach is not appropriate or acceptable – pre COVID19 Pandemic, let alone in a post-Pandemic recovery setting.

Reimagining programmes with community-led co-design ‘for Māori, by Maori’ or ‘for the community, by the community’ is a requirement for digital contact tracing IF equitable outcomes are to be achieved. This will provide the necessary space for nuanced contexts to be uncovered, deeply understood and solved for.

Time to implementation will likely be impacted however a co-designed approach demonstrates a willingness to *partner* (which might also mean devolving power or control by one party to the other and a redistribution of resources to achieve equitable outcomes), *protect* our vulnerable communities and allow for *participation* in a meaningful way.

Trust

Building two-way trust (and therefore confidence from end users of digital technologies) is paramount for any digital contact tracing Programme whether the underlying technology uses bluetooth-enabled cards, wearables or mobile app utilising the EN Framework.

Trust is embodied in the concepts of tino rangatiratanga and mana motuhake. It (trust) is also underpinned in the Te Mana Raraunga Charter where data is taonga, the mana-mahi operating framework and Māori Data Audit Tool.

Digital inclusion in **Te Whata Kōrero** (A Storehouse of Māori Aspirations) lists trust as one of four key pillars where trust in the internet and online services, building digital literacy, online safety and digital understanding builds confidence and resilience.

Te Mahere mō te Whakarunga Matihiko, the Strategy for a Digital Public Service recognises that not every group (or community) has the same level of trust in the Public Service such that striving for an open and accountable public service, the ability to make people-centred decisions and undertaking digital transformation in accordance with tikanga Māori form the basis of the eight collective behaviours to increase trust and build confidence in a digital public service.

The **Data Protection and Use Policy** adopted by Cabinet in 2020 lists five Principles that articulate the values and behaviours to underpin the respectful, trustworthy and transparent use of data across the social sector. Accorded te reo Māori references in ‘he tangata’, ‘manaakitanga’, ‘mana whakahaere’, ‘mahitahitanga’ and ‘kaitiakitanga’, it should be noted that the application of these using a strict literal translation or definitions mean that the deeper meanings are often lost in the application of the principles. For example, ‘kaitiakitanga’ is more than framing the way in which data is collected and explaining this to people that fosters their understanding and trust in what is being done with their information – ‘kaitiaktanga’ brings about an intergenerational obligation and responsibility.

The new **Privacy Act 2020** comes into force on 1 December 2020 and repeals and replaces the Privacy Act 1993. Key changes strengthening Privacy will require agencies to take an active role assuring individuals that data is collected, stored and managed in a way that is consistent with the Act. That it doesn’t reference Māori Data Sovereignty lends itself to criticism of supporting a one-size fits all approach.

In summary, earning trust of New Zealanders should not to be taken lightly. Trust is difficult to win back if data privacy, security and access concerns are not respected.

Creeping surveillance of digital technologies if left unchecked will also affect and erode trust further. Ensuring contact tracing data is not associated to placing a person in a location is one of many issues for populations where trust is already low. Ministry of Justice for potential probation violation, Ministry of Social Development for possible tenancy violation or breach are two very real scenarios that could eventuate if data is used to place people in a location at particular time.

Data

Māori data sovereignty and rights and interests in Māori data and application of cultural license requires further engagement with Māori, including the Kāhui Rāraunga (Data Iwi Leaders Group) and their technical advisors in addition to iwi and hapū.

Obvious governance including the collection, storage (onshore versus offshore, sovereignty versus residency), security, access and permissions alongside data management in terms of merging, sharing, sunseting and deletion of data are all topics that must be discussed openly and transparently across the range of technology options (centralised versus decentralised data repositories, apps as well as beacon technology). To do so on a per technology basis is unhelpful when assessing the options available and with priority communities in mind.

With global activity relating to Indigenous peoples data protections in UNDRIP, GIDA, FAIR and CARE, ENRICH, Māori data advocates and related activities feed into and off the activities of other indigenous peoples in a complementary manner.

Cultural license and social license also warrant scrutiny and need to be tested further.

Te Arawa signalled the need for independent technology (specifically cryptography) reviews of any proposed technologies in order to provide assurances to Māori that the Government's commitment to uphold the Principles of Te Tiriti o Waitangi are also being held to account.

Digital Inclusion

Accessibility is a key consideration for assessing which array of digital technologies will enhance contact tracing in our vulnerable communities while competing with demands for privacy and a self-service model that also preserves an individual's independence.

With school closures during alert levels 3 and 4, it became apparent that a second digital divide was in the making – exacerbated when school age children were required to attend school virtually online. Access and affordability to digital devices was somewhat offset by the television channel established along with physical school packs or resources. How successful or not is outside the scope of this report, suffice it to say that equity of access to digital technologies highlights that the digital divide is alive and well in New Zealand.

