

# Taurite Ora

Māori Health Strategy  
2019—2030

Data Profile  
2019



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# Contents

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<b>CONTENTS .....</b>	<b>i</b>
<b>INTRODUCTION .....</b>	<b>1</b>
AIM.....	1
APPROACH.....	1
MEASURING ETHNICITY .....	1
OVERVIEW .....	2
<b>1. POPULATION PROFILE OF THE CCDHB DISTRICT .....</b>	<b>3</b>
GEOGRAPHICAL SPREAD OF THE POPULATION .....	3
CURRENT AND PROJECTED POPULATION PROFILE.....	4
SOCIO-ECONOMIC CONDITIONS FOR MĀORI .....	8
<i>Standard of living</i> .....	14
WHY SOCIO-ECONOMIC CONDITIONS IMPACT HEALTH.....	14
<i>Cost as a barrier to health</i> .....	16
<i>Māori wellbeing</i> .....	17
<b>2. CCDHB AS A PRO-EQUITY ORGANISATION.....</b>	<b>20</b>
MĀORI LIFE EXPECTANCY .....	20
MĀORI MORTALITY .....	21
<i>Amenable mortality</i> .....	22
HEALTH LOSS.....	23
AMBULATORY SENSITIVE HOSPITALISATIONS .....	25
PROVISION OF ACCESSIBLE APPOINTMENTS .....	26
MĀORI USE OF PRIMARY HEALTH CARE SERVICES.....	28
PATIENT EXPERIENCE.....	30
MĀORI SELF-REPORTED HEALTH .....	32
MĀORI DISABILITY .....	32
CO-EXISTING CONDITIONS .....	33
MORBIDITY IN MĀORI.....	34
<i>Cardiovascular disease</i> .....	34
<i>Chronic obstructive pulmonary disease</i> .....	36
<i>Diabetes</i> .....	38
<i>Cancer incidence</i> .....	38
<b>3. WORKFORCE DEVELOPMENT.....</b>	<b>45</b>
DEVELOPING A STRONG MĀORI HEALTH WORKFORCE .....	45
<i>Māori employed at CCDHB</i> .....	45
<i>Staff turnover and retention</i> .....	48
<i>Staff Training: Hauora Māori Training Fund</i> .....	48
<i>Staff training: Professional development</i> .....	49
EQUIPPING THE WORKFORCE: CULTURAL COMPETENCY TRAINING.....	49
<i>Te Tohu Whakawaiaora</i> .....	49
<b>4. FUNDING AND COMMISSIONING .....</b>	<b>52</b>
ARE MĀORI HEALTH PROVIDERS THRIVING? .....	52
ARE CONTRACTED SERVICES ACHIEVING EQUITY? .....	53
<b>5. MATERNAL, CHILD AND YOUTH HEALTH .....</b>	<b>54</b>
PERINATAL MORTALITY RATE.....	55

SMOKING DURING PREGNANCY .....	55
SUDDEN UNEXPECTED DEATH IN INFANCY .....	56
LOW BIRTHWEIGHT .....	57
<i>Family Violence</i> .....	58
BREASTFEEDING RATES .....	59
AMBULATORY SENSITIVE HOSPITALISATION RATE, 0–4 YEARS .....	60
INFANT IMMUNISATIONS.....	60
RHEUMATIC FEVER, AGE 15–24 YEARS .....	61
INACCESSIBLE PAEDIATRIC APPOINTMENTS.....	62
ORAL HEALTH.....	63
ASTHMA HOSPITALISATIONS .....	64
SEXUAL HEALTH .....	65
<i>Chlamydia</i> .....	65
<i>Gonorrhoea</i> .....	67
YOUTH SMOKING, AGE 15–17 YEARS .....	68
HPV IMMUNISATIONS.....	69
OTHER .....	70
<i>Post-natal depression</i> .....	70
<i>Family violence</i> .....	70
<b>6. MENTAL HEALTH AND ADDICTIONS.....</b>	<b>71</b>
<i>Prevalence of diagnosed mental ill health</i> .....	72
<i>Mental health service utilisation</i> .....	73
<i>Compulsory assessment and treatment</i> .....	74
<i>Seclusion and restraint</i> .....	75
<i>Alcohol abuse</i> .....	76
<i>Hospital admissions</i> .....	76
<i>Alcohol-related ED presentation rates</i> .....	77
<i>Illicit drug use</i> .....	78
<i>Self-harm hospitalisation rate</i> .....	79
<i>Suicide mortality rate</i> .....	79
<b>7. FUTURE MONITORING.....</b>	<b>82</b>
<i>Gaps: Specific outcomes</i> .....	82
<i>Methodological issues</i> .....	83
<b>ACKNOWLEDGEMENTS .....</b>	<b>84</b>
<b>APPENDIX 1: METHODOLOGY .....</b>	<b>85</b>
<i>Data sources</i> .....	85
<i>Measuring ethnicity</i> .....	86
<i>Measuring outcomes</i> .....	86
<i>Measuring uncertainty</i> .....	86
<i>Age standardisation</i> .....	87
<i>Geographical areas</i> .....	88
<i>Justification of measures included in this report</i> .....	88
<b>APPENDIX 2: LIFE EXPECTANCY – FURTHER DATA.....</b>	<b>90</b>
<b>APPENDIX 3: MORTALITY RATES FOR MĀORI COMPARED WITH NON-MĀORI.....</b>	<b>91</b>
<b>APPENDIX 4: ELECTIVE SURGERY RATES.....</b>	<b>94</b>

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# Introduction

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## Aim

The aim of the Taurite Ora: Māori Health Strategy Data Profile (the data profile) is to give an overview of the current levels of health and wellbeing among Māori living in the Capital & Coast District Health Board (CCDHB) area.

## Approach

The overall approach to Taurite Ora, including this data profile and the accompanying action plan, is informed by kaupapa Māori principles. This approach is based on a commitment to following Māori world views as the standard and to ensuring that content will benefit Māori. The kaupapa Māori approach recognises the relationships between people and the environments they live in and focuses on changing the behaviour of society rather than aiming to change Māori behaviour.

Specific to this data profile, our commitment to a kaupapa Māori approach has involved focusing on Māori data and, where possible, following a Treaty of Waitangi approach in comparing Māori data with non-Māori (where Māori are prioritized as an ethnicity and data is compared between Māori, Pacific and Other). We have focused on systems and structures that require change rather than on individuals. Please note that measures and variables that might be important to Māori communities may not be included here as we have limited our reporting to the data that is collected routinely. These factors are addressed in our accompanying Taurite Ora: Māori Health Strategy action plan.

The concept of equity is central to this report. The World Health Organization (WHO) defines equity as “the absence of ... differences among groups of people...”.<sup>1</sup> Health inequity is much broader than health inequality; not only does it encompass inequality in health determinants, access to the resources and health outcomes, but it also acknowledges that a failure to avoid or overcome these inequalities is unfair and unjust. This is also the definition used by the Ministry of Health.<sup>2</sup>

The key outcomes of Taurite Ora are equity in health, equity in the system, equity in the workforce, funding and commissioning. A pro-equity organisation would show equity in outcomes that are open to change at a DHB level.

## Measuring ethnicity

In this data profile, ethnicity is generally based on self-identification; the term ‘Māori population’ means ‘total Māori’ population. Thus, if someone identifies as Māori, whether or not they also identify as another ethnic group, for the purpose of this report, they are counted in the Māori group. For more information on the methods used in this data profile, see Appendix 1: Methodology.

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<sup>1</sup> WHO, Health systems, Equity: [www.who.int/healthsystems/topics/equity/en/](http://www.who.int/healthsystems/topics/equity/en/)

<sup>2</sup> Ministry of Health, Equity: [www.health.govt.nz/our-work/populations/maori-health/he-korowai-oranga/key-threads/equity](http://www.health.govt.nz/our-work/populations/maori-health/he-korowai-oranga/key-threads/equity)

We recognise there are issues with measuring ethnicity in health statistics, both in terms of accuracy and completeness.<sup>34</sup> Since most of the data in the report is from published sources (i.e. the authors did not have access to the raw data), we have not adjusted the data presented in this report. We have highlighted in the associated narrative about the data where we have concerns about the possible effects.

## Overview

In section 1 of this data profile, we describe the population of CCDHB, looking at the DHB as a whole and at the three territorial local authorities (TLAs) in the DHB – Wellington city, Porirua city and Kāpiti Coast District. Section 2 focuses on areas that are measures of system and health equity in CCDHB as an organisation. Section 3 focuses on workforce and training for Māori staff, as well as cultural competency training for non-Māori staff. In section 4, we give an overview of funding and commissioning in CCDHB, and data pertinent to these outcomes. The final sections relate to health equity: section 5 describes measures of maternal, child and youth health, and section 6 measures mental health and addictions. We end with section 7, where we highlight the gaps in data and methodology that we identified while writing this report and consider future monitoring requirements.

There are also four appendices that discuss, respectively:

- the methodology followed in preparing this report
- further data around life expectancy for the total populations of Wellington region's TLAs
- mortality rates for Māori compared with non-Māori
- elective surgery rates in the district.

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3 Reid G, Bycroft C, Gleisner F. 2016. *Comparison of Ethnicity Information in Administrative Data and the Census: Census transformation*. Wellington: Statistics New Zealand.

URL: [www.stats.govt.nz/assets/Research/Comparison-of-ethnicity-information-in-administrative-data-and-the-census/comparison-of-ethnicity-information-in-administrative-data-and-the-census.pdf](http://www.stats.govt.nz/assets/Research/Comparison-of-ethnicity-information-in-administrative-data-and-the-census/comparison-of-ethnicity-information-in-administrative-data-and-the-census.pdf) (accessed 21 June 2019).

<sup>4</sup> Cormack D & McLeod M. 2010. Improving and maintaining quality in ethnicity data collections in the health and disability sector. Wellington: Te Rōpū Rangahau Hauora a Eru Pōmare.

# 1. Population profile of the CCDHB district

## Geographical spread of the population

The geographical area of the Capital & Coast District Health Board (CCDHB) stretches from Wellington, along the western coast to Peka Peka, just north of Waikanae. It covers a land area of 739 square kilometres and is made up of three territorial local authorities (TLAs): Wellington city, Porirua city and part of the Kāpiti Coast District, excluding Otaki and surrounds. The CCDHB area has relatively high density residential living (by New Zealand standards), with ongoing expansion of urban areas.

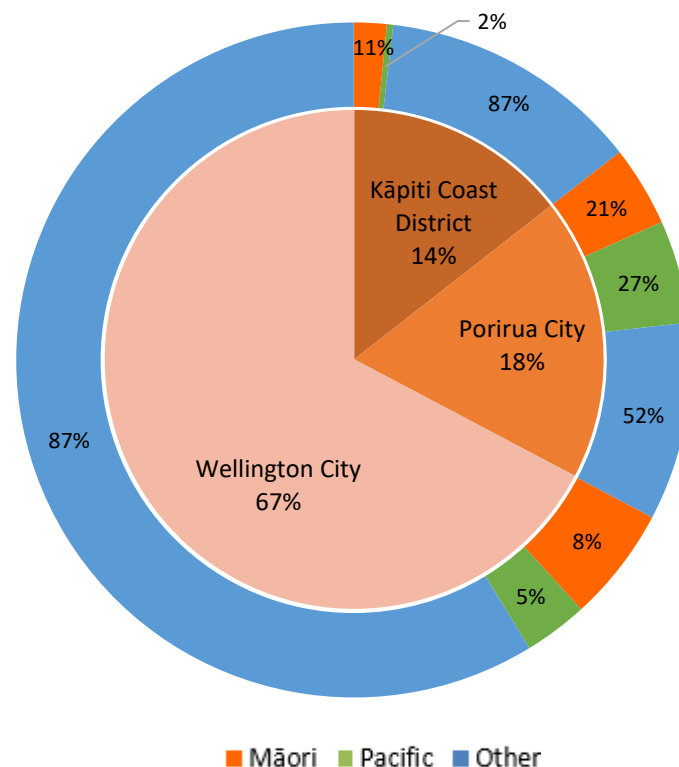
**Figure 1: Area covered by CCDHB, 2019<sup>5</sup>**



<sup>5</sup> Source: [www.health.govt.nz/system/files/documents/pages/capital-and-coast.pdf](http://www.health.govt.nz/system/files/documents/pages/capital-and-coast.pdf)

In 2018/19, it is estimated that approximately 318,040 people live in the area served by the CCDHB.<sup>6</sup> It is reported that in 2016/17, 11.5 percent of the CCDHB population were Māori, i.e. approximately 36,500 people.<sup>7</sup> Based on the total Māori ethnic group as estimated in 2013,<sup>8</sup> Māori are not distributed equally throughout the CCDHB area: Porirua has a greater proportion of Māori (21 percent) compared with Wellington city (8 percent) and the Kāpiti Coast District (11 percent).

**Figure 2: The ethnic composition of the three TLAs in CCDHB, 2019**



Of the people in the CCDHB area who reported being of Māori descent in the 2013 Census, 8 percent were mana whenua, affiliating with one of the three main iwi of the region: Te Ati Awa Ki Whakarongotai (1 percent); Ngati Toa Rangatira (5 percent); and Te Ati Awa (2 percent).<sup>9</sup> Another 1 percent of Māori living in CCDHB reported “Te Ati Awa, region unspecified” as their iwi.

## Current and projected population profile

Based on 2013 data, it is clear that the district’s Māori population is younger than its non-Māori population; almost one-third (31 percent) of CCDHB Māori are aged under 15 years. Over 50 percent

<sup>6</sup> Ministry of Health, Population of Capital & Coast DHB: [www.health.govt.nz/new-zealand-health-system/my-dhb/capital-coast-dhb/population-capital-coast-dhb](http://www.health.govt.nz/new-zealand-health-system/my-dhb/capital-coast-dhb/population-capital-coast-dhb)

<sup>7</sup> It is not clear from the Ministry of Health website what definition of “Māori” is used, nor are 2018/19 estimates of the proportion of Māori in CCDHB available.

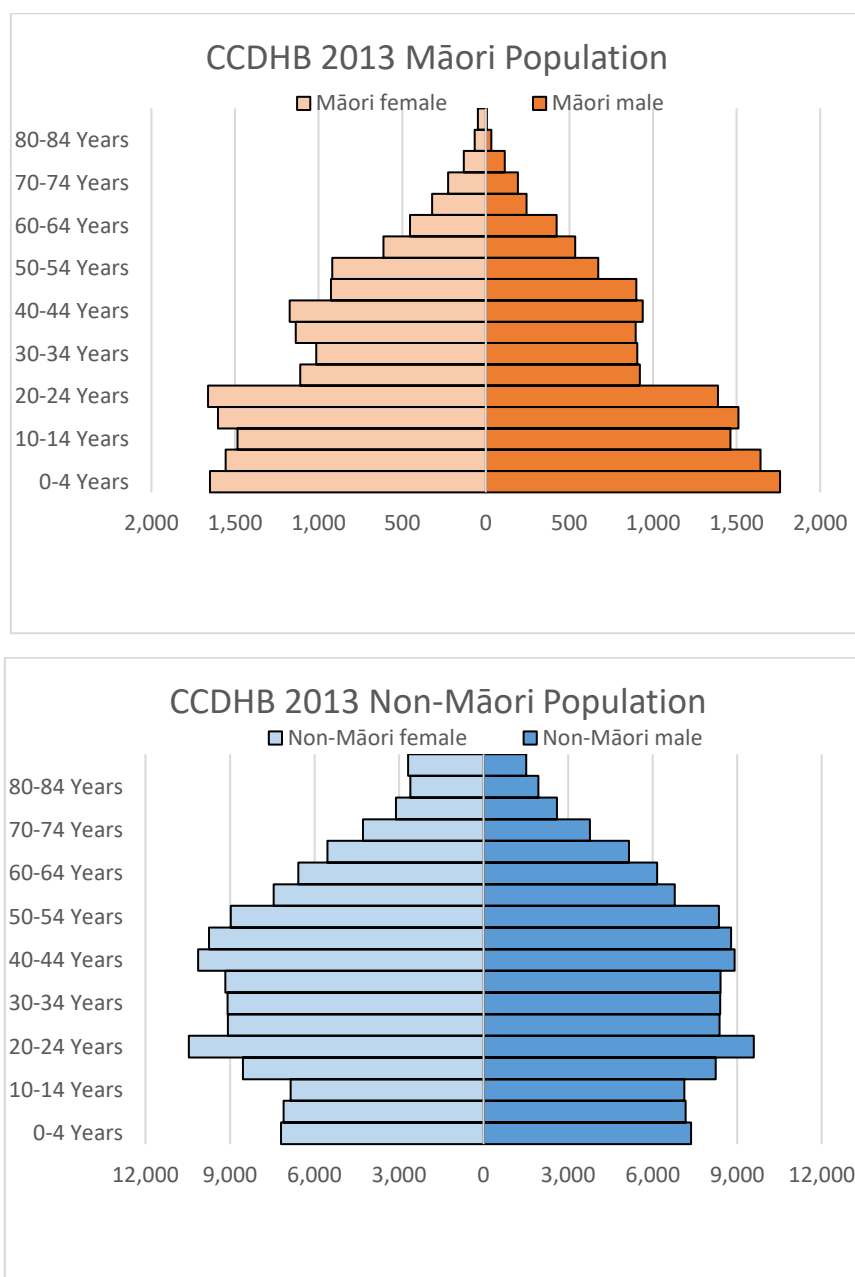
<sup>8</sup> <http://nzdotstat.stats.govt.nz/wbos/index.aspx#>

<sup>9</sup> <http://nzdotstat.stats.govt.nz/wbos/index.aspx#>



are tamariki (children) and rangatahi (youth, under 25 years), compared with just over 30 percent of non-Māori.<sup>10</sup> In terms of older people, only 4 percent of Māori are aged 65 years or over, compared with nearly 13 percent of non-Māori.

