

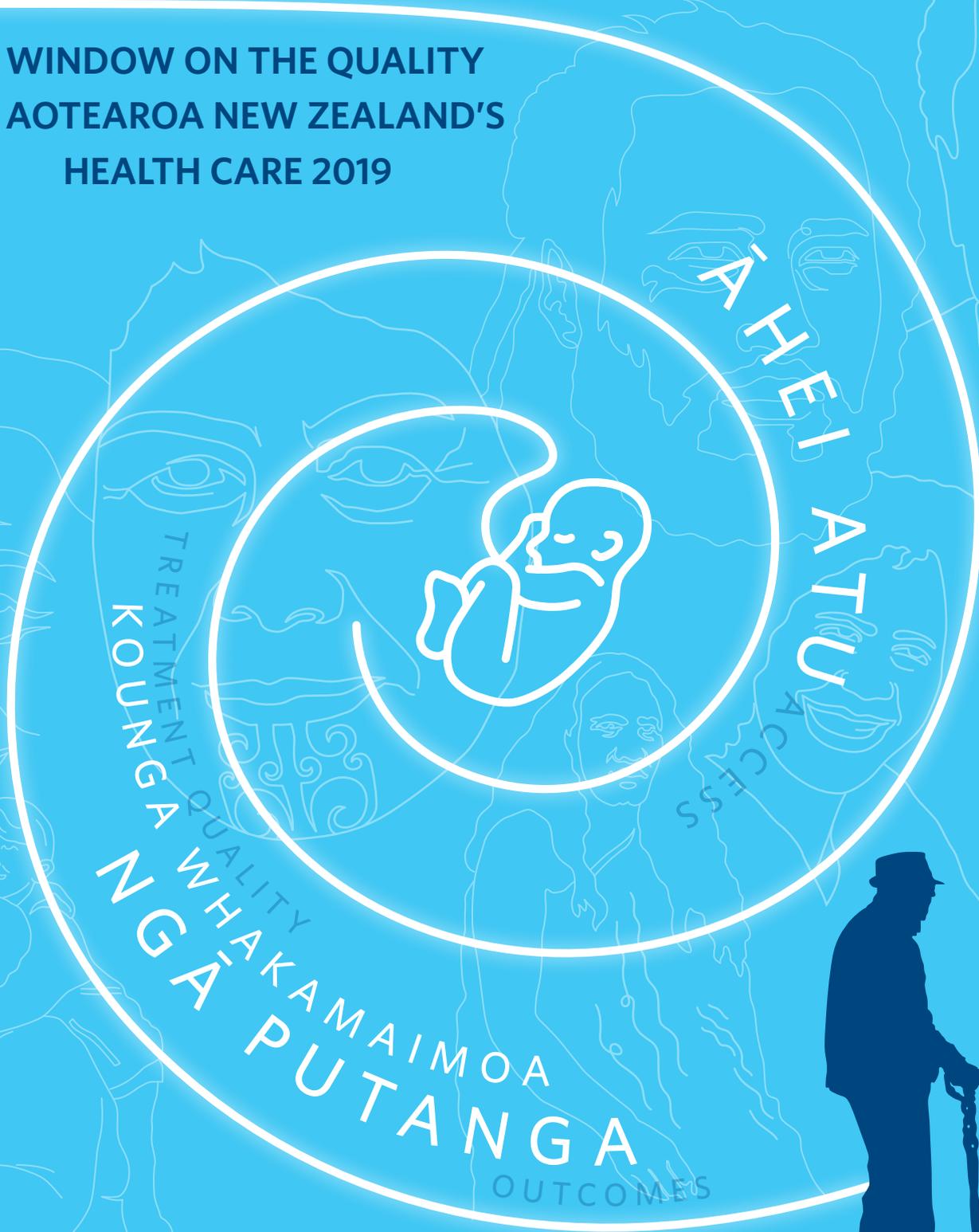


HEALTH QUALITY & SAFETY
COMMISSION NEW ZEALAND

Kupu Taurangi Hauora o Aotearoa

HE MATAPIHI KI TE KOUNGA O
NGĀ MANAAKITANGA Ā-HAUORA
O AOTEAROA 2019

A WINDOW ON THE QUALITY
OF AOTEAROA NEW ZEALAND'S
HEALTH CARE 2019





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Foreword – Professor Sir Mason Durie | Kupu whakataki – Ahorangi Tā Mason Durie

Rangitāne, Ngāti Kauwhata, Ngāti Raukawa

*He mana taurite
Hei oranga tangata*

Good health for everyone demands a society that is fair and just, committed to equal opportunities as well as equal outcomes, and ready to shift the focus if that is needed. *A window on the quality of Aotearoa New Zealand's health care 2019 – a view on Māori health equity* (Window 2019) makes it clear that shifting the focus is sorely needed.

Disparities between Māori and non-Māori have been the subject of numerous reports from the 19th century to the present. For 150 years we have known about the higher rates of Māori illness and the lower rates of Māori survival into old age, and from time to time we have sought to remedy the injustices. Some remedies have led to significant improvements that should be celebrated. The gains include higher life expectancy, lower childhood mortality, near-eradication of 'consumption' and other infectious diseases, and the wider adoption of healthy lifestyles. But those gains, significant as they are, have not eliminated the gap between the health of Māori and the health of other New Zealanders. Māori are over-represented in almost every type of illness and every known determinant that leads to poor health.

It would be misleading to conclude that failures in the health system are the reason for all the disparities. Sub-standard housing, poor education, unemployment, low incomes, cultural alienation, alienation from land, and frank discrimination have all contributed to the problem. In that respect, a whole-of-society remedy must be sought.

This report highlights a number of areas where change is needed. Some areas are related to the health system, including improved access to services, improved quality of care and sustaining improvements. But underlying the whole raft of inequities are the questions of indigenous rights, indigenous histories, indigenous realities and indigenous aspirations. Those fundamental questions are as relevant to the justice system or the education system, or the national economy or the social sector, as they are to the health system. And the common thread is the Treaty of Waitangi – te Kawenata o Waitangi.

Window 2019 has emphasised the Treaty as a covenant – a Kawenata – that should be recognised 'on the ground' as much as in legislation and lofty strategic ideals. More than simply acknowledging the Treaty as a founding document, the challenge is to implement the promise of the Treaty by tackling inequities through policies, programmes and services that are proudly biased towards Māori. It is not a matter of favouritism, political correctness or deference to Māori; rather, it is a matter of health and wellbeing and the eradication of inequities. Moreover, Māori understandings of health and wellbeing need to be given due attention; they are not always the same as the understandings of Asian, Pākehā or European populations, though they do share a common desire – to be well in whatever parameters define wellness.

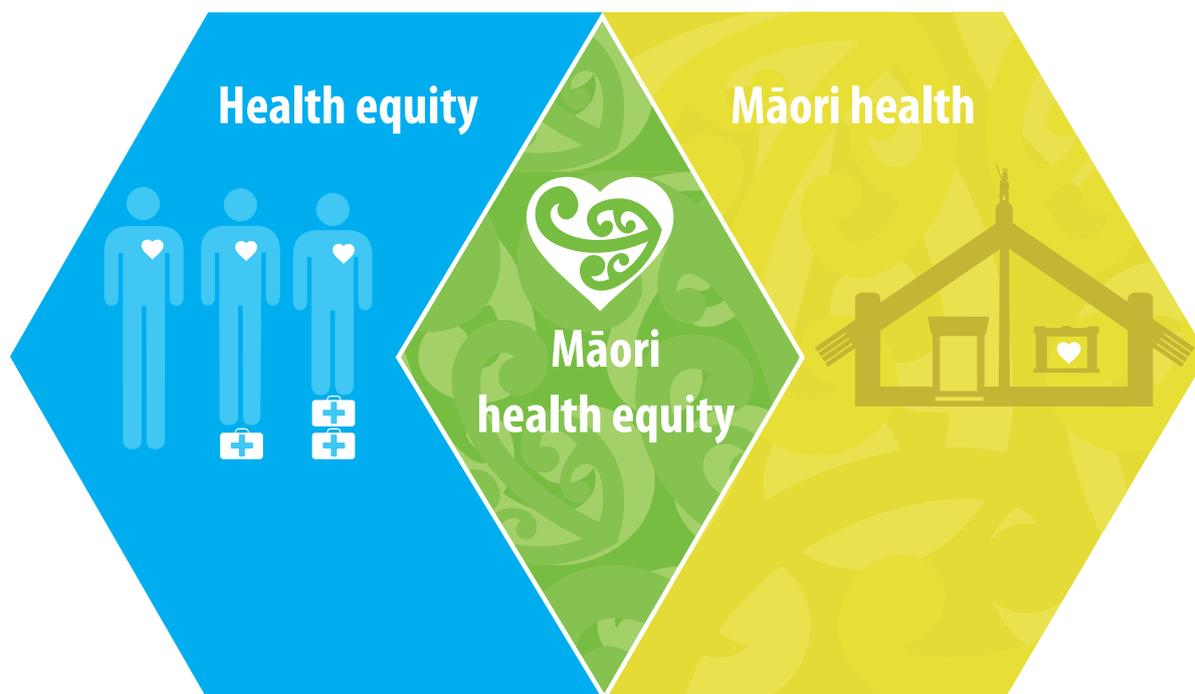
Window 2019 provides the evidence and the reasoning why te Kawenata o Waitangi should be seen as a 21st century prescription for Māori health.

The report is clear. Action is needed on multiple fronts. Within the many parts of the health system, and between the health system and other systems, both locally and nationally, a collective approach and a collective commitment are critical to remedying a situation that has lasted too long.

*Ehara taku toa i te toa takitahi
Engari he toa takitini*

Preface | Kōrero tīmatanga

The Health Quality & Safety Commission – Kupu Taurangi Hauora o Aotearoa (the Commission) views health equity and Māori health advancement as separate, but interlinked priorities, with Māori health equity an area of commonality and overlap across the two areas. The diagram below shows how equity, Māori health equity and Māori health overlap.



Te Tiriti o Waitangi

This report focuses on Māori health equity, but also draws on thinking and ideas from the broader fields of health equity and Māori health advancement throughout.

The Commission's first strategic priority is 'Advancing Māori health'. We work for Māori health advancement, sharing He Korowai Oranga's vision of 'Pae ora' (healthy futures for Māori). We draw on the articles and principles of te Tiriti o Waitangi and the principles of He Korowai Oranga to guide our work with Māori.

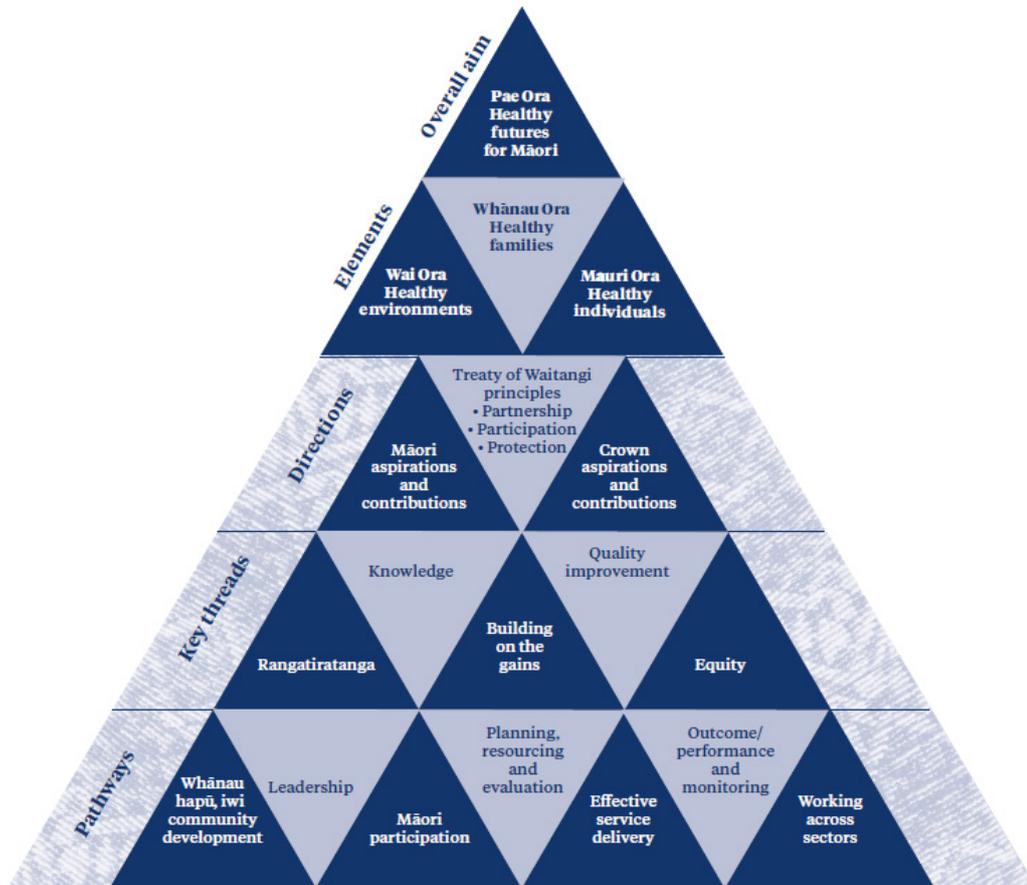
Recognising that Māori have their own health aspirations, priorities, goals and ways of working, we aim to partner with and work alongside Māori, offering tools, resources and support to advance Māori health, so all Māori can live long, healthy lives.



From He Korowai Oranga (page 3)¹

Pae ora is the Government's vision for Māori health. It provides a platform for Māori to live with good health and wellbeing in an environment that supports a good quality of life. Pae ora encourages everyone in the health and disability sector to work collaboratively, to think beyond narrow definitions of health and to provide high-quality and effective services.

Pae ora is a holistic concept and includes three interconnected elements: mauri ora – healthy individuals; whānau ora – healthy families; and wai ora – healthy environments. All three elements of pae ora are interconnected and mutually reinforcing, and further strengthen the strategic direction for Māori health for the future.



The Commission also has a strategic priority of achieving 'health equity for all'.

Our vision for health equity is 'Mana taurite hauora: Health equity for all'.

We have a vision of an Aotearoa New Zealand where no avoidable, unfair or unjust health inequities exist that are based on differences in ethnicity, socioeconomic circumstances, geography, gender, sexuality, age, specific health conditions or disabilities, or combinations of these.

The World Health Organization defines equity as the absence of avoidable or remediable differences among groups of people.

The Ministry of Health states, '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 may require different approaches and resources to get the same outcomes.'

The Commission is committed to achieving equity as defined here, in the first instance for Māori, as tangata whenua and partners with the Crown under te Tiriti o Waitangi, but also for the many populations and groups that make up Aotearoa New Zealand's diverse population.

Executive summary | Whakarāpopototanga matua

The Minister of Health has stated that the health sector should commit to achieving health equity for Māori across the life course and to meeting the obligations of te Tiriti o Waitangi. *A window on the quality of Aotearoa New Zealand's health care 2019 – a view on Māori health equity* (Window 2019) aims to support the health system to meet these requirements.

Window 2019 provides an evidence-informed discussion, framed around three key questions: What are the health inequities between Māori and non-Māori? Why are there health inequities between Māori and non-Māori? How do we resolve health inequities between Māori and non-Māori, and advance Māori health?

Window 2019 analyses available health system data on equity of access to and quality of health services and the equity impact of quality improvement initiatives. It compares Māori and non-Māori data at five stages of the life course – maternity and birth, childhood, youth, adulthood and old age.

In reading and reflecting on Window 2019, it is important to take a systems view of health equity. This involves thinking about how systems create and maintain health equity and inequity, and how systems can be changed to better meet the needs of those they are not serving well. It is important to recognise that this document reflects the start of a conversation involving Māori, and the health and other sectors. We expect a range of work to emerge from this discussion, both for the Health Quality & Safety Commission and for others.

Throughout Window 2019, a range of views is presented in boxes from those with specific expertise in the issues briefly covered, including aspects of Māori health, advancing Māori health and protecting Māori health.

What are the health inequities between Māori and non-Māori?

Window 2019 analyses show that our current systems are supporting non-Māori to live healthier, longer lives than Māori. Across the life course, we see inequity in many indicators from before birth, through childhood and youth, through adulthood and into old age. We see the diseases commonly associated with older age starting earlier in Māori than non-Māori, along with higher rates of disability and of multiple disabilities for Māori. We see clear differences in a range of other outcomes too, including, despite 60 years of constant improvement, a stark difference in life expectancy.

Inequity in access: Services are less accessible for Māori

Health services are less likely to be accessible for Māori compared with non-Māori over the life course, beginning prior to birth, with evidence that maternity services do not serve the needs of Māori mothers as well as those of non-Māori mothers (see Figure 5). This inequity continues through childhood (eg, in terms of access to oral health services for Māori children – see Figure 8) and youth (eg, Māori youth rates for chlamydia testing were lower than would be expected given the high rates of chlamydia disease within this age group – see Figure 15 and Figure 16).

Māori were more likely than non-Māori to cite cost as a barrier to seeing a general practitioner. However, New Zealand Health Survey results suggest that unmet need for health care among Māori youth and adults is not solely because of socioeconomic status (see Figure 17 and Figure 24). Hospital appointments are not accessible for more Māori adults than non-Māori adults (see Figure 26). Moreover, specialist appointments have unacceptably long wait times and occur less frequently for Māori (see Figure 25 and Figure 33). In older age, Māori with disabilities are more likely to have unmet needs for specialist equipment than non-Māori (see Figure 34).

Inequity in quality: Services are not providing the same benefits for Māori

Even when Māori can access services, the evidence shows inequity in the quality of those health services and treatments for Māori. Māori children receive sub-optimal asthma control, which is clear from the higher levels of prescriptions for reliever medications, without any preventer prescribed, which may contribute to the 30 percent higher rate of hospitalisation for asthma for Māori children compared with non-Māori children (see Figure 13). In adulthood, Māori have twice the rate of hospital bed-days following an acute admission than non-Māori (see Figure 27).



Communication is another key issue to address in providing high-quality health care. Compared with non-Māori, Māori adults consistently respond less positively to questions about the experience of communication with hospital staff and doctors (see Table 1).

Although older patients in general tend to present at emergency departments more often than younger people, this pattern starts much younger – around a decade earlier – for Māori (see Figure 36). Evidence indicates inappropriate prescribing occurs more often for older Māori compared with non-Māori, increasing the risk of acute kidney injury (see Figure 37). Furthermore, as Māori have a higher risk of renal disease, the impact of this inequity is even greater. Where older people have falls resulting in hip fracture, it is important to operate as soon as possible. Yet the percentage of Māori having an operation for their hip fracture on the same or next day of admission to hospital following a fall has decreased steadily since 2013, whereas the percentage for non-Māori has consistently improved (see Figure 38).

Improvement: Efforts to improve quality do not always improve equity for Māori

Efforts to improve quality show mixed results for equity. For surgical site infections, where the improvement effort involves implementing a bundle of clinical best practices and monitoring the outcomes, we have seen equity achieved for Māori and non-Māori (for antibiotic dosing and timing (see Figure 39) and with surgical infection rates (see Figure 40). However, this improvement is based on a specific and defined problem and a relatively straightforward clinical solution.

Improvement efforts in more complex areas do not show the same clear effects. With childhood immunisations, the inequities between Māori and non-Māori were almost eliminated in 2014. This reflected a strong focus on Māori immunisation as a goal for the health system and increased levels of resourcing directed into this area. This health system success has been celebrated in recent years. However, this year's data shows that when the focus drifts, improvement gains can be lost: while immunisation rates have remained fairly stable for non-Māori children, they have steadily fallen for Māori since 2015 to the extent that they are now nearly 10 percentage points lower than for non-Māori (see Figure 14).

Adult diabetes is seen as a key area of improvement for the health system. Māori are considerably less likely than non-Māori to receive diabetes monitoring, and the rate has steadily decreased over time. Another equity gap is that non-Māori with diabetes are tested for early kidney disease more often than Māori (even though Māori have a higher risk of renal disease), while the rate of screening falls for both groups over time. Rates of lower-limb amputations associated with poor diabetes control were a third higher for Māori than for non-Māori and appear to be slowly and steadily rising for Māori while remaining fairly stable for non-Māori (see Figure 31).

Why are there health inequities between Māori and non-Māori?

To answer this question, we have drawn on Aotearoa New Zealand and international literature.

The wider determinants of health (social, political, environmental and economic) create a level of health advantage and disadvantage for individuals and groups of people in Aotearoa New Zealand, even before they engage with the health system. Disparities between Māori and non-Māori can be seen in both unequal distribution of socioeconomic resource and unequal outcomes.

However, the pattern of inequities shown in the Window 2019 analyses suggests that, even if Māori are able to engage with health services, it does not necessarily reduce inequity, in contrast to what we might hope for. To the contrary, our results suggest engaging with the health system can increase advantages for non-Māori and disadvantages for Māori across the life course.

The wider determinants of health plus the effects of an inequitable system combine to disadvantage Māori. They also have common causes. The Williams and Mohammed (2013) model of health inequity (see Figure 42) shows how 'basic causes', such as biology, geography, social institutions and racism, have downstream effects on health outcomes. In the Aotearoa New Zealand context, 'basic causes' include the historical acts of taking land, resources and culture, compounded by the monocultural nature of today's health system and service delivery.

Colonisation, failure to meet the requirements of te Tiriti o Waitangi and institutional racism have established and maintained advantage for most non-Māori and disadvantage for Māori within the wider determinants of health, and within the health system itself. Institutional racism includes inappropriate action and/or inaction in response to need. It also includes monocultural perspectives and worldviews embedded in health, education, legal and other systems.

How do we resolve the health inequities between Māori and non-Māori, and advance Māori health?

The Crown and its agencies have obligations to meet Māori rights, including human and indigenous rights, and those specific to te Tiriti o Waitangi. Te Tiriti o Waitangi is central to the health system, both as a requirement for how we operate and as an improvement tool. Failures to uphold te Tiriti o Waitangi have contributed to structural inequities including institutional racism and the continued dominance of Western worldviews. Academics who research and write about racism in the Aotearoa New Zealand health system point out that: 'Upholding te Tiriti o Waitangi should eliminate institutional racism against Māori and contribute to the achievement of health equity.'²

The articles of te Tiriti o Waitangi provide a framework that can support the health system to build and maintain appropriate long-term partnerships with Māori that will help advance Māori health and equity. In Aotearoa New Zealand, we can use te Tiriti o Waitangi to underpin the sustained, systemic and multileveled approaches that are so clearly needed to improve the health system for Māori. Alongside the elimination of Māori health inequity, te Tiriti o Waitangi provides for Māori to determine aspirations and priorities for and to drive Māori health advancement. Quality for Māori must be defined by Māori.

Māori knowledge and worldviews, including Māori data and analysis approaches, can strengthen and broaden evidence bases for health care. In addition, we can draw on a number of equity and Māori advancement strategies, programmes, practices, tools and resources to inform, support and advance health equity. These include: Whānau Ora, He Korowai Oranga, Māori health providers, cultural safety education, Māori workforce development, Healthy Families NZ, equity of health care for Māori framework and the Health Equity Assessment Tool (HEAT).

Conclusion

The consistent and key messages of Window 2019 are that the health system must acknowledge and understand inequities, and commit to equity and Māori health advancement by enabling services where needed, identifying and removing institutional racism from our organisations and services, and arming our services, organisations and staff with the knowledge, tools and official sanction to do this work.

The health system requires Māori leadership and partnership to improve access, service and treatment quality and to make improvement efforts more successful. Māori are also needed in every sphere of the health system to ensure Māori strategic input is well implemented.

Te Tiriti o Waitangi provides a clear pathway to build the relationships between the Crown and Māori that are required to address institutional racism, advance Māori health and achieve health equity for Māori and non-Māori. The challenge is to implement the promise of te Tiriti by tackling inequities through policies, programmes and services that work for Māori. By meeting our responsibilities in these areas, we prioritise wellbeing, promote Māori capability and advancement, and support the future health, education, cultural, social and economic aspirations of whānau.



Introduction | Kupu arataki

The current Aotearoa New Zealand Coalition Government and the Ministry of Health (the Ministry) have identified health equity as an issue of high priority. The Government has brought equity back on to the policy agenda and mandated the Ministry to take a bold approach to addressing health inequities.³ The Minister of Health's letter of expectations to district health boards (DHBs) and other organisations in the health sector, including the Health Quality & Safety Commission (the Commission), requires a commitment to achieving health equity for Māori across the life course and to meeting te Tiriti o Waitangi obligations.⁴

This year's *Window on the quality of Aotearoa New Zealand's health care 2019 – a view on Māori health equity* (Window 2019) responds directly to these priorities by examining health system data on Māori and non-Māori across the life course – from before birth, through childhood, youth and adulthood, and on to old age. At each stage of the life course, we consider equity between Māori and non-Māori in terms of access to and quality of health care, and the effect of initiatives to improve health care.

We have divided this report into the following three chapters, each of which contains boxed commentaries that capture diverse voices and expertise on a range of issues, including aspects of Māori health, advancing Māori health and protecting Māori health.

1. What are the health inequities between Māori and non-Māori?

In this chapter we look at health system data for Māori and non-Māori, using a life course approach that considers health before birth, through childhood, youth and adulthood, and on to older age. We present data on access to and quality of care and where improvements in care may or may not be making a difference to inequity.

2. Why are there health inequities between Māori and non-Māori?

Understanding why inequities exist is key to understanding how to resolve them. While equity is complex, we can draw on useful models to deepen understanding and identify potential points for intervention. This chapter considers the 'basic causes' of inequity between Māori and non-Māori, including how structural factors such as colonisation and institutional racism advantage non-Māori and disadvantage Māori.

3. How do we resolve health inequities between Māori and non-Māori, and advance Māori health?

A number of useful tools and resources are available to advance Māori health and achieve greater equity. This chapter explores a range of them, including te Tiriti o Waitangi as Aotearoa New Zealand's primary tool and approach to both advancing Māori health and resolving equity.

The data and analyses presented in Window 2019 reflect on the performance of the health system and how effectively the system is meeting the real needs of different groups of New Zealanders. In reading and reflecting on Window 2019, it is important to take a systems view of health equity. This involves thinking about how systems create and maintain health equity and inequity, and how systems can be changed to better meet the needs of those they are not serving well.