Māori can play a key role in post-pandemic settings as acknowledged by two commentators recently.^{59,60}

Costs and Benefits - Who wins and who loses?

There are invariably trade-offs to be made when responding to a global pandemic and under urgency. Using a cost versus benefit approach to social investment means that some parts of the population will win more share of investment while others will not.

This report argues that equitable investment is required for equitable outcomes. It also argues that an equitable approach investment means a better impact in the long run.

What this means in real terms is for the Government to make intentional disproportionate investments into our vulnerable communities (Māori, Pacifica peoples, disabled peoples, elderly, rural) such that they can go about their daily lives using appropriate digital technologies that resonate and work for them in their lived everyday contexts.

Investing in the 'haves' in the community is to intentionally *not invest* in the 'have nots'. At what point do the various agencies (Ministry of Health, Department of Internal Affairs and others) intentionally pause their efforts to reallocate, redistribute or forego resources (both funding and expertise)?

Looking at the Health Status of adults in New Zealand published by The Treasury Wellbeing Framework shows that Māori and Pacific peoples lag below the New Zealand average for adults.

Based on this alone, it would follow that additional investment is required to lift the indicators for Māori and Pacific peoples.

⁵⁹ <https://thespinoff.co.nz/atea/28-04-2020/how-maori-can-bridge-the-digital-divide-in-the-post-covid-world/>

⁶⁰ <https://informedfutures.org/wp-content/uploads/Addressing-rangatahi-education.pdf>

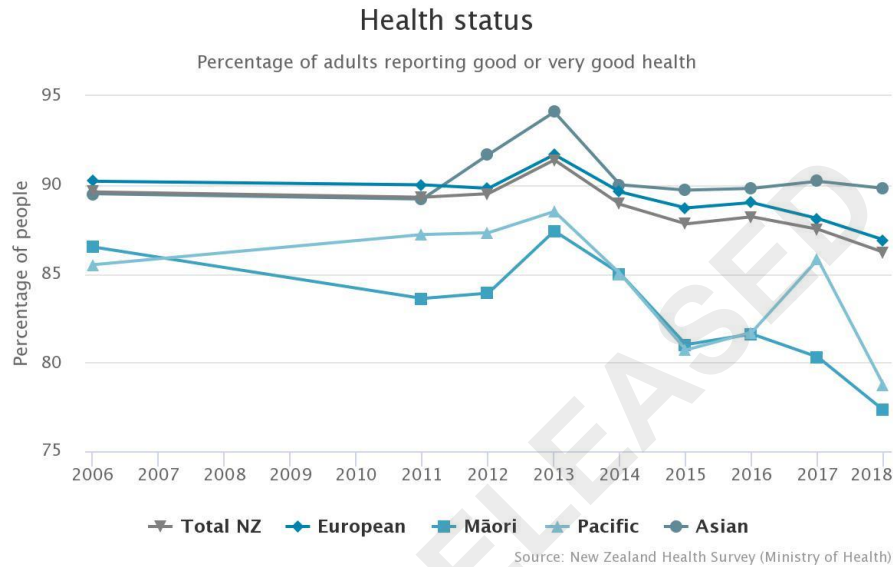


Figure 6: Health Status By Ethnicity⁶¹

Suite of new technologies and tools in ‘kete’

Based on the preceding commentary, a ‘Principled’ approach is likely to require a suite of digital technologies in the collective toolkit or kete for all New Zealanders.

It must be predicated on co-design from within vulnerable communities and include those who will gain the most in an outbreak. These communities will bring enthusiasm(!), a lived experience with nuances that bureaucrats in Wellington or our larger centres will never be able to design for.

Technologies will continue to evolve so understanding the data flow becomes even more imperative. Interoperability of technologies and how to extract the data in a useful way is but one part of the puzzle and has received significant attention. What a human does with that data is of utmost importance and highlights *a real need* to focus on the national contact tracing process *more* than the attention it has received to date.

⁶¹ <https://lsfdashboard.treasury.govt.nz/wellbeing/>

10. Recommendations

Three recommendations are made below based on people (community), process (and policy) and technology (trust and confidence).

People - Community: 'True' Co-Design

People are at the heart of community. We hear the oft cited whakataukī to illustrate the same.

*Hūtia te rito o te harakeke,
kei hea te kōmako e kō?
Kī mai ki a au, 'He aha te mea nui i te ao?'
Māku e kī atu, 'He tāngata, he tāngata, he tāngata'.*

*If the heart of the flax is pulled out,
where will the kōmako sing?
If you ask me what is most important in this world,
I will reply, 'People, people, people'.*

Taking a Te Tiriti-led approach of *Partnership*, *Protection* and *Participation*, it is the latter of these in meaningful participation that promotes equitable outcomes in our communities.