**Figure 3: Age distribution of Māori and non-Māori in CCDHB area, 2013**



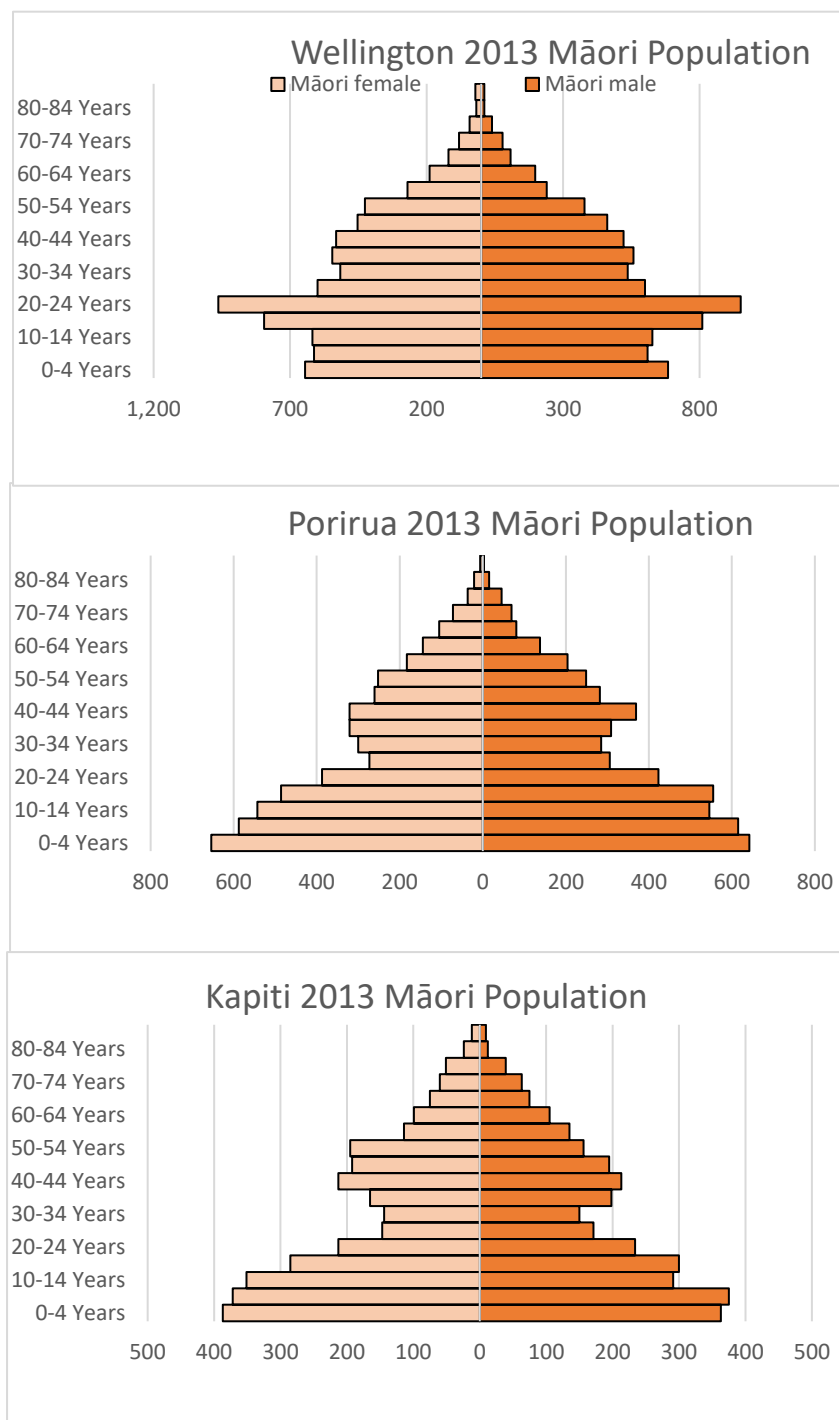
Source: 2013 Census

Note: Due to data availability, the numbers in the graphs in Figure 3 are based on residents of Wellington city, Porirua city and the whole of the Kāpiti Coast District (i.e. including Otaki and surrounds).

<sup>10</sup> StatsNZ, Ethnic group (detailed single and combination) by age group and sex, for the census usually resident population count, 2013 (RC, TA): <http://nzdotstat.stats.govt.nz/WBOS/Index.aspx?DataSetCode=TABLECODE8028>

The age distribution of Māori in each of the TLAs that make up CCDHB is quite different. While Porirua city and Kāpiti Coast District show a large younger population and a lower proportion of working age adults, Māori in Wellington city are not so young, and there is a large proportion of 20- to 30-year-olds, who may have moved to Wellington for work.

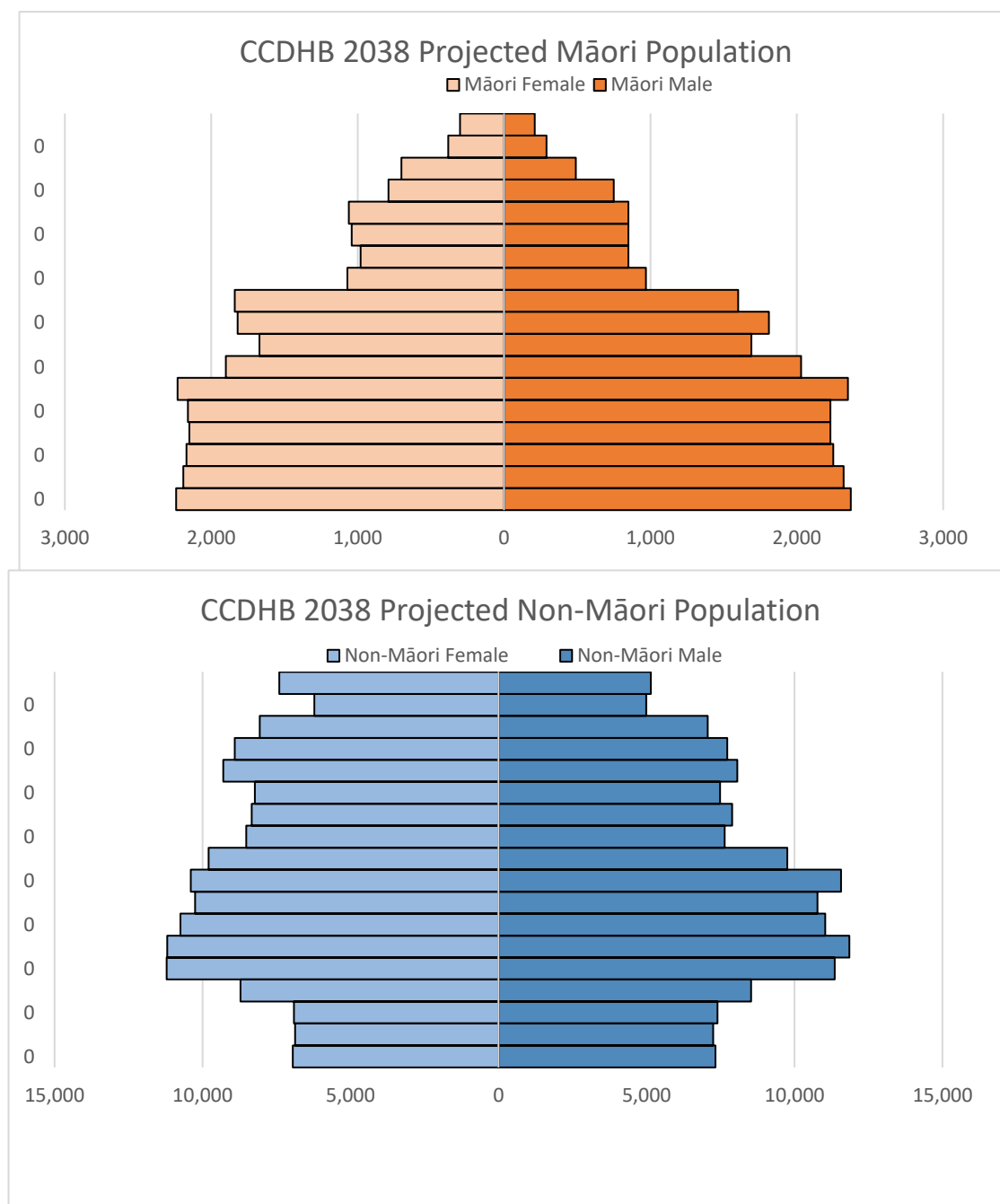
**Figure 4: Age distribution of Māori in each of the TLAs, 2013**



Source: 2013 Census

It is projected that across New Zealand, from 2015 to 2030, the Māori population will grow by 16.2 percent, whereas the non-Māori population is projected to grow by only 13.5 percent.<sup>11</sup> By 2038, there is expected to be over 52,000 Māori in CCDHB.<sup>12</sup> As can be seen from Figure 5, both Māori and non-Māori populations will age over the next 20 years. Specifically, more Māori will live beyond retirement age and into old age, and the number of working age adults will also increase significantly.

**Figure 5: The projected age distribution of Māori and non-Māori in the CCDHB area, 2038**



Source: Population projections based on 2013 Census

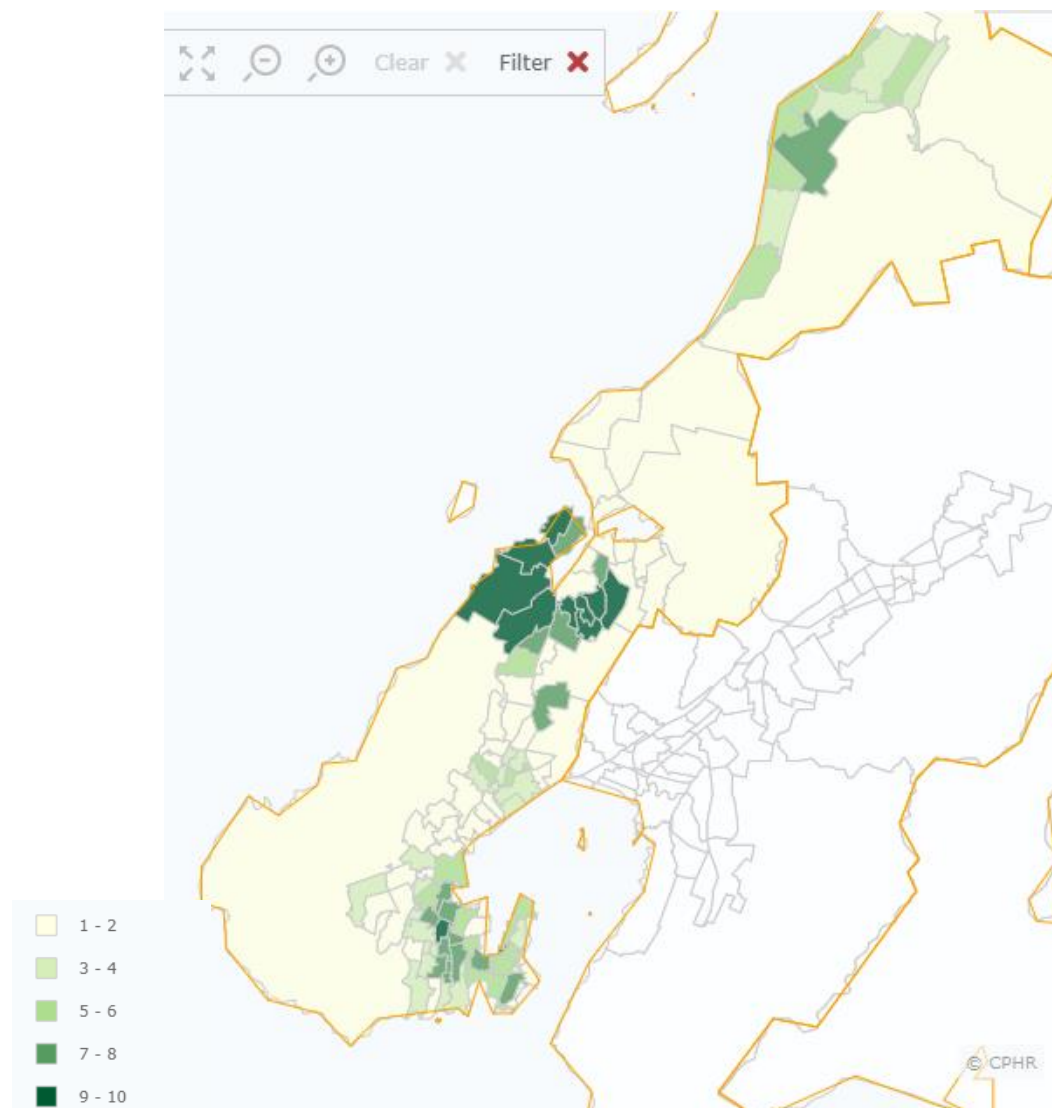
<sup>11</sup> Ministry of Health, Population projections: [www.health.govt.nz/our-work/populations/maori-health/tatau-kahukura-maori-health-statistics/tatauranga-taupori-demographics/population-projections](http://www.health.govt.nz/our-work/populations/maori-health/tatau-kahukura-maori-health-statistics/tatauranga-taupori-demographics/population-projections)

<sup>12</sup> StatsNZ, NZ.Stat: [http://nzdotstat.stats.govt.nz/wbos/Index.aspx?\\_ga=2.240890315.99538276.1541967465-914606210.1540768793#](http://nzdotstat.stats.govt.nz/wbos/Index.aspx?_ga=2.240890315.99538276.1541967465-914606210.1540768793#)

## Socio-economic conditions for Māori

Within the CCDHB, there are geographical differences in access to socio-economic resources and exposure to socio-economic disadvantage for Māori communities. In general, people living in Porirua city are exposed to greater socio-economic deprivation than people living in Wellington and Kāpiti Coast District, although there are pockets with greater socio-economic deprivation within Wellington city and the Kāpiti Coast District as well.

**Figure 6: Distribution of deprivation in CCDHB: Index of Deprivation, NZDep2013<sup>13</sup>**



Note: NZDep 1–2 is the least deprived quintile; NZDep 9–10 is the most deprived

Source: Based on NZDep2013 (Census data)

However, residential area levels of deprivation are not equal for Māori and non-Māori. In the following analyses, we have used the NZDep2013 index of small-area deprivation, based on Census Area Units (CAUs) as a measure of deprivation. For decades, deprivation in New Zealand has been measured using the NZDep Index. This takes the attributes, measured through census data, of small areas called meshblocks, which have an average population of 100 people. All meshblocks are

<sup>13</sup> Massey University, Healthspace:

<http://healthspace.ac.nz/dataviews/report?reportId=261&viewId=96&geoReportId=1619&geoid=15&geoSubsetId=>

ranked across the country in order, and the rank is sorted into 10 equal groups (deciles). The decile of any particular meshblock applies equally to all people living in that area. Given that the number of people in each meshblock is small, health data is often reported at the level of the CAU (average population 2,000 people), which can mask some variation between meshblocks within a CAU.

Although other measures of socio-economic position have been previously used (e.g. Material Wellbeing Index,<sup>14</sup> an index of living standards<sup>15</sup> and the proposed Index of Multiple Deprivation for New Zealand<sup>16</sup>), we have chosen to report only on NZDep (generally NZDep2013<sup>17</sup>) for consistency with past research.

In CCDHB, 26 percent of CCDHB Māori live in the most deprived quintile (NZDep deciles 9 and 10) compared with 11 percent of non-Māori.<sup>18</sup> It is important to note that NZDep is a measure of particular aspects of a community, and the graph below is not a reflection of who Māori are but of where they live and the racialised structuring of their socio-economic position.

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<sup>14</sup> Perry B. 2017. *The Material Wellbeing of NZ Households: Overview and key findings*. Wellington: Ministry of Social Development. URL: [www.msd.govt.nz/documents/about-msd-and-our-work/publications-resources/monitoring/household-income-report/2017/incomes-report-overview.pdf](http://www.msd.govt.nz/documents/about-msd-and-our-work/publications-resources/monitoring/household-income-report/2017/incomes-report-overview.pdf) (accessed 21 June 2019).

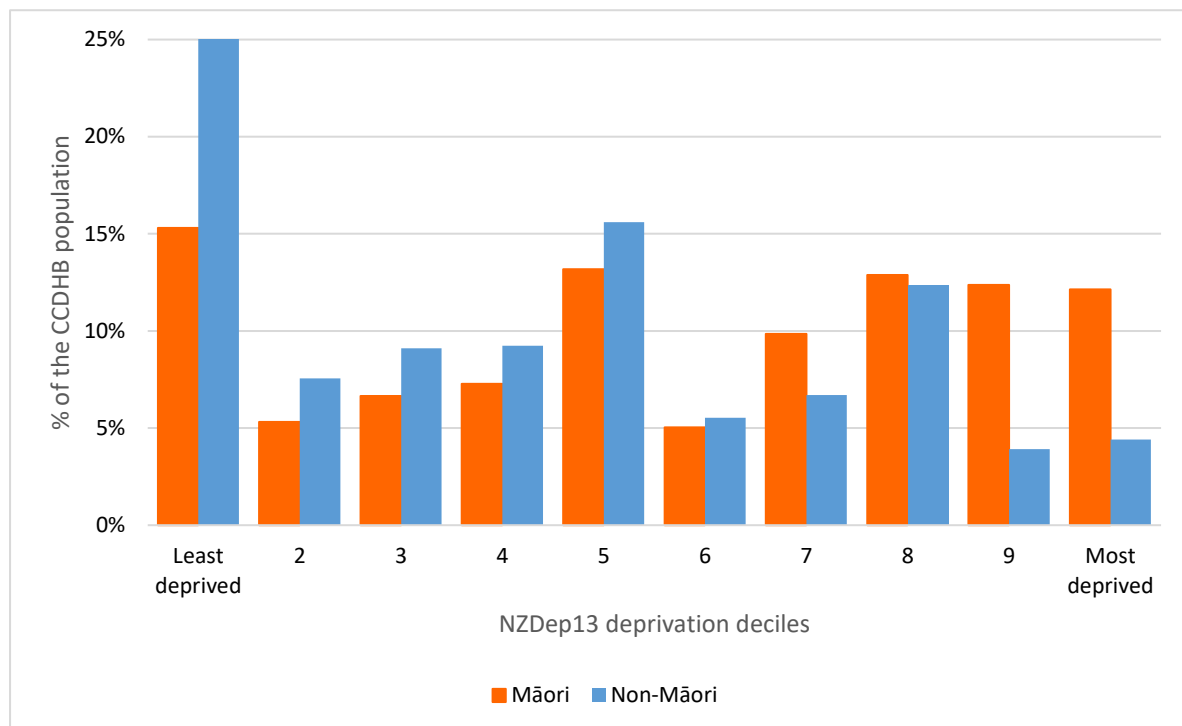
<sup>15</sup> Salmond C, Crampton PJ. 2012. Measuring socio-economic position in New Zealand. *Prim Health Care*. Dec 1; 4(4): 271–80. URL: [www.researchgate.net/profile/Celia\\_Palmer/publication/233831316\\_Can\\_formal\\_Collaborative\\_methodologies\\_improve\\_quality\\_in\\_primary\\_health\\_care\\_in\\_New\\_Zealand\\_Insights\\_from\\_the\\_EQUIPPED\\_Auckland\\_Collaborative/links/54727d150cf2d67fc035c767/Can-formal-Collaborative-methodologies-improve-quality-in-primary-health-care-in-New-Zealand-Insights-from-the-EQUIPPED-Auckland-Collaborative.pdf](http://www.researchgate.net/profile/Celia_Palmer/publication/233831316_Can_formal_Collaborative_methodologies_improve_quality_in_primary_health_care_in_New_Zealand_Insights_from_the_EQUIPPED_Auckland_Collaborative/links/54727d150cf2d67fc035c767/Can-formal-Collaborative-methodologies-improve-quality-in-primary-health-care-in-New-Zealand-Insights-from-the-EQUIPPED-Auckland-Collaborative.pdf) (accessed 21 June 2019).