Many well-intentioned people that the health system works well for may assume the systems and processes that work for them also work similarly well for all others ('it works for me, so it must work for everyone'). However, this thought pattern encourages victim-blaming and deficit thinking about groups that our systems and processes are not working well for ('it works well for me and people like me, so there must be something wrong with **them** if it doesn't work for **them**'). This pattern of thinking can also occur in those working within the systems that support and maintain inequity, including those working within our health system. This monocultural thought pattern is one of the core challenges to resolve in order to improve our health system.⁵

For the Commission, equity is a fundamental arm of the Triple Aim for quality improvement⁶ and a priority in our *Statement of Intent 2017-21*.⁷ To meet the challenge of health equity, we need to refocus on and reprioritise the foundation for equity in Aotearoa New Zealand. Te Tiriti o Waitangi is a critical equity tool in advancing Māori health. It outlines the foundational relationship required in order for the Crown to step up to its obligations to meet the health rights of Māori and to create an effective and high-quality health system for Māori so all Māori may experience their full health potential.

Chapter 1: What are the health inequities between Māori and non-Māori? | Wāhanga 1: He aha ngā rerekētanga hauora i waenga i te Māori me Tauwiwi?

Summary

Measures of access: Services are less accessible for Māori

Barriers to health services prevent Māori from having the same access to health care as non-Māori.

- Access to maternity services is lower for Māori than non-Māori women.
- Access to oral health services is lower for Māori than non-Māori children.
- Māori young people are tested for chlamydia more frequently than non-Māori, but not at a sufficiently high level in relation to underlying disease.
- A higher proportion of hospital appointments are inaccessible for Māori compared with non-Māori.
- More Māori than non-Māori adults wait longer than three months for an appointment to see a specialist.
- In older age, Māori with disabilities are more likely to have unmet need for specialist equipment than non-Māori.
- Cost is a much more frequent barrier to seeing a general practitioner (GP) for Māori compared with non-Māori. Among Māori young people and adults, we cannot explain this unmet need only in terms of the socioeconomic deprivation of the area they live in.

Measures of quality: Services are not providing the same benefits for Māori

Even if services are accessed, the quality of those services is not equitable, as Māori do not benefit from them as much as non-Māori do.

- Babies born to Māori mothers were more likely to be born small for gestational age. This trend of inequity may be reducing but needs to be monitored.
- In childhood, sub-optimal asthma control is seen in higher levels of prescriptions for reliever medication, with no preventer prescribed, potentially contributing to the 30 percent higher hospitalisation rate for asthma in Māori children.
- Hospitalisations for self-harm and suicide mortality rates are markedly higher in young Māori than in young non-Māori.

- In adulthood, Māori have twice the rate of hospital bed-days following an acute admission compared with non-Māori.
- Māori adults consistently respond less positively than non-Māori to questions about their experience of communication with doctors and other hospital staff.
- Compared with their non-Māori counterparts, older Māori have a higher number of hospital bed-days following a second acute readmission within a year.
- Inappropriate prescribing of a combination of medicines occurs at a much higher rate in older Māori than in older non-Māori, increasing the risk of acute kidney injury.
- Following a hip fracture, the percentage of Māori having an operation on the day of admission to hospital or the next day has decreased steadily since 2013, while the rate for non-Māori has steadily improved.

Measures of improvement: Efforts to improve health care do not always improve equity for Māori

National quality improvement programmes that address specific areas of harm to patients have achieved good results for non-Māori in many cases, but some have increased inequity in some areas for Māori.

- The historical improvement in equity of childhood immunisation rates has reduced since 2014. Currently, rates are nearly 10 percentage points lower among Māori compared with non-Māori.
- The reduced inequity for human papillomavirus vaccination appears to be driven by a worsening of completion of all vaccinations for non-Māori rather than an improvement for Māori.
- Glycaemic control monitoring of Māori with diabetes continues to be poorer compared with non-Māori.
- Renal screening of people with diabetes is persistently lower in Māori compared with non-Māori.
- Lower-limb amputations associated with poor glycaemic control are a third higher for Māori than non-Māori, and are rising for Māori while remaining fairly steady for non-Māori.

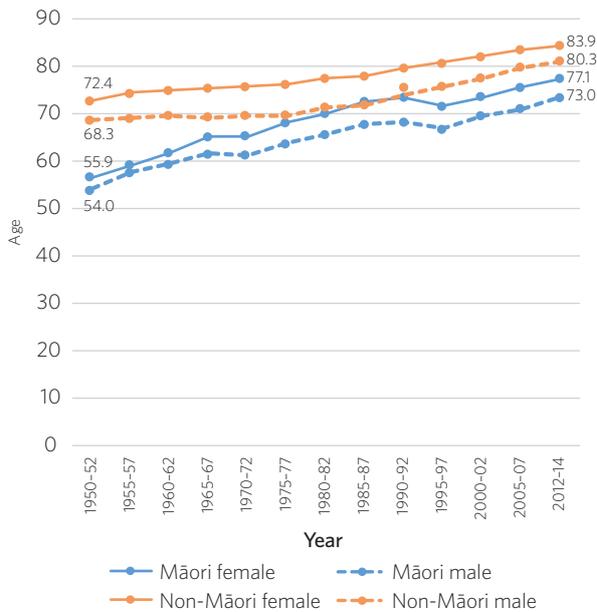


A system with unfair results

If the purpose of a health system is to help all citizens live a life that is as long and healthy as possible, then our system fails.

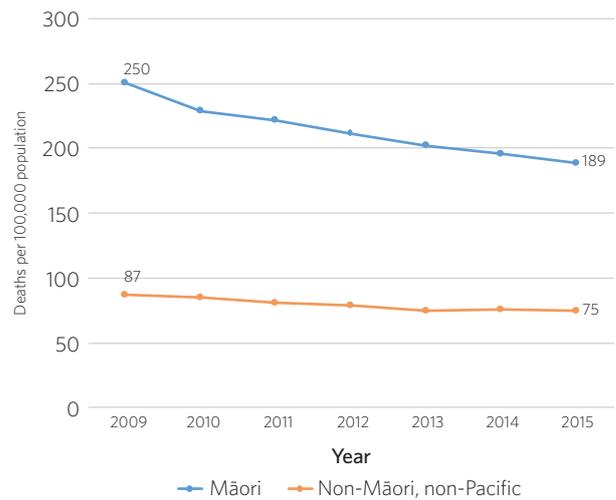
Māori live on average seven years less (Figure 1) and die from diseases that health care can address at a rate two-and-a-half times higher than non-Māori (Figure 2). These inequities have steadily improved over time but remain apparent.

Figure 1: Life expectancy at birth, Aotearoa New Zealand, 1950-52 to 2012-14



Source: Statistics New Zealand.

Figure 2: Deaths amenable to health care per 100,000 population aged 0-74, Aotearoa New Zealand, 2009-15



The causes of these inequities are complex, as we discuss in Chapter 2. The burden of disease, both communicable and non-communicable, is often higher among Māori populations. For example, Māori are disproportionately represented among the cancers where survival rates are poor. Four cancers (stomach, liver, pancreas and lung) account for 46 percent of deaths in Māori compared with 27 percent of deaths in non-Māori (Figure 4). Fewer than one in four diagnosed with one of these types of cancers will survive for five years. Comparing incidence and mortality rates in these cancers suggests that inequities in incidence (Figure 3) are likely to be the main reason for inequity in mortality. Our understanding of the causes of these

Figure 3: Incidence for poor-survival cancers per 100,000 population, Aotearoa New Zealand, 2013

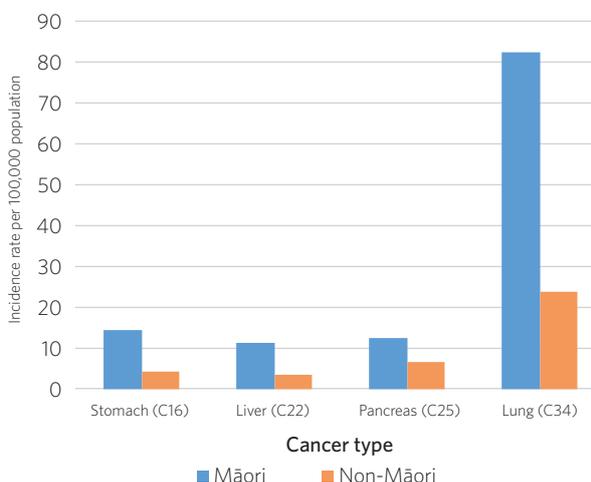
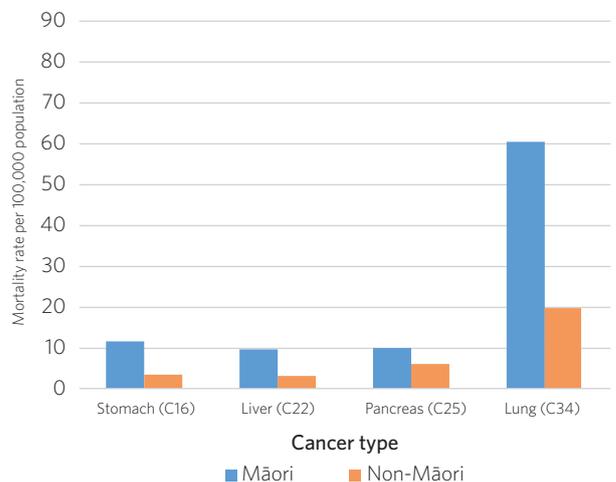


Figure 4: Mortality for poor-survival cancers per 100,000 population, Aotearoa New Zealand, 2013



Source: Ministry of Health. 2016. Cancer: New registrations and deaths 2013.

cancers shows that the inequities in incidence themselves are driven by inequities in the wider determinants of health – in this case, smoking and infections.⁸

Yet it is incorrect to assert that the inequities in outcome can all be ascribed to wider determinants of health and that health services themselves do not contribute to them.

Injustices and inequity in broader society, many of which can be related to or are a consequence of colonisation, are a major cause of unequal health outcomes. This chapter concentrates on the effect of the health system itself on inequitable health outcomes, considering how access to care, and the quality of care once accessed, increases or reduces the inequities caused by wider social injustices. It also considers whether attempts to improve the quality of health services have reduced inequities, worsened them, or had no effect one way or the other.

As discussed in previous Window reports,⁹ Māori face greater barriers to accessing health care, are less likely to receive the best-quality health care and are more likely to have a poor experience of care, and these experiences together contribute to poor outcomes.

As we demonstrate in the rest of this chapter, we see these inequities throughout a person's lifetime, starting even before birth and continuing through childhood, youth and adulthood, and into old age. Notably, the diseases commonly associated with older age start to affect Māori at a younger age than they do non-Māori. Advantages and disadvantages build up across the life course, ultimately leading to the stark difference in life expectancy that Figure 1 shows.

Our approach: The life course

Part of the foundation of the life course approach is to acknowledge that outcomes in later life are influenced by social advantages and disadvantages over a person's lifetime. From a policy perspective, an understanding of the mechanisms through which such life course influences operate, and how context shapes them, is central to improving outcomes in later life.¹⁰ In the Aotearoa New Zealand context, it is crucial to recognise the importance of intergenerational effects. From the time of European colonisation, Māori have been deprived of land, resources and social and cultural capital. With each generation, this has resulted in accumulating disadvantage for Māori. Investments in early life (eg, education) can help to set trajectories of accumulating advantage to influence outcomes in later life, and interrupt negative trajectories.

Life course frameworks, and the models underlying them, offer a useful way of exploring the interrelationships between individual life experiences and social structures, and the effects of these interrelationships. The life course approach ultimately aims to make interventions more effective throughout a person's life. It promotes timely investments with a high rate of return for public health and the economy by addressing causes, not consequences, of ill health. It adopts a temporal and societal perspective on health of individuals and generations, including determinants of health across generations. Some have claimed that using these models shifts the focus to more closely explore the interactive nature of links across life course stages, including those processes that create and maintain health inequities.¹¹

A life course approach resonates with Māori understandings of health, which are shaped by experiences through the whole of life and across generations.¹² The World Health Organization promotes the use of this approach to its member states as an essential step towards implementing Health 2020 and achieving targets in the United Nations 2030 Agenda for Sustainable Development.^{13,14} Life course approaches have a growing role in informing health and social policy as decision-makers consider the nature and timing of interventions.

The rest of this chapter considers five stages of life: maternity and birth, childhood, youth, adulthood and old age. Within each stage, we look at measures of access to health care relevant to the age group. We also explore measures of the quality of health care received in terms of equitable provision of the best health care, outcomes associated with the quality of care, and reported experience of care. Finally, we consider whether specific efforts to improve services in various ways may have contributed to inequity.

Before beginning analysis, a set of indicators were chosen to reflect access to and quality of health care as well as measures of service improvement. The indicators presented here are not a comprehensive description of all inequities at play in the life course, but they represent examples of a broader trend. The Commission's Atlas of Healthcare Variation presents nearly all its measures broken down by ethnicity. A vast majority show persistent, significant inequity of access, quality and outcome.



For a more detailed description of life course epidemiology, see Appendix 1, and for a more detailed description of the rationale and methodology, see Appendix 2. As with all of our Window reports, indicators used are already in the public domain, drawing on data made available by the Commission, the Ministry of Health or peer-reviewed publications. The online technical appendix available here (www.hqsc.govt.nz/our-programmes/health-quality-evaluation/publications-and-resources/publication/3721) provides sources for all of the indicators presented.

On the life course: Maternity and birth

Inequities start early. Among other indicators, we know from many years' data from the Commission's Perinatal and Maternal Mortality Review Committee that Māori mothers and babies both have higher mortality rates, and Māori babies are more likely to be born extremely pre-term. Māori babies born prematurely have a higher risk of death after birth at 20 to 24 weeks gestation, after accounting for the effects of maternal age, body mass index, socioeconomic status, parity, smoking, multiple pregnancy, and baby's sex and year of birth.¹⁵ Access to high-quality maternity care can affect neonatal survival, so we begin here.

Access: Pregnant women registered with a lead maternity carer

Pregnant women in Aotearoa New Zealand are required to choose a lead maternity carer (LMC) to coordinate their maternity care. LMCs can be midwives, obstetricians or GPs with a diploma in obstetrics, although the vast majority of Aotearoa New Zealand mothers choose a midwife. The LMC provides a complete maternity service to expectant mothers, from pregnancy assessment through gestation and primary care during labour and birth, to postnatal care and transfer of the baby's care to a Well Child provider between four and six weeks after the birth.¹⁶

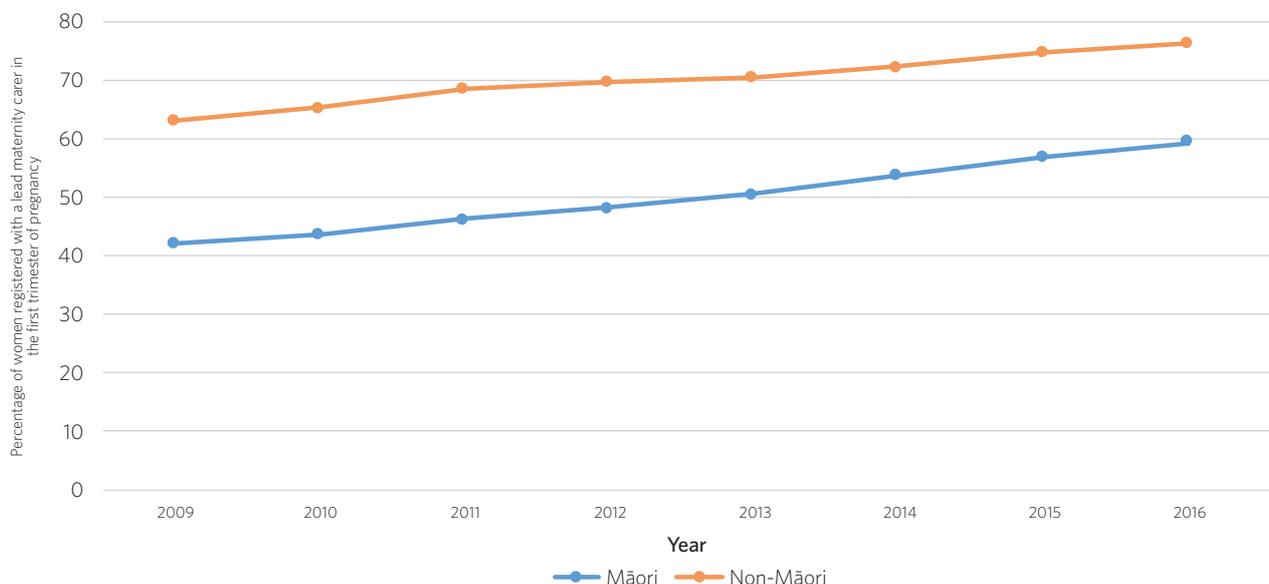
If a mother does not have an LMC in the first trimester (three months) of pregnancy, she misses out on key assessments and screening. Missing out on this care may harm her own health and that of her baby.

Although steadily rising for the last seven years, the level of registration of Māori mothers with an LMC in the first trimester of pregnancy in 2016 remains below the level of non-Māori mothers in 2009 (Figure 5). The gap between Māori and non-Māori has narrowed only slightly and registration of Māori mothers remains 17 percentage points lower than non-Māori. This inequity shows that almost half of pregnant Māori women are not receiving lead maternity care as early as possible and, as a consequence, may not receive optimum care and guidance.

Kaupapa Māori research from 2014 focused on Māori women who gave birth under 20 years of age. The results suggest that even those pregnant women who engaged early with some form of primary health care provider faced system barriers and absences of communication that prevented or delayed transitions to an LMC and seamless maternity care pathways subsequently as they tried to navigate the health system.¹⁷

Inequities remain in access to maternal care for Māori women.

Figure 5: Percentage of women registered with a lead maternity carer in the first trimester of pregnancy Aotearoa New Zealand, 2009-16



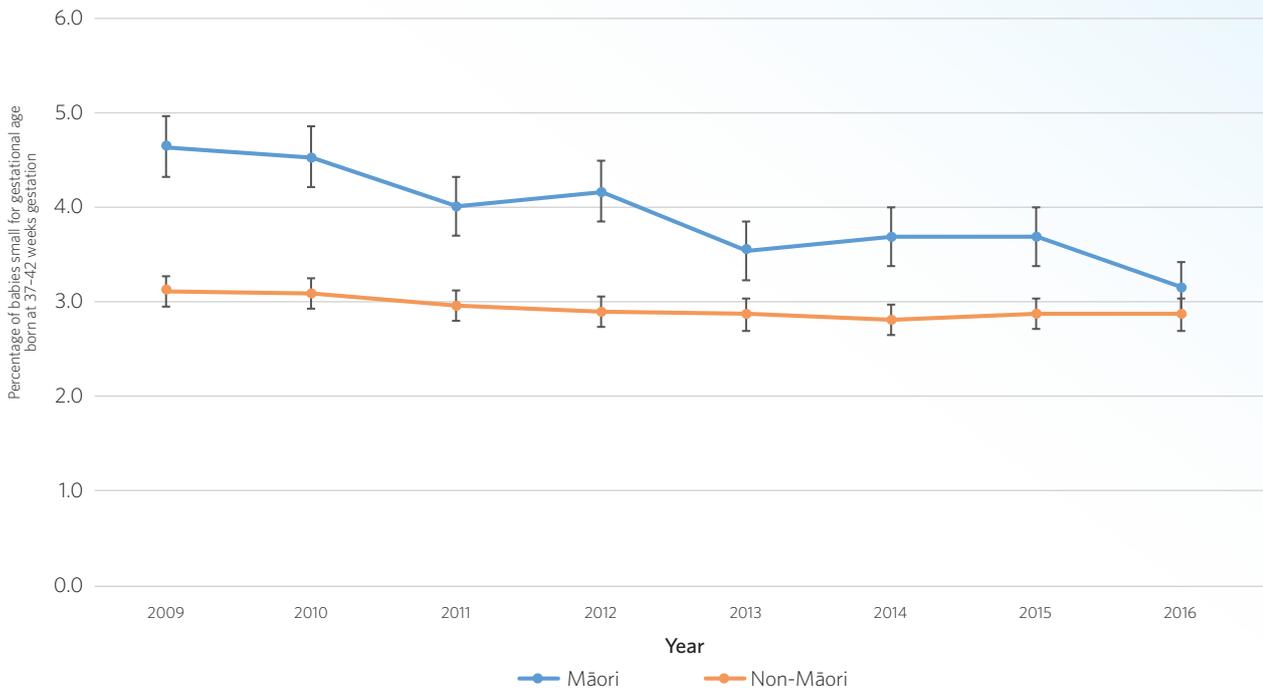
Source: Ministry of Health.

Quality: Babies born small for gestational age

Historically, Māori mothers have been at higher risk of having low-birthweight babies.¹⁸ Looking at the trend from 2009 to 2016 in the risk of being born small for gestational age, it appears that the gap between Māori and non-Māori is reducing to the point that in 2016, the difference between the two groups was no longer statistically significant (Figure 6). More data is needed to confirm this trend.

Despite a recent reduction, a greater proportion of Māori babies are small for their gestational age.

Figure 6: Percentage of babies small for gestational age born at 37-42 weeks gestation, Aotearoa New Zealand, 2009-16

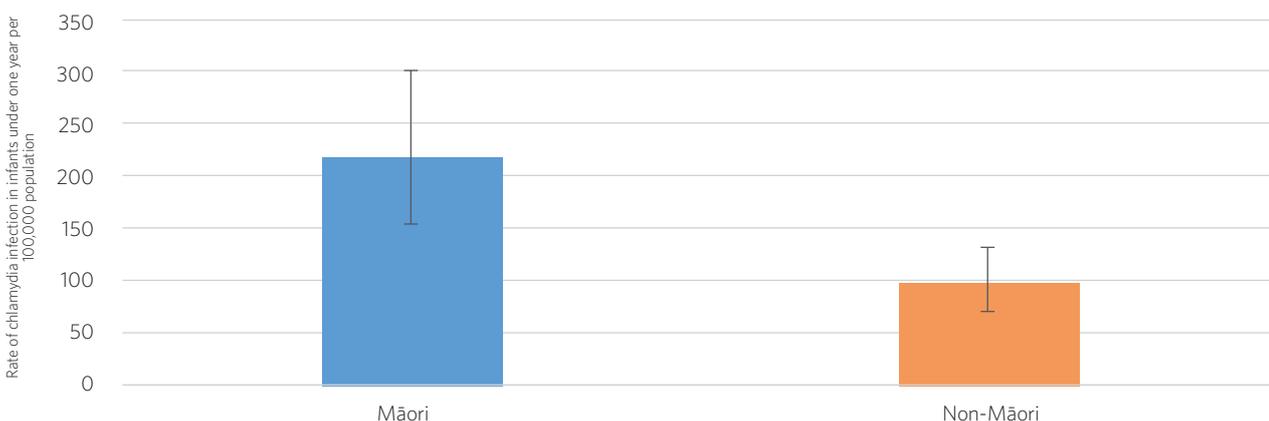


Source: Health Quality & Safety Commission, Atlas of Healthcare Variation, maternity domain.

Improvement: Antenatal chlamydia screening

In its clinical guidelines, the New Zealand Sexual Health Society recommends testing pregnant women for chlamydia and following up anyone with chlamydia to check the treatment has worked.¹⁹ This approach is expected to reduce rates of chlamydial infection for babies under one year of age as chlamydial infection is primarily transmitted from mother to baby during childbirth. As Figure 7 shows, the rate of chlamydial infection in infants born to Māori mothers is over twice the rate in infants born to non-Māori mothers. This finding indicates that antenatal screening and treatment of sexually transmitted infections appears inadequate for Māori women.

Figure 7: Rate of chlamydia infection in infants under one year per 100,000 population, Aotearoa New Zealand, 2015



Source: Institute of Environmental Science and Research.



On the life course: Childhood

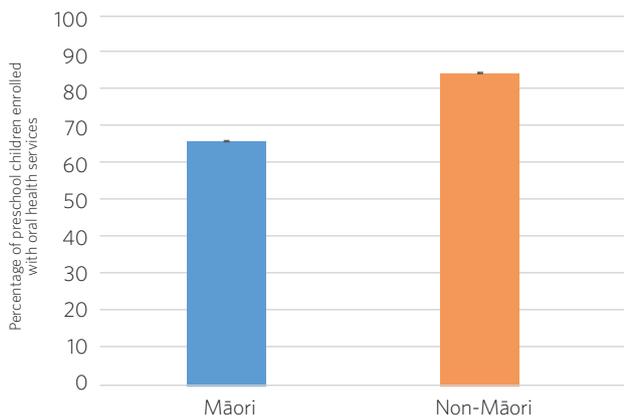
A good start to life is recognised as crucial for ongoing good health and wellbeing. Addressing the detrimental effects of child poverty, for example, is being accorded increasing political priority. As noted above, investments in early life can help to set trajectories of accumulating advantage to influence outcomes in later life. Access to early health interventions such as immunisation and oral health services are examples of these sorts of interventions, which can have lifelong effects. Below we consider such access, along with differential treatment and outcomes for a common disease of childhood, asthma.

Access: Child oral health

Lower preschool enrolment with oral health services contributes to higher rates of dental caries (also known as cavities, or tooth decay) in Māori than non-Māori, as available data shows.

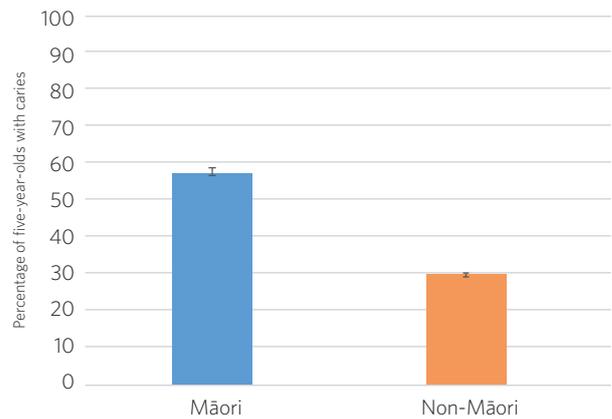
There is a nearly 20 percentage point difference between preschool Māori and non-Māori children enrolled with oral health services (ie, one-third of Māori preschool children receiving no oral health care – Figure 8)...