The Te Arawa Community Field Trial has demonstrated what is possible when co-designing a trial where a 'for Te Arawa, by Te Arawa' approach was taken. Localised, community-based and high-trust are the 'modus operandi' for success⁶². The question begs however, what a true co-design approach might reveal or be accomplished IF both the problem space and implementation are co-designed by and within the community or iwi?

Two-way trust is a necessary component for co-design and done well, application in other settings or contexts will aid in community responses in a more timely fashion for contact tracing than what has been experienced to date.

There will be valuable insights and learnings to be gleaned, unpacked and applied in future. Let's trust these will be acknowledged and carried forward.

Not to be forgotten is the broader Māori (iwi, hapū, whānau and individual responses) when the country went into lockdown alert level 4 in March 2020. The responses by iwi and hapū exercising

⁶² <https://www.nzherald.co.nz/video/local-focus-no-complaints-so-far-in-ngongotaha-covid-card-trial/EOIVBOWUGB4BYTPEIFFT3LTDVU/>

tino rangatiratanga and mana motuhake resound today with a potential recipe for resilience⁶³ supporting calls to 'protect our whakapapa' reverberating across Aotearoa.

Process & Policy - Equitable Investment for Equitable Outcomes

Partnership is at the heart of developing policies and processes with a focus on equitable investment for equitable outcomes.

Continued support of New Zealand's COVID-19 response needs Partnership between the Government and Māori. It relies on mana conversations to be had in good faith, the potential for reallocation of resources to be done in a way that acknowledges and supports shifts in the power dynamics for successful implementation of processes and programmes in our vulnerable communities.

Simply put, it will demonstrate the prioritisation of our vulnerable peoples and communities ahead of middle New Zealand. This is encapsulated in another oft cited whakataukī below which speaks to partnership and collaboration.

*Nāu te rourou, nāku te rourou, ka ora ai te iwi.
With your food basket and my food basket the people will thrive.*

Technology - Building Trust and Confidence

Technology is an enabler and not the end in of itself. While it IS the focus in this report in terms of assessing digital technologies for contact tracing purposes, it should not be done so in a vacuum independent of the data flowing across the entire ecosystem (including pre-border controls (MBIE, Immigration New Zealand), border management (Department of Internal Affairs) and into the wider community (Māori (iwi and hapū), Government Digital Services, Ministry of Health, DHBs, PHUs to name a few).

Interoperability of technologies and how to extract the data in a useful way is but one part of the puzzle and has received significant attention to date. What a human does with that data is of utmost importance and highlights *the real need* to focus on the national contact tracing process *more* than technologies alone. Human factors that go into a decision to activate a course of action or pull a trigger to send alerts in the instance someone tests positive will require deeper and more rich understandings of the communities, diversity of thought and action and where required training.

If a preferred technology stack is ultimately determined through Community Trials such as bluetooth enabled cards with Te Arawa and Contact Harald, beacon technologies pilot as with

⁶³ <https://thespinoff.co.nz/partner/health-quality-and-safety-commission/05-11-2020/recipe-for-resilience-te-ao-maori-and-the-covid-19-response/>

Paperkite and Rippl, EN Framework with the Covid Tracer app or other wearables, *adoption* in a vulnerable community must be a key determining success criteria. A one size fits all approach or a focus on servicing the same population that have devices and already have access to a range of choices is not acceptable. Nor is it an either/or choice. The 'and' option needs to be explored in more detail, possibly with additional pilots to continue to explore the use of digital technologies in specific community settings e.g., within a specific rohe or across specific marae.

Building trust and confidence in technologies and the role of it in enabling rapid contact tracing will require partnership (mana conversations) and meaningful participation (mahi conversations) in community settings in New Zealand and also with key partners internationally. The rapid development of the COVID Tracer app while outside the scope of this report, has drawn criticism in what was *not* done and resulted in a number of communities of Māori who refuse to use the app and simply cannot. Had consultation with Māori occurred early and co-design it is argued that this would not have been an issue.⁶⁴

The Te Arawa community trial provides an example of what a community partnership might look like and is an opportunity to carry forward key learnings into future efforts.

Engaging across global indigenous networks with a focus on data privacy, security and control is an opportunity to share knowledge and lessons.

Engaging with technology platforms such as Google and Apple directly with Māori presents additional opportunities for sharing and understanding. The New Zealand Government should not be a passive user or customer in this sense. We need to be sitting alongside and informing our perspectives of what success in vulnerable communities looks like. Iwi-led contributions in this sense could progress outcomes for indigenous and developing nations and peoples globally.

*He rangi tā Matawhāiti
he rangi tā Matawhānui*

*The person with a narrow vision sees a narrow horizon
The person with a wide vision sees a wide horizon*

⁶⁴ <https://www.taiuru.maori.nz/maori-data-sovereignty-and-digital-colonisation/>