<sup>16</sup> The University of Auckland, Medical and Health Sciences: [www.fmhs.auckland.ac.nz/en/soph/about/our-departments/epidemiology-and-biostatistics/research/hgd/research-themes/imd.html](http://www.fmhs.auckland.ac.nz/en/soph/about/our-departments/epidemiology-and-biostatistics/research/hgd/research-themes/imd.html)

<sup>17</sup> Atkinson J, Salmond C, Crampton P. 2014. *NZDep2013 Index of Deprivation*. Wellington: Department of Public Health, University of Otago. URL: [www.otago.ac.nz/wellington/otago069936.pdf](http://www.otago.ac.nz/wellington/otago069936.pdf) (accessed 21 June 2019).

<sup>18</sup> Robson B, Purdie G, Simmonds S, Waa A, Faulkner R, Rameka R, Andrewes J. 2015. *Capital and Coast District Health Board Māori Health Profile 2015*. Wellington: Te Rōpū Rangahau Hauora a Eru Pōmare. URL: [www.otago.ac.nz/wellington/departments/publichealth/research/erupomare/research\\_otago152540.pdf](http://www.otago.ac.nz/wellington/departments/publichealth/research/erupomare/research_otago152540.pdf) (accessed 21 June 2019).

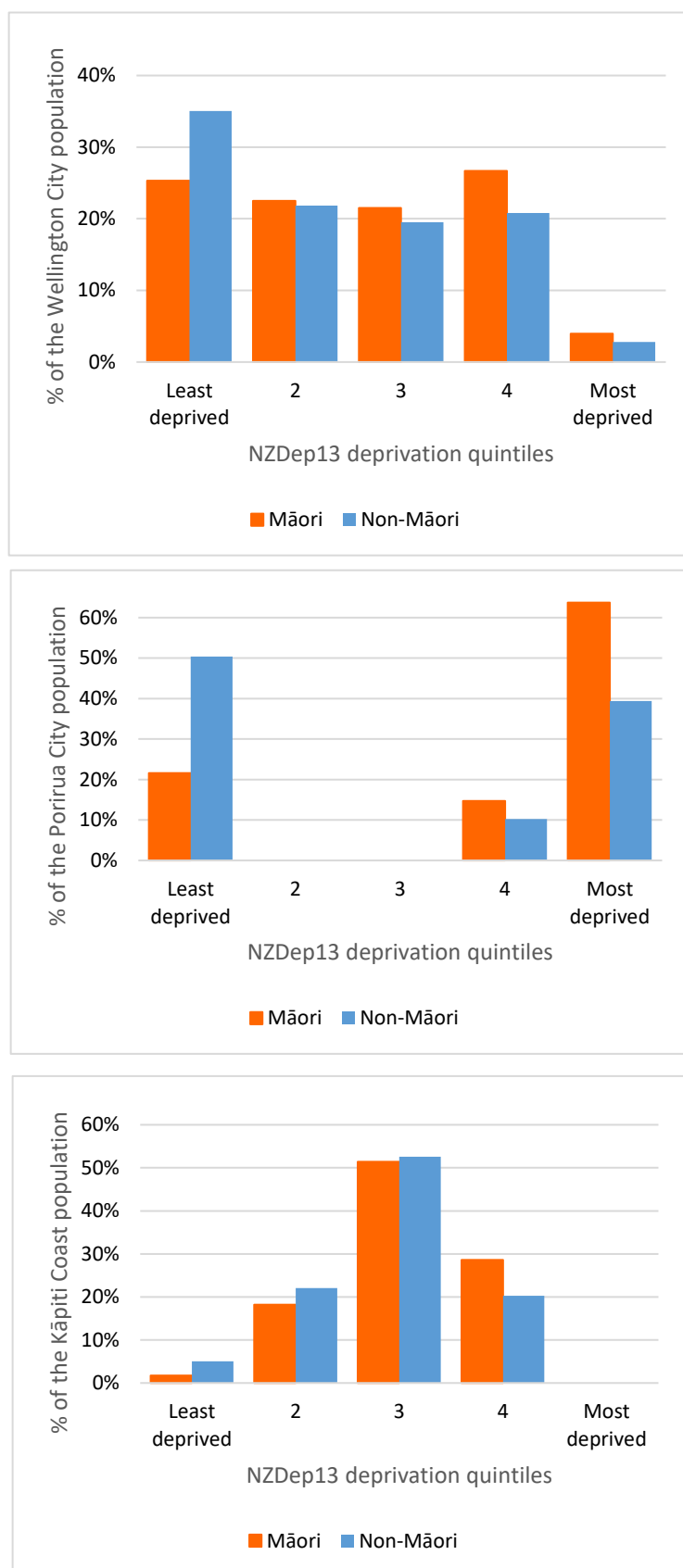
**Figure 7: Distribution of area-level deprivation in CCDHB by ethnicity, 2013**



Source: New Zealand Census 2013

The distribution of Māori residential deprivation in CCDHB differs across the three TLAs (see Figure 8). For this report, deprivation is measured in quintiles not deciles due to the small numbers in some groups. In Wellington city, fewer Māori live in deciles 1 and 2 (quintile 1) and more in deciles 7 to 10 (quintiles 4 and 5), compared with non-Māori. In Porirua city, 22 percent of the Māori population live in quintile 1, compared with half the non-Māori population and 64 percent of Māori live in the most deprived quintile, compared with under 40 percent of non-Māori. In Kāpiti, very few Māori live in the least deprived areas, with the greatest inequity in deciles 7 and 8 (quintile 4).

**Figure 8: Distribution of area-level deprivation in each of the CCDHB TLAs by ethnicity, 2013**

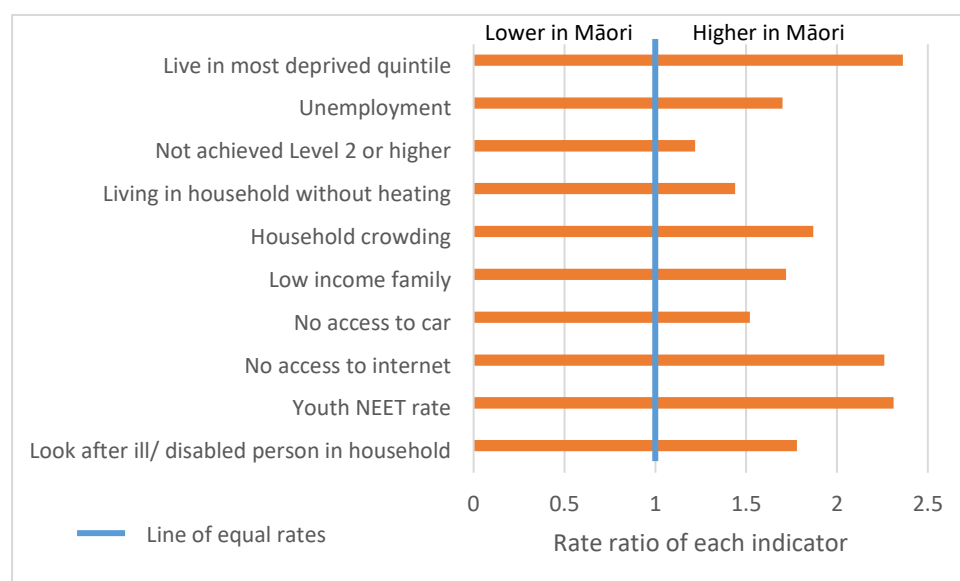


Source: New Zealand Census 2013

Māori are disproportionately impacted by socio-economic deprivation in CCDHB,<sup>19</sup> see Figure 9. In 2013, compared with non-Māori, Māori living in CCDHB were more likely to live in deprived areas, be unemployed, not have achieved NCEA Level 2 education, live with no heating or in an overcrowded house, live in a low-income family, not have access to a car or the internet and to look after an ill/disabled person in their own household.

A commonly used measure that predicts future economic hardship is young people not in employment, education or training (NEET). On a national level, Māori youth are more likely than non-Māori, non-Pacific youth to be NEET,<sup>20</sup> but no data is available for CCDHB.

**Figure 9: Socio-economic hardship in CCDHB, Māori compared with non-Māori, 2013**



From the 2013 Census, it is clear that income distribution for Māori, particularly for males, is not equitable with non-Māori.<sup>21</sup> Among men, 47 percent of Māori earned over \$30,000, compared with 58 percent of non-Māori. Among women, 41 percent of Māori earned over \$30,000 compared with 45 percent of non-Māori. Considering those earning under \$10,000, Māori were disproportionately represented; among men, 22 percent of Māori were in this category, compared with 14 percent of non-Māori; among women, 24 percent of Māori were in this category, compared with 20 percent of non-Māori.

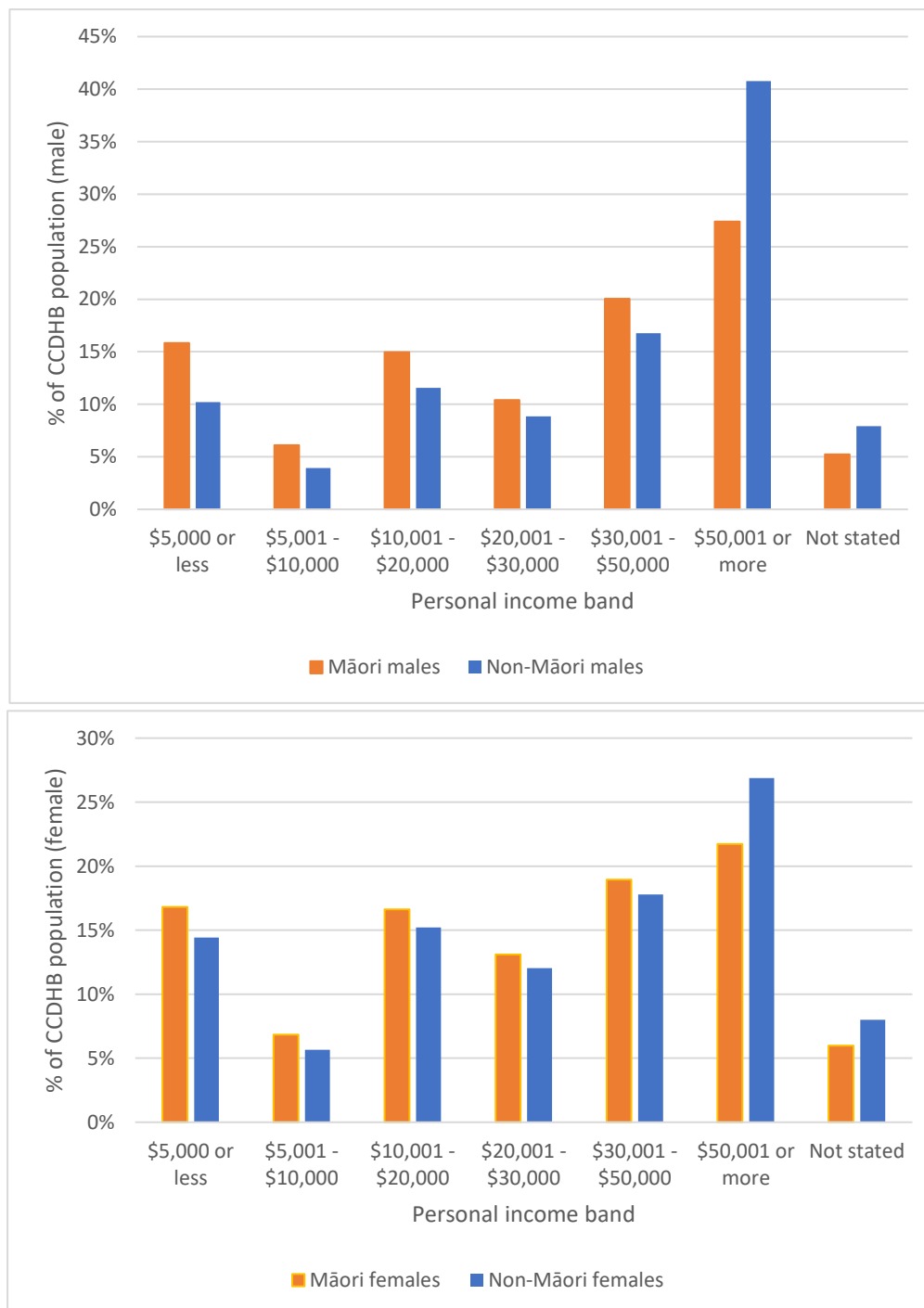
<sup>19</sup>Robson B, Purdie G, Simmonds S, Waa A, Faulkner R, Rameka R, Andrewes J. 2015. *Capital and Coast District Health Board Māori Health Profile 2015*. Wellington: Te Rōpū Rangahau Hauora a Eru Pōmare. URL: [www.otago.ac.nz/wellington/departments/publichealth/research/erupomare/research/otago152540.pdf](http://www.otago.ac.nz/wellington/departments/publichealth/research/erupomare/research/otago152540.pdf) (accessed 21 June 2019).

<sup>20</sup> Craig E, Dell R, Reddington A, et al. 2012. *The Determinants of Health for Children and Young People in the Hutt Valley and Capital and Coast DHBs*. Wellington: University of Otago and Hutt Valley and Capital & Coast DHBs. URL: <http://dnmeds.otago.ac.nz/departments/womens/paediatrics/research/nzcyes/pdf/rpt2012-hvdhb-ccdhb.pdf> (accessed 21 June 2019).

<sup>21</sup> StatsNZ, NZ.Stat: <http://nzdotstat.stats.govt.nz/wbos/index.aspx#>



**Figure 10: Income distribution for males and females, Māori and non-Māori in CCDHB, 2013**



Source: New Zealand Census 2013

In 2013, 29 percent of children and 25 percent of adults in Māori households (defined as households with at least one Māori resident) were in households with low equivalised household incomes (under \$15,172), compared with 17 percent of children and 19 percent of adults in non-Māori households.<sup>22</sup>

<sup>22</sup> Robson B, Purdie G, Simmonds S, Waa A, Faulkner R, Rameka R, Andrewes J. 2015. *Capital and Coast District Health Board Māori Health Profile 2015*. Wellington: Te Rōpū Rangahau Hauora a Eru Pōmare. URL:

The cut-off for the highest income category in the Census data is relatively low and gives no indication of wealth inequities. Wealth acts as a buffer to ill health; people with some saved income can face the adversity of ill health of an individual or family member in a way that people with no savings cannot do so easily. This 'wealth gap' is often intergenerational; younger people from wealthier families inherit more than those without family wealth. Indeed, inheriting money is not a reality for many people in New Zealand.

## Standard of living

The *Capital and Coast District Health Board Māori Health Profile 2015* reported on the standard of living for Māori over the age of 15 years, in 2013.<sup>23</sup> There were high levels of being exposed to adversity. For example, 10 percent of Māori adults reported putting up with feeling the cold *a lot* to keep costs down during the previous 12 months, 9 percent had *often* gone without fresh fruit and vegetables, and 13 percent had *postponed or put off* a visit to the doctor.

There was also a high proportion of Māori children (aged 0–17 years) living in households where the only income was means-tested benefits – 18.3 percent for Māori compared with 4.9 percent for non-Māori.

## Why socio-economic conditions impact health

Inequities in the health of Māori compared with other New Zealanders are neither natural nor inevitable. They arise from societal-level decisions and structural conditions in health care and other areas, such as education, employment and welfare.<sup>24</sup> Therefore, these inequities need to be addressed at a societal level, including considering system-level change as well as targeted responses at the individual and community levels.

The social determinants of health have been defined by the World Health Organization (WHO) as the conditions in which people are born, grow, live, work and age.<sup>25</sup> These determinants are mostly responsible for health inequities and are due to the unfair distribution of money, power and material resources measured through income, education, employment and housing. This distribution is inherently unjust when it perpetuates the cycle of creating wealth and good health for some but poverty and ill health for others.

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[www.otago.ac.nz/wellington/departments/publichealth/research/erupomare/research/otago152540.pdf](http://www.otago.ac.nz/wellington/departments/publichealth/research/erupomare/research/otago152540.pdf) (accessed 21 June 2019).

<sup>23</sup> Robson B, Purdie G, Simmonds S, Waa A, Faulkner R, Rameka R, Andrewes J. 2015. *Capital and Coast District Health Board Māori Health Profile 2015*. Wellington: Te Rōpū Rangahau Hauora a Eru Pōmare. URL: [www.otago.ac.nz/wellington/departments/publichealth/research/erupomare/research/otago152540.pdf](http://www.otago.ac.nz/wellington/departments/publichealth/research/erupomare/research/otago152540.pdf) (accessed 21 June 2019).

<sup>24</sup> Carr R. 2012. Equity and inequalities in New Zealand health. *Health+People*. URL:

<https://robicarr.wordpress.com/2012/08/16/equity-and-inequalities-in-new-zealand-health/>

<sup>25</sup> WHO, Social determinants of health: [www.who.int/social\\_determinants/sdh\\_definition/en/](http://www.who.int/social_determinants/sdh_definition/en/)

Several conceptual models have been developed showing possible pathways leading to health inequities.<sup>26,27,28</sup> A useful one that summarises the impact of socio-economic determinants as well as the effects of race and racism on health was proposed by Williams and Mohammed (2013),<sup>29</sup> see Figure 11. This model emphasises that socio-economic position is not a fixed or pre-determined entity but is affected by “basic causes”.

The “basic causes” identified by Williams and Mohammed can be envisaged in our context as encompassing New Zealand’s colonialism; loss of land, resources and power; and pervasive institutional racism. Importantly, the structure of the DHB system was not designed to centre around or respond to the needs of Māori and as such is a basic cause of inequity under this model. These basic causes have resulted in the marginalisation of Māori and inequities in Māori socio-economic position (social status). These inequities lead to an embedded deprivation, greater exposure to health risk factors and reduced access to health resources and medical care, all of which impact on the biological process of ill health.