Figure 8: Percentage of preschool children enrolled with oral health services, Aotearoa New Zealand, 2015



... which may contribute to inequitable rates of dental caries: more than half of five-year-old Māori children have caries, and the percentage is more than a third higher than that of non-Māori children (Figure 9).

Figure 9: Percentage of five-year-olds with caries, Aotearoa New Zealand, 2017



Source: www.health.govt.nz/nz-health-statistics/health-statistics-and-data-sets/oral-health-data-and-stats/age-5-and-year-8-oral-health-data-community-oral-health-service.²⁰

Access: Childhood cancer survival

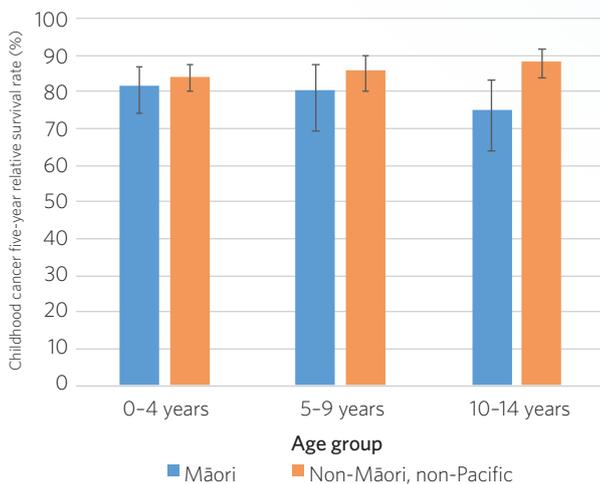
Improvements in childhood cancer survival have not been equal for Māori and non-Māori.

Although survival among Māori aged 10–14 years has improved slightly (by 0.9 percent) from the previous reporting period (2000–09 compared with 2005–14), it was in the non-Māori, non-Pacific group where dramatic survival gains were evident (up 8.9 percent, from 79.3 percent to 88.2 percent). Over 2005–14, however, the number of Māori diagnosed with acute myeloid leukaemia (AML) was disproportionately high (28 out of 76; 37 percent), which likely contributed to the survival gap (the survival rate for children with AML is lower than the overall average for childhood cancers).

Acute lymphoblastic leukaemia (ALL) is more common in children, while in adults AML is more common. The poorer survival rate for children with AML likely explains lower survival in adolescence, although not the widening inequity. One possibility is that the trajectory of ALL and AML change differs between Māori and non-Māori, creating a gradually widening gap with increasing age. However, analyses cannot yet confirm this trend, and work on understanding the survival inequity in those aged 10–14 years continues.

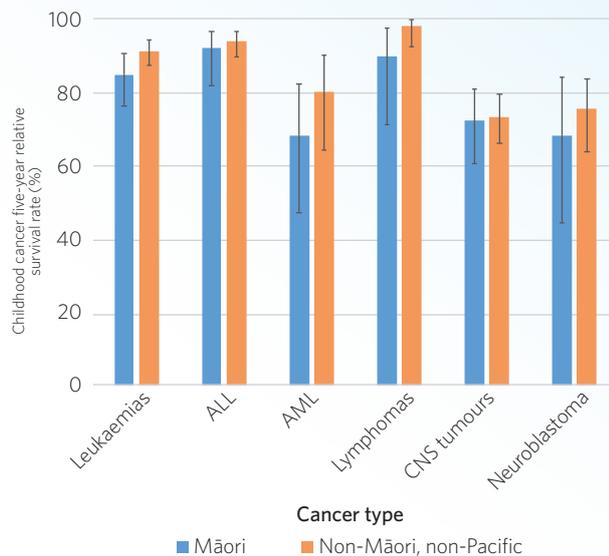
Five-year relative survival has been significantly lower for Māori compared with non-Māori, non-Pacific children, in the age group of 10-14 years (Figure 10)...

Figure 10: Childhood cancer five-year relative survival rate by age group, Aotearoa New Zealand, 2005-14



... while across cancer types, five-year survival appears lower for Māori compared with non-Māori, non-Pacific children for acute myeloid leukaemia, lymphomas and neuroblastoma (Figure 11). However, small numbers should be considered when interpreting this data.

Figure 11: Childhood cancer five-year relative survival rate by cancer type, Aotearoa New Zealand, 2005-14



Note: ALL = acute lymphoblastic leukaemia; AML = acute myeloid leukaemia; CNS = central nervous system.

Source: <http://childcancernetwork.org.nz/wp-content/uploads/2017/12/Childhood-Cancer-Survival-in-New-Zealand-2005-2014.pdf>.

Quality: Childhood asthma

The level of under-treatment of asthma in Aotearoa New Zealand is high. Among those aged 5-14 years who regularly received a treatment inhaler (short-acting beta agonist, or SABA) in a year, 20 percent were not dispensed a preventer (inhaled corticosteroid, or ICS) in the same year.

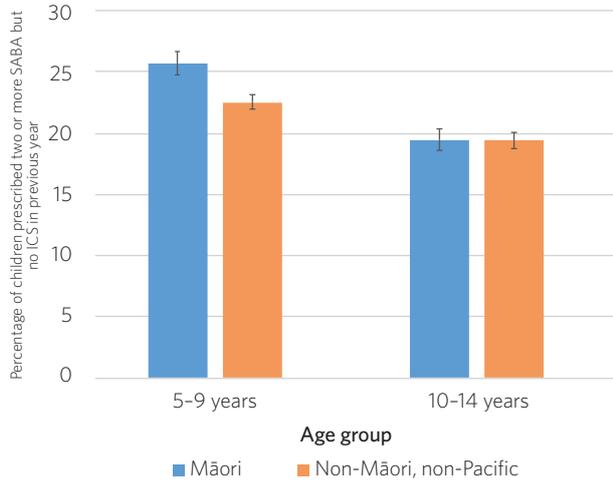
It appears from the data that there is a small but significant inequity in asthma treatment between Māori and non-Māori children aged 5-9 years but not in those aged 10-14 years. This is mirrored by a consistently, and statistically significant, higher rate of hospital admissions for Māori children in the younger age group.

The severity and exacerbation of asthma may help to explain the data for younger children. Research has demonstrated that Māori children experience more severe asthma,²¹ which could account for higher levels of hospitalisations. This may be partly due to higher exposure to asthma 'triggers', such as exposure to cold and damp housing resulting in higher levels of asthma symptom severity.²² An increased frequency of exacerbations, resulting in higher hospitalisation rates, may also be an indicator of poorly controlled asthma as a result of inappropriate management and poorer quality of care.



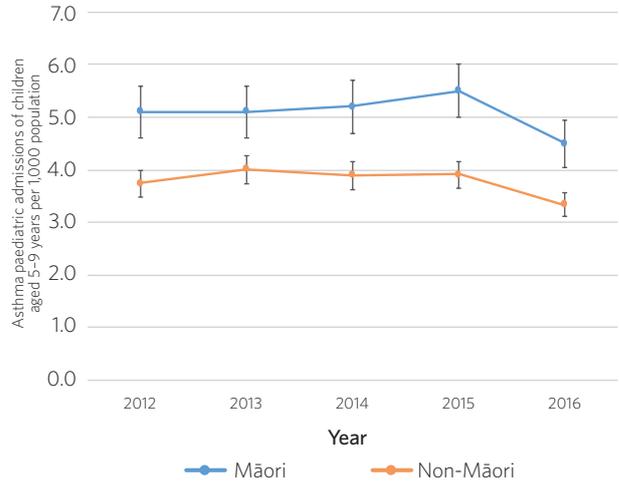
Inadequate control of asthma in younger Māori children is seen in high prescriptions of reliever medication (SABA) with no preventer medication (ICS), and higher levels compared with non-Māori, non-Pacific children (Figure 12)...

Figure 12: Percentage of children prescribed two or more SABA but no ICS in same year, Aotearoa New Zealand, 2012-16



... potentially contributing to the approximately 30 percent higher rates of hospital admissions for asthma seen in Māori children (Figure 13).

Figure 13: Asthma paediatric admissions of children aged 5-9 years per 1,000 population, Aotearoa New Zealand, 2012-16



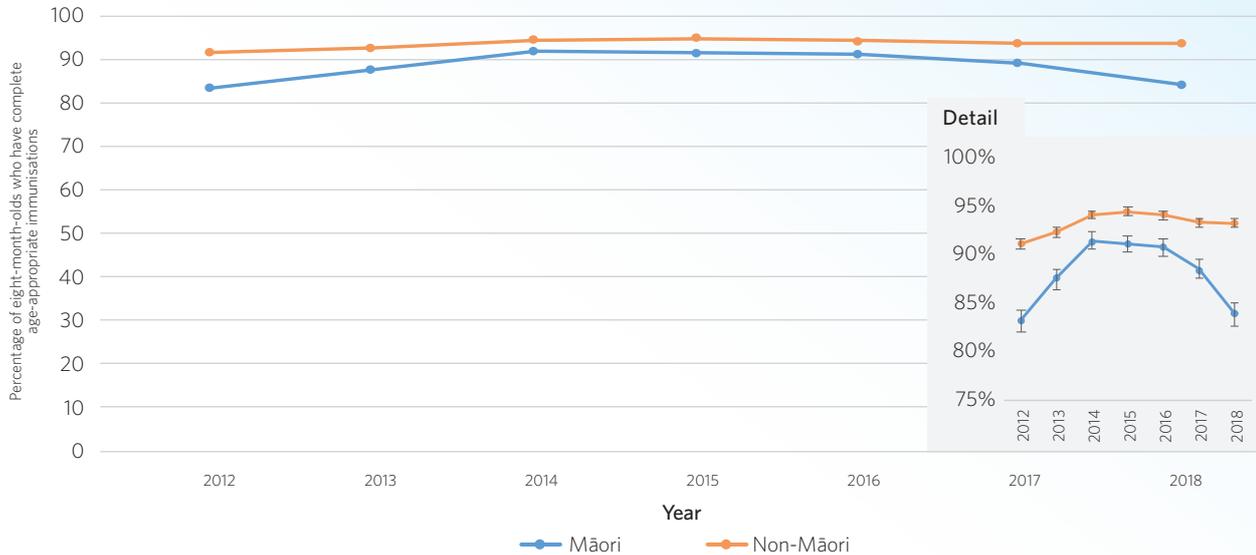
Source: Health Quality & Safety Commission, Atlas of Healthcare Variation, asthma domain.

Improvement: Childhood immunisations

Previous Window reports,^{23, 24} have highlighted the success story of increased immunisation rates in Aotearoa New Zealand infants since 2007, including a closing of the equity gap in rates between Māori and non-Māori children. In 2009, 73 percent of Māori children received all vaccinations by 24 months, compared with 84 percent for New Zealand European children. By 2015 this equity gap was all but eliminated for children aged eight months and 24 months.²³ This success was attributed to an equity-focused national campaign, raised awareness and increased funding.

However, recent data shows a worrying decline in the rate of Māori infants receiving the full schedule of immunisations at eight months, amounting to a 7 percentage point fall since 2016, a return to 2012 rates for Māori, and an increase in the equity gap to nearly 10 percentage points between Māori and non-Māori (Figure 14).

Figure 14: Percentage of eight-month-old infants with complete age-appropriate immunisations, Aotearoa New Zealand, 2012-18



Source: www.health.govt.nz/our-work/preventative-health-wellness/immunisation/immunisation-coverage/national-and-dhb-immunisation-data.²⁵

We see the same pattern in those receiving the full schedule of immunisations at 24 months. While rates for non-Māori remain steady, rates for Māori have been declining since 2015.

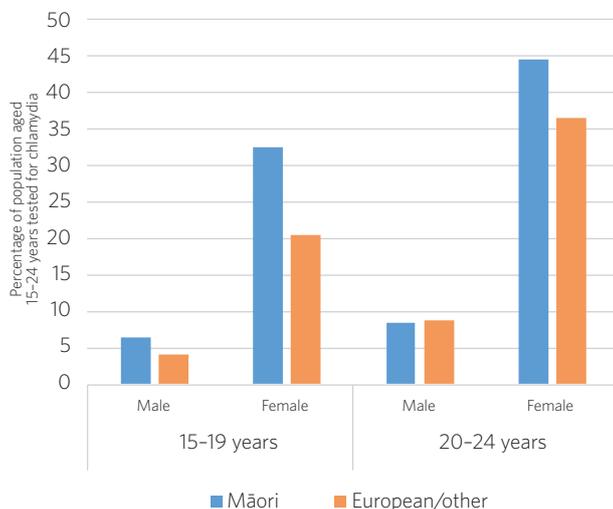
On the life course: Youth

This section looks at a range of indicators relevant to youth: sexual health; negotiation of the health system as young adults; and the increasingly widely recognised concerns of self-harm and suicide.

Access: Chlamydia rates and coverage of testing (ages 15-24 years)

Testing for chlamydia (population coverage) is similar in young Māori and non-Māori men, but higher in young Māori women than women of European/other ethnicity (Figure 15)...

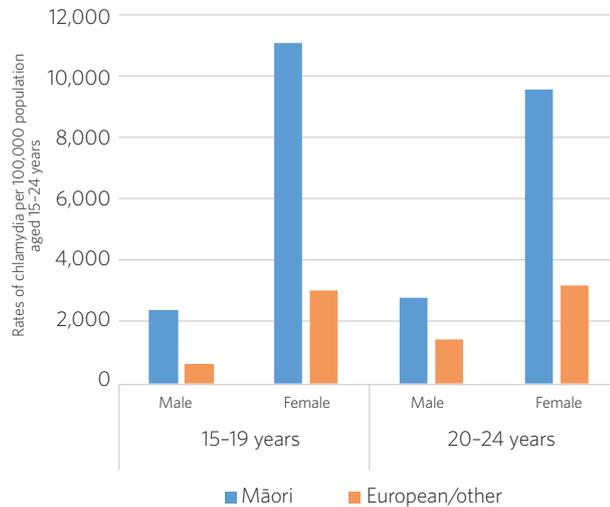
Figure 15: Population coverage of chlamydia testing, ages 15-24 years, Aotearoa New Zealand, 2015



Source: Institute of Environmental Science and Research.

... however, this level of testing and subsequent treatment may be inadequate and inequitable given the higher rates of chlamydial disease observed for young Māori compared with European/other women (Figure 16).²⁶

Figure 16: Rates of chlamydia per 100,000 population aged 15-24 years, Aotearoa New Zealand, 2015

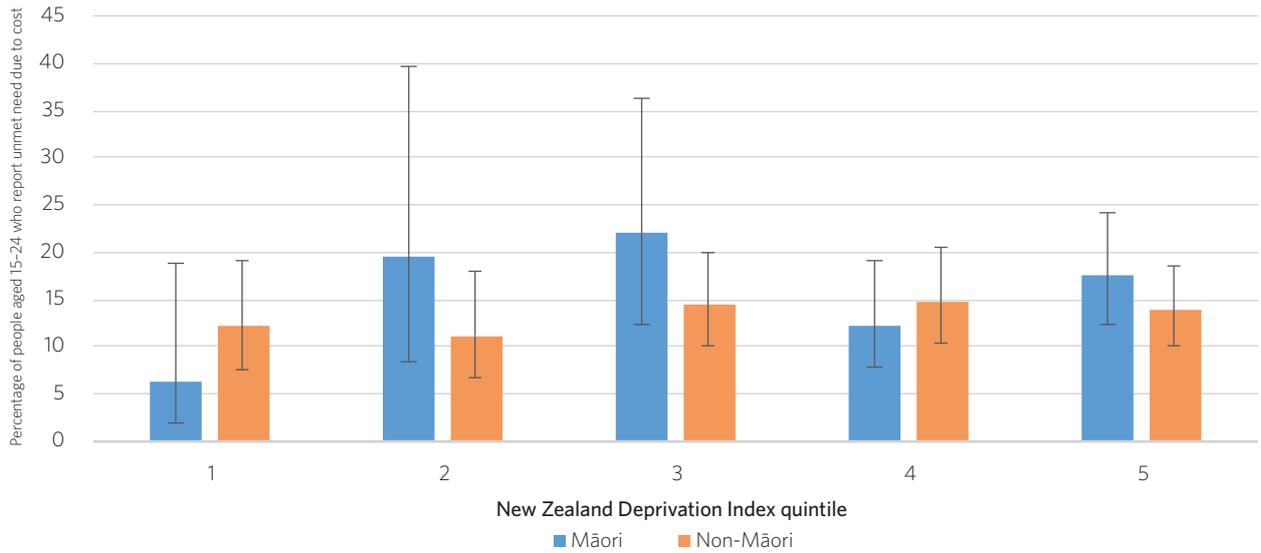




Access: Unmet need for health care for youth

Young Māori report a higher unmet need for health care due to cost than non-Māori (compared with 13 percent of non-Māori, 16 percent of Māori answered yes to the New Zealand Health Survey question, 'Was there a time in the last 12 months that you needed to see a GP but didn't due to cost?') (Figure 17). There is no clear gradient in unmet need across deprivation levels, however, the results are based on only a small number of responses in each category, so we cannot be sure that the differences between levels of deprivation are real rather than due to chance.

Figure 17: Percentage of people aged 15–24 who report unmet need due to cost, by New Zealand Deprivation Index quintile, Aotearoa New Zealand, 2016/17



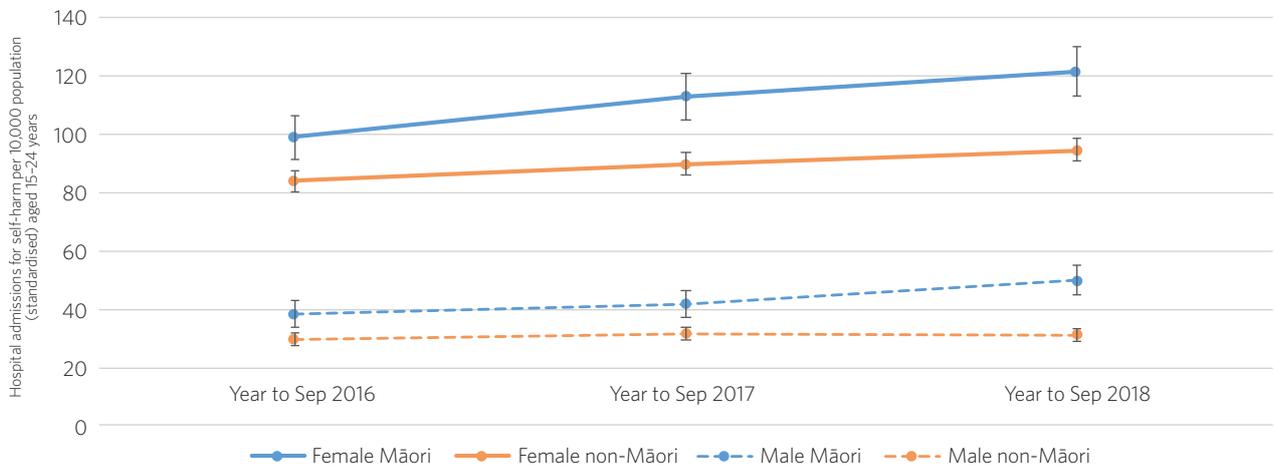
Source: New Zealand Health Survey.

Quality: Hospital admissions for self-harm for youth²⁷

Young people aged 15–24 years had the highest rate of hospitalisation for intentional self-harm across all age groups. Higher rates of hospital admission for self-harm may indicate barriers to their access to preventative or primary mental health care.

The rate of hospital admissions for self-harm is higher for both male and female Māori young people and has been increasing since 2016 (Figure 18).

Figure 18: Hospital admissions for self-harm per 10,000 population (standardised) aged 15–24 years, Aotearoa New Zealand, 2016–18



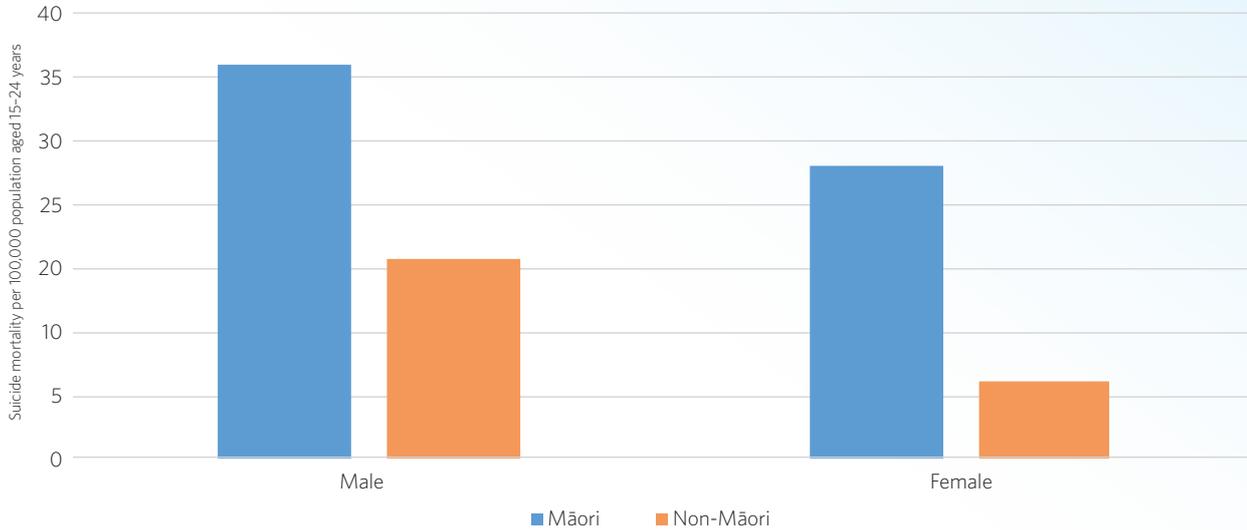
Source: Tatau Kahukura: Māori health statistics.

Quality: Youth suicide

Suicide mortality among Māori youth is higher than for non-Māori populations. As with self-harm, suicide can reflect a failure of mental health services to recognise, diagnose and treat mental ill health.

Suicide rates are much higher for Māori youth compared with non-Māori. The inequity is more than two-fold among both male and female youth (Figure 19).²⁸

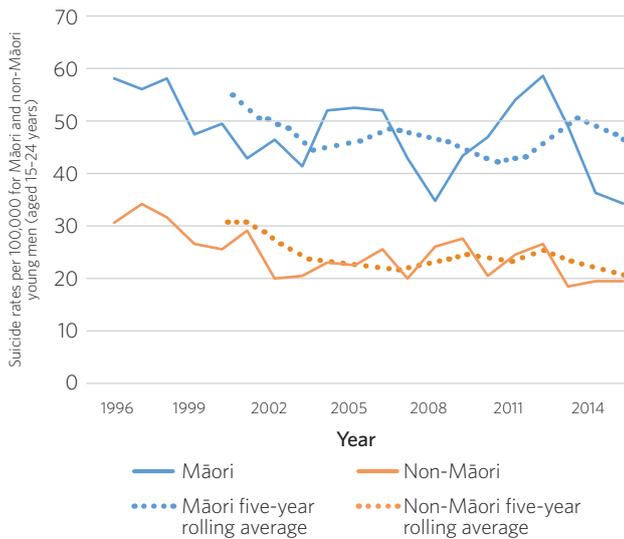
Figure 19: Suicide mortality per 100,000 population aged 15–24 years, Aotearoa New Zealand, 2013–15



Source: New Zealand Mortality Collection.

The suicide rate for young Māori males follows a similar pattern over the last two decades to that of non-Māori youth. However, the rate is approximately a third higher (Figure 20)...

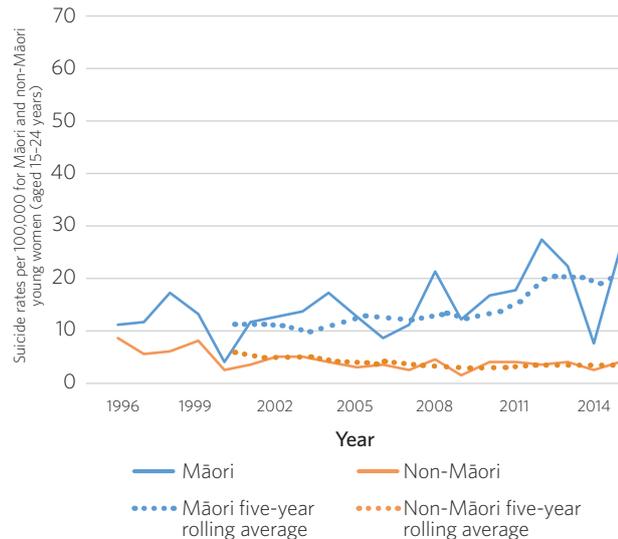
Figure 20: Suicide rates per 100,000 for Māori and non-Māori young men (aged 15–24 years), Aotearoa New Zealand, 1996–2015



Source: New Zealand Mortality Collection.

...while (like the rates of hospital admission for self-harm) the rate of suicide among young Māori women is increasing, as is the inequity between Māori and non-Māori (Figure 21).

Figure 21: Suicide rates per 100,000 for Māori and non-Māori young women (aged 15–24 years), Aotearoa New Zealand, 1996–2015





Improvement: HPV vaccine uptake

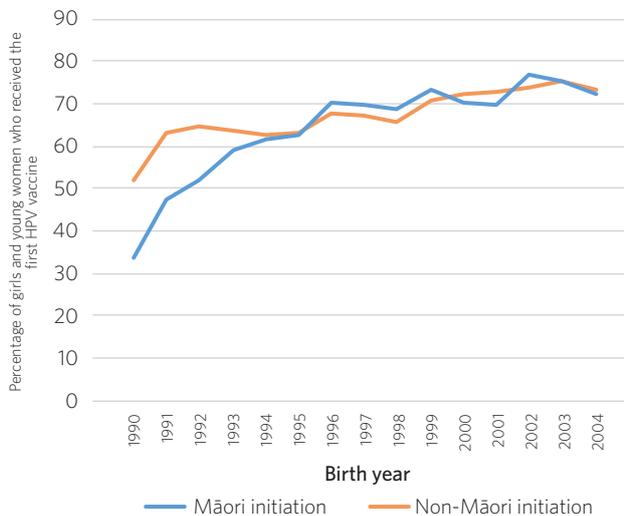
The Ministry of Health recommends vaccination for human papillomavirus (HPV) and funds it on the National Immunisation Schedule for children and young people aged 9 to under 27 years. A school-based vaccination programme is available in most areas of Aotearoa New Zealand,²⁹ and incidence of genital warts in men and women has more than halved since vaccination of girls began in 2008.²⁹ The vaccine is more than 83 percent effective in preventing persistent infection with HPV types 16 and 18 (precursors of cervical cancers), and has reportedly led to a reduction in abnormal cervical smear results.²⁹

The vaccine is currently administered as a series of two doses. However, the data available relates to a time when three doses were required – completion of the series is necessary for full protection against HPV.^{30, 31}

In earlier years of the programme, Māori girls were less likely to receive the first dose of the vaccine than non-Māori girls, but evidence indicates this inequity has not continued beyond the 1994 birth cohort. Until more recently, equity has been an issue in terms of whether girls completed the course of three doses: Māori girls were much less likely to receive all doses and so were less likely to receive the full protection offered by the programme. It appears that this inequity has reduced in the most recent years for which data is available.

Rates of HPV vaccination have appeared to improve and furthermore show reduced inequity between Māori and non-Māori girls and young women (Figure 22)...

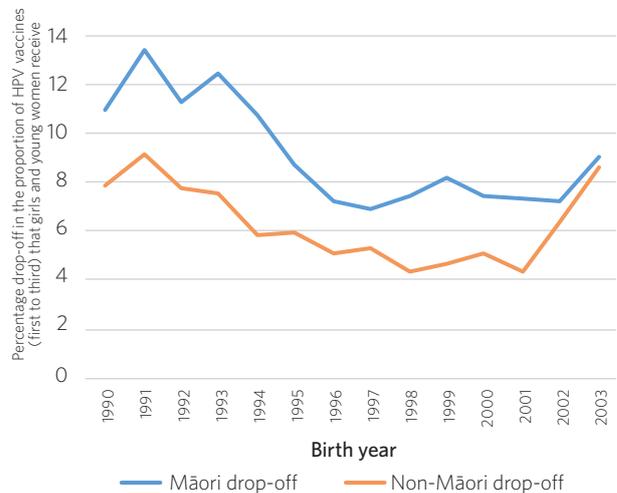
Figure 22: Percentage of girls and young women who received the first HPV vaccine, by their birth year, Aotearoa New Zealand, 1990-2004



Source: Ministry of Health, National Immunisation Register database.

... and there is a reduction in inequity in the number of girls and young women dropping out of receiving the full dose of vaccinations. (Note: 0 percent equates to full completion of the series.) However, the drop-off rate appears to be increasing for both Māori and non-Māori in recent years (Figure 23).

Figure 23: Percentage drop-off in the proportion of HPV vaccines (first to third) that girls and young women receive, by their birth year, Aotearoa New Zealand, 1990-2003



On the life course: Adults

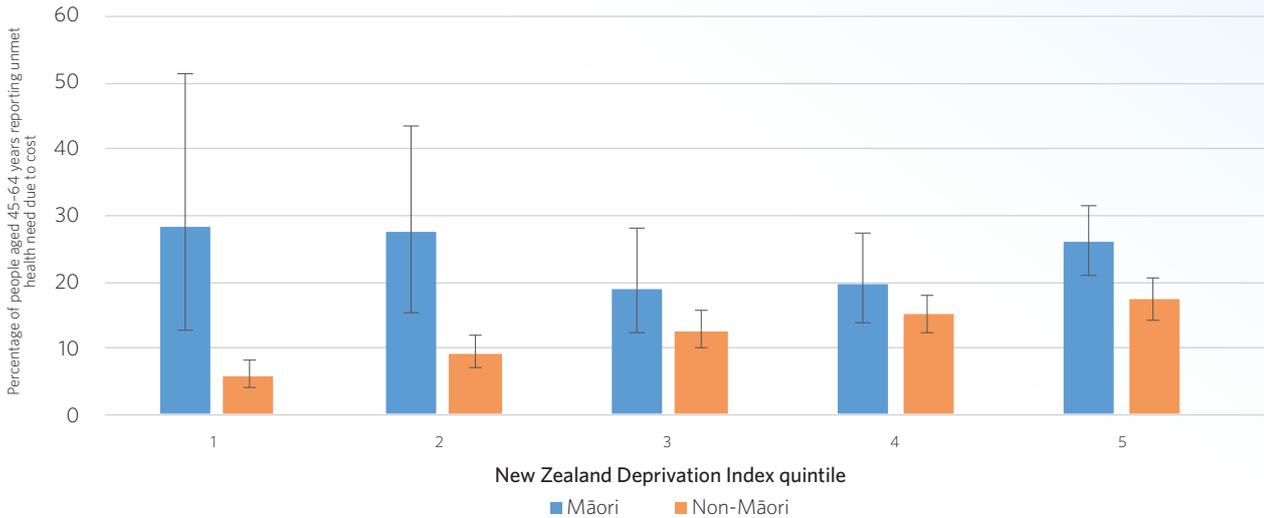
In this section, we consider adults' access to both GPs and specialist doctors, and bed-days associated with repeated acute (that is, unplanned) admissions (which may themselves indicate that people were unable to access good care for conditions in a timely manner). We also look at people's experience of care while in hospital, and treatment for and some proxy outcomes of diabetes, a long-term condition that often affects people throughout their adult life.

Access: Cost barrier to care

Overall, among those aged 45–64 years, 23 percent of Māori and 11 percent of non-Māori reported they had not seen a GP due to cost when they had a health need. For non-Māori, there was increasing unmet need with increasing deprivation, whereas for Māori there was a higher level of unmet need at all levels of deprivation (Figure 24). This result suggests that deprivation level is not the reason for the observed inequities.

Note that in deprivation quintile 5 (the most deprived areas, in which a large proportion of Māori live), one-quarter of Māori did not visit a GP in the previous 12 months due to cost.

Figure 24: Percentage of people aged 45–64 years reporting unmet need due to cost, by New Zealand Deprivation Index quintile, Aotearoa New Zealand, 2016/17

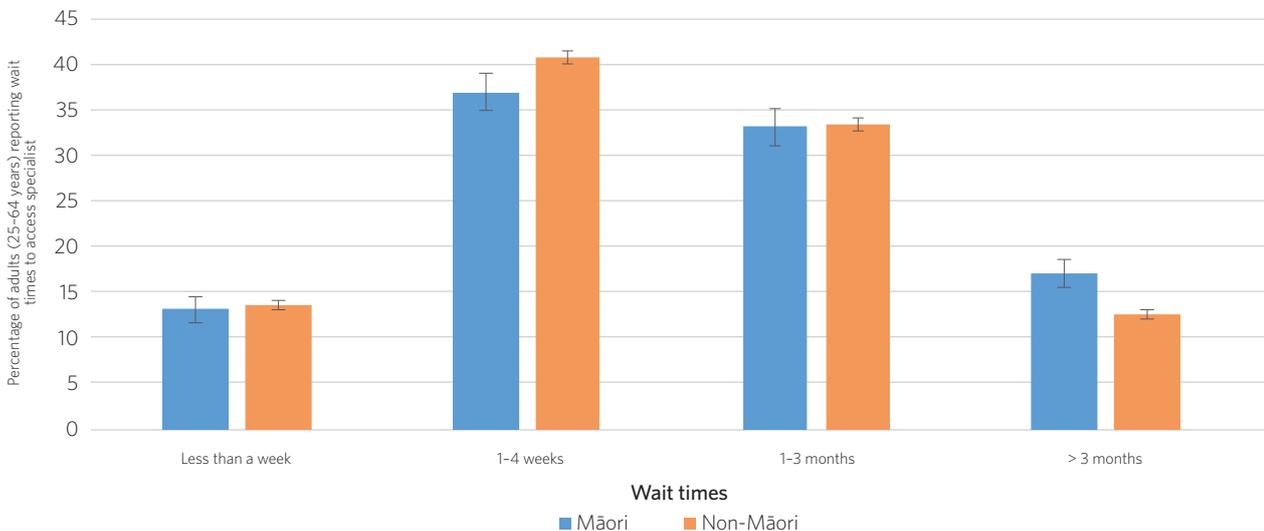


Source: New Zealand Health Survey.

Access: Wait for specialist appointment

More adult Māori report waiting longer than three months for their specialist appointments, while fewer are seen between one and four weeks, compared with non-Māori (Figure 25). This inequity will have far-reaching negative consequences on diagnosis and treatment for Māori,³² though it should be interpreted with care because it does not include responses of those who have not accessed the system or received a referral at all.

Figure 25: Reported wait times to access specialist, as a percentage of adults (25–64 years), Aotearoa New Zealand, 2011–16



Source: Health Quality & Safety Commission primary care patient experience survey.

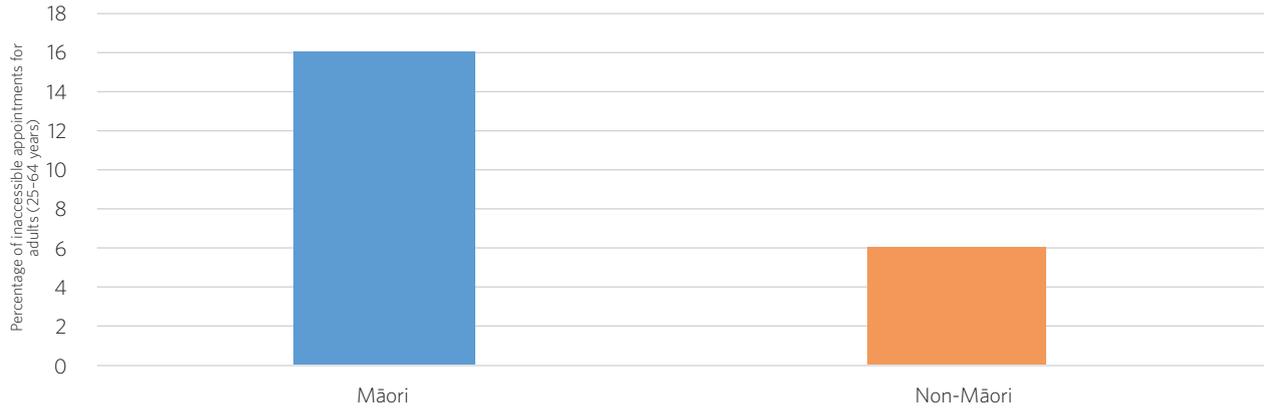


Access: Inaccessible appointments

When the system fails some patients, those individuals experience delays in diagnosis and treatment, and the health system is less efficient. The health system has an obligation to provide appointments that are accessible, available and acceptable to all people that it serves.

Inaccessible appointments are commonly reported as 'did not attend' rates. Sixteen percent of adult Māori did not attend a specialist appointment between 2011 and 2014, compared with just 6 percent of non-Māori (Figure 26),³³ suggesting that the current system is failing Māori in the provision of accessible, available and acceptable appointments.

Figure 26: Percentage of inaccessible appointments for adults (25–64 years), Aotearoa New Zealand, 2011–14

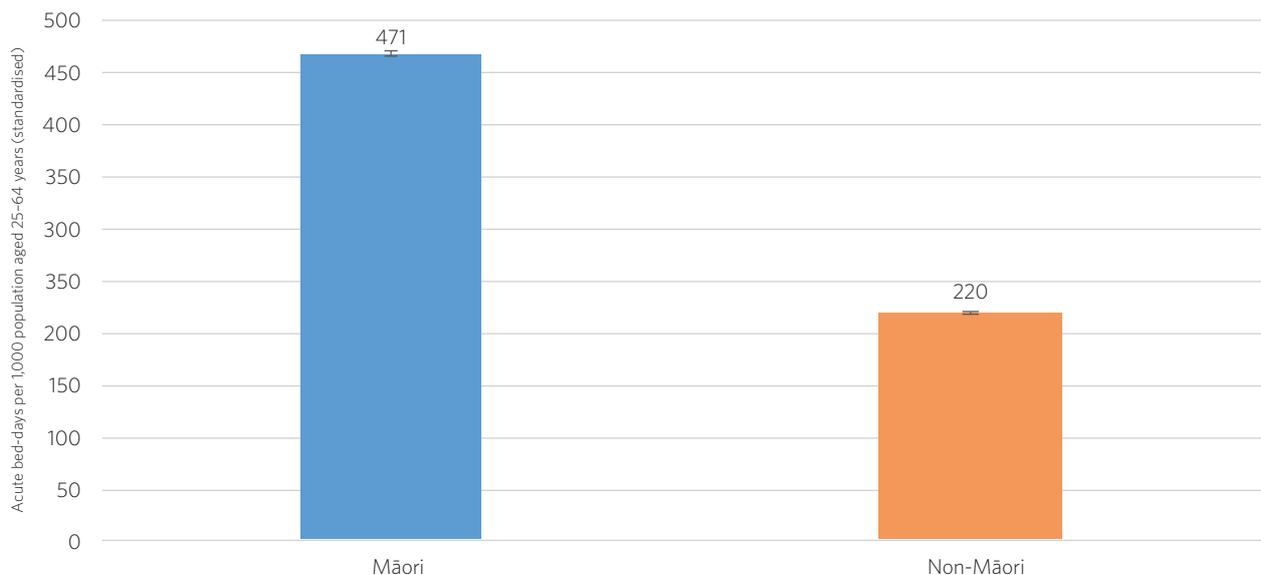


Source: Gray G. Outpatient Did-Not-Attend Rates – Project Summary for Te Tumu Whakarae. National Health Board (NHB) data.

Quality: Acute bed-days for adults

Māori have more than twice the rate of hospital bed-days following an acute admission than non-Māori (Figure 27). This result indicates that one or more aspects of the health system is working better for non-Māori than for Māori. Possible reasons include their access to and management in primary care, transition between primary and secondary care, or difficulties leaving hospital, such as differences in discharge planning or community support services.

Figure 27: Acute bed-days per 1,000 population aged 25–64 years (standardised), Aotearoa New Zealand, 2018



Source: Ministry of Health.

Quality: Communication

The Commission's 20-question adult inpatient survey began in August 2014 and is conducted four times a year.³⁴ Over 18 waves of the survey since it started, adult Māori have been consistently likely to respond less positively than non-Māori to three of the six questions about their experience of communication with doctors and other hospital staff, and consistently more likely to respond positively to one of the other questions about communication (Table 1).

Table 1: Responses to the 'communication' domain in the in-hospital patient experience survey, among adults aged 25-64 years, across 18 survey waves, Aotearoa New Zealand, 2014-18

Percentage of responders who:	Results for all survey waves		Experience of Māori group compared with non-Māori group		
	Māori	Non-Māori	Consistently worse ³⁵	Consistently better	No consistent difference
Always got answers they could understand when they had important questions to ask a doctor	73%	76%	Yes (14/18)		Yes
Felt their condition was explained in a way that they could completely understand	71%	73%			
Felt doctors always listened to what they had to say	74%	77%	Yes (13/18)		
Felt nurses always listened to what they had to say	74%	77%	Yes (15/18)		
Felt other staff always listened to what they had to say	75%	76%			Yes
Agreed completely that a member of staff told them about medication side-effects to watch for when they went home	55%	47%		Yes (16/18)	

Source: Health Quality & Safety Commission, in-hospital patient experience survey.

Box 1: The voice of whānau: communication is the most important thing

Courtenay Mihinui – Tūhoe, Ngāti Awa

In 1997 Courtenay's five-month-old daughter contracted pneumococcal meningitis and ever since has lived with cerebral palsy, epilepsy, hydrocephalus, spastic quadriplegia and scoliosis. In 2012 Courtenay's two-year-old son was diagnosed with autism. As a result, Courtenay has gained extensive experience of health services in both DHBs and non-governmental organisations.

In 1997, when my daughter got pneumococcal meningitis, most of her brain died. We were given a clinician, an important clinician, and they had to come in and talk to us about how badly brain-damaged our girl was. Our girl's tests showed that all of the left side of her brain was dead and most of the right side was also dead.



That is the way this clinician told us. I remember them sitting us down and being very matter of fact: you know, this is what it is, and this is what's happened, so there you go. I'll never forget it. We just died. We couldn't believe how cold they were. There was no care for how we were going to react. We didn't feel any kind of support around that conversation. They spoke to us like we were almost an inconvenience. That's certainly how it felt.

I ended up having them removed from our care and they weren't to deal with me or my family ever again. This didn't go down well at all because I was a young Māori mother and this was a person high up in the hospital. We were supposed to be lucky to get them and it was almost an insult that we didn't want them. But unfortunately their communication style was so poor, it made the whole experience of learning how disabled our child was – if it could get any worse, it really did because of the way they were talking to us. It was awful.

I absolutely felt like the system was different for us because we're Māori. And young Māori at the time. I could feel the attitude was different. I certainly felt quite different. I remember a junior doctor telling me I probably wouldn't be able to care for my daughter. He didn't say explicitly that it was because I was a young Māori parent but I didn't know how he thought he could speak to me like that. I felt like we were treated differently and not in a positive light. Being young and being Māori contributed to that.

Communication is everything

I believe health care begins and ends with communication in all forms. It's something we need to do better. We have had a long journey in health care. Initially when we first came into the health care system communication was really poor for us. Our health literacy was really low and our emotional maturity was probably really limited as well, so communication was quite different to what it would be now for us. The clinicians that we were dealing with at the time weren't equipped to communicate well with young Māori parents so it was just a big miserable fail. I really regret that it happened that way. Over the years I've worked really hard so that communication is better for us. It was a real turning point for me. It got me to think this is really not working, I'm drowning, what can I do to make this better for me and for my daughter. A negative experience but a positive outcome for me having to work a bit harder to figure out how I could make it better.

Both the best and worst parts of our experiences of the system in my experience have been about communication.

A positive communication instance I'll share is that we've lost my girl a few times – I can't imagine that conversation being a nice one to deliver. Luckily for us we've had some really great clinicians as well that we've dealt with over the years. Understanding how we might react, understanding the toll that might take hearing that kind of stuff, all of these really little things have made a difference when we have had to be told things like she's not responding, we need to ring the family.

I've taken really positive points from different conversations that are actually really dire, and unnatural, and awful, but delivered in a way where we were spoken with, not spoken at. There were people there to ensure that we understood exactly what things meant at every part of the journey. It's come a long way for us. I don't know if it's because it's what we expect now because we've had such bad experiences and now we speak to people in the way we need to be spoken with. It's been a really bumpy road with communication but I think communication is everything. Just everything.

Do better for Māori

How could our system do better for Māori? We've all got different barriers of our own, like language, understanding, intellect. We've all got different capacities so you can't take one size-fits-all into any situation at all in health. Just ask the questions.

You sit down and say, this is what we need to talk about. Do you need support? What kind of support can I offer you? Just make sure that everybody's on a level playing field. There's nothing worse than being spoken at.

I know that a lot of my people, a lot of my family, still feel really inadequate when they're dealing with a nurse or a doctor because their feeling is, 'What would I know? I don't know. Don't ask stupid questions, just listen.' They feel really insecure. It's hard to try and convince them that nobody knows their body better than they do.

My father is going through a health journey at the moment and short of going in with him I have to try and tell him, 'Dad, your treatment will not be less because you're asking questions. They're not going to do that to you.' He's of that generation where if you really have to go to the doctor, you just listen, take the medicine and leave quietly. When they're speaking to a health professional who has years and years of study, it's very hard to make them feel like they can speak, ask questions, and question results or tests.

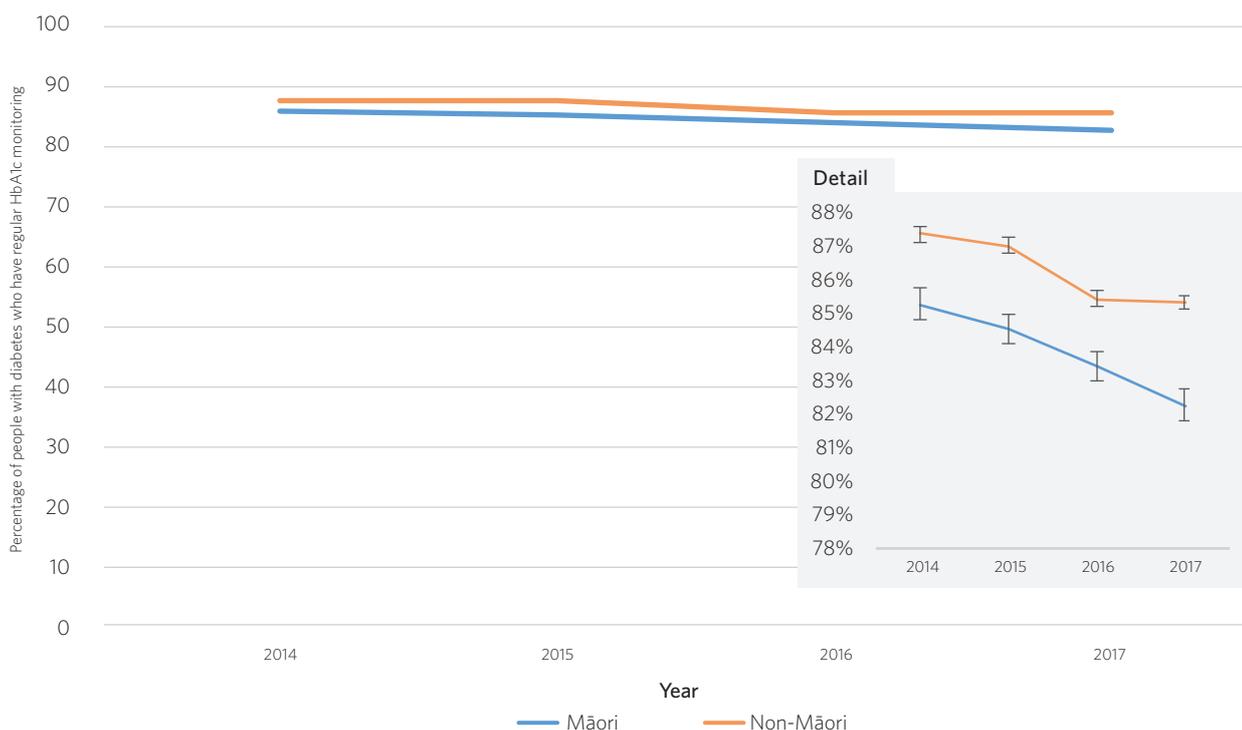
We are in fact teaching people how to talk to us. It comes down to questions and basic interactions. It's as basic as that and that's where we need to start.

Improvement: Diabetes annual review

Māori and Pacific peoples develop diabetes at a younger age – up to 10 years earlier – than non-Māori, and they progress faster to more serious disease, including cardiovascular disease and renal failure.³⁶ Regular monitoring (defined as one or more tests per year) of levels of glycated haemoglobin (HbA1c) in the blood of people with diabetes is vital to maintain good control of the disease and reduce the likelihood of complications developing.³⁷ Providing Māori with the same or similar levels of monitoring and screening as non-Māori may not be sufficient to achieve equitable outcomes, making any inequity in provision an even greater issue. This also applies to renal screening (see page 30).

A significant gap persists in the proportions of Māori and non-Māori with diabetes who receive proper HbA1c monitoring each year. For both groups, the proportion is on a small but steady decline (Figure 28).

Figure 28: Percentage of people with diabetes who have regular HbA1c monitoring, Aotearoa New Zealand, 2014-17



Source: Health Quality & Safety Commission, Atlas of Healthcare Variation, diabetes domain.



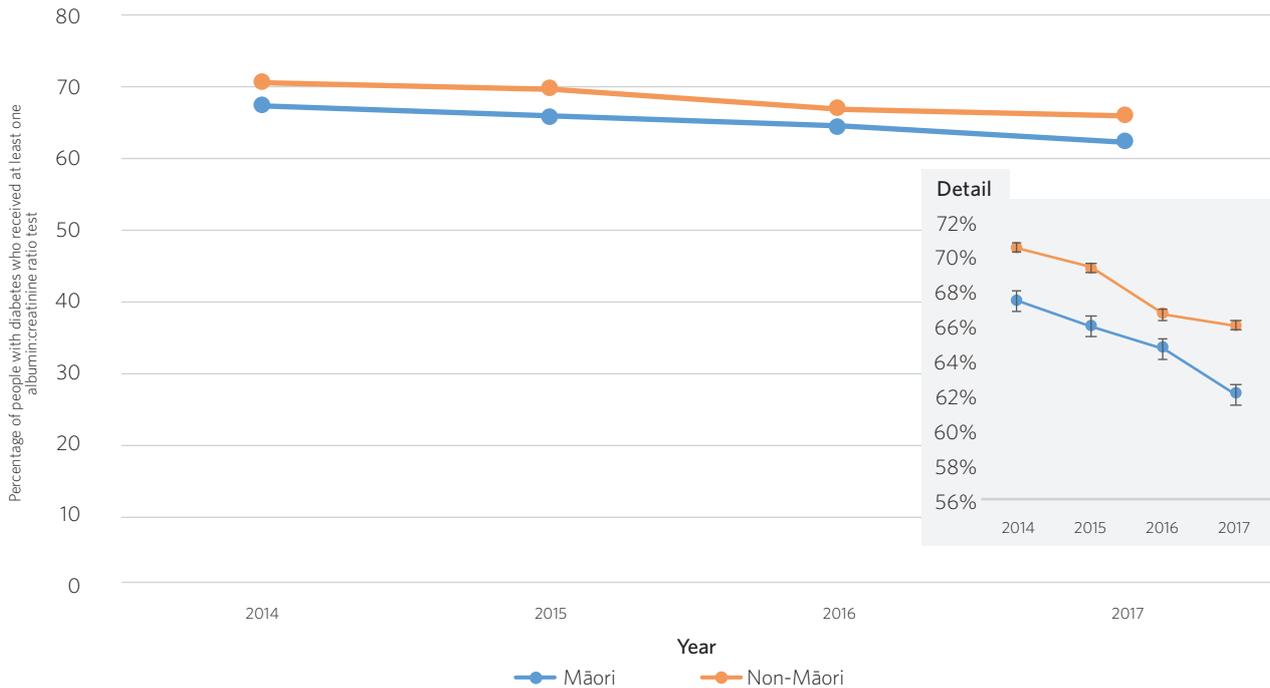
Improvement: Diabetes renal screening tests

Regular screening is vital to monitor the condition of people with diabetes.