Māori are exposed to a disproportionate burden of the deprivation existing in CCDHB. The poor health status described throughout this report has its roots in the historical context of New Zealand and the ill treatment of Māori. Redressing inequities must move far beyond attempting to change individual-level lifestyle and risk factors and an acknowledgment of the need for policy-level changes. Directly, these will include how the health care system can be reoriented to effectively ensure good access for Māori. The system must also ensure that it can be successfully navigated by Māori, and that Māori receive timely, quality health care in proportion to need. Indirectly, an acknowledgment of the role that policies within the health sector play on maintaining health inequities is important.

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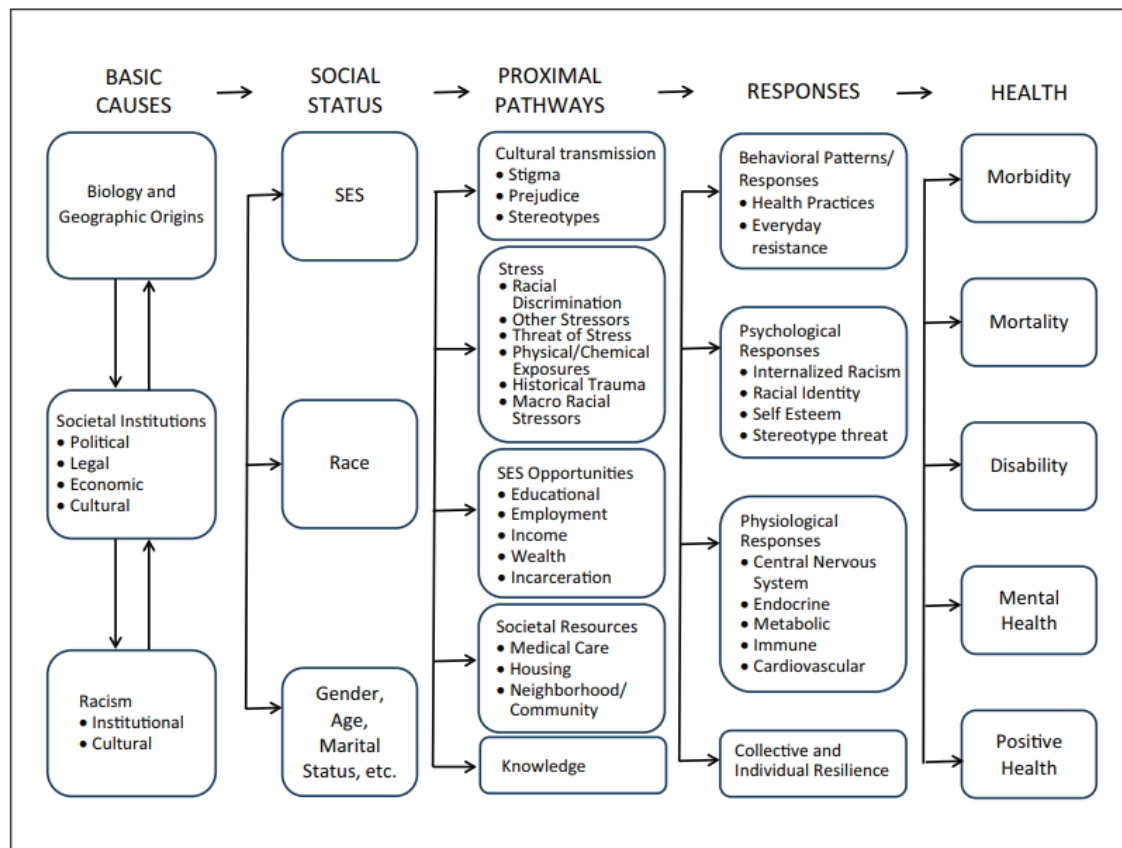
<sup>26</sup> Krieger N. 1994. Epidemiology and the web of causation: Has anyone seen the spider? *Social Science & Medicine*. Vol 39, (7): 887–903. URL: [www.sciencedirect.com/science/article/abs/pii/027795369490202X](http://www.sciencedirect.com/science/article/abs/pii/027795369490202X) (accessed 21 June 2019).

<sup>27</sup> Paradies Y. 2016. Colonisation, racism and indigenous health. *Journal of Population Research* 33(1).DOI: 10.1007/s12546-016-9159-y

<sup>28</sup> Keawe’aimoku Kaholokula J. 2016. What policies are needed to advance native Hawaiian health? [https://www2.jabsom.hawaii.edu/native/docs/hh\\_2016/presentations/14/37.Kaholokula,K.\\_NHHTF.pdf](https://www2.jabsom.hawaii.edu/native/docs/hh_2016/presentations/14/37.Kaholokula,K._NHHTF.pdf)

<sup>29</sup> Williams DR, Mohammed SA. 2013. Racism and health I: Pathways and scientific evidence. *American Behavioral Scientist* 2013; 57: 1152. URL: <https://journals.sagepub.com/doi/abs/10.1177/0002764213487340>

**Figure 11: Williams and Mohammed's model of societal level determinants of health inequity**



Note: SES = socio-economic status

## Cost as a barrier to health

While cost is not the only pathway through which deprivation may affect health, it is not insignificant for Māori, as shown in Figure 10: Socio-economic barriers to accessing care among CCDHB residents.

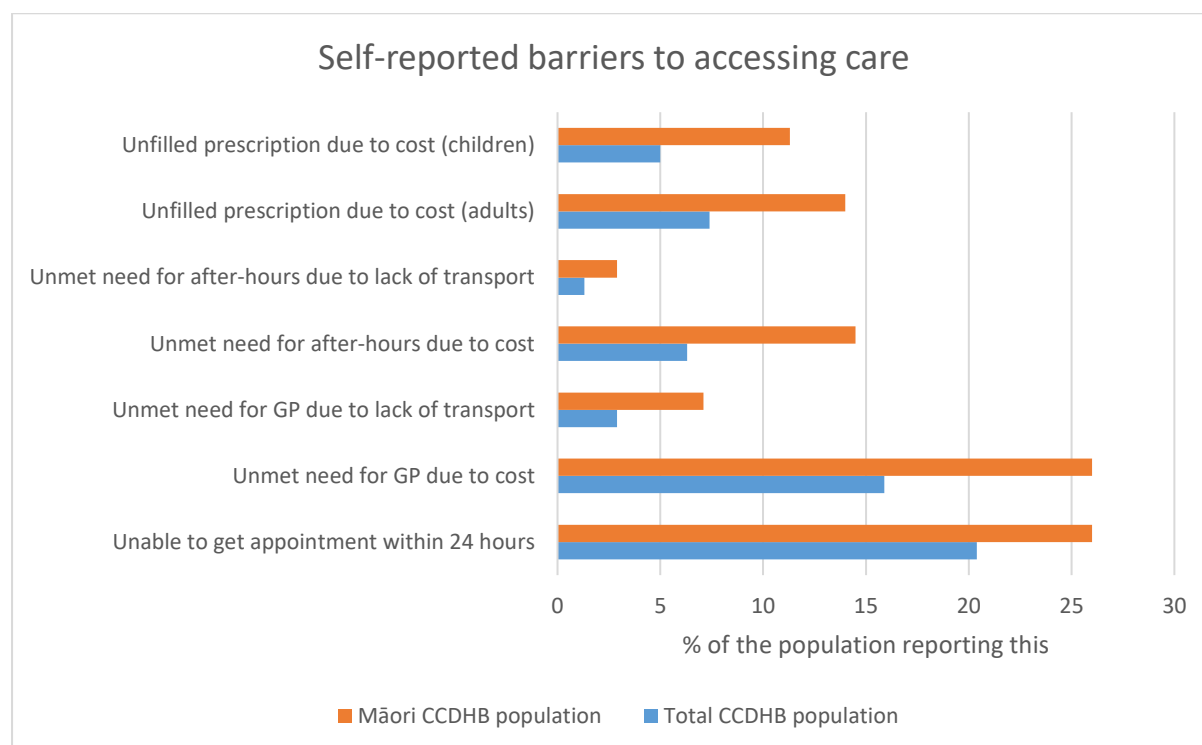
Data from the New Zealand Health Survey 2014–2017 shows that, in the CCDHB area, 13.8 percent of Māori adults and 11.5 percent of Māori children reported not filling prescriptions due to cost in the previous 12 months.<sup>30</sup> Furthermore, 31.7 percent of Māori children experienced one or more types of unmet need for health care in the past 12 months because of cost, transport or being unable to arrange care for other children.

For comparison with the total population, age-standardised data are used, as shown in Figure 12 below. This accounts for the differences in the age structure of the Māori and non-Māori populations. For all indicators, Māori are substantially less advantaged than the total population. Please note that data is not available for the non-Māori population, therefore the inequities reported here are an underestimate.

<sup>30</sup> Ministry of Health, New Zealand Health Survey, Regional Data Explorer 2014–17: [https://minhealthnz.shinyapps.io/nz-health-survey-2014-17-regional-update/\\_w\\_45825cab/#!/compare-regions](https://minhealthnz.shinyapps.io/nz-health-survey-2014-17-regional-update/_w_45825cab/#!/compare-regions)

It is also important to remember that the barriers presented here only relate to questions from the New Zealand Health Survey: we recognise that there may be other barriers to accessing care that are not captured here.

**Figure 12: Socio-economic barriers to accessing care among CCDHB residents, 2013**



Source: New Zealand Health Survey 2014–17, age-standardised to WHO world population<sup>31</sup>

## Māori wellbeing

Data presented in this section is taken from a Ministry of Health report on Māori wellbeing published in 2015<sup>32</sup> and is based on the StatsNZ survey on Māori wellbeing, Te Kupenga, from 2013.<sup>33</sup>

### *Whānau wellbeing and connectedness to whānau*

Most CCDHB Māori adults (88 percent) reported that their whānau was doing well, but 4 percent felt their whānau was doing badly.

The majority of people had face-to-face contact with non-resident whānau at least once a week (55 percent) or once a fortnight (15 percent) and non face-to-face contact at least once a week

<sup>31</sup> Ministry of Health. 2019. *Methodology Report 2016/17: New Zealand Health Survey*. Wellington: Ministry of Health. URL: [www.health.govt.nz/system/files/documents/publications/methodology-report-2016-17-nzhs-dec17v2.pdf](http://www.health.govt.nz/system/files/documents/publications/methodology-report-2016-17-nzhs-dec17v2.pdf) (accessed 24 June 2019).

<sup>32</sup> <sup>32</sup> Robson B, Purdie G, Simmonds S, Waa A, Faulkner R, Rameka R, Andrewes J. 2015. *Capital and Coast District Health Board Māori Health Profile 2015*. Wellington: Te Rōpū Rangahau Hauora a Eru Pōmare. URL: [www.otago.ac.nz/wellington/departments/publichealth/research/erupomare/research/otago152540.pdf](http://www.otago.ac.nz/wellington/departments/publichealth/research/erupomare/research/otago152540.pdf) (accessed 21 June 2019).

<sup>33</sup> StatsNZ, Te Kupenga 2013 (English): [www.stats.govt.nz/information-releases/te-kupenga-2013-english?gclid=Cj0KCQiApvbhBRDXARIsALnNoK2UOPZRG6fC5Q1GgfPuM80q9PBwB1CoizVHGkLvWumLaIM0G9x7CCUaAh3DEALw\\_wcB](http://www.stats.govt.nz/information-releases/te-kupenga-2013-english?gclid=Cj0KCQiApvbhBRDXARIsALnNoK2UOPZRG6fC5Q1GgfPuM80q9PBwB1CoizVHGkLvWumLaIM0G9x7CCUaAh3DEALw_wcB)

(77 percent). Although 59 percent of people reported that contact with their non-resident whānau was about right, 39 percent stated that their level of contact was not enough.

A small proportion (7 percent) found it hard to access whānau support in times of need, but most found it easy (79 percent). Many Māori (66 percent) found it easy to get whānau help with Māori cultural practices, but 17 percent found it hard or very hard.

#### *Involvement in Māori culture*

Being involved in Māori culture was important to 69 percent of Māori adults. Spirituality was important to 66 percent. One in eight Māori had taken part in traditional healing or massage in the last 12 months.

Māori media is important; in the previous 12 months, 65 percent of Māori had watched a Māori TV programme, 35 percent had read a Māori magazine, 37 percent had listened to a Māori radio station and 46 percent had contact with Māori through social media.

#### *Iwi connections*

Of the Māori in CCDHB, 88 percent reported knowing their iwi, and 40 percent knew each of their iwi, hapū, maunga, awa, waka and tūpuna/tūpuna.

Practically all CCDHB Māori (98 percent) had been to a marae at some time. Most (60 percent) had been to their ancestral marae, with 30 percent having been in the last 12 months and 66 percent stating they would like to go more often. Among those who knew their ancestral marae and had been there in the last 12 months, 71 percent felt strongly or very strongly connected to that ancestral marae as tūrangawaewae.

#### *Te reo proficiency*

In general, te reo proficiency is relatively high in CCDHB, and reported ability, understanding and use is slightly higher than the New Zealand average for Māori aged over 15 years.

Among Māori living in CCDHB, 25 percent said that they could speak te reo very well, well or fairly well, and 36 percent said that they were able to understand Māori fairly well or better. For 5 percent of Māori, te reo is the main language used at home, and a further 22 percent reported that te reo is used regularly at home. Keeping te reo actively used appears to be important to CCDHB Māori; 55 percent reported teaching or sharing te reo with others. Among those who reported not using te reo inside or outside the home, 79 percent said that they had used a Māori greeting in the previous month.

#### *Education*

Among Māori children who started school in 2013, 96 percent had participated in early childhood education. There are 14 kohanga reo in the CCDHB region, with spaces for 409 children,<sup>34</sup> which is approximately 10 percent of Māori children aged up to 5 years in CCDHB.

In 2018, a total of 1,435 school-aged children in the Wellington region were attending kura or Māori-medium school, i.e. where teaching is in te reo over 50 percent of the time. This represents 1.7 percent of school aged children in the region.<sup>35</sup>

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<sup>34</sup> Education Counts, Early Childhood Services: [www.educationcounts.govt.nz/data-services/directories/early-childhood-services](http://www.educationcounts.govt.nz/data-services/directories/early-childhood-services)

<sup>35</sup> Education Counts, Māori Language in Education: [www.educationcounts.govt.nz/statistics/maori-education/maori-in-schooling/6040](http://www.educationcounts.govt.nz/statistics/maori-education/maori-in-schooling/6040)

In 2013, 64 percent of Māori adults aged 18 years and over had at least achieved level 2 NCEA, a higher proportion than in 2006 (56 percent). However, the proportion was only four-fifths that of non-Māori (77 percent).

We do not have data on Māori students' achievement in Māori-medium schools in CCDHB. National data from 2014 shows that a higher proportion of Māori students in Māori-medium schools (75 percent) gained level 2 or higher NCEA compared with their Māori peers at English-medium schools (58 percent). This same report found a higher proportion of Māori students remaining at school until age 17 or older at Māori-medium schools (78 percent) compared with their counterparts at English-medium schools (69 percent).<sup>36</sup>

### Work

In 2013, 10 percent of Māori adults aged 15 years and over in CCDHB were unemployed, compared with 6 percent of non-Māori rate. Most Māori adults (90 percent) do some form of voluntary work.

In 2013, Māori were nearly 80 percent more likely than non-Māori to look after someone who was disabled or ill within their home, and 57 percent more likely to look after someone outside the household without pay.

There is little information on Māori employment conditions, such as whether Māori are receiving a living wage, whether they are underemployed (i.e. working part time and able and wanting to work more, but only employed part time) or over-worked (e.g. doing more than one job to make ends meet).

### Housing

The most common significant housing problems reported by Māori adults in 2013 were: finding it hard to keep warm (18 percent), needing repairs (12 percent) and living in damp conditions (11 percent).

Just over half of children in CCDHB Māori households were living in rented accommodation, 80 percent higher than the proportion of children in non-Māori households.

CCDHB residents living in Māori households were nearly twice as likely as non-Māori CCDHB residents to be in crowded homes (i.e. requiring at least one additional bedroom) (17 percent compared with 9 percent).

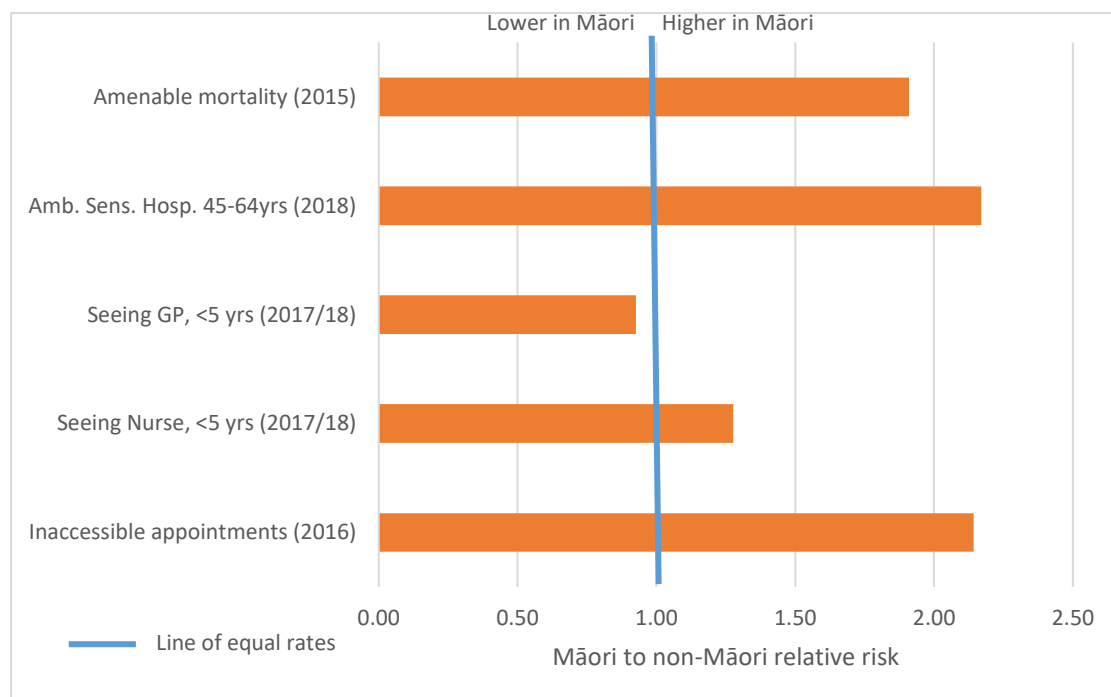
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<sup>36</sup> Ministry of Education. n.d. *Māori Achievement, 2014*. Wellington: Ministry of Education. URL: [www.educationcounts.govt.nz/data/assets/pdf\\_file/0011/170858/2014-Maori-Achievement-profile.pdf](http://www.educationcounts.govt.nz/data/assets/pdf_file/0011/170858/2014-Maori-Achievement-profile.pdf) (accessed 24 June 2019).