The albumin:creatinine ratio (ACR) test is the test of choice to identify proteinuria (protein in urine) and thus potential early kidney disease in people with diabetes. Regular screening is important to allow early detection and treatment of renal disease, and to address the higher rates of renal failure among Māori.³⁸

As with HbA1c monitoring, the proportion of Māori with diabetes receiving adequate monitoring with the ACR test for early kidney disease is consistently lower than that of non-Māori (and the proportion for both groups is declining over time) (Figure 29).

Figure 29: Percentage of people with diabetes who received at least one albumin:creatinine ratio test, Aotearoa New Zealand, 2014-17



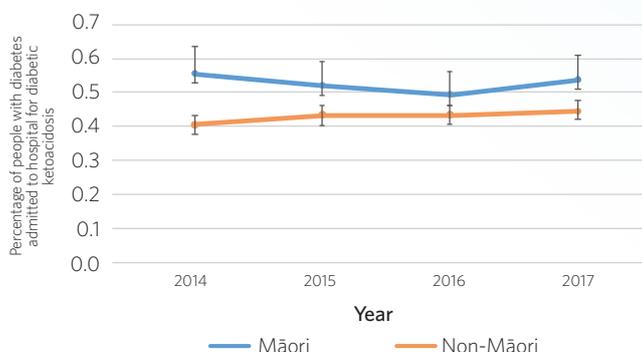
Source: Health Quality & Safety Commission, Atlas of Healthcare Variation, diabetes domain.

Improvement: Diabetes control

Poor monitoring and control of the conditions of people with diabetes can lead to complications such as potentially life-threatening diabetic ketoacidosis (DKA). Among those with diagnosed diabetes, Māori were more likely to be admitted to hospital for DKA, and a higher proportion of Māori than non-Māori had a condition that degenerated to the point where they were forced to have a lower-limb amputation.

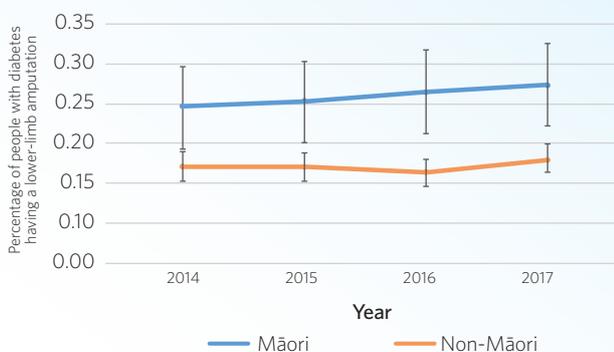
Diabetic ketoacidosis rates were higher for Māori than non-Māori between 2014 and 2017 (Figure 30).

Figure 30: Percentage of people with diabetes admitted to hospital with diabetic ketoacidosis, Aotearoa New Zealand, 2014-17



Although rare, lower-limb amputations among those with diabetes were a third higher in Māori than non-Māori each year (Figure 31). It also appears rates may be increasing for Māori but not non-Māori.

Figure 31: Percentage of people with diabetes having a lower-limb amputation, Aotearoa New Zealand, 2014-17



Source: Health Quality & Safety Commission, Atlas of Healthcare Variation, diabetes domain.

Box 2: Cancer, comorbidity and equity: addressing the hidden burden

Dr Virginia Signal, Dr Jason Gurney, Ngāpuhi, Ngāti Hine, and Professor Diana Sarfati

Aotearoa New Zealand has a publicly funded national health system that provides specialist and hospital care to all residents without charge. Given this commitment to universal health coverage, cancer care should theoretically be equitably accessible to all New Zealanders. Yet substantial and enduring inequities in cancer outcomes persist within our population – and there is no greater example of this than that observed for our indigenous Māori population.

Māori are demonstrably less likely than non-Māori to survive nearly every cancer,^{39, 40, 41, 42, 43, 44, 45, 46, 47, 48, 49} and nearly twice as likely to die from their cancer overall.⁴⁹ Ethnic differences in cancer survival such as these can be seen as an indirect marker of the quality of a country's cancer services and the equity of service delivery.

One of the potentially greatest contributors to this inequity is comorbidity. In the context of cancer, comorbidity is the presence of one or more other diseases alongside the diagnosis of cancer. Comorbidity is increasingly being shown to be a key cause of the inequitable cancer outcomes in Aotearoa New Zealand and, for this and other reasons, there is an urgent need to better manage comorbidity among patients with cancer in this country.

Comorbidity is common among people with cancer. As people age, their chance of being diagnosed with cancer increases, as does the likelihood that they will be diagnosed with a serious chronic condition such as heart disease or diabetes.⁵¹ Because of this, many people diagnosed with cancer may also be living with at least one other chronic condition. In Aotearoa New Zealand, around half of all people with cancer have at least one other condition recorded, and a third have two or more.^{52, 53}

The commonality of comorbidity is important – because the presence of other conditions has major negative impacts on patient outcomes, interfering with the usual care a person with cancer might expect to receive, and reducing their chance of surviving their cancer.⁵⁰ How comorbidity impacts on cancer care and outcomes is further detailed below.



Patient comorbidity can either affect cancer survival directly, with certain conditions directly impacting on prognosis through sheer physiological burden of disease, or indirectly through limiting treatment options or decisions.^{54, 55} Research shows comorbidity has an adverse impact on survival in every cancer site investigated,^{56, 57, 58} with much of that impact occurring because those with other conditions alongside cancer receive different treatment. However, most importantly, the impacts of comorbidity on cancer care and outcomes are modifiable – high-quality studies have consistently shown that people with comorbidity who are treated with usual cancer therapies do better than those who are not treated.^{57, 59, 60, 61, 62, 63, 64}

One reason comorbidity affects usual care is that – quite justifiably – clinicians and/or patients, families and whānau can be concerned that cancer treatment may be less effective among those with comorbidity; that the presence of comorbidity will increase toxicity of treatment; or that life expectancy may not be sufficient to justify treatment.⁵¹ For the clinician treating the patient with cancer, navigating this difficult terrain requires answering the following question: will treating my patient with comorbidity do more harm than good? Answering this question is not straightforward, because the evidence in this area is relatively obscure. Comorbid conditions and different treatments interact in complex ways,⁵¹ and people with comorbidity are usually excluded from clinical trials, meaning less evidence is available about treating patients who have cancer and comorbidity.^{50, 56, 65, 66}

While comorbidity is common among people with cancer overall, it is even more common among Māori (and Pacific) patients.⁵⁷ Māori have higher rates of many chronic diseases, including heart, respiratory and kidney diseases, and diabetes: for example, 10 percent of New Zealand European patients with colon cancer have a Charlson score of 3+ (indicating a high level of comorbidity), compared with 17 percent of Māori patients.⁶⁷ Evidence shows that Māori with cancer have poorer survival even if the extent of the disease (ie, stage) is broadly the same.⁶⁸ Evidence shows comorbidity is an important driver of these inequities, accounting for a third of the survival disparity between Māori and non-Māori with colorectal cancer.⁶⁹

Comorbidity increases both the complexity and the costs of care.⁵⁰ While few studies have quantified the additional costs to a health care system of addressing comorbidity, those that have done this in the context of cancer found comorbidity is associated with increased health care costs.⁷⁰ In 2010/11 total costs of cancer treatment in Aotearoa New Zealand were approximately NZ\$880 million (US\$592 million) or 6.5 percent of the New Zealand health spend. Given that the coexistence of cancer and comorbidity is expected to rise globally (including in Aotearoa New Zealand),^{66, 72} it is particularly important to manage this complexity while containing the cost of cancer care.

Over recent years, substantial work has been carried out in Aotearoa New Zealand to improve the access to, and the quality of, cancer services generally – including recognition of comorbidity as an important issue. This work should continue; however, it is imperative that emphasis continues on reducing cancer-related inequities for Māori, in which there must also be a strong focus on a more coordinated and effective approach to managing comorbidity.

We urgently need to address gaps in evidence relating to interactions of comorbidity and cancer across the spectrum: from basic epidemiological evidence to inform health service and policy planning; to specific evidence to inform clinical decision-making and to support the development of care pathways within secondary care services; through to evidence to support patients, families and whānau managing cancer and other conditions in the community.

On the life course: Older people

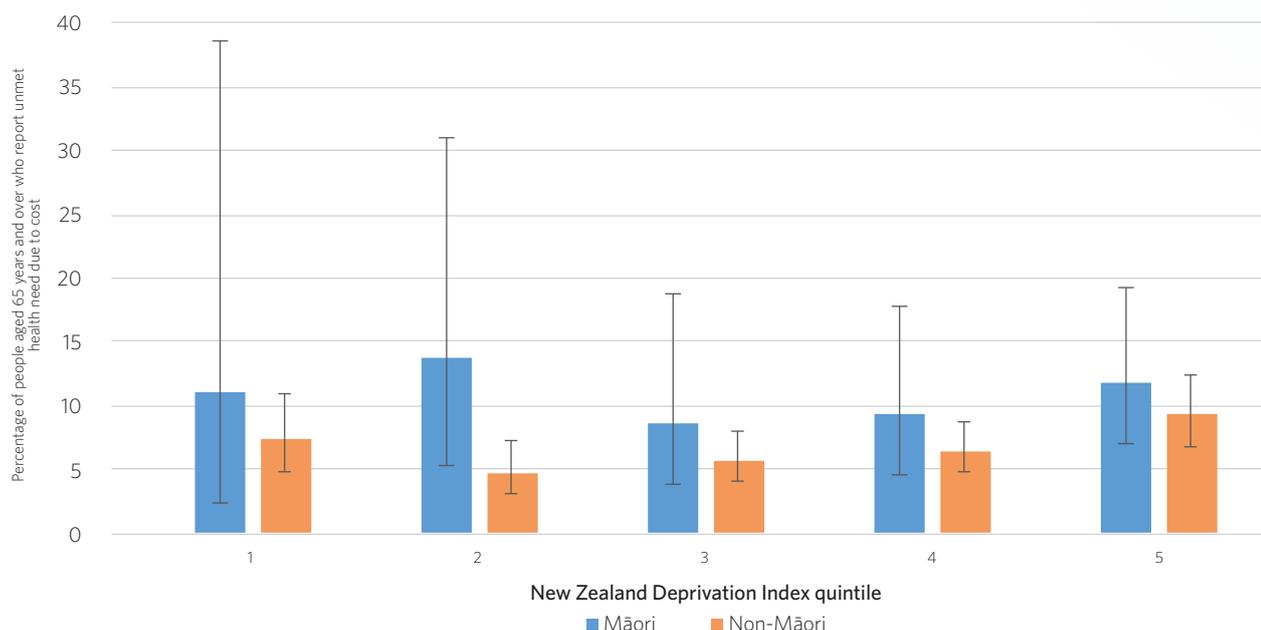
When we consider the issues older people face, we typically consider diseases of old age, increased physical frailty and comorbidity. We also typically answer the question ‘What do we mean by older people?’ with the proxy of those aged 65 years and over. This somewhat arbitrary cut-off reflects state retirement age (an example of institutional bias), yet, as data in this section shows, many of the issues of older age affect Māori before the age of 65 years.

This section considers a range of measures specifically relevant to older people, such as: hospital stays for the cohort of patients who have an unplanned hospital admission more than twice in the year following a first admission (this is a proxy for how well health and community care is integrated and works for the individual), availability of specialist equipment for people with disabilities (often these are age related), polypharmacy, quality of care for people who break a hip, rates of complications associated with hip and knee replacements, and efforts to improve those rates.

Access: Cost barrier to care

Among people aged 65 years and over, the cost barriers to care are much lower than among adults aged 45–64 years. However, significant inequity remains, with 11 percent of Māori and 6.5 percent of non-Māori reporting cost as a barrier to seeing a GP. Across all levels of socioeconomic deprivation, the proportion of Māori reporting unmet need due to cost is higher than for non-Māori (Figure 32). However, because these results are based on only a small number of responses, leading to wide confidence intervals, it is not possible to tell whether these differences are real or due to chance.

Figure 32: Percentage of people aged 65 years and over who report unmet health need due to cost, by New Zealand Deprivation Index quintile, Aotearoa New Zealand, 2016/17



Source: New Zealand Health Survey.

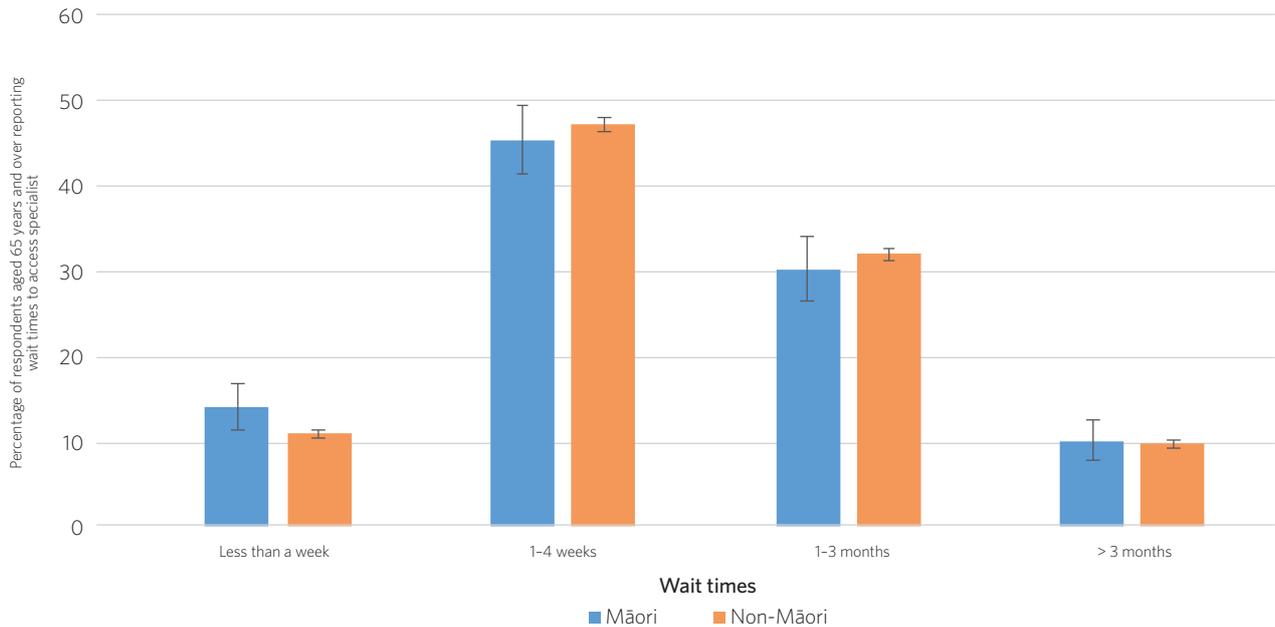
Access: Wait for specialist appointment

In contrast to adults, among people aged 65 years and older, there were no reported differences between Māori and non-Māori in waiting times for specialist appointments (Figure 33).

This finding should, however, be interpreted with care because it does not take into account those who have not accessed the system or received a referral at all.



Figure 33: Reported wait times to access specialist, as a percentage of respondents aged 65 years and over, Aotearoa New Zealand, 2011-16



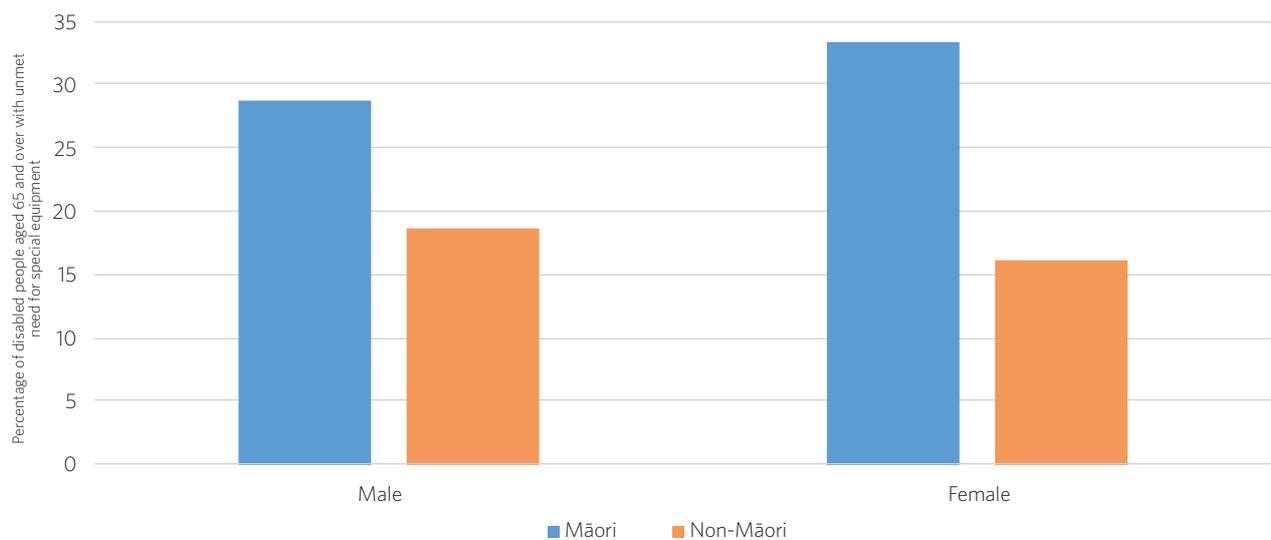
Source: Health Quality & Safety Commission, in-hospital patient experience survey.

Access: Disability in those aged over 65 years

The 2013 New Zealand Disability Survey found that 59 percent of New Zealanders aged 65 years or over had disabilities. Māori aged over 65 had higher rates of disability overall (females 50 percent; males 74 percent) than non-Māori (females 57 percent; males 55 percent). Of Māori aged over 65 who reported at least one disability, 70 percent reported multiple disabilities, compared with 60 percent of non-Māori.⁷³

Of the population with disabilities, Māori were considerably more likely to have an unmet need for a disability aid than non-Māori (Figure 34).⁷⁴

Figure 34: Unmet need for special equipment among disabled people aged 65 and over, Aotearoa New Zealand, 2013



Source: Disability Survey 2013.

Quality: Communication

The Commission's patient experience survey shows both older Māori and non-Māori have a marginally better experience of communication in health care (Table 2) compared with younger people. Generally responses showed no similar patterns between respondents before retirement and those past retirement age. The one exception was for medication side effects, where only about half of all respondents agreed they had received a good explanation of what to watch for when they went home. It is likely, however, that older people have distinctly different experiences, and expectations, relating to their health care than younger populations. Across 13 of 18 survey waves, fewer Māori than non-Māori reported they felt their condition was explained in a way they could completely understand.

Table 2: Responses to the 'communication' domain in the in-hospital patient experience survey, among those aged 65 years and over, across 18 survey waves, Aotearoa New Zealand, 2014-18

Percentage of responders who:	Results all waves		Experience of Māori group compared with non-Māori group		
	Māori	Non-Māori	Consistently worse	Consistently better	No consistent difference
Always got answers they could understand when they had important questions to ask a doctor	76%	80%			Yes
Felt their condition was explained in a way that they could completely understand	70%	75%	Yes (13/18)		
Felt doctors always listened to what they had to say	82%	83%			Yes
Felt nurses always listened to what they had to say	82%	82%			Yes
Felt other staff always listened to what they had to say	79%	81%			Yes
Agreed completely that a member of staff told them about medication side effects to watch for when they went home	55%	49%		Yes (14/18)	

Source: Health Quality & Safety Commission, in-hospital patient experience survey.

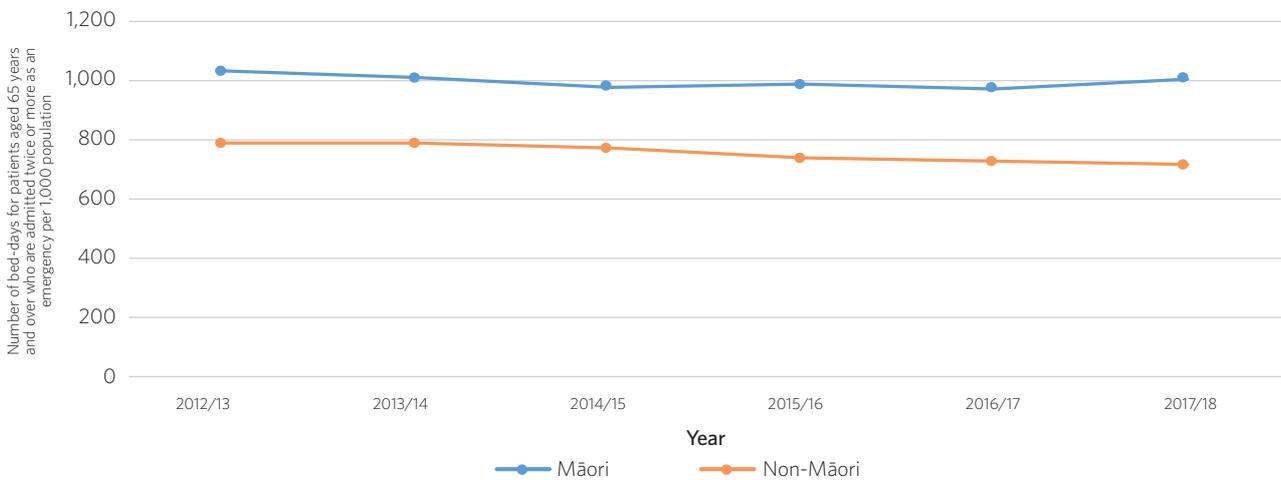


Quality: Older people readmitted to hospital at least twice in the year after a first admission

The number of bed-days used by the cohort of patients admitted acutely more than once in a year is a marker for how well integrated services are between primary, secondary and community care. With effective integration, patients receive better care after discharge into the community and better support outside hospital, and so they should experience fewer readmissions to the acute setting. In contrast, high numbers of bed-days for those who return to hospital twice in a year after a first admission suggests services are poorly integrated and have less effective 'step-down' care.

Among older New Zealanders who were admitted to hospital twice or more in a year, the rate of bed-days per 1,000 population is considerably higher for Māori than non-Māori (Figure 35). While the rate for non-Māori is reducing, the rate for Māori is unchanged.⁷⁵ This finding implies Māori receive less effective step-down care than non-Māori.

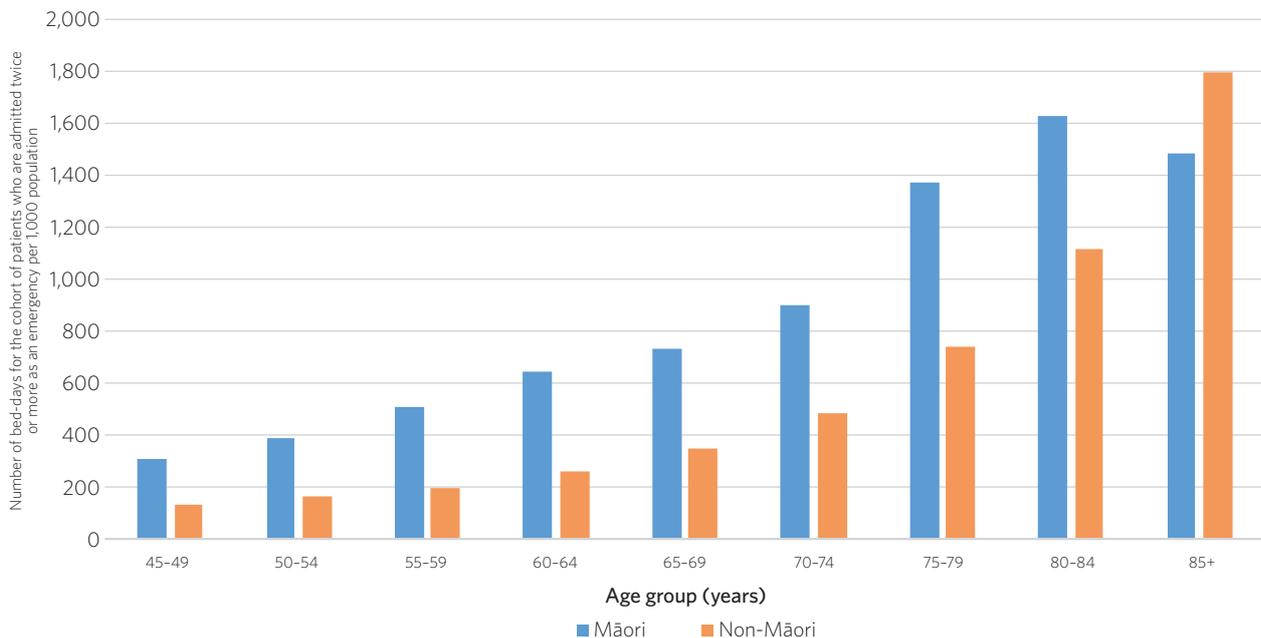
Figure 35: Number of bed-days for patients aged 65 years and over who are admitted twice or more as an emergency per 1,000 population, Aotearoa New Zealand, 2012/13–2017/18



Source: Routine Commission analysis of NMDS data.

Unsurprisingly, the rate of bed-days among those who have presented at emergency departments twice or more rises markedly with age. This is true for both Māori and non-Māori (Figure 36). It is important to note that the steep increase seen in older non-Māori (aged 80 years and above) begins a decade earlier for Māori.