## 2. CCDHB as a pro-equity organisation

The overall aim of the CCDHB as a pro-equity organisation is to ensure that Māori live long and well. This is clearly not happening at the moment, as is shown by the low levels of good health Māori experience across a range of key indicators. This reflects the breadth of the inequities experienced by Māori. Many of the indicators reported on here are directly within the DHB's ability to change, and, if addressed, could benefit Māori health.

**Figure 13: A summary of equity measures in CCDHB for Māori compared with non-Māori, 2015–2018**



Note: Amb. Sens. Hosp = Ambulatory sensitive hospitalisations (ASH)

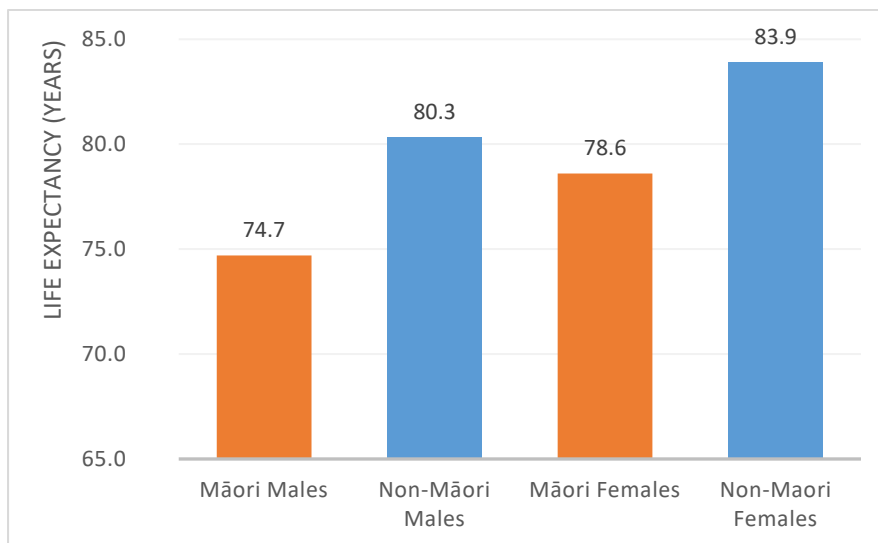
### Māori life expectancy

Life expectancy has not been calculated in New Zealand on a DHB level. The closest data available for CCDHB is the Wellington regional life expectancies, which includes the Hutt Valley and Wairarapa as well as the CCDHB area.<sup>37</sup> In 2012–2014, the average life expectancy at birth for Māori males was 74.7 years, 5.6 years less than for non-Māori males. The average life expectancy for Māori females was 78.6 years, 5.3 years less than for non-Māori females. Appendix 2: Life expectancy discusses the impact of including the Hutt Valley and Wairarapa in this data.

<sup>37</sup> [http://archive.stats.govt.nz/browse\\_for\\_stats/health/life\\_expectancy/period-life-tables.aspx#subnat-excel](http://archive.stats.govt.nz/browse_for_stats/health/life_expectancy/period-life-tables.aspx#subnat-excel)



**Figure 14: Life expectancy for Māori and non-Māori in the Wellington region, 2012–2014**



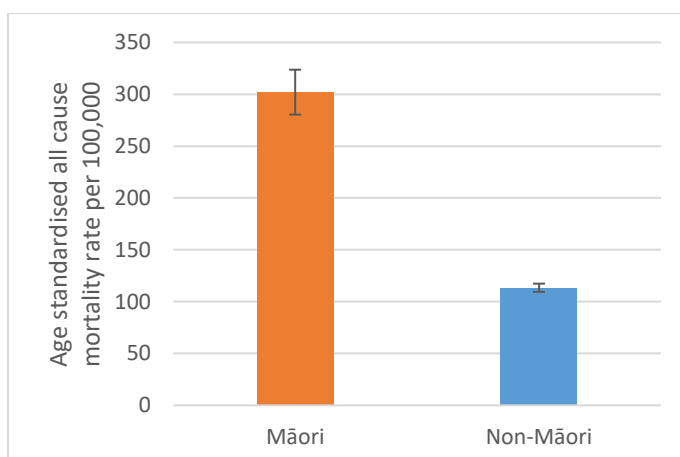
Note: Not all the Kāpiti Coast District is included in CCDHB, but no data was available to break this down further.

Source: StatsNZ, based on mortality rates 2012–2014

## Māori mortality

Māori in CCDHB experience a significantly higher mortality rate compared with non-Māori. The age-standardised rate ratio of Māori to non-Māori mortality is 2.7 (95 percent confidence interval 2.5 to 2.9), meaning that, having taken the differences in age between Māori and non-Māori into account, Māori have a 2.7 times higher death rate than non-Māori.<sup>38</sup>

**Figure 15: Inequity in all-cause mortality in CCDHB, 2009–2015**



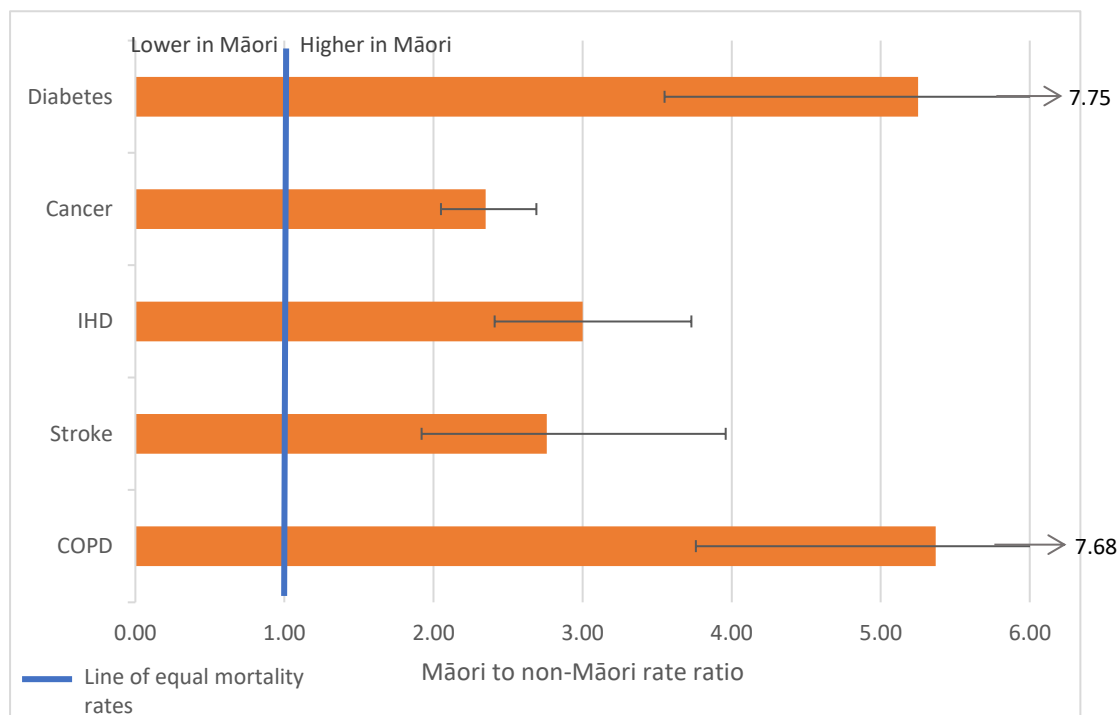
Source: Data provided by CCDHB, rates calculated by M Jeffreys, using CCDHB 2013 population as the denominator and standardised to CCDHB 2013 Māori population in five-year age bands.

As shown in Figure 16, the excess mortality experienced by Māori occurs across all the main causes of death: diabetes, cancer, ischaemic heart disease, stroke and chronic obstructive pulmonary

<sup>38</sup> Data provided by CCDHB, rates calculated by M Jeffreys, using CCDHB 2013 population as the denominator and standardised to CCDHB 2013 Māori population in five-year age bands.

disease (COPD). In Figure 16, we present rate ratios for ease of comparison. If Māori and non-Māori had the same rate of disease, the rate ratio would be 1.0. This is shown by the blue vertical line. The horizontal black lines are confidence intervals; the upper confidence interval for the rate ratios for diabetes and COPD are shown as numbers. Disease rates (as opposed to ratios) for Māori and non-Māori are given in Appendix 3: Mortality rates for Māori compared with non-Māori.

**Figure 16: Mortality rate ratios for Māori compared with non-Māori in CCDHB, 2009–2015**



Source: Data provided by CCDHB, rates calculated by M Jeffreys, using CCDHB 2013 population as the denominator and standardised to CCDHB 2013 Māori population in five-year age bands.

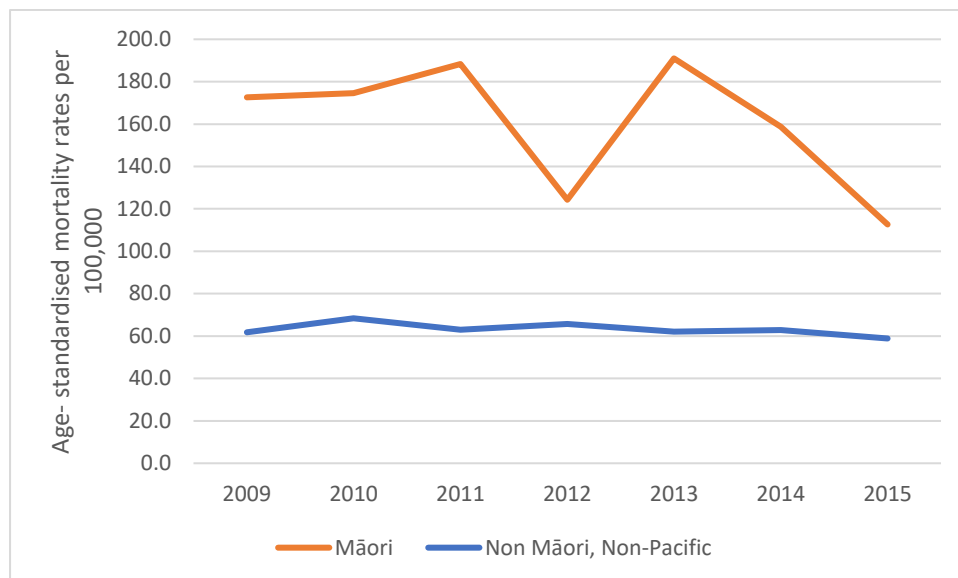
## Amenable mortality

Amenable mortality is used internationally as a measure of the performance of health systems. The concept is based on the idea that certain deaths (for specific age groups and according to specific diseases) could be 'avoided' (i.e. would not have occurred at this stage in a person's life) if optimal quality health care were applied.<sup>39</sup> The rate of amenable mortality for Māori is around twice the rate for non-Māori, non-Pacific people.<sup>40</sup> The difference from 2009 to 2015 for Māori is likely to be due to chance, since the rates are based on small numbers, for example, there were 30 deaths in 2015 and 46 in 2013, leading to apparently very different rates.

<sup>39</sup> Eurostat, Amenable and preventable deaths statistics: [https://ec.europa.eu/eurostat/statistics-explained/index.php/Amenable\\_and\\_preventable\\_deaths\\_statistics](https://ec.europa.eu/eurostat/statistics-explained/index.php/Amenable_and_preventable_deaths_statistics)

<sup>40</sup> <https://nsfl.health.govt.nz/dhb-planning-package/system-level-measures-framework/data-support-system-level-measures/amenable>

**Figure 17: Rates of amenable mortality in CCDHB, age 0–74 years, 2009–2015**



Source: Based on the national Mortality Collection (MORT) and Census population estimates, standardised to the WHO world population

The six most common causes of amenable mortality in Māori between 2010 and 2015 were coronary disease (57), diabetes (27), COPD (25), suicide (19), cerebrovascular disease (16) and female breast cancer (14).

## Health loss

A statistical measure that reflects health rather than mortality is health loss. This estimates how much healthy life is lost due to early death, illness or disability and is measured using the disability-adjusted life year (DALY). The DALY combines information on both fatal (early death) and non-fatal (illness or disability) outcomes and can be used to compare the effects of different diseases across population groups.

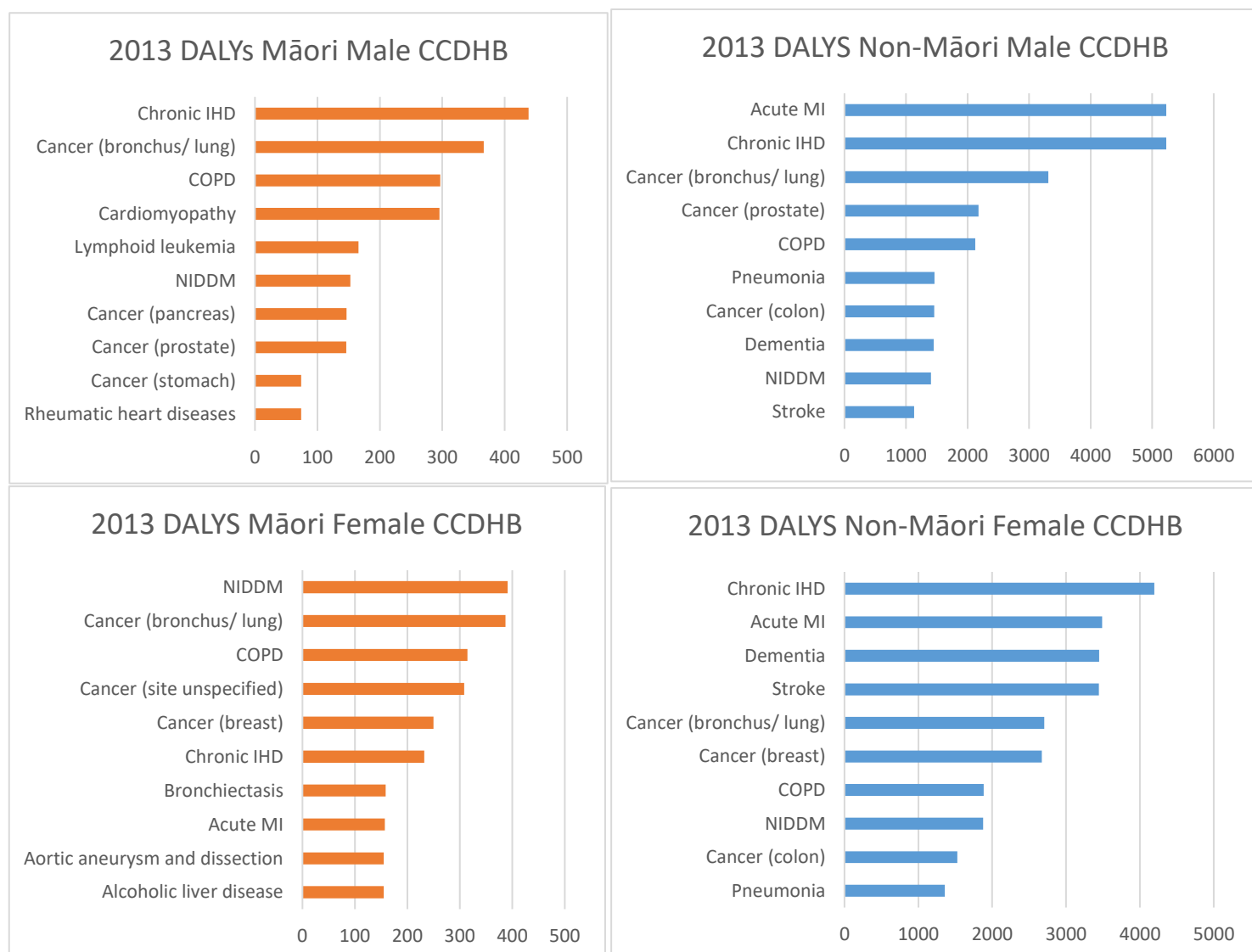
Data on health loss among Māori in CCDHB is available for 2013 (data provided by CCDHB). The top leading condition groups in Māori and non-Māori, males and females, are shown in Figure 18 below. Some patterns are similar between Māori and non-Māori, e.g. a high burden due to ischaemic heart disease (IHD), chronic obstructive pulmonary disease (COPD), non-insulin dependent diabetes mellitus (NIDDM) and lung cancer. Unlike their non-Māori counterpart, Māori men experience high burdens of health loss from cardiomyopathy, leukaemia and cancers of the pancreas and stomach. Māori women experience high burdens of health loss from bronchiectasis, aortic aneurysm and alcoholic liver disease. Also of note is a high burden from cancers of unspecified site. Cancers are usually recorded as such when the patient presents with disseminated disease, indicating insufficient access to health care.

A comprehensive analysis of health loss on a national level was published in 2013. This found that, in 2006, health loss in Māori was almost 1.8 times higher than in non-Māori.<sup>41</sup> Importantly, for Māori,

<sup>41</sup> Ministry of Health. 2013. *Health Loss in New Zealand: A report from the New Zealand Burden of Diseases, Injuries and Risk Factors Study, 2006–2016*. Wellington: Ministry of Health. URL:

the absolute burden of healthy life lost is not dominated by old age; more than half (54 percent) of Māori health loss occurred before middle age, compared with one-third among non-Māori.

**Figure 18: DALYs in CCDHB, 2013**



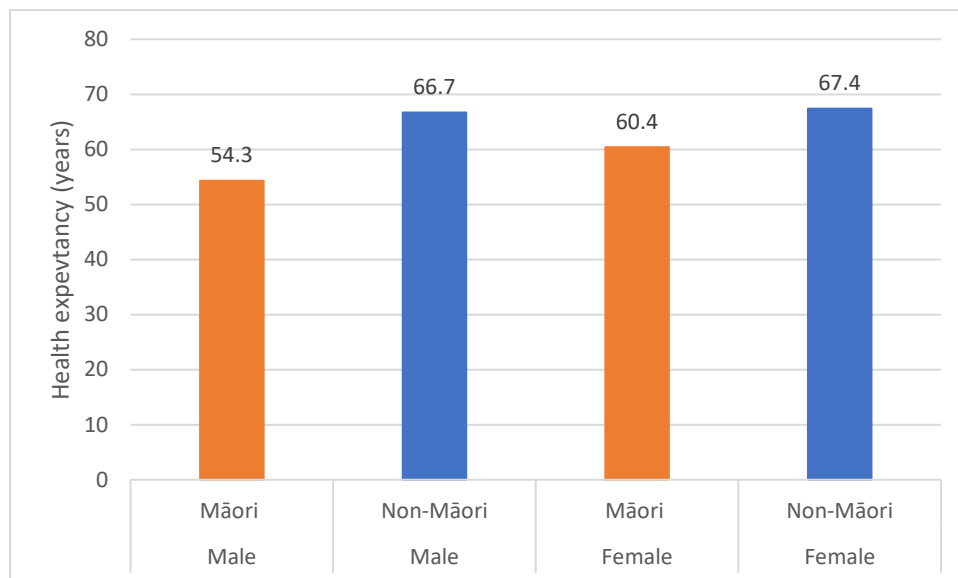
Source: Data provided by CCDHB

An alternative measure is that of health expectancy, which is a summary measure of a population's health that captures both the quantity and quality of life. Health expectancy is defined as the number of years that a person is predicted to live, free from functional limitations.<sup>42</sup> The health expectancies of Māori and non-Māori are shown in Figure 19: Health expectancy in New Zealand, 2013 Figure 19. The differences between Māori and non-Māori are particularly large for men (12.4 years) but also significantly large for women (7 years).