Figure 36: Number of bed-days for the cohort of patients who are admitted twice or more as an emergency per 1,000 population, Aotearoa New Zealand, 2017/18



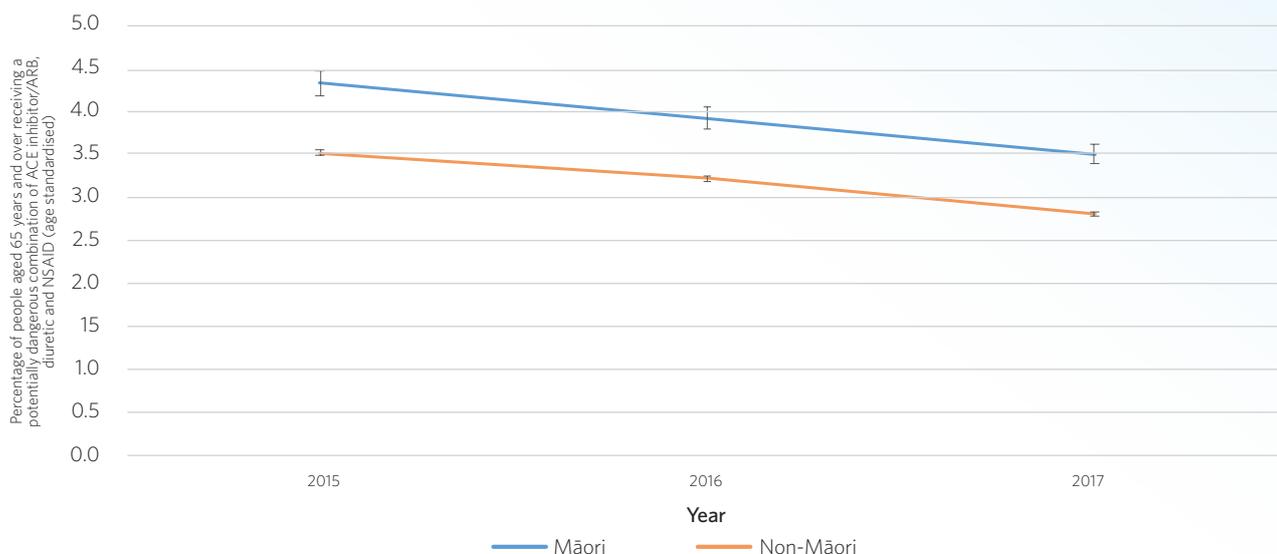
Source: Routine Commission analysis of NMDS data.

Quality: Polypharmacy – use of multiple medicines at the same time

It is inappropriate for patients to take a combination of an angiotensin-converting enzyme (ACE) inhibitor/angiotensin receptor blocker (ARB), a diuretic and a non-steroidal anti-inflammatory drug (NSAID) at the same time (a combination known colloquially as the ‘triple whammy’). This increases risk of acute kidney injury, especially in older adults and those with risk factors for renal failure.

A higher proportion of Māori aged 65 years and older receive this drug combination than their non-Māori counterparts (Figure 27). This inequity has even greater implications because Māori are at higher risk of renal disease.

Figure 37: Percentage of people aged 65 years and over receiving a potentially dangerous combination of ACE inhibitor/ARB, diuretic and NSAID (age standardised), Aotearoa New Zealand, 2015-17



Source: Health Quality & Safety Commission, Atlas of Healthcare Variation, polypharmacy domain.

Quality: Falls in the community

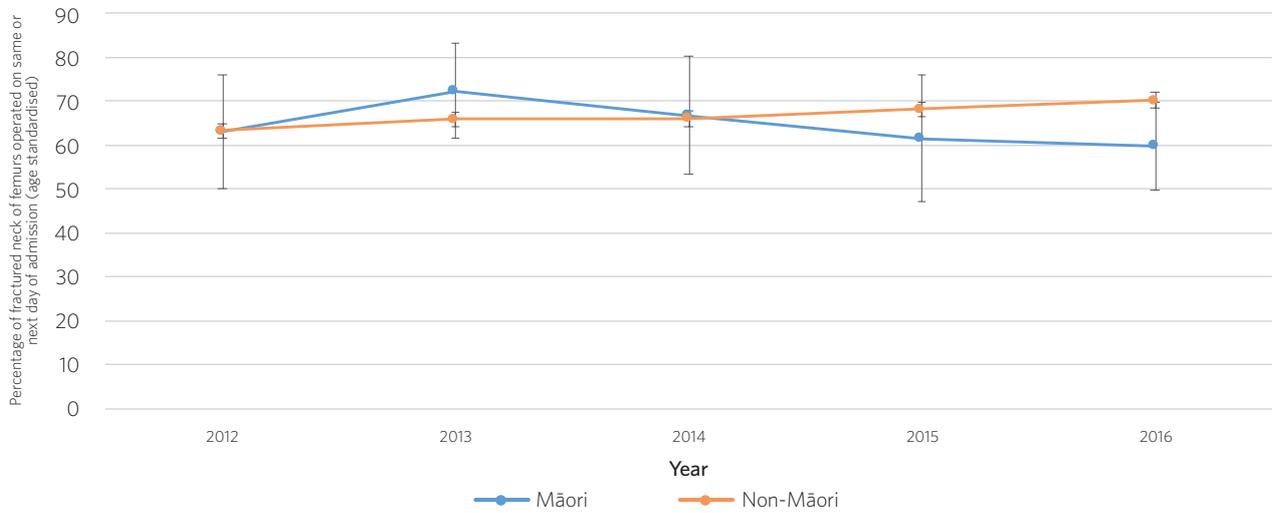
Falls in the elderly often have very serious consequences in terms of early mortality and substantial loss of quality of life, so prevention of falls in the elderly should be a priority. Falls often result in fractured neck of femur, or hip fracture, which should be operated on as soon as possible (guidelines and a trans-Tasman clinical care standard suggest within 48 hours).⁷⁶

Among non-Māori patients aged 65 or older with a hip fracture as a result of a fall, the percentage of such surgeries performed within the recommended timeframe has increased steadily from 2012 to 2016.



In contrast, although Māori initially benefited from an improvement in timely surgery, this trend reversed from 2013 and the rate has steadily decreased since then (Figure 38).

Figure 38: Percentage of fractured neck of femurs operated on same or next day of admission (age standardised), Aotearoa New Zealand, 2012-16



Source: Health Quality & Safety Commission, Atlas of Healthcare Variation, falls domain.

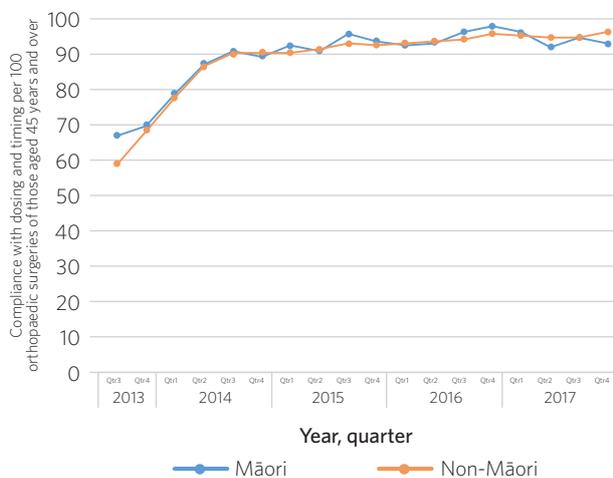
Improvement: Surgical site infection (orthopaedic)

The introduction of national quality improvement programmes to address areas of identified harm to patients has met with good results. These results suggest that, where possible, standardisation of best practice can lead to improved outcomes. But who benefits?

For seven years, a national programme has targeted surgical site infections resulting from orthopaedic surgery. To reduce these infections, the programme has promoted and monitored the uptake of a bundle of best practices, while also monitoring resulting surgical site infections.

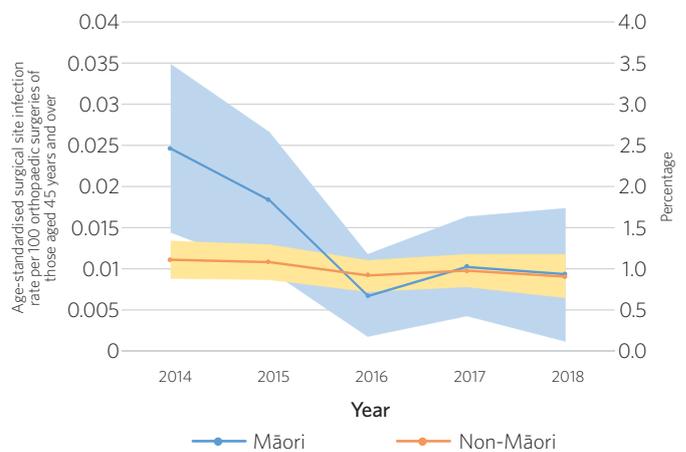
Standardisation and compliance with best practice for hip and knee arthroplasty has shown similar rapid and consistent improvement for both Māori and non-Māori (Figure 39)...

Figure 39: Compliance with dosing and timing per 100 orthopaedic surgeries of those aged 45 years and over, Aotearoa New Zealand, 2013-17



... leading to improved outcomes for both groups. The higher rate of infection for Māori patients has reduced and the inequity gap in surgical site infections has disappeared (Figure 40).

Figure 40: Surgical site infection rate per 100 orthopaedic surgeries of those aged 45 years and over (age standardised), financial years, Aotearoa New Zealand, 2014-18



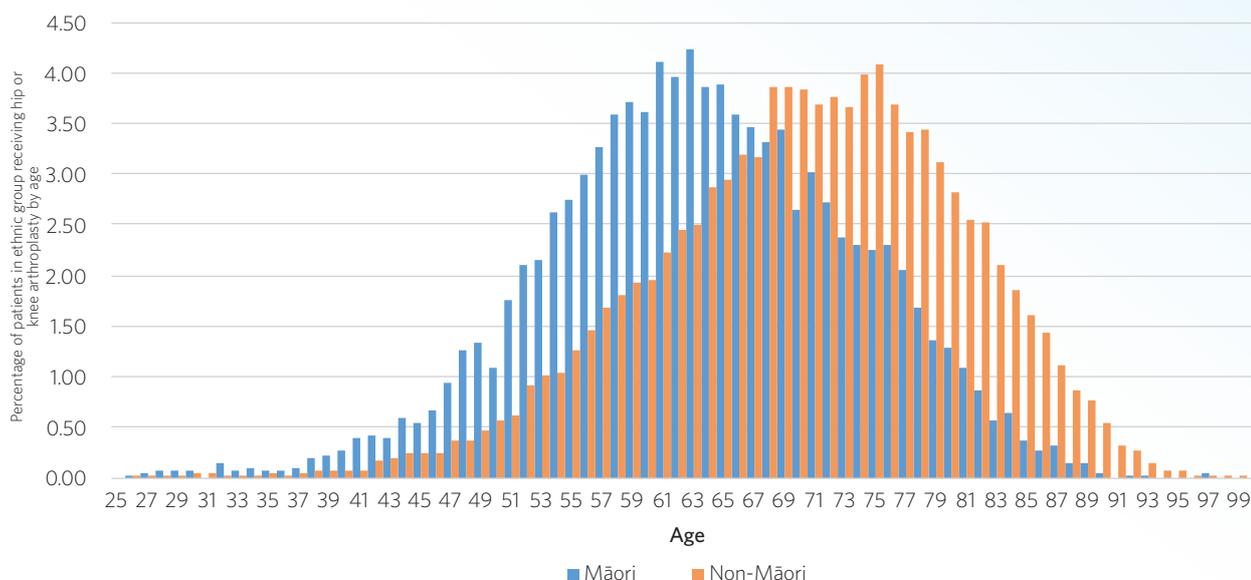
Source: Health Quality & Safety Commission, Surgical Site Infection Improvement programme.

These positive results imply that, where possible and if implemented properly, improvement programmes to standardise best practice can not only reduce, but actually eliminate inequity in outcomes.

However, the age distributions of those having hip and knee arthroplasties tell a more nuanced story. Māori are undergoing such surgery at younger ages than non-Māori (Figure 41). In effect, the diseases and physical challenges of older age in non-Māori are occurring in Māori at younger ages.

Crucially, the diseases and interventions (and improvement programmes) targeting those of retirement age in non-Māori affect working-age Māori.

Figure 41: Age distribution of patients receiving hip or knee arthroplasty, by ethnicity, financial years, Aotearoa New Zealand, 2014-17



Source: Health Quality & Safety Commission, Surgical Site Infection Improvement programme.

Box 3: Improvement that works: Abdominal aortic aneurysm screening pilot in Waitematā and Auckland DHBs – a programme optimised for Māori

Dr Corina Grey, Anna Maxwell, Dr Peter Sandiford and Dr Andrew Hill, on behalf of the AAA screening teams at Waitematā and Auckland DHBs

Abdominal aortic aneurysm (AAA), a localised enlargement of the aorta that can result in rupture and often death, is a condition that disproportionately affects Māori communities. On average, Māori develop and die from AAA eight years younger and have worse long-term outcomes than New Zealand Europeans.^{77, 78, 79}

However, large randomised trials in Europe and Australia have shown that it is possible to reduce mortality from AAA through once-in-a-lifetime ultrasound screening of the abdominal aorta; that is, detection, monitoring and repair of aneurysms before they rupture.⁸⁰ The test is quick and accurate, and screening is cost-effective in at-risk populations. Programmes are now run in the United Kingdom and Sweden, and are being considered elsewhere in Europe. In the United States of America and Canada, screening is recommended for male smokers aged 65-75 years.



In Aotearoa New Zealand, the National Screening Advisory Committee has agreed AAA is a suitable candidate for screening, however further exploration, including implementation options, is needed.⁸¹

It was within this context that Waitematā DHB funded the first AAA screening programme in Aotearoa New Zealand and, together with Auckland DHB, jointly funded the extension of the programme to all eligible Māori in primary health organisations within their areas. It was also the first screening programme specifically designed to address a Māori health equity issue and one of few AAA screening programmes internationally to include women. Māori women have a much higher incidence of AAA, and almost three times the mortality, of non-Māori women.⁵

Design, development and implementation in partnership with Māori

Between 2016 and 2018, a total of 2,456 Māori men and women were screened for AAA across the initial pilot (in three GP clinics) and the subsequent rollout of the programme.

Screening for atrial fibrillation (AF) – a risk factor for stroke – was added in the rollout, testing the integration of a second life-threatening condition into the screening session. Blood pressure was taken on all participants, and smokers were given brief cessation advice and offered referral to quit smoking services. Participants were also given general advice on maintaining a healthy diet and exercise.

The project aimed to achieve a small but significant improvement in Māori health and life expectancy, as well as to fill gaps in our knowledge of the disease. It was not known whether the prevalence of disease was high enough to justify an AAA screening programme, whether a one-off AAA screen would be acceptable to Māori and how that acceptability could be maximised.

Māori were involved at all levels of the project design, development and implementation. The project was guided by Waitematā DHB's Chief Advisor Tikanga, the Research Advisor – Māori, public health physicians and the DHB's three Māori providers. A Māori ultrasound technician and administrator worked directly with invitees, and Māori health literacy experts and researchers were employed.

The project began with an awareness-raising hui. Tailored invitation letters and brochures, incorporating a personal story and use of te reo Māori, were mailed to eligible Māori, with follow-up phone calls. Screening was community-based and performed at venues close to public transport, including general practices, marae and more remote locations. Evening clinics were also offered.

The ultrasound technician received specialised training for the DHB programme and conducted AAA scanning under the supervision and quality assurance of the radiology team. AAA referral protocols were based on Vascular Society of New Zealand guidelines.

Results

Participation rates were 79 percent in the initial pilot and 65 percent in the wider rollout.

Among men, the prevalence rate of AAA (≥ 30 mm) was 3.7 percent. At age 65 years this was approximately double the prevalence of men in the UK screening programme. Women had an AAA prevalence of 1.9 percent, calculated at age 65 years to be slightly lower than UK men, but higher than that reported for Swedish women.

Over the two pilot projects, seven large AAAs (≥ 50 mm) were detected. Appointments at vascular services were prompt, and successful repair was achieved for most of the large AAAs identified. Unfortunately, one person found to have a large AAA at screening died of a ruptured

AAA before they could have surgery, highlighting the deadly nature of the disease. In addition:

- 64 small AAAs (30–49 mm) and 41 mild aortic enlargements (26–29 mm) were referred to vascular services for assessment and surveillance
- 36 new cases of AF were detected (prevalence 2.0 percent)
- 37 participants were urgently referred back to their GP for very high blood pressure (≥ 190 systolic and/or ≥ 130 diastolic)
- 34 referrals to smoking cessation services were made.

Follow-up interviews with 25 screening participants and their whānau explored experiences across the screening pathway and any anxiety associated with the screening. In general, interviewees saw the programme as highly valuable ('lifesaving', 'accessible and free'), and reported their experiences as positive and respectful. Many wanted AAA screening made more widely accessible to whānau and friends. Although clinics were located in the community, some participants had transport and parking concerns that made attending appointments stressful. Responses to the diagnosis of AAA were variable. Some participants with small AAAs put the diagnosis comfortably in the background of their lives. Some wanted more information and more regular follow-up scans to be reassured their aneurysm remained small. Approximately a quarter of interviewees with non-normal AAA screening results had subsequently made changes in the areas of nutrition, physical activity, alcohol or smoking.

What we've learnt

The AAA/AF screening pilot confirmed the high burden of AAA on Māori. The strong positive feedback and high participation rates indicate that, with careful attention to design of a person-centred and culturally appropriate programme, a one-off screen for AAA is highly acceptable. Furthermore, robust clinical failsafe processes meant that a high rate of follow-up of those with aneurysms was achieved.

AF screening was readily incorporated into the programme, and a number of co-benefits (identification of high blood pressure, referral to quit smoking services, positive lifestyle changes) were achieved.

Success was underpinned by Māori leadership at all stages of project development, as well as attending to the basics of screening programme quality, including strong clinical governance and oversight, and investment in a comprehensive data system.

A close relationship with primary care led to higher participation rates and more accurate identification of people unlikely to benefit from screening.

To maximise benefits and minimise harms in future AAA screening programmes, some considerations are to:

- work closely with primary care to streamline the process of applying eligibility criteria
- include other potential co-benefits, such as by checking how up to date people are with other screening programmes and integrating smoking cessation approaches more closely with the programme
- implement some practical suggestions made by participants to minimise the stress of attending appointments and to support them in their diagnosis of an aneurysm
- further investigate a precision-driven approach. In 2017, a separate pilot tested the validity and precision of a predictive algorithm based on known risk factors for AAA on 637 non-Māori participants. While still being formally evaluated, the algorithm appears to have been good at



discriminating between high- and low-risk patients, potentially reducing the need for screening for a large part of the population. This approach would need to be tested for Māori.

An evaluation of the pilot is nearly complete. Work is still being conducted to determine the cost-effectiveness of screening using this model and whether thresholds used to define AAA should be adjusted for women.

Chapter 2: Why are there health inequities between Māori and non-Māori? | Wāhanga 2: He aha te take he rerekētanga hauora i waenga i te Māori me Tauwiwi?

Summary

- Structural causes of inequity include colonisation, the Crown's failure to meet its obligations under te Tiriti o Waitangi and institutional racism. These structural factors have established and maintained advantage for non-Māori and disadvantage for Māori within the wider determinants of health (social, political, environmental and economic), and within health itself.
- Disparities between Māori and non-Māori can be seen in both unequal distribution of socioeconomic resource and unequal outcomes.
- Differences in health outcomes are contributed to by differential access or exposure to the determinants of health, differential access to health care, and differences in the quality of care.
- Institutional racism presents as inappropriate action, inaction in the face of need, and monocultural perspectives and worldviews embedded in systems.
- The Williams and Mohammed model of health inequity shows how 'basic causes', such as biology, geography, social institutions and racism, have downstream effects on health outcomes. In the Aotearoa New Zealand context, basic causes include the historical acts of taking of land, resources and culture, and today's monocultural health system and approach to service delivery.

In considering 'What are the health inequities between Māori and non-Māori?', chapter 1 looked across the life course, highlighting clear inequities in many of the indicators considered, from before birth, in childhood and youth, through adulthood and into old age. For example, we see diseases commonly associated with older age starting earlier in Māori than non-Māori, and higher rates of disability and of multiple disabilities for Māori, alongside clear differences in outcomes, including a stark difference in life expectancy. The wider determinants of health create a level of health advantage and disadvantage for individuals and groups of people even before they come into contact with the health system. This foundation for health is important and needs attention. However, the pattern of inequities shown in chapter 1 suggests that, largely, engagement with the current health service environment does not reduce inequity, as might be hoped. In fact, accumulation of advantages for non-Māori and disadvantages for Māori within the health system may compound and/or contribute to widening health inequity across a lifetime.

This chapter explores the question, 'Why are there health inequities between Māori and non-Māori?' To answer it, we draw on a considerable body of literature from Aotearoa New Zealand and internationally, which explores health inequity among indigenous people and, in particular, for Māori in Aotearoa New Zealand.

Health inequity and te Tiriti o Waitangi

Health inequities between indigenous and non-indigenous peoples are part of a common legacy of colonisation.^{82, 83} Colonisation is a systematic process that is always violent and involves the misappropriation of power and resources, and the destruction of the social structures of indigenous peoples.^{83, 84, 85, 86} Health is a social justice and human rights issue, and indigenous people's rights to health have been clearly stated and recognised.^{85, 87}

Māori rights to collective self-determination are affirmed in the articles of te Tiriti o Waitangi and recognised in policy today as inclusive of rights for health care provision,¹ and for equitable health outcomes.⁸³ The New Zealand Public Health and Disability Act 2000 requires the health sector to strive for



the elimination of inequities for Māori and to engage with te Tiriti principles of partnership, protection and participation, developed by the Royal Commission on Social Policy.^{88, 89}

The Waitangi Tribunal was established under the Treaty of Waitangi Act 1975 to make recommendations on claims brought by Māori relating to legislation, policies, actions or omissions of the Crown that are alleged to breach te Tiriti.⁹⁰ The hearings for the Waitangi Tribunal Health Services and Outcomes Inquiry (Wai 2575) began in October 2018 and are continuing at the time of writing.^{91, 92} The 205 claims cover a range of historical and current issues relating to the health system, specific health services and outcomes, including health equity, primary care, disability services and Māori health providers. The Wai 2575 claim underscores that while colonisation may have its origins in the distant or more recent past, its political, social, spiritual, environmental and economic effects on health are well documented and recognised as impacting the current lived realities of Māori, through processes similar to those impacting indigenous peoples worldwide.^{83, 93} In other words, the effects of colonisation are ongoing.

Health inequity and institutional racism

The World Health Organization is committed to reducing inequalities by supporting member states to protect, respect and fulfil the right of Indigenous Peoples to the highest attainable standard of health, by addressing the social determinants of health and increasing access to high-quality health care.⁹⁴

The Aotearoa New Zealand health system has generated and continues to reinforce inequities in health outcomes between Māori and non-Māori. The evidence includes the inequities in life expectancy and mortality and significant morbidity differences for both infectious and chronic disease,^{83, 95, 96, 97, 98, 99, 100} along with other inequities highlighted in chapter 1.

The health system's failure to meet the rights of Māori has been described as institutional racism.¹⁰¹ Racism is a modifiable determinant of health,¹⁰² which has been shown in overseas studies to impact on physical health^{103, 104} and, in Aotearoa New Zealand studies, to lead to poorer health outcomes in Māori.^{105, 106, 107, 108} Institutional racism is a systemic pathway to inequity.¹⁰¹ It occurs and continues because people at all levels of the system make decisions that disadvantage one group in relation to another. In this way, personal racism can be a contributing factor to institutional racism. Jones describes institutional racism as 'differential access to the goods, services, and opportunities of society by race' (p 1212),¹⁰⁹ which Came further notes advantages one sector of the population while disadvantaging another.¹⁰¹ Such racism encompasses both action and inaction, and can present as systemic monocultural perspectives.¹¹⁰

Box 4: Racism in Aotearoa New Zealand

Ria Earp – Ko Te Arawa te waka. Ko Ngāti Whakaue, Ko Ngāti Pikiao, ngā iwi. Chair of Te Rōpū Māori, Kupu Taurangi Hauora o Aotearoa – Health Quality & Safety Commission

Hoki wairua rā, Haere ngā mate kua ngaro ki te pō, haere, haere, haere atu rā

Many emotions have been expressed in the wake of the Christchurch atrocity to acknowledge the pain and grief of the families who have survived and the families whose members died. That grief and horror has been shared by our communities throughout the nation, by individuals, in towns and cities. We have seen the horrific results of extremist views and blatant racism against those of the Muslim faith – we don't want to see it again.

Emerging from that emotion have been words of hope, a call for unity and a sobering acknowledgement that racism exists in this country. Nasty and abusive comments directed at individuals or their faith are possibly more easily identifiable, but it does rely on the courage of those who witness or hear abuse to 'call it out'. That narrative is also beginning to extend to

structural or institutional racism, a phenomenon that is harder to identify but one that exposes patterns of inequitable group outcomes.

The narrative is not new. Māori have long raised their voices on the issue of racism, the impact of colonisation and recognition of the rights afforded by the Treaty of Waitangi. The impact of colonialism as an explanation for Māori disadvantage has perplexed many Pākehā, including policy developers. But the historical confiscation of land and its contribution to poverty is a comprehensible concept and has a logic that can be traced. 'But it was over 170 years ago' is a common response. Why? Because it is not so obvious that our legal, social, economic and communication processes, policies and procedures are built on the patterns of the past, ingrained in our language (English). The dominant views of British-Christian culture are embedded in our social structures.

The term institutional racism (or the less confronting term, institutional bias) caused a stir when it was used in the 1980s in response to a major review of Māori interaction with social welfare. It was used to reflect the different outcomes that resulted as policies and procedures were applied in day-to-day operations. Almost two generations later, we are still grappling with the devastatingly high percentage of Māori children who are in state care. A major difficulty is that it is not just one process or procedure. The collective impact of decision-making in a myriad of social policies and services (education, justice, social and income support services, housing) and the layering effect of decisions made over many generations (resulting in intergenerational trauma) create a heavy weight, as reflected in our health outcomes, and it is hard to shift.

So why is systematic or institutional racism so hard to identify?

When the cultural/religious beliefs or ways of seeing the world do not 'clash' with our expectations as a group, then it is very difficult to see how those views have been instilled into systems that create disadvantage for another group.

If you believe there is fairness and equality of access to health treatment or services for everyone, you may have difficulty seeing a sign regarding payment processes on a reception desk as a signal to someone on low income that they are not welcome – especially if it is combined with a negative reaction from someone behind the desk, however slight. When you are part of the dominant culture and face no contradictions to shake you out of that space, the normal way of the world is expressed and framed in a way that makes sense to you.

To be honest, I wasn't aware that the numbers of those who are of the Muslim faith in Aotearoa was growing, nor was I aware that Friday is a special day of prayer for them, until the horror in Christchurch. The mosque shootings have been a massive jolt to the collective psyche of New Zealanders. Our collective, spontaneous response was as much due to a shared horror and grief as it was to our leadership response.

The first training workshops on racism (after the 1981 Springbok tour) used 'shock' techniques to jolt people out of comfortable worldviews in order to demonstrate how systematic racism was perpetuated. The evidence, however, showed that effective training approaches were those that used more supportive (but still challenging) processes where people felt able to safely explore these challenges.

The use of the Treaty framework in the health sector came through the New Zealand Public Health and Disability Act 2000 – at the time this was the only significant social service legislation to reflect the Treaty of Waitangi (and it has never been repeated again in other legislation). It was limited to the 'principles of the Treaty'. Expressions of these principles were then woven through the strategies, plans, processes and the legislation. It generated a new wave of energy and development throughout the health sector.



Professor Camara Jones spoke about her definition of institutional or structural racism as limiting or preventing access to social goods and opportunities. For groups of people who are already disadvantaged, inequities in health place them at a further disadvantage.

It was personally very frustrating to realise how many initiatives had closed, stalled or been downgraded under the pressures of constrained funding and restructuring following the global economic crisis. The contemporary health services and outcomes claim to the Waitangi Tribunal (Wai 2575) started hearing evidence for the claim at the end of 2018. It provided a collective inquiry into multiple health-related group claims. In many ways, this claim represents a desire to see a clearer 'rights-based' approach that many Māori felt would generate better decision-making (or at least an involvement in the decision-making). Despite the processes and policies put in place with the New Zealand Public Health and Disability Act 2000, the system was quick to revert to processes that took any gains away.

So, how do we address the issues?

Firstly, creating an awareness that institutional racism has severe impacts, from psychological ill-health to physical harm to early death. Secondly, identifying differences in health outcomes and then understanding what it means. Then devising plans and processes to change it systematically.

It's a huge job. The time is ripe to call out personal racism wherever it occurs. It is also time to take on the challenge of how we identify – and eliminate – institutional racism.

Health inequity and the wider determinants of health

Reid and colleagues identify two distinct categories of disparities that exist between Māori and non-Māori.¹¹¹ The first category involves distribution disparities or gaps (unequal distribution of economic and/or socioeconomic resources) and the second consists of outcome disparities or gaps (including differences in health status and service use, within each socioeconomic category). Both gaps must be eliminated if we are to achieve health equity. As Robson notes, '... the interlocking nature of axes of inequality must be acknowledged at this point, as well as the context-specific nature of the basic social forces that under-gird collective health outcomes' (p 13).¹¹²

Jones identifies three pathways as key contributors to ethnic inequities in health: (1) differential access to the determinants of health or exposures leading to differences in disease incidence; (2) differential access to health care; and (3) differences in the quality of care received.¹¹³ Māori are exposed to very different education, employment, income and housing opportunities compared with non-Māori,^{99, 114, 115} with the result that over half of Māori live in the most deprived areas in Aotearoa New Zealand.^{100, 116, 117}

Having a low socioeconomic position also increases exposure to risks like tobacco use, poor nutrition, and overcrowded and substandard housing. All of these experiences have a greater impact on Māori health status and have implications for the wellbeing of both current and future generations.⁸³

There is extensive evidence of the impact on Māori of differential access to health care at all levels of service provision,^{118, 119, 120} including primary care and prevention services.^{120, 121, 122} Also clear is the impact of the lack of coordinated and streamlined care,^{123, 124} and the cost, location and scheduling configuration of services that do not prioritise those with reduced access to resources.^{83, 117}

Evidence of inequity in receiving timely, high-quality care is stark. For example, Māori have lower rates of appropriate interventions, including screening and treatment for heart disease, depression, cancer and diabetes screening and management.^{105, 118, 121, 125, 126, 127, 128, 129}

Both the definitions and models that we use to understand equity and inequity recognise socioeconomic and cultural influences. These are considered in the next two sections.

Equity definitions

The Ministry of Health’s definition of equity, signed off by the Director-General of Health, Dr Ashley Bloomfield, in March 2019, 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.¹³⁰

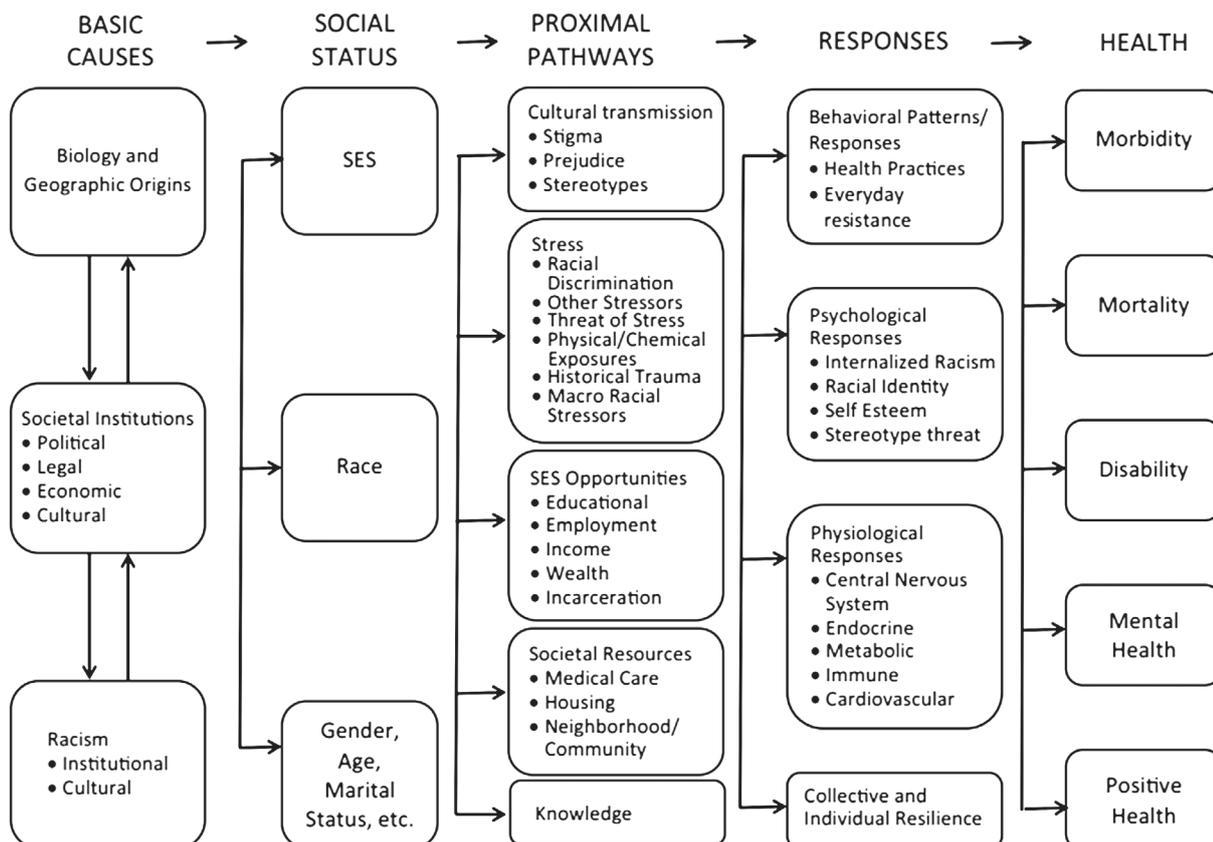
Equity in health has been defined as the absence of socially unjust or unfair health disparities.¹³¹ Braveman and Gruskin note that, ‘equity means social justice or fairness; it is an ethical concept, grounded in principles of distributive justice’ (p 254).⁸⁷ Drawing on Braveman and Gruskin’s explanation of equity, in this document we are using the term ‘inequity’ where this specifically relates to the idea of ‘unfairness’. Equity and fairness are both ethical concepts related to justice and the distribution of resources in such a way that minimum requirements are met for all people. This does not translate to equal shares for all but emphasises ‘fairness’ in which different resources may be needed to ensure different groups obtain equitable health outcomes.⁸³

Braveman and Gruskin define health equity as ‘the absence of systematic disparities in health (or in the determinants of health) between different social groups who have different levels of underlying social advantage/disadvantage - that is, different positions in a social hierarchy’ (p 254).⁸⁷ This definition makes explicit that mechanisms of access to resources, as well as how those resources are distributed, including health services, are determined at the level of society rather than the individual. The words advantage and disadvantage - that is, wealth, power or prestige - highlight that we need to evaluate the processes that determine how resources are shared and the underlying values of society.⁸³

Understanding inequity through ‘basic causes’

Internationally, several models have been developed to conceptualise possible pathways leading to health inequities.^{93,132} Williams and Mohammed (2013) offer a useful model summarising how socioeconomic determinants together with race and racism affect health (Figure 42).¹³³

Figure 42: Williams and Mohammed’s model of societal-level determinants of health inequity¹³³





In this model, socioeconomic position is neither predetermined nor unchanging, but is affected by 'basic causes'. In the context of Aotearoa New Zealand health inequities, these causes might include the historical acts of taking of land, resources and culture, and also modern effects of a health system that is Eurocentric rather than one incorporating a Māori interpretation of health.

Health inequities have the potential to be resolved, and Māori health priorities advanced, if basic causes, in conjunction with downstream effects, are addressed. In the following chapter we look at how we might use te Tiriti o Waitangi to resolve the health inequities between Māori and non-Māori, and advance Māori health.

Chapter 3: How do we resolve the health inequities between Māori and non-Māori, and advance Māori health? | Wāhanga 3: Me pēhea tā tātau whakatika i ngā rerekētanga hauora i waenga i te Māori me tauwiwi me te kōkiri whakamua i te hauora Māori?

Summary

- A genuine commitment to te Tiriti o Waitangi is required to form meaningful relationships that will create change.
 - Te Tiriti o Waitangi approaches align closely with systems-level approaches that are being used internationally to collaborate on complex, long-standing problems.
 - Inequity is a complex, system-wide problem that requires system-wide solutions able to effectively address those complexities.
 - Sustained systemic and multileveled approaches are required to address inequity.
- Te Tiriti o Waitangi can provide a framework relevant to Aotearoa New Zealand.
- The health system needs Māori worldviews alongside Western and clinical worldviews to help advance Māori health. Māori knowledge and understanding are required to enhance the health system.
 - Many useful tools and resources are available to support the health system to work in ways appropriate for Māori to advance Māori health and achieve greater equity.

Chapter 2 discussed basic causes of Māori disadvantage and non-Māori advantage in our health system. This chapter considers the question, 'How do we resolve the health inequities between Māori and non-Māori, and advance Māori health?'

Te Tiriti o Waitangi is central to the Aotearoa New Zealand health system, both as a requirement for how we operate and as an improvement tool. Te Tiriti can underpin the sustained, systemic and multileveled approaches so clearly needed to improve Māori health and equity. Māori knowledge and worldviews, including Māori data and analysis approaches, can strengthen and broaden evidence bases for health care. In addition, Māori tools and resources can support and advance this work.

Te Tiriti o Waitangi is at the centre

Fundamentally, te Tiriti o Waitangi is central to the functioning of our health system, whether there are inequities or not. The Crown must meet its Treaty obligations. Te Tiriti o Waitangi is Aotearoa New Zealand's most important equity tool and framework for monitoring the Crown's performance in meeting its responsibility to ensure Māori rights to health. Te Tiriti o Waitangi is the founding document of Aotearoa New Zealand as it is now and in the future, and it is embedded in the legislation that underpins our health and disability sector – the New Zealand Public Health and Disability Act 2000.¹³⁴

Chapter 2 reflected on processes of colonisation that have served to establish and embed inequity, denying Māori their right to health in both the past and present. Failures to uphold te Tiriti o Waitangi have contributed to institutional racism and the continued dominance of Western worldviews. The direct relevance of te Tiriti to health is well established.^{88, 135} Academics who research and write about racism in the Aotearoa New Zealand health system point out that:

Upholding te Tiriti o Waitangi should eliminate institutional racism against Māori and contribute to the achievement of health equity.²



However, a study of Aotearoa New Zealand health policy and strategy from 2006 to 2016 found only 12 out of 49 documents referred to te Tiriti and the Treaty:

This determined silence in relation to te Tiriti and the Treaty is incompatible with a meaningful commitment to uphold te Tiriti responsibilities.⁸⁸

The articles of the Māori text of te Tiriti o Waitangi provide a coherent framework in which to consider how health policy aligns with Crown obligations (see Box 5 below) in order to redress inequities in health,^{83, 88, 136} although policy documents more often refer to te Tiriti principles of partnership, protection and participation⁸⁹ (defined by government rather than hapū).⁸⁸ The Commission considers it useful to embrace both the principles and the text of te Tiriti o Waitangi.

Box 5: Te Tiriti o Waitangi articles

Ko te Tuatahi – article 1 – Kawanatanga: Article 1 supports meaningful Māori representation, kaitiakitanga and participation at all levels of our health system, including decision-making, prioritisation, purchasing, planning, policy development, implementation and evaluation.¹³⁷

Ko te Tuarua – article 2 – Tino Rangatiratanga: Tino Rangatiratanga is about self-determination. Implementing article 2 involves: addressing institutional racism within the Aotearoa New Zealand health system;¹³⁷ actively supporting Māori providers and organisations; applying Māori-centred models of health; using strength-based approaches that engage and involve Māori communities; and recognising that Māori control and authority are critical to successful interventions.

Ko te Tuatoru – article 3 – Oritetanga: This article is about equity and guarantees equity between Māori and other citizens of Aotearoa New Zealand.¹³⁸ It requires action to intentionally and systematically work towards a steady improvement in Māori health.¹³⁷ This involves considering the wider determinants of health, access to health care, and the quality and appropriateness of services.

Ko te Tuawhā – article 4: This article confirms the protection of Māori custom and the position of wairuatanga and of te reo and tikanga Māori. All of these are central to understanding and connecting with Māori culture and worldviews.*¹³⁹

* There is debate over the status of the fourth article of te Tiriti o Waitangi, as it is described here. The fourth article was a promise delivered orally at the signing of te Tiriti, promising the protection of the British Government to all, regardless of religion. Regardless of status, many Māori and non-Māori recognise the importance of wairuatanga and appreciate the value of appropriate cultural and spiritual protocol in establishing trusting relationships and working together successfully. It is important for the Aotearoa New Zealand health system to recognise and appreciate the value of wairuatanga in our work.

Te Tiriti outlines the foundational relationship that will enable and support Māori to experience health outcomes equivalent to non-Māori, and to share in finding solutions to resolve the equity challenges that we face. Some commentators have suggested that engagement with te Tiriti o Waitangi needs to be the central platform of health strategy in Aotearoa New Zealand.² Additionally, Came and colleagues emphasise that, in order to address Māori and non-Māori health inequities, health strategy needs to take a planned systems-level approach to ensure accountability and to monitor and track progress.²

Sustained, systemic and multilevel approaches required

Research into health equity suggests that fragmented approaches have failed and will continue to fail. Efforts need to be sustained, systematic and multileveled to be successful.¹⁴⁰

Inequity is a system-wide problem,¹⁴¹ and there is a recognised need for better methods to produce evidence about such complex policy challenges.¹⁴² Systems methods are also being used more widely for engaging communities, consistent with 'new' public health concerns about levels of participation and empowerment of communities.¹⁴³ Notably, many of the core features of complexity and 'whole-of-systems' approaches bear a striking resemblance to traditional and contemporary Māori worldviews and development strategies that have advocated for the advancement of Māori through their participation in the economy, health and education sectors.¹⁴⁴

Some of these approaches are to promote strong community engagement and leadership, establish shared governance structures, allocate resources based on best possible investment to effect change and meet population need, invest in building the workforce, recognise the importance of relationships, and use knowledge and data as tools for generating feedback on progress, impact and effectiveness.^{145, 146} In essence, these approaches align well with te Tiriti o Waitangi.

It is recognised, both in Aotearoa New Zealand and overseas, that health inequity is complex and that addressing this challenge with 'one-size-fits-all' approaches has very limited effects.^{147, 148} Instead, as a complex adaptive system, health care responds to interventions in different and context-specific ways.¹⁴⁵ In other words, local, contextual expertise is essential to create effective change.¹⁴⁶

The Institute for Healthcare Improvement (IHI) Psychology of Change Framework white paper¹⁴⁵ postulates that change happens when it is:

1. **people-driven** – when services are developed **with**, instead of **for** people; those most affected by change, particularly those most vulnerable or marginalised, have the greatest interest in designing improvements
2. **co-produced in authentic relationships** – change is co-produced when those providing and using health care services share power and responsibility to solve problems and achieve outcomes
3. **power distributing** – the unequal and inequitable distribution of power is the result of choices of individuals and groups in positions of power at the expense of those not in power. The outcome generates systems that support the advancement of one group (eg, white people, men, senior leaders, physicians) while denying or ignoring advancement of other groups. Improvement leaders need to involve less powerful stakeholders in creating and leading the change.

We can see similarities between Braithwaite's ideas,¹⁴⁶ IHI thinking¹⁴⁵ and the use of te Tiriti as a tool for achieving systems changes. In fact, a systems-change approach is well suited to resolving problems such as institutional racism that require holistic thinking, flexibility, engaged stakeholders and a long-term focus.²

Systems-change is an iterative process that involves cycles of defining and expressing the problem, investigating its causes and developing, revising, implementing and evaluating interventions. This cycle is led by a change team and supported by socio-political education and ideally political will.²

A systems-change approach in Aotearoa New Zealand requires the negotiation of Māori/Crown relationships, redressing government breaches of te Tiriti, and a transfer of power and resources to support a reorientation of the health system towards outcomes that are just, equitable and sustainable.

Alongside strengthening the alignment of health policy to Crown obligations under te Tiriti,⁸⁸ small, progressive and intentional steps towards achieving equity can be taken to support te Tiriti-based policy and practice at the local and organisational levels.¹³⁶ Some approaches that can be taken by individuals and organisations include:

- the process of becoming and being a more active ally to Māori (eg, spending time building trust and working relationships, developing partnerships with Māori, by following not leading and looking for collective approaches in preference to individualistic approaches)
- working on decolonising and power-sharing (eg, becoming informed; learning about te Tiriti o Waitangi to 'unlearn' misleading colonial history; learning about and practising cultural safety; building political competencies to strengthen anti-racism structural analysis and self-reflection).¹³⁷

The importance of data

One of the key ways in which the Crown acts on its responsibility to ensure equitable health outcomes is through the collection of high-quality ethnicity data. Efforts to promote health equity have to be anchored in high-quality data that will assist in the evaluation of the effectiveness of interventions and policies, as well as providing guidance and direction on where and how to intervene.²



Statistics New Zealand engaged with Māori stakeholders to develop Te Kupenga. This nationally representative survey of Māori aged 15 years and over looks at Māori economic, social and cultural wellbeing and their associated effects on whānau wellbeing. Two surveys, in 2013 and 2018, have now been undertaken.^{149, 150} Māori-centred analysis of the data will be a significant step towards learning more about Māori wellbeing, including indicators that enable both comparative and Māori-specific measures. Cram notes that the test of the credibility of Te Kupenga data will be in what happens next at a governance level to help sustain and enhance Māori wellbeing and development.¹⁵¹

The right of Māori to prioritise what is important in terms of national data collection and reporting is also critical to improving Māori health outcomes. For example, if nearly 50 percent of deaths from cancer in Māori are due to cancers with predominantly poor survival rates as noted in chapter 1, this has implications for service improvement in terms of accessing care at the diagnostic stage and wait times for treatment. Crucially, this finding also suggests the need to substantially re-orientate supportive care services to meet the realities of Māori cancer patients and whānau now and in the near future. This is one example of where data is available but may not necessarily be reported in ways that highlight critical areas requiring a focused and comprehensive systems approach. It also emphasises the importance of involving Māori in setting priorities for national data collection, measuring, reporting and monitoring.

In addition, work on data sovereignty – including indigenous data governance, ownership and access – is steadily progressing among Māori researchers as well as other indigenous communities worldwide. In this work, key focus areas are to develop priorities for creating, interpreting and reporting data, as well as measures that draw on indigenous notions of wellbeing and health, alongside extending indigenous critical theory and practice – for example, kaupapa Māori.^{152, 153} There is also a recognition that we need to address issues relating to guardianship and/or ownership of research data sets. This focus is particularly relevant with the growth of ‘big data’ and international collaborative research, particularly as data-sharing and cloud-based storage become integral parts of institutional practices, including within government agencies.^{152, 154}

Māori development and advancement

The importance of Māori health, education, social, cultural, environmental and economic wellbeing has been the subject of a series of Māori development initiatives over many decades that have aimed to increase participation and support Māori advancement in these key areas.¹⁴⁴ The use of kaupapa Māori,¹⁵⁵ which informs and supports the vision and practice of Māori initiatives, including Māori provider organisations, is one such example. Māori development is rooted in mātauranga Māori; that is, it uses foundational knowledge from te ao Māori to inform and direct Māori advancement in dynamic and sustainable ways.¹

Building on this integrated model of Māori development is Whānau Ora, a policy response to an essential goal that is challenging but can be achieved: making health systems responsive to and effective for Māori, and other population groups whose health is harmed by economic and social exclusion, both past and present.¹⁵⁶ Essentially, Whānau Ora is a systems-change approach that advocates for a whole-of-government response, using its full range of policy levers (across many sectors, not just those specific to health) to reduce inequity and promote whānau wellbeing. Whānau Ora, as a whānau-centred approach, also highlights the importance and relevance of how we understand the potential of wellbeing across the life course and across generations, and how knowledge can contribute to measuring outcomes in new and culturally relevant ways, including at the whānau level as a whole. With its focus on cross-sector collaboration (including across agencies, institutions and communities) and on building and strengthening capability within families while addressing health care needs at the family level, Whānau Ora offers a unique opportunity for Aotearoa New Zealand to provide global leadership on how health services can jointly improve health services for everyone and reduce health inequities.

He Korowai Oranga is a strategic tool that the government and the health and disability sector can use to work together with iwi, Māori providers and Māori communities and whānau to ensure Māori have equitable health outcomes through access to high-quality health and disability services.¹ Its key focus is on pae ora as a strategic direction for Māori health for the future. Pae ora brings together three interconnected elements: mauri ora – healthy individuals; whānau ora – healthy families; and wai ora – healthy environments.

He Korowai Oranga also recognises that, to achieve equitable health and social outcomes, we need to extend our ideas of 'evidence' beyond narrow definitions of health to incorporate mātauranga Māori understandings of wellbeing, such as those that underpin pae ora.¹ Similarly, the development of Te Kupenga signals the relevance of high-quality health information to inform government decision-making, and also to help whānau, hapū and iwi with evidence-based decision-making to support their own health aspirations.¹⁴⁹ Both He Korowai Oranga and Te Kupenga recognise the importance of Crown responsibility and accountability in ensuring the health rights of Māori as well as being explicit about the contribution that Māori make to advancing Māori health and development alongside eliminating inequities and improving health services for all.

Box 6: The future of Māori mental health

Professor Hinemoa Elder

Psychiatrist, MBChB, FRANZCP, PhD, Ngāti Kurī, Te Aupōuri, Te Rarawa, Ngāpuhi

Ehara i te mea, he kotahi tangata nāna i whakaara te pō.

It is not for one person but for the group to take responsibility.

'Māori mental health' is a concept I struggle with. We Māori have come through an era of rapid transition where there were almost no Māori coming to the attention of so-called 'mental health services'. Now we are the ones who dominate the landscape of 'mental ill-health' by any measure you care to name: suicide, seclusion rates, compulsory treatment orders, inpatient, youth forensic clients. These aspects are easy to count and as such assume power and validity. And they continue to be used, mostly without reference to what is not being measured so easily. They are necessary but not sufficient. Pathology is always easier to count – wellbeing and 'health' much more difficult. For indigenous peoples around the world, it is the same story. It is not for want of us trying to effect change. Over many years. The history of Māori working in this area is characterised by repeated challenges to the status quo in attempting to influence the dominant culture to resource our own ways of conceptualising, and of measuring our wellbeing in a way that has cultural authenticity and salience. So maybe you can appreciate why I don't resonate with the phrase 'Māori mental health'.

It may seem an attractive notion that there are sufficient global cross-cultural similarities to consider Māori experiences of what we call depression, anxiety or psychosis, for example, 'the same' as those in different cultures across the world. I disagree. The meaning and cultural context of 'mental' distress for Māori people are, in my practice-based experience and the experience of my research, quite distinctive. And if our experiences of these conditions are so similar across cultures, why are Māori inequities so pronounced? You would predict that cross-cultural similarities of mental disharmony, mental distress, would mean similar outcomes if provided similar interventions. This is not the case. And evidence shows us that our disparities are not all related to access issues. Nor indeed to structural racism. Despite the key influence of racism and access, these combined do not explain the profound and persistent disparities. Our ethnic experience of disruption of hauora is unique and is not currently being well represented by the data we collect.

A robust approach for Māori must include a radical change. First we must deal with the mind-body split issue. This paradigm is pervasive and, despite the widespread acceptance of Professor Sir Mason Durie's Te Whare Tapa Whā model and other holistic models of hauora, somehow the true potency of recognising that hinengaro (mind) and tinana (body), for example, are not separate entities is not grasped in any consistent manner at either a systemic or practitioner level. For the most part, entry into 'mental health services' is about mental pathology as defined in a conventional sense, by patterns of symptoms. This 'mental health service' label on the door continues to be synonymous with the stigma and fear associated with the narrow, solely mind-focused concept of 'mental illness'. The second big leap we must take is to move away from individual frame of



reference. Again, Te Whare Tapa Whā and others try to help us see the links with whānau (extended family) and wairua – wairua being the uniquely Māori connection with all aspects of the universe, not simply 'spirituality'. I will go so far as to say that Māori do not experience hauora as individuals. It could also be argued this may be true of many other ethnic groups. We need to develop group measures of hauora, as defined by Māori. These could be whānau or whakapapa measures. We have the research capacity to develop these measures. Finally, we must also reconsider what we mean by 'services'. The siloed health service model, compartmentalised from education, employment, relationship with substances, justice, historical trauma, homes, economic issues and self-determination, is not serving Māori needs. Whānau Ora services have an effective model for integrating all of these issues. In addition, it is vital to highlight that Māori cultural activities such as kapa haka, waka ama and kura reo are meaningful experiences that work to enhance Māori cultural identity, and are likely to have significant preventative, early intervention and treatment qualities that require identification and resourcing according to hauora contribution.