[www.moh.govt.nz/notebook/nbbooks.nsf/0/F85C39E4495B9684CC257BD3006F6299/\\$file/health-loss-in-new-zealand-final.pdf](http://www.moh.govt.nz/notebook/nbbooks.nsf/0/F85C39E4495B9684CC257BD3006F6299/$file/health-loss-in-new-zealand-final.pdf) (accessed 24 June 2019).

<sup>42</sup> Ministry of Social Development, The Social Report 2016 – Te pūrongo orange tangata: <http://socialreport.msd.govt.nz/health/health-expectancy.html>

**Figure 19: Health expectancy in New Zealand, 2013**



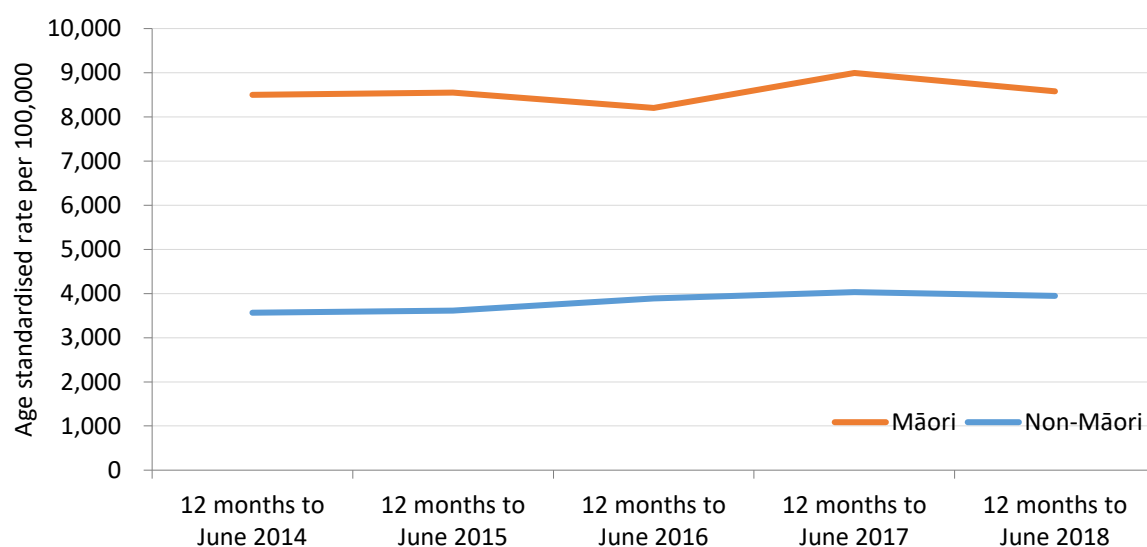
Note: The data in this graph relates to the whole of New Zealand not just CCDHB.

Source: Based on the New Zealand Disability Survey and Statistics New Zealand life tables

## Ambulatory sensitive hospitalisations

Avoidable hospital admissions, also known as ambulatory sensitive hospitalisations (ASH), are a measure of the failure of primary or community health care and/or the health system in general. Here we present ASH rates for 45–64 year olds – we present the ASH rates for 0–4 year olds under section 5: Maternal, child and youth health, see page 54. Over the past five years, Māori adults have had between 2 and 2.4 times the rate of ASH as non-Māori people in CCDHB.

**Figure 20: Age-standardised ASH rates (45–64 years) in CCDHB, 2014–2018**

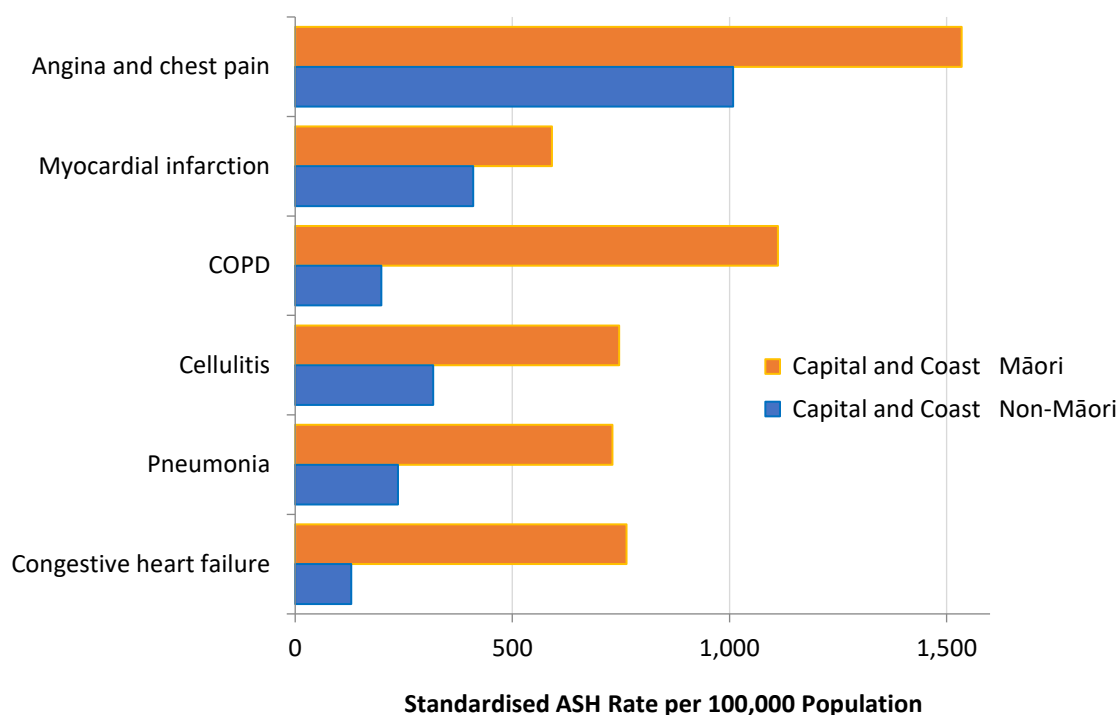


Source: Nationwide Service Framework Library,<sup>43</sup> based on National Minimum Dataset

<sup>43</sup> See <https://nsfl.health.govt.nz/>

The most common ASH conditions for which Māori were admitted in the 12 months to the end of June 2018 are shown in Figure 21. Although the pattern of condition distribution was broadly similar to that of non-Māori, there were observed inequities are particularly notable for COPD and congestive heart failures in the Māori population.

**Figure 21: Six most common conditions contributing to Māori ASH rates in CCDHB, 2018**



Source: Nationwide Service Framework Library, based on National Minimum Dataset

## Provision of accessible appointments

A health system should provide appointments that are accessible, available and acceptable (referred to in this report as ‘accessible’). When such a system does not exist or fails some patients, this will result in delays in diagnosis and treatment for the individuals, as well as inefficiencies for the health system.

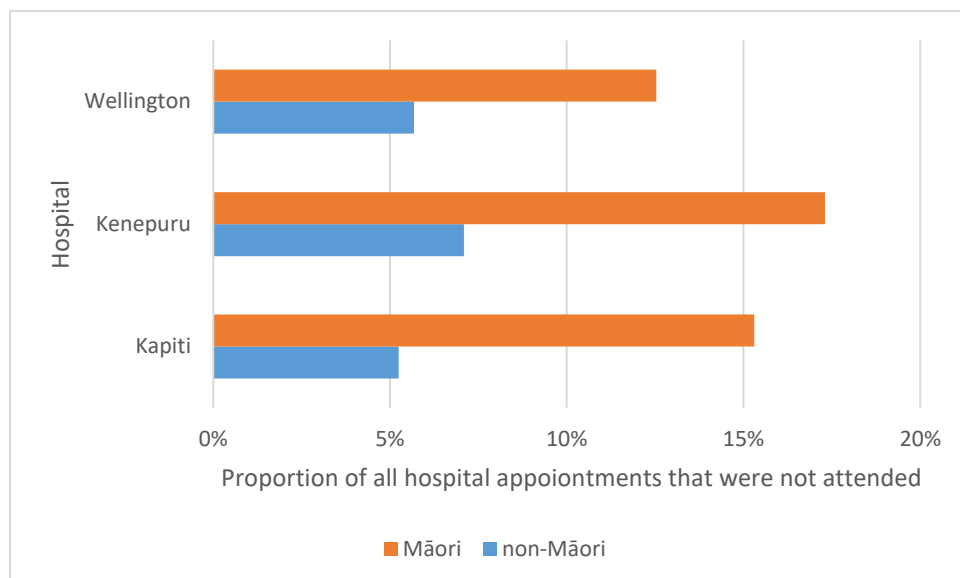
Often, lack of accessibility is measured as ‘did not attend’ rates. Reasons for people not attending have previously been categorised as ‘patient’ and ‘clinic’ factors,<sup>44</sup> thus attributing much of the blame to the patient. Most of the reasons attributed to the patient can be overcome by reframing the idea that the fault lies with the patient, and instead focusing on increasing accessibility to clinics for all patients. There are also system factors that are of specific relevance to equity, such as feeling comfortable and confident to navigate a non-Māori system that has been designed primarily by and for Pākehā.

In CCDHB, the system fails to provide Māori with accessible appointments (in the broadest meaning of accessibility) at more than twice the rate of the non-Māori population. For example, in the second

<sup>44</sup> Dayal S, Puketapu K, Suafole Gush T. n.d. 99% Attendance: Reducing Maori and Pacific did not attends at Hutt Valley DHB clinics. URL: <http://koawatea.co.nz/wp-content/uploads/2016/03/6ICEGE-PAPERS-apac15final00274.pdf> (accessed 24 June 2019).

half of 2016, 14 percent of Māori and 6 percent of non-Māori were not able to access their appointments. As can be seen in Figure 22, inaccessible appointments were higher in Porirua than Wellington, but at every site, the rate for Māori is considerably higher than the rate for non-Māori.

**Figure 22: Proportion of hospital appointments in CCDHB that were not accessible, July–December 2016**



Source: Data provided by CCDHB

Whānau Care Services in CCDHB has been working hard to address the issues around inaccessible appointments for Māori. Possibly the most significant step has been to employ a cardiac nurse to ensure that patients are able to access their appointments. This piece of work focused on patients with cardiac problems, many of the issues around accessibility are also likely to apply to other patients.

Two reports on accessibility were produced in 2016. The first was released in January and gave ‘system issues’ as the most common reason for appointments being inaccessible. Such system issues include contact phone numbers being changed, landlines being disconnected and no appointment letter being received. The report also highlighted a problem with coding who attends appointments. Rescheduled appointments are being coded as ‘did not attended’ (DNA), which then stigmatises the patient, as they may be discharged for ‘not attending’ when it was a systems fault.

Other issues that have been highlighted include the following.

- When a patient phones or texts to reschedule, the message might not get through, and the patient is recorded as a DNA and is stigmatised as a result, which puts them off attending future appointments.
- A patient may have multiple appointments and if the DHB reschedules one appointment, the patient may become confused and not attend any of the appointments because they believe all the appointments have all been rescheduled.
- If the patient is an inpatient at the time of the appointment and the DHB staff do not realise this, the patient can be inappropriately recorded as a DNA.

- A patient might miss an appointment letter because they move place of abode often.
- Some patients are not able to collect their medications due to cost, and they are too embarrassed to reveal this difficulty.

The April report identified further barriers to access.

- The timing of appointments might be problematic (e.g. ECGs might be scheduled for a different day to specialist appointments).
- Some patients might have difficulty paying transport and associated costs and be too embarrassed to reveal this difficulty.
- Some patients might find it hard to schedule in appointments because work is a priority. (They are reluctant to take time off work, especially when they are in a new job.)
- Scheduling issues might also occur where child care is a priority.
- Patients might not know who to contact when they need to reschedule appointments.

Intensive work is needed to address the many issues affecting Māori access to appointments.

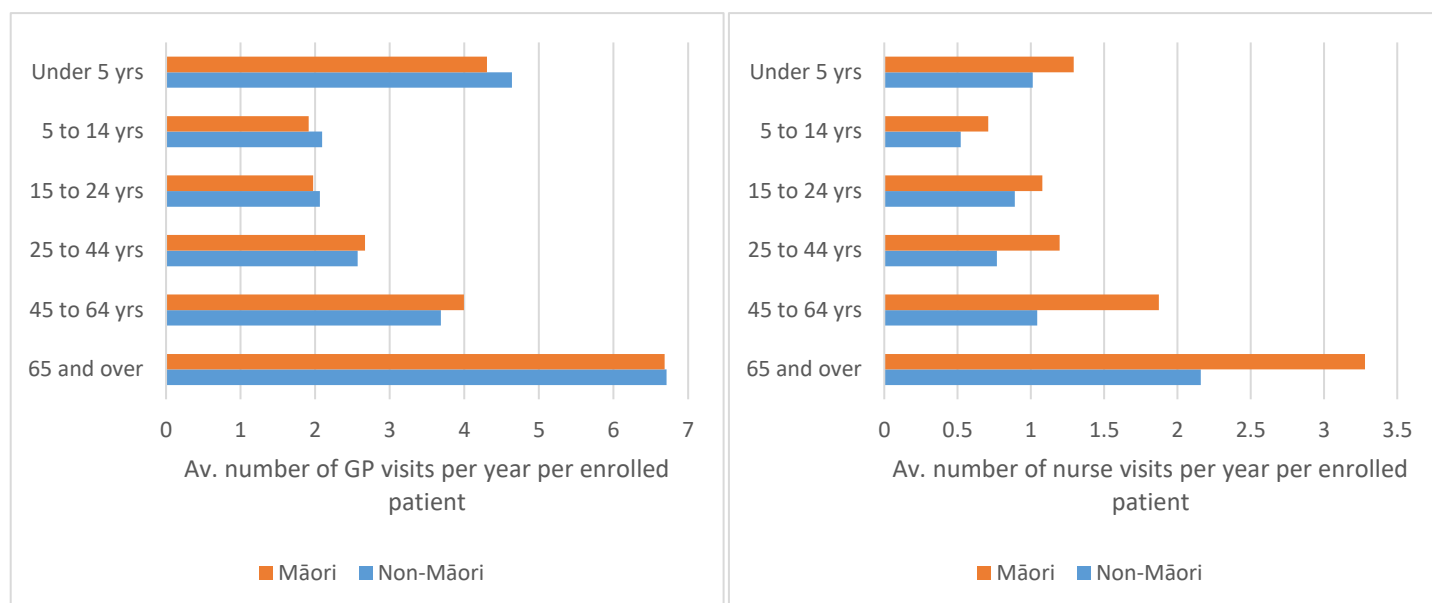
## Māori use of primary health care services

Access to primary health care is vital for the health service to be effective for Māori. As already highlighted, health needs are higher for Māori than non-Māori, and Māori are not accessing primary health care preventions or treatments as much as non-Māori, all of which potentially lead to avoidable hospitalisations (see data on Ambulatory Sensitive Hospitalisations, also sections 5: Maternal, child and youth health and 6: Mental health and addictions).

Use of primary health care services in CCDHB is measured as the number of consultations divided by the number of people enrolled in a primary health organisation (PHO). In CCDHB in the financial year 2017/18, the Māori rate of seeing a GP was 3 visits per year compared with 3.5 for non-Māori. The actual difference may be larger if PHO enrolment rates are found to be lower for Māori than non-Māori. As can be seen from Figure 23 below, Māori use of GPs is lower than non-Māori for under-5-year olds (4.3 visits per year compared with 4.64 visits per year).



Figure 23: Average number of GP and nurse visits per year in CCDHB, 2017/18 Source: Data provided by CCDHB



On the other hand, Māori are much more likely to access community nurse care. For all age groups, the rate of seeing a nurse is higher in Māori, particularly in older people. There are a number of possible explanations for this. First, chronic conditions are more prevalent in Māori, and in many situations, such conditions can be managed well by nurses rather than doctors. However, this is a less likely explanation in the case of children under the age of 5 years. An alternative explanation is that Māori feel unable to access GP care (e.g. due to inconvenient appointment times or the doctor's lack of cultural competency) and are either being offered or seek nurse appointments instead.

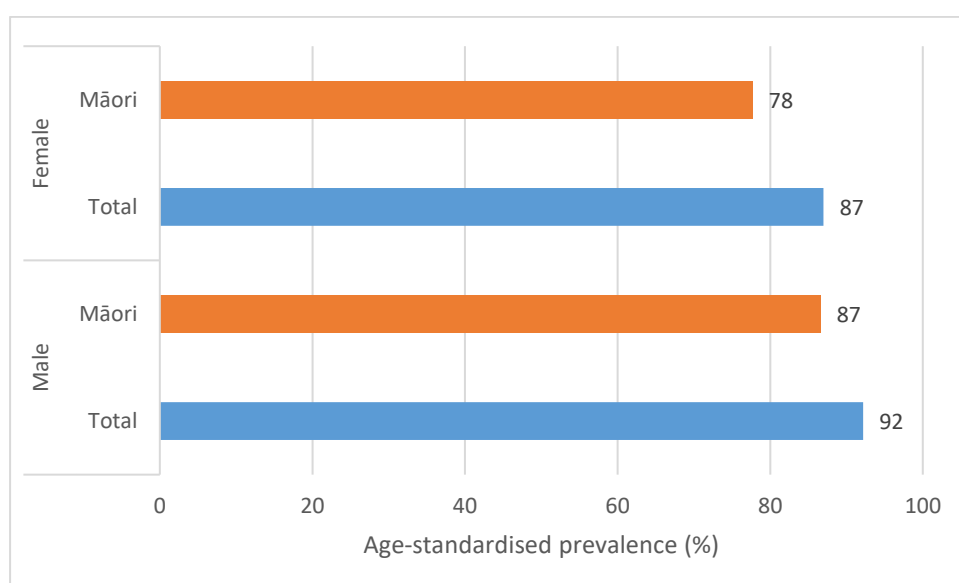
Māori could be incurring an additional financial cost as a result if they are paying for nurse appointments when GP appointments might be free, and further investigation is warranted. A possible start would be to see whether Māori providers in CCDHB experience the same pattern of primary health care use given that the patients enrolled with Māori Providers are likely to have higher need due to deprivation than patients at other PHOs. A second step might be an audit of primary care, recording the reason for attendance. Investigation of GP usage rates using (separately) population and PHO registers as denominators would also be useful, to see whether undercount Māori. Such data will be important in the further investigation of higher ASH rates in Māori compared with non-Māori.