So why does recognition of these approaches not exist already? For one thing, there has never been consistent investment in robust development of Māori measures. Non-Māori decision-makers, researchers, thinkers and funders have continued to privilege non-Māori ways of determining these aspects. The Treaty partnership has not been in evidence here. In order for such measures to be available to Māori communities, a major power shift is needed. Only in this way will we as a country better understand, resource and facilitate the changes urgently needed to truly address hauora Māori.

Equity approaches and resources

A number of resources have been developed to specifically address health inequity, which the health sector can use at the policy level and/or in providing general health services. Here we briefly describe some key resources and approaches that can be investigated further.

Māori health providers

The use of Māori models of health and the promotion of positive Māori development are two key philosophies that underpin Māori provider services.¹⁵⁷ Since their establishment in 1991, Māori health providers have played a critical but often unrecognised role in facilitating access to the general health care system for Māori and advocating on behalf of whānau, particularly with regard to the need for health professionals to improve communication and information-sharing. Māori make an important contribution to the current health care system including through Māori provider contributions to population primary health care and health services. Māori providers' continued presence, including on advisory boards and committees, and as active participants on multidisciplinary teams, should be considered a priority within the current and future primary health care service environment. This includes ensuring equitable and sustainable contractual arrangements that adequately fund the services delivered by Māori health providers.¹⁰¹

Cultural safety education

Nurses and midwives, as the largest health workforce in Aotearoa New Zealand, can make a substantial difference to the way health care is delivered. Cultural safety, building on the work of Irihapeti Ramsden,¹⁵⁸ has been a core component of nursing and midwifery training programmes since 1992 and is a requirement for nursing and midwifery registration examinations in this country.¹⁵⁹ Cultural safety education developed from the experience of colonisation and the 'recognition that health professionals are part of larger systems that create barriers to equitable health care and health outcomes, so it is a responsibility of educational institutions to facilitate empowerment and advocacy to change such systems, not just individual learners' knowledge, attitudes, and skills'.¹⁶⁰

To consider patients in terms of their political status and historical circumstances, health professionals need to know about and understand history, including the te Tiriti o Waitangi. However, given this information is not a core part of the general education system, most nursing and midwifery students learn about Aotearoa New Zealand’s colonial history for the first time as part of their nursing or midwifery training programme.¹⁵⁸ Cultural safety recognises that understanding and confronting power imbalances and racism, both within health services and among the individuals who work in them, disrupts the cycle of victim-blaming and shifts responsibility back on to institutions and health workers to address the poor performance of services in meeting the health rights of Māori.

Recent cultural safety work calls on individuals and institutions to examine themselves and the potential impact of their own culture on clinical interactions and health care service delivery. This requires individual health care professionals and health care organisations to acknowledge and address their own biases, attitudes, assumptions, stereotypes, prejudices, structures and characteristics that may affect the quality of care provided. Heightened critical consciousness and self-reflection in health care providers is required, and action on the basis of that self-reflection. Kumagai and Lyson (2009) write, ‘By “critical self-reflection,” we do not mean a singular focus on the self, but a stepping back to understand one’s own assumptions, biases and values, and a shifting of one’s gaze from self to others and conditions of injustice in the world. This process, coupled with resultant action, is at the core of the idea of critical consciousness.’¹⁶¹

Māori workforce development

Although Māori are 16 percent of the total population, they are significantly under-represented in many key health professions. March 2019 data shows that only in care and support roles does Māori representation reach parity with overall population levels, with the smallest percentages of Māori in DHB workforces being those in senior roles, and junior doctors (see Figure 43). (Within the care and support category the roles with the greatest reported percentages of Māori were Māori health assistants, nursing support workers, hospital orderlies and community workers.) Broken down by DHB, the pattern is distinctive: consistently, Māori representation in the health care workforce is approximately half that of the DHB population (see Figure 44).¹⁶²

Curtis and Reid note that under-representation within health professions has far-reaching impacts on the processes and outcomes of health care, limits the diversity of health care delivery and fails to provide for the future health needs of communities.¹⁶³

There are positive developments. In 2018, Otago University reported 42 Māori medical school graduates out of a total of 267 (15.7 percent, close to population parity), and Auckland University reported 14.3 percent of medical graduates were Māori in 2018, up from 11.5 percent in 2017 (Pers. Comm. Cullen A. Medical Council, 6 July 2019).

Figure 43: Percentage of Māori in DHB workforce, by role, Aotearoa New Zealand, March 2019

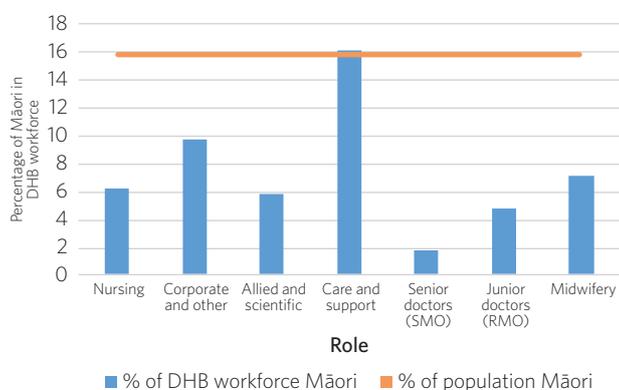
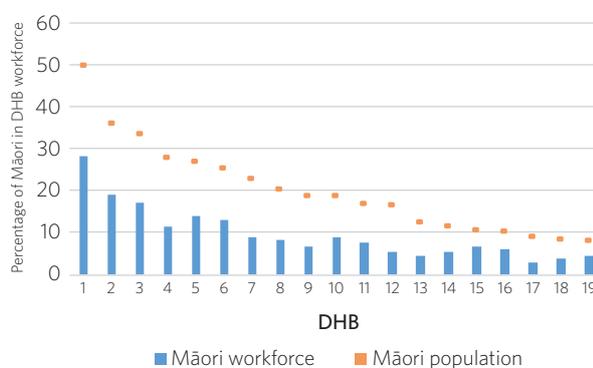


Figure 44: Percentage of Māori in DHB workforce, by DHB, Aotearoa New Zealand, March 2019



Source: Population data from Stats NZ mid-year projections. Workforce data from Central Region’s Technical Advisory Services Limited report Health Workforce Information Programme (HWIP) <https://tas.health.nz/employment-and-capability-building/workforce-information-and-projects/health-workforce-information-programme-hwip>. 2018. All rights reserved. Note: West Coast DHB is excluded from Figure 44.



Workforce development is a crucial area for policy development and action. Because inequities also exist in the education sector, an effective effort must include relationship-building with Māori students in secondary schools through outreach and recruitment programmes that promote health as a career. It is also important for tertiary institutions to link Māori students to a range of early career pathways such as health sciences, nursing and medicine. Strategic planning to recruit and retain more Māori health professionals will have short- and long-term effects in terms of increasing the pool of trained health personnel available to work in Māori health.

Healthy Families New Zealand

Achieving health equity is a strong focus of the Healthy Families New Zealand initiative.¹⁴³ This large-scale initiative uses a dynamic systems approach to understand what works to address the complex policy problem of chronic disease prevention at a local level. Matheson and colleagues note: 'Systems are in part driven by the dominant perspectives held within the system, thus, increasing the range of legitimate perspectives is part of creating a more inclusive and equitable system.'¹⁴³

Healthy Families New Zealand focuses on the prevention of chronic disease by reducing risk factors for major health loss and inequity. It uses a dynamic systems approach to ensuring New Zealanders enjoy health-promoting social and physical environments that help them to make healthy food and physical activity choices. Healthy Families New Zealand is unique in that it focuses on multiple risk factors for chronic disease, and takes a place-based, whole-of-community approach where local leaders drive the initiative and it responds to the local context. The principles underpinning the approach include an explicit focus on equity, improving Māori health and reducing inequalities for groups at increased risk of chronic diseases.¹⁴³

Equity of health care for Māori framework

*Equity of health care for Māori: A framework*¹⁶⁴ uses evidence-based recommendations to provide the Aotearoa New Zealand health sector with key actions to embed equity within the health system. Covering the three areas of leadership, knowledge and commitment, it identifies actions to achieve equitable health care for Māori at different levels of the health sector: the health system (such as the Ministry of Health, PHARMAC and regulatory authorities); health organisations (such as DHBs, primary health organisations and other health providers); and health practitioners (such as doctors, nurses and community health workers).

The Health Equity Assessment Tool

The Health Equity Assessment Tool (HEAT)¹⁶⁵ is a planning tool that makes it easier for mainstream health policies, programmes and services to promote health equity. It was first developed for use in Ministry of Health-funded workshops to increase the capacity of the health sector to contribute to health equity.¹⁶⁴

HEAT comprises a set of 10 questions that government agencies can use to quickly assess the current or future impact of policy, programme or service interventions on health inequities. The questions cover four stages of policy, programme or service development:

1. understanding health inequalities
2. designing interventions to reduce inequalities
3. reviewing and refining interventions
4. evaluating the impacts and outcomes of interventions.

Box 7: The Health Equity Assessment Tool (HEAT) in action – the Taranaki experience

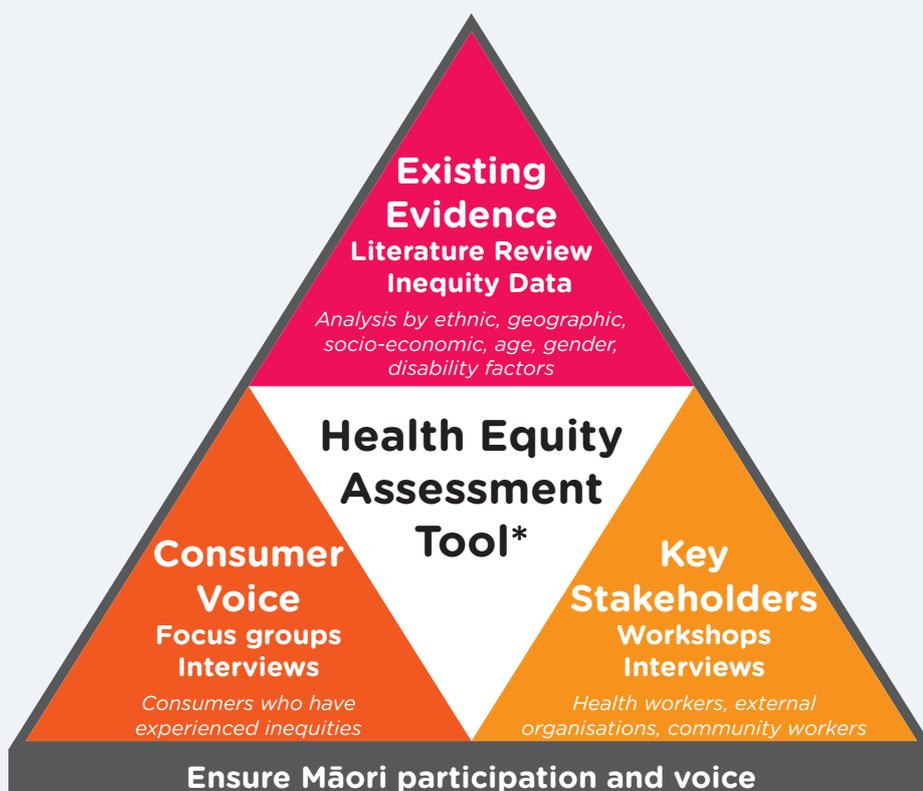
Eloise Pollard, Channa Perry, Taranaki DHB Public Health Unit

In Taranaki, on the west coast of the North Island, 17 percent of the population identified as Māori in 2017/18, with the Māori population projected to increase to 22.6 percent by 2028. Taranaki has notable disparities in health, particularly for Māori populations.

The Taranaki DHB board and executive management team acknowledge that Māori are the population group most affected by health inequity in Taranaki. Under the Te Tiriti o Waitangi, Taranaki DHB has obligations to ensure Māori achieve the same health status as non-Māori, and is committed to considering health equity when planning, developing, reviewing and evaluating DHB services, programmes and policies.

Taranaki DHB developed an approach to applying the Ministry of Health’s 2008 HEAT tool¹⁶⁵ to assess existing health services and programmes with a critical health equity lens and identify local solutions to tackling inequities in health. Public health advisors in the Taranaki DHB Public Health Unit (PHU) have led these assessments. The Taranaki approach to health equity assessment (HEA), perhaps not uniquely among the DHBs, applies the HEAT questions by drawing on existing inequity data, published literature, voices of consumers with lived experiences of the health inequity issue and the active involvement of key stakeholders, with a strong emphasis on Māori participation.

Figure 45: Taranaki DHB health equity assessment sources of evidence





HEAT in practice

In 2017, as part of its strategic review, the Taranaki DHB PHU prioritised health equity as a public health issue. The enormous challenge of tackling the complex and ‘wicked’ issue of inequity required the PHU to search for practical action it could take that would result in tangible outcomes and equity-focused change. The PHU identified HEAT as a key resource to apply principles of health equity into everyday public health practice.

The PHU included the HEAT questions in the public health project plan template and allocated resourcing for one full-time equivalent position within the PHU to lead the HEA programme. DHB HEAT tool champions kick-started action by establishing a mentoring and support partnership with Louise Signal and Bridget Robson from the University of Otago Wellington Department of Public Health, who also provided training for DHB staff.

Sparse information on application of HEAT by others in the Aotearoa New Zealand health sector encouraged the PHU to develop its own approach. This included:

- partnering with the Taranaki DHB Chief Advisor, Māori Health to identify priority health issues, services or programmes for comprehensive HEA analysis
- ensuring equity is routinely considered in planning processes by including the HEAT questions in funding, planning and population health and PHU project planning templates.

Taranaki DHB promotes a dual HEAT approach: a rapid desktop assessment, or a full-scale HEA.

Figure 46: Taranaki DHB health equity assessment process



The PHU has now completed six comprehensive HEA projects, some of which can be found here: www.tdhub.org.nz/services/public_health/health_equity_assessments.shtml. HEA projects continue, as well as monitoring of progress on implementation of previous HEA recommendations. A more formal academic evaluation is also underway.

Breastfeeding Welcome Here - HEAT in action

Taranaki's first HEA was applied to Breastfeeding Welcome Here, a long-running health promotion programme designed to create supportive breastfeeding environments in a variety of community settings. The purpose of the HEA was to apply an equity lens to the project, assess its likely impact on local inequities in breastfeeding rates, and to consider other effective interventions for improving equity in those rates.

Figure 47: Taranaki DHB Breastfeeding Welcome Here health equity assessment summary report



The HEA report comprised a literature review, analysis of local breastfeeding data, a workshop with key stakeholders, key informant interviews and focus groups with young mothers. The report highlighted an increase in inequities between Māori and non-Māori mothers for breastfeeding rates at all child age milestones from 2014 to 2016. At all milestone ages, Māori were at least 20 percent away from reaching the breastfeeding rate targets, while non-Māori mothers were much closer or, in the case of the six-month milestone, exceeding the national targets.

The report concluded there were key health system issues that need to be addressed to reduce breastfeeding inequities in Taranaki and that the current Breastfeeding Welcome Here health promotion programme on its own would not contribute significantly to addressing inequities.

Key system issues included the need for more services offering breastfeeding support specifically in south Taranaki, such as lactation consultants. Difficulties with transport for those living rurally suggested these services could best be delivered via home visits. Further promotion and development of the existing services, such as peer support, were also required to address disparities in awareness among mothers of differing demographics. Having a variety of antenatal programmes in south Taranaki, including a kaupapa Māori antenatal programme would also better meet the needs of Māori mothers.

As a result, the DHB divested from the Breastfeeding Welcome Here programme that had been delivered for over a decade. The HEA report was used to provide a business case for decisions to fund new lactation consultant training scholarships for kaimahi Māori, additional lactation consultant support in south Taranaki and the introduction of a successful kaupapa Māori antenatal education programme, Hāpu Wānanga to Taranaki, which has been piloted on local marae.

What we have learned

Starting from scratch, the PHU has actively championed the use of HEAT in our organisation, learned as we went along, developed our HEAT skills and gained an understanding of what a quality HEA involves. We started small, applying HEAT to one project, but over time our organisation has developed greater awareness of health equity and HEAT, evident in the gradual changes we have been observing to promote explicit equity-focused planning in our DHB.

HEAs are now routinely included in our DHB annual plans and recommendations from our HEAs have been included as annual plan activities. It is now an expectation of DHB portfolio managers in planning, funding and population health to utilise HEAT in all project plans, meaning equity is more routinely applied to planning decisions.



Strengths, weaknesses and critical success factors

The strengths of the Taranaki approach to HEA are that it privileges the consumers' voice and sharing of their lived experiences; by doing so, it reorients the planning lens from a health system perspective to one that puts consumers at the centre. The process invites active participation by a diverse range of stakeholders, and ultimately focuses on equity for Māori.

Weaknesses identified included the fact that HEA inevitably highlights factors beyond the control of a service or programme and our HEA process is both time- and resource-intensive. HEA is a new approach and it can be challenging to gain widespread participation, and in particular challenging for individuals.

Critical for a successful HEA is buy-in from decision-makers, a willingness to accept and commit to the HEA findings, an appetite for change, use of a range of data sources and participation by a diverse range of stakeholders, an impartial and multi-skilled assessment team and, ideally, change as an outcome.

Our HEA reports have been catalysts for discussions about doing things differently and used to systematically inform planning with an equity focus. With the right conditions, HEA can improve the ability of mainstream health and influence decisions on how health resources are allocated, including divestment from strategies that do not promote equity and increased resourcing for equity-focused actions. There can also be other unintended outcomes, such as improved internal and external relationships and increased awareness and visibility of health equity within our organisation. The application of HEAT offers a practical and collaborative action that can be taken to challenge complex, systematic, unfair and avoidable disparities in health.

This box draws on unpublished Master's research project research findings.

Conclusion | Whakakapi

The consistent and key messages of Window 2019 are that the health system must acknowledge and understand inequities, and commit to equity and Māori health advancement by enabling services where needed, identifying and removing institutional racism from our organisations and services, and arming our services, organisations and staff with the knowledge, tools and official sanction to do this work.

The health system needs Māori leadership and partnership to improve access, service and treatment quality and to make improvement efforts more successful. Māori are needed in every sphere of the health system to ensure Māori strategic input is well implemented. Equally, the Crown must be accountable so that Māori, as te Tiriti partners, can monitor and track progress.

Excellence in health care includes access to timely, appropriate and high-quality services. Our current health system is not supporting Māori to live long and healthy lives. Health services are less accessible to Māori compared with non-Māori. Even after services have been accessed, the quality of services is not equitable. The introduction of national quality improvement programmes to address specific areas of harm to patients has both met with good results but also increased inequity in some areas.

A life course approach ultimately aims to make interventions more effective throughout a person's life by addressing the causes rather than consequences of ill health. It adopts a temporal and societal perspective on health of individuals and generations, including intergenerational determinants of health. A life course approach resonates with Māori understandings of health, which are shaped by experiences throughout the whole of life and across generations.¹² Whānau Ora, as a whānau-centred approach and a systems approach, offers a comprehensive way of understanding and overcoming complex challenges such as equity and recognising the major influence of social, political, environmental and economic determinants on wellbeing.

Te Tiriti o Waitangi is Aotearoa New Zealand's most important equity tool and framework for monitoring the Crown's responsibility to ensure Māori rights to health. The challenge is to realise the promise of te Tiriti by tackling inequities through policies, programmes and services that work for Māori. By meeting our responsibilities in this regard, we prioritise wellbeing, promote Māori capability and advancement, and support whānau in achieving their health, education, cultural, social and economic aspirations into the future.

It is important to recognise that this document reflects the start of a conversation involving Māori, and the health and other sectors. We expect a range of work to emerge from this discussion, both for the Health Quality & Safety Commission and for others.



Appendix 1: Life course theoretical approach | Āpitihangā 1: Ara ariā oranga tūroa

Life course theory can be traced back as far as the 1920s and explores individuals' lives within structural, social and cultural contexts.¹⁶⁶ It brings together the connection between individuals and their historical and socioeconomic environment.¹⁶⁵ Five principles underpin the theory: lifespan development, human agency, historical time and geographic place, timing of decisions, and linked lives.¹⁶⁵ Life course embodies so much more than lifespan, which refers to the duration of life and characteristics that are closely related to age but vary little across time and place;¹⁶⁷ it implies distinct age-differentiated social phenomena.

Life course epidemiology

Life course epidemiology concerns the continuing effects of physical and social exposures during gestation, childhood, adolescence/youth and adulthood on health and disease risk in later life, considering an individual's lifespan, or across generations, to gain insight into current patterns of health. It recognises that both past and present experiences are shaped by wider determinants (social, economic, cultural). It aims to identify underlying biological, behavioural and psychosocial processes that operate across the lifespan.^{168, 169}

A key conceptual model in life course epidemiology is the accumulation of risk model, which focuses on the build-up or collection of risk, whether these risks are linked pathways or independent of each other.¹⁶⁵ Accumulation models imply that inequities widen throughout the life course: people most advantaged become more advantaged over time, and people most disadvantaged become more disadvantaged over time. This effect is described as cumulative advantage or disadvantage.¹⁷⁰

Why use the life course approach?

A key foundation of the life course approach is that it acknowledges that outcomes in later life are influenced by social advantages and disadvantages over the life course. From a policy perspective, an understanding of the mechanisms through which such life course influences operate, and how context shapes them, is crucial to improve outcomes in later life.¹⁷¹ In the Aotearoa New Zealand context, it is crucial to recognise the importance of intergenerational effects. From the time of European colonisation, Māori have been deprived of their land, resources and social and cultural capital. With each generation, this has resulted in accumulating disadvantage. Investments in early life (eg, education) can help to set trajectories of accumulating advantage to influence outcomes in later life. Similarly, effective investment can interrupt negative trajectories.

Life course frameworks, and the models underlying them, enhance the opportunity to explore the interplay between individual life experiences and social structures, and its effects. The life course approach ultimately aims to make interventions throughout a person's life more effective. It promotes timely investments with a high rate of return for public health and the economy by addressing causes, not consequences, of ill health. It adopts a temporal and societal perspective on health of individuals and generations, including intergenerational determinants of health. One view is that using these models allows us to focus more on exploring the interactive nature of links across life course stages, including those processes that create and maintain health inequities.¹⁷²

A life course approach resonates with Māori understandings of health, which are shaped by experiences throughout the whole of life and across generations.¹² The World Health Organization encourages its member states to take the life course approach as an essential step towards implementing Health 2020 and achieving the targets in the United Nations 2030 Agenda for Sustainable Development. Life course approaches have an increasing role in informing health and social policy as decision-makers consider the nature and timing of interventions.

Appendix 2: Rationale and methods | Āpitianga 2: Pūtake me ngā tikanga

The rationale for choosing the measures in this report was as follows. First, we designed a matrix of various stages of the life course, followed by three measures of health care: access, quality and improvement. For each cell of the matrix, we identified one indicator, or a cluster of indicators, to investigate in relation to equity. The criteria used were that the data and/or the methodology of the indicators were reliable (of high quality and low likelihood of bias), and the indicators were chosen to represent a range of conditions or disease areas, rather than on the basis of whether they showed inequity or not. We used the most recent available data, although sometimes this was several years old due to delays in statistical processing (eg. cancer survival, suicide mortality).

We decided in advance that the comparison we wanted to make was between Māori and non-Māori. However, in some cases, the data on the comparison group was limited, so we used non-Māori, non-Pacific, or New Zealand European/other, or the total population. Due to the differences in the age structure of the Māori and non-Māori populations, all data was age-standardised. The only exception was in instances where the age range was narrow (eg, those aged 0–4 years enrolled in an oral health service), so standardisation was not necessary. Where possible, data was standardised to the relevant Māori population. The advantage of this approach is that the statistical manipulation of data was restricted to the non-Māori population, which is larger in size and therefore more statistically robust to cope with the approach. It is important to remember that age-standardised rates are inherently meaningless in isolation, and of use only for direct comparative purposes.

All data is presented in terms of percentages or rates. The denominator in each case is the ethnic-specific population base: that is, the rate for an outcome for Māori is the number of Māori with a specific indicator divided by the number of Māori in the population. In general, the population data is based on Census-derived populations or population projections. Specific details are given in the references for each indicator.

When making inferences from data, there is always some statistical uncertainty in the estimate. To address this, we use confidence intervals. The confidence interval is a measure of precision of an estimate: the narrower the confidence interval, the more precise the estimate. This is not a measure of the accuracy of the estimate because it measures random error (related to the sample size) and not systematic error (related to the measurement system).

The accuracy of the results presented here depends on the accuracy of the data on which they are based. Where we have concerns about specific data, we have noted this in the text. There are ongoing issues with ethnicity data collection in health records in Aotearoa New Zealand. Recent studies show that data is not necessarily complete, and in these cases people with no assigned ethnicity are either omitted from analyses or assigned to the non-Māori group. Note that these findings do not apply to indicators that come from the New Zealand Health Survey or from the patient experience survey, which both used self-identified ethnicity. Comparing Māori and non-Māori avoids issues with people recording multiple ethnicities (because this is in effect a 'total Māori' analysis – ie, it includes people who are Māori, with or without other ethnicities).

Historically, there has been an 'undercount' of some morbidity outcomes for Māori in routinely collected data. Although in the past this has applied to hospitalisations, a recent analysis suggests this is less of an issue now.¹⁷³ An undercount of cancer registrations may persist, as the method applied to assigning ethnicity to a cancer registration relies on consistency in the ethnicity recording in all previous hospitalisations.¹⁷⁴

Please refer to the technical appendix for Window 2019 for detail on each indicator, available online at: www.hqsc.govt.nz/our-programmes/health-quality-evaluation/publications-and-resources/publication/3721.



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