## Patient experience

CCDHB uses four domains to measure patient experience, as submitted to the Health Quality and Safety Commission New Zealand (HQSC). These are: communication; partnership; coordination and physical and emotional needs.<sup>45</sup> CCDHB collects patient experience data at hospital level. Four hundred surveys are sent out each quarter. However, the survey is long, and the response rate has been low – over the last three years, overall response rate has varied from 25 percent to 30 percent, of whom 3 percent to 9 percent are Māori. Therefore, the representativeness of the data is questionable. As at December 2018, the HQSC has not been publishing patient experience data by ethnicity.

Further data on patient experience in primary health care is available from the New Zealand Health Survey.<sup>46</sup> The quality of the relationship between a GP and their patient is key to optimal health decision-making and attending appointments. The majority of people report that their GP is very good or good at involving them in decisions regarding their health, see Figure 24. However, Māori reported satisfaction in this measure at a lower level than the total population, particularly Māori women. The inequity will be greater than that shown, due to the comparator population being the total population, not the non-Māori population.

**Figure 24: Proportion of patients in CCDHB reporting that their GP is good or very good at involving them in decisions**



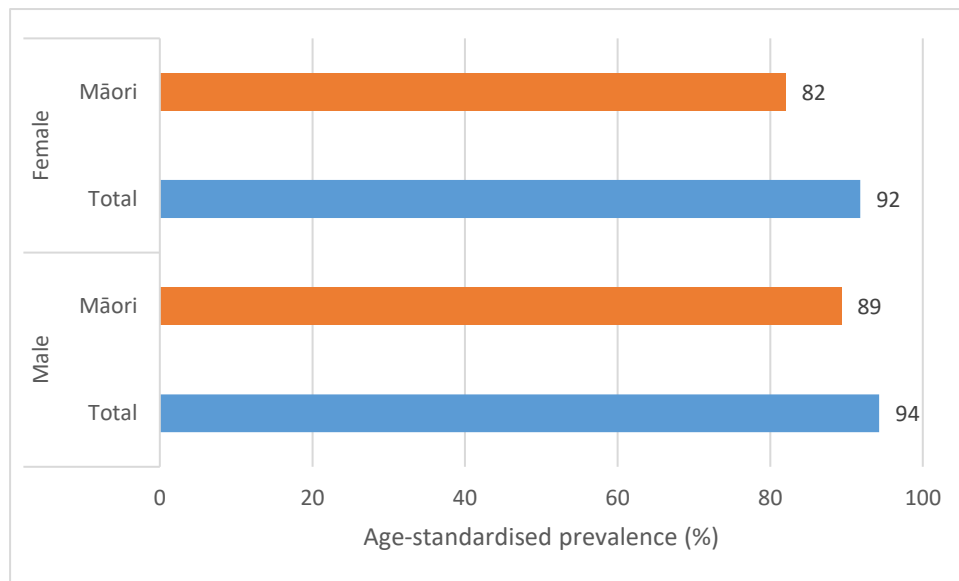
Source: New Zealand Health Survey, standardised to WHO world population

Satisfaction with how GPs explain health conditions and treatments to their patients was relatively high, but there were large differences between Māori and the total population, see Figure 25.

<sup>45</sup> See Health Quality and Safety Commission New Zealand: [www.hqsc.govt.nz/our-programmes/health-quality-evaluation/projects/patient-experience/adult-inpatient-experience/](http://www.hqsc.govt.nz/our-programmes/health-quality-evaluation/projects/patient-experience/adult-inpatient-experience/)

<sup>46</sup> Ministry of Health, New Zealand Health Survey, Regional Data Explorer 2014–17: [https://minhealthnz.shinyapps.io/nz-health-survey-2014-17-regional-update/w\\_ffcb243d/w\\_7da93e51/#!/compare-indicators](https://minhealthnz.shinyapps.io/nz-health-survey-2014-17-regional-update/w_ffcb243d/w_7da93e51/#!/compare-indicators)

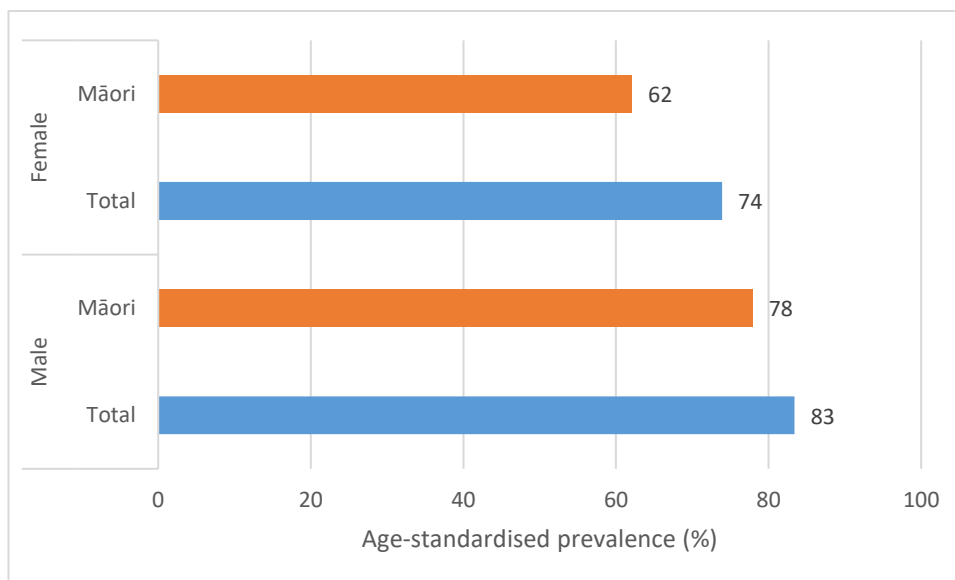
**Figure 25: Proportion of patients in CCDHB reporting that their GP is good or very good at explaining health conditions**



Source: New Zealand Health Survey, standardised to WHO world population

Having confidence in one's GP also differed for Māori compared with the total population, with lower confidence seen particularly in Māori women, see Figure 26.

**Figure 26: Proportion of patients in CCDHB who report having definite confidence or trust in their GP**

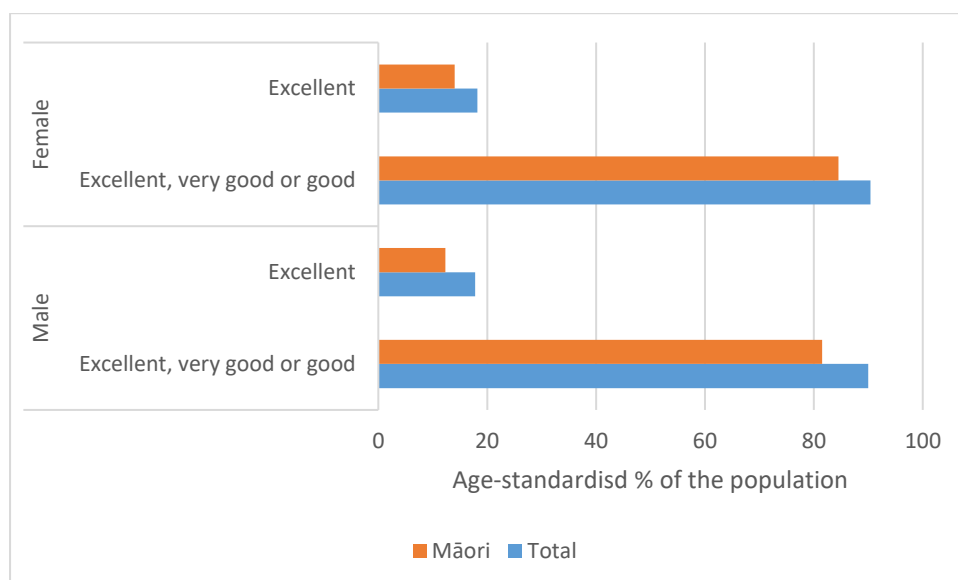


Source: New Zealand Health Survey, standardised to WHO world population

## Māori self-reported health

In the New Zealand Health Survey, respondents were asked to rate their own health. Across the total population, 18 percent rated their health as excellent. In the Māori population, the rating was 12 percent for males and 14 percent for females. When the category responses of good, very good and excellent are combined, levels of self-rated health are high. However, the combined levels are lower for both male and female Māori than for the total population. Once again, it must be noted that data was not reported for the non-Māori population, so the actual inequities will be larger than those shown.<sup>47</sup>

**Figure 27: Self-rated health in Māori and total CCDHB population, 2014–2017**



Source: New Zealand Health Survey, standardised to WHO world population

## Māori disability

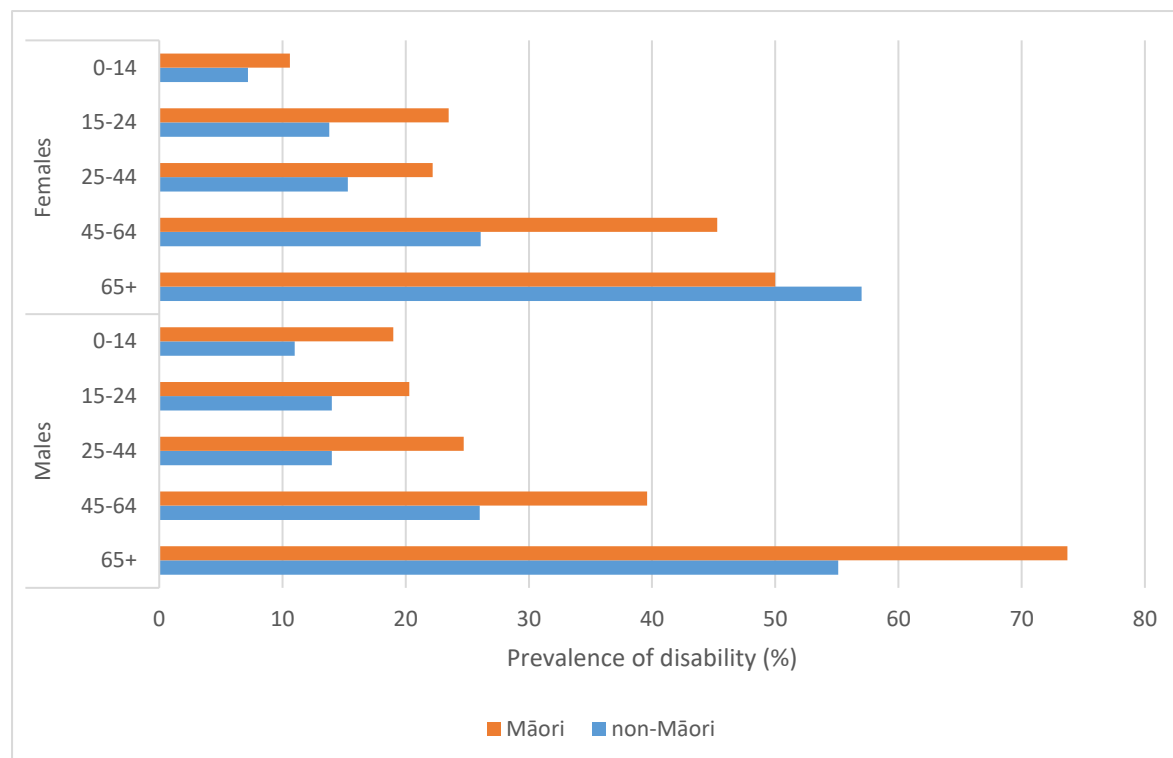
There appears to be little published data on the prevalence or experience of disability among Māori in CCDHB. National data from the New Zealand Health Survey 2013 was used to analyse disability in Māori.<sup>48</sup> Disability was defined in the survey as “any self-perceived limitation in activity resulting from a long-term condition or health problem lasting or expected to last 6 months or more and not completely eliminated by an assistive device”.

In all age groups for men and all age groups of women other than those over 65 years, Māori experience considerably more disabilities than non-Māori. Māori with a disability were also more likely to report more than one impairment and to experience multiple impairments at a younger age than non-Māori.

<sup>47</sup> Ministry of Health, New Zealand Health Survey, Regional Data Explorer 2014–17: <https://minhealthnz.shinyapps.io/nz-health-survey-2014-17-regional-update> (accessed 19 November 2018).

<sup>48</sup> Ministry of Health, Disability: [www.health.govt.nz/our-work/populations/maori-health/tatau-kahukura-maori-health-statistics/nga-mana-hauora-tutohu-health-status-indicators/disability](http://www.health.govt.nz/our-work/populations/maori-health/tatau-kahukura-maori-health-statistics/nga-mana-hauora-tutohu-health-status-indicators/disability)

**Figure 28: Rates of self-reported disability among Māori and non-Māori in New Zealand, 2013**



Source: New Zealand Health Survey, standardised to WHO world population

## Co-existing conditions

In many DHB analyses, dimensions of Māori health have been considered individually. Clearly, many people do not experience just one illness at a time, and as a person ages, co-existing illnesses become more common. Since analysis of co-existing conditions requires data on an individual level, these are rarely published in routine data sources.

One survey that looked at this specifically was Te Rau Hinengaro.<sup>49</sup> Across New Zealand, among Māori with any 12-month disorder, 55.5 percent had only one disorder, 25.7 percent had two disorders and 18.8 percent had three or more disorders. People with a mental disorder frequently have more than one disorder. There is also a relationship between mental disorder and chronic physical conditions.<sup>50</sup>

<sup>49</sup> Te Rau Hinengaro: The New Zealand Mental Health Survey, see: Ministry of Health, Te Rau Hinengaro: The New Zealand Mental Health Survey: [www.health.govt.nz/publication/te-rau-hinengaro-new-zealand-mental-health-survey](http://www.health.govt.nz/publication/te-rau-hinengaro-new-zealand-mental-health-survey)

<sup>50</sup> MA Oakley Browne, JE Wells, KM Scott (eds). 2006. Te Rau Hinengaro: The New Zealand Mental Health Survey. Wellington: Ministry of Health. URL: [www.health.govt.nz/system/files/documents/publications/mental-health-survey.pdf](http://www.health.govt.nz/system/files/documents/publications/mental-health-survey.pdf) (accessed 24 June 2019).

# Morbidity in Māori

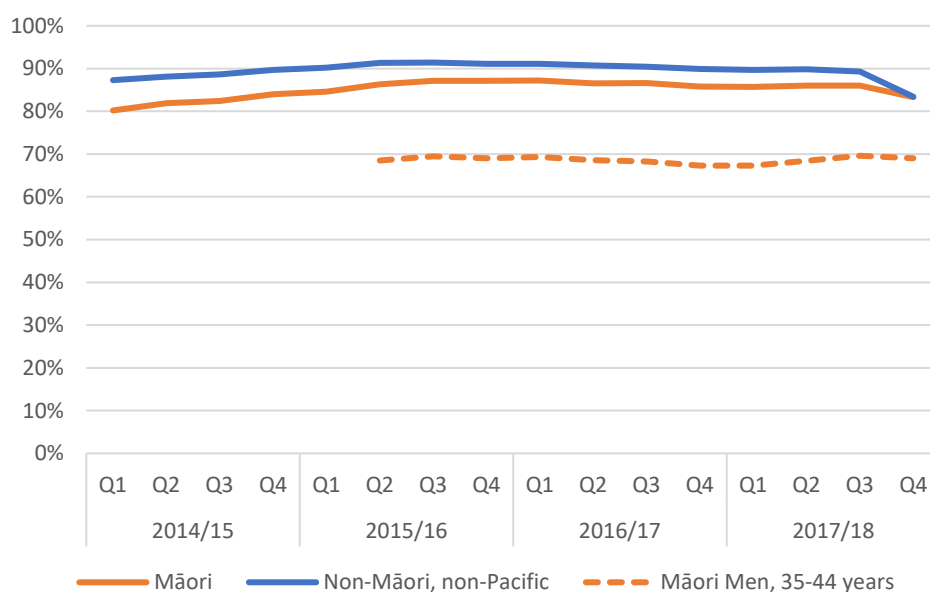
## Cardiovascular disease

### Cardiovascular disease risk assessment

The burden of cardiovascular disease (CVD) falls disproportionately on Māori. CVD can be reduced through lifestyle change and appropriate drug therapy. For asymptomatic people, risk assessment is recommended for Māori men from the age of 30 years and Māori women from the age of 40 years (the ages for non-Māori are 10 years older than this).<sup>51</sup>

Over the four quarters of the 2017/18 financial year, an average of 85 percent of eligible Māori in CCDHB had had a CVD risk assessment in the previous five years.<sup>52</sup> For non-Māori, non-Pacific people, the average was 88 percent, and for both groups, the target was 90 percent. Further investigation confirms that young Māori men are not being screened for CVD risk factors; for Māori men aged 35 to 44 years, the average was 69 percent, with no apparent change in the past two and a half years. Since these men will become at greatest risk of CVD in future years, beginning the risk assessment process at this age is vital to address the high CVD burden in Māori men.

**Figure 29: Proportion of eligible people in CCDHB having had a CVD assessment, 2014/15–2017/18**



Source: Extracted from CCDHB performance measures dataset

### Hospitalisation for circulatory disease

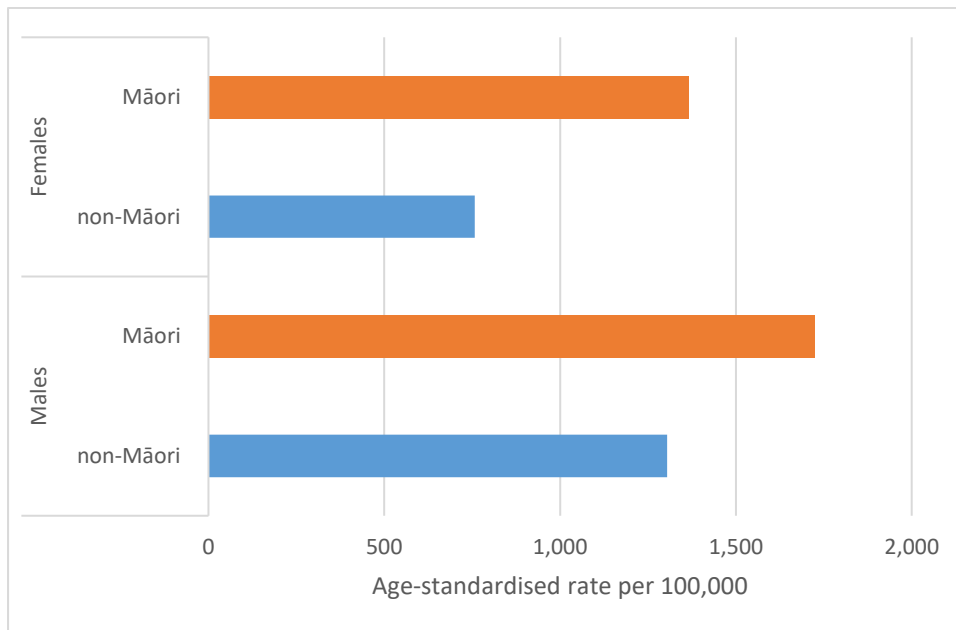
In CCDHB, Māori are 1.5 times more likely than non-Māori to be hospitalised for diseases of the circulatory system.<sup>53</sup>

<sup>51</sup> <https://www.health.govt.nz/publication/cardiovascular-disease-risk-assessment-and-management-primary-care>

<sup>52</sup> CCDHB performance measures, provided by CCDHB

<sup>53</sup> Robson B, Purdie G, Simmonds S, Waa A, Faulkner R, Rameka R, Andrewes J. 2015. *Capital and Coast District Health Board Māori Health Profile 2015*. Wellington: Te Rōpū Rangahau Hauora a Eru Pōmare. URL:

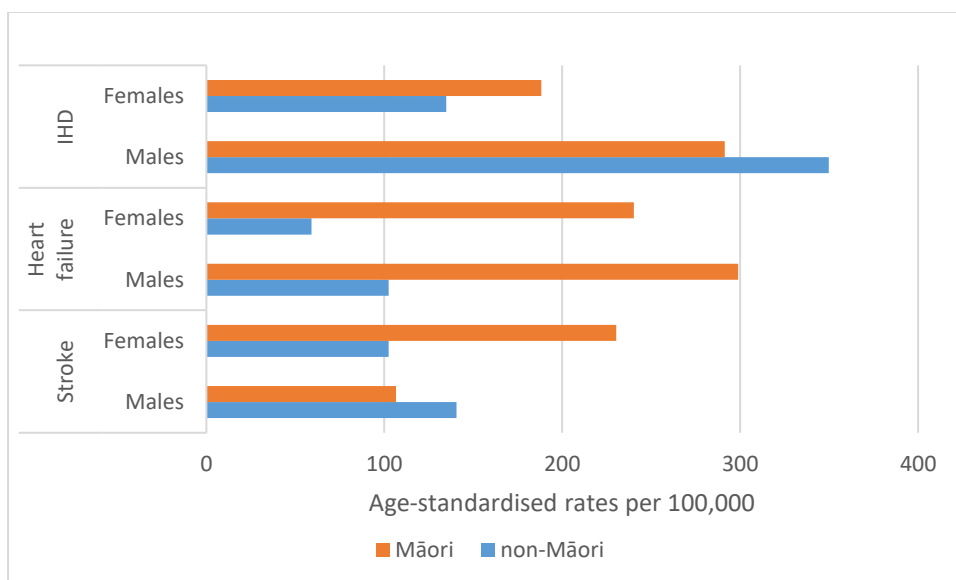
**Figure 30: Rate of cardiovascular disease hospitalisation in CCDHB, 25+ years, 2011–2013**



Source: Ministry of Health's National Minimum Dataset Collection, standardised to 2001 Māori population

For Māori, the most common component of CVD hospitalisations is heart failure. For this outcome, as well as IHD and stroke in females, the rate of hospitalisations in CCDHB is higher for Māori than non-Māori. Non-Māori males have a higher rate of stroke and IHD than Māori.

**Figure 31: CCDHB rates of hospitalisations for Māori and non-Māori, 2011–2013**



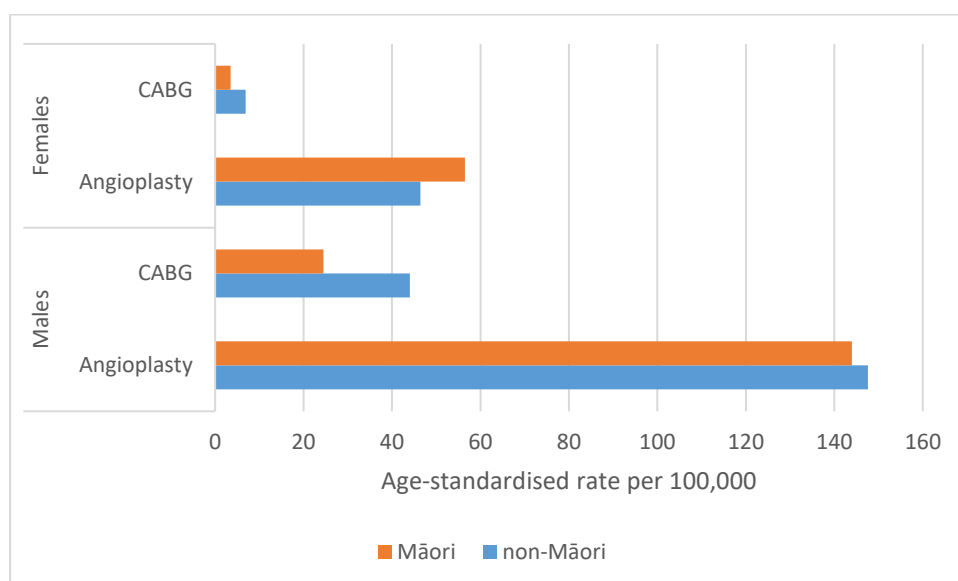
Source: Ministry of Health's National Minimum Dataset Collection, standardised to 2001 Māori population

[www.otago.ac.nz/wellington/departments/publichealth/research/erupomare/research\\_otago152540.pdf](http://www.otago.ac.nz/wellington/departments/publichealth/research/erupomare/research_otago152540.pdf)  
(accessed 21 June 2019).

Medical investigation of CVD appears to be proportional to need for Māori in CCDHB: Māori are 30 percent more likely to have angiography (medical imaging of blood vessels) than non-Māori,<sup>54</sup> although the indication for this investigation is not recorded in the National Minimum Dataset (NMDS).

However, surgical intervention to treat CVD does not appear to be proportional to need for Māori in CCDHB. While the angioplasty rates are similar between Māori and non-Māori, the coronary artery bypass graft (CABG) rate for Māori is only half that of non-Māori. Although the numbers in these analyses are small, they indicate that Māori may not be getting as intensive treatment for CVD as non-Māori. This requires further investigation.

**Figure 32: CCDHB rates of cardiac revascularisation procedures, 2011–2013**



Source: Ministry of Health National Minimum Dataset Collection, standardised to 2001 Māori population

## Chronic obstructive pulmonary disease

Māori experience a large burden of respiratory disease; Māori aged 45 years and over are 2.7 times as likely as non-Māori of the same age group to be admitted to hospital for chronic obstructive pulmonary disease (COPD).<sup>55</sup> It is clear from Figure 34 (reported in CCDHB Annual Plan 2016/17)<sup>56</sup> that the inequity experienced by Māori shows no sign of reducing. COPD results from damage to the lungs and is most commonly associated with smoking. Recent reductions in Māori smoking levels will

<sup>54</sup> Robson B, Purdie G, Simmonds S, Waa A, Faulkner R, Rameka R, Andrewes J. 2015. *Capital and Coast District Health Board Māori Health Profile 2015*. Wellington: Te Rōpū Rangahau Hauora a Eru Pōmare. URL: [www.otago.ac.nz/wellington/departments/publichealth/research/erupomare/research/otago152540.pdf](http://www.otago.ac.nz/wellington/departments/publichealth/research/erupomare/research/otago152540.pdf) (accessed 21 June 2019).

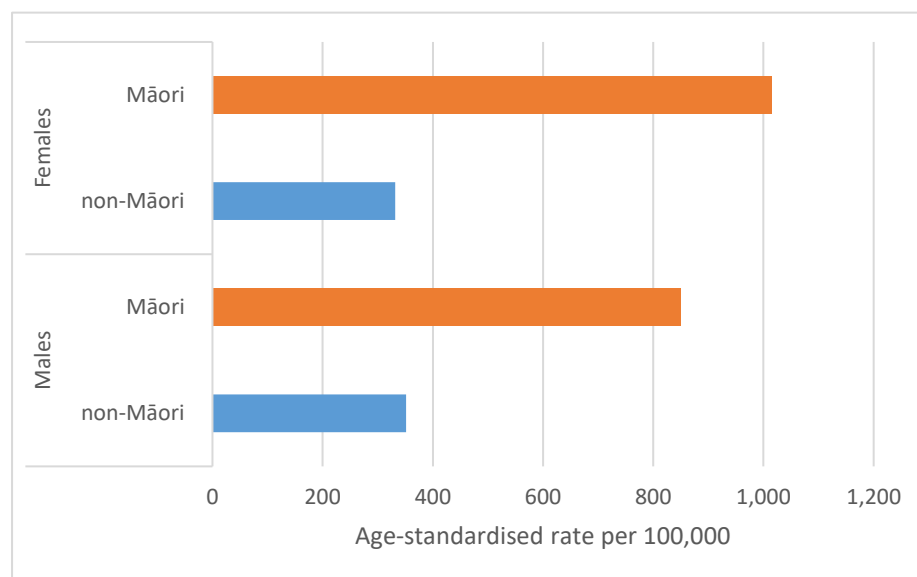
<sup>55</sup> Robson B, Purdie G, Simmonds S, Waa A, Faulkner R, Rameka R, Andrewes J. 2015. *Health Board Māori Health Profile 2015*. Wellington: Te Rōpū Rangahau Hauora a Eru Pōmare. URL: [www.otago.ac.nz/wellington/departments/publichealth/research/erupomare/research/otago152540.pdf](http://www.otago.ac.nz/wellington/departments/publichealth/research/erupomare/research/otago152540.pdf) (accessed 21 June 2019).

<sup>56</sup> <https://www.ccdhb.org.nz/news-publications/publications-and-consultation-documents/ccdhub-annual-report-2016-2017-web.pdf>



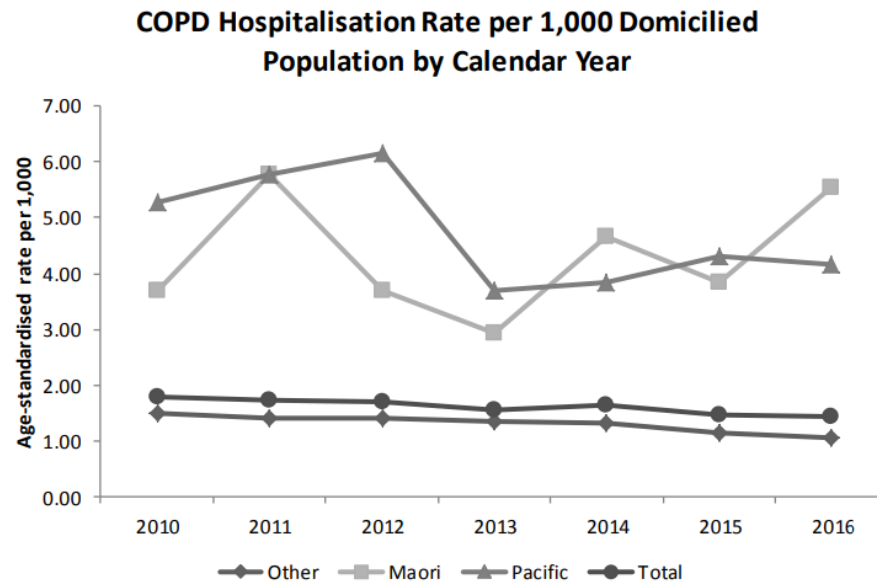
not have an effect on respiratory disease morbidity for several decades, so a focus on appropriate management of COPD for Māori is warranted.

**Figure 33: Rates of COPD hospitalisations in CCDHB, 45+ years, 2011–2013**



Source: Ministry of Health National Minimum Dataset Collection, standardised to 2001 Māori population

**Figure 34: Rates of hospitalisation for COPD in CCDHB, 2010–2016**

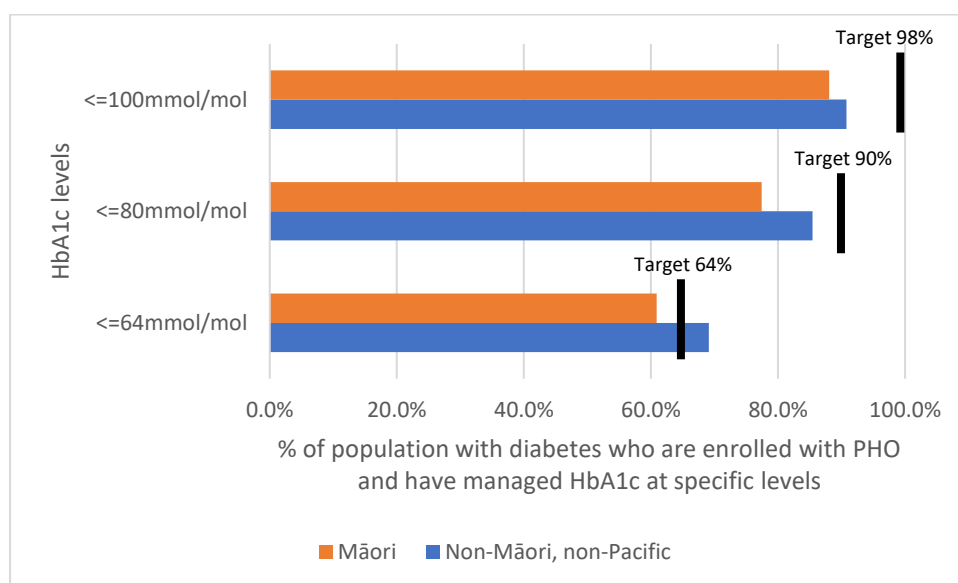


Source: This figure was reported in the CCDHB 2016/17 Annual Plan, but no data source was given

## Diabetes

In 2016, diabetes prevalence in CCDHB was 3.9 percent for Māori and 3.7 percent for non-Māori, non-Pacific, non-Asian people.<sup>57,58</sup> Good glycaemic control in people with diabetes can limit microvascular outcomes and, if started early enough, can limit long-term macrovascular outcomes. In 2016, 83 percent of Māori with diabetes and 86 percent of non-Māori, non-Pacific, non-Asian people had regular HbA1c monitoring.<sup>59</sup> Poor glycaemic control is defined as an HbA1c level of >64mmol/mol.<sup>60</sup> Only 60 percent of Māori achieve this target, and they are also not achieving the higher targets for higher levels of HbA1c, see Figure 35.

**Figure 35: Proportion of people in CCDHB with diabetes who are achieving HbA1c targets, 2017/18**



Source: CCHDB performance measures, 2017/18

## Cancer incidence

Overall in New Zealand, Māori are 30 percent more likely to be diagnosed with cancer than non-Māori.<sup>61</sup> In 2015, cancer incidence among Māori females was 43 percent more than among their non-Māori counterparts and 19 percent more for Māori compared with non-Māori males. In CCDHB, the Māori cancer rate was 43 percent higher for the years 2008–2012.<sup>62</sup>

<sup>57</sup> <https://www.hqsc.govt.nz/our-programmes/health-quality-evaluation/projects/atlas-of-healthcare-variation/diabetes/>

<sup>58</sup> These prevalences are not age standardised, so are not directly comparable, and have been provided for health needs assessment rather than inequity assessment.

<sup>59</sup> <https://www.hqsc.govt.nz/our-programmes/health-quality-evaluation/projects/atlas-of-healthcare-variation/diabetes/>

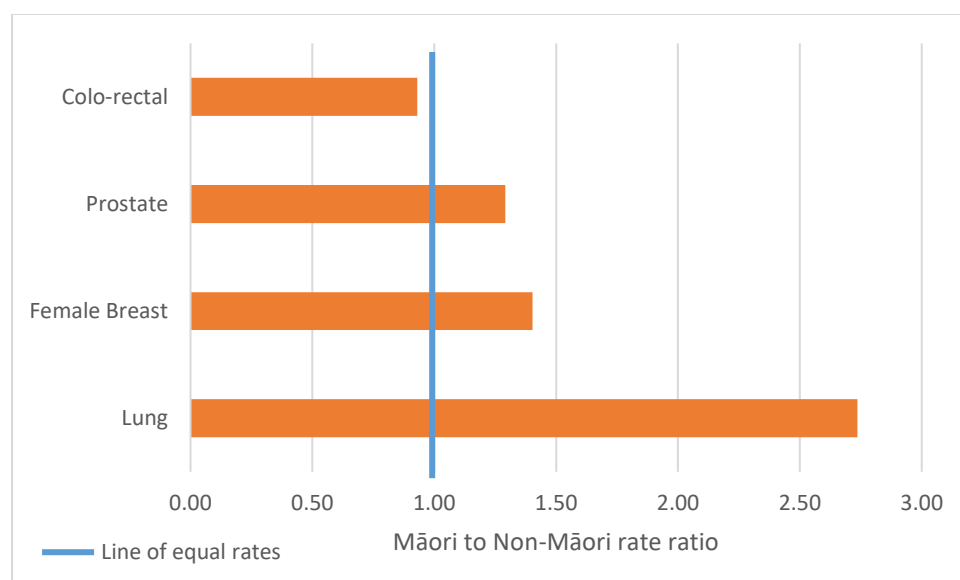
<sup>60</sup> Ministry of Health. 2014. *Quality Standards for Diabetes Care Toolkit: Standard 8*. Wellington: Ministry of Health. URL: [www.health.govt.nz/system/files/documents/publications/standard-8.pdf](http://www.health.govt.nz/system/files/documents/publications/standard-8.pdf) (accessed 25 June 2019).

<sup>61</sup> Ministry of Health, New cancer registrations 2015: [www.health.govt.nz/publication/new-cancer-registrations-2015](http://www.health.govt.nz/publication/new-cancer-registrations-2015)

<sup>62</sup> HQSC Atlas of Healthcare Variation / Cancer incidence: five major: [www.hqsc.govt.nz/assets/Health-Quality-Evaluation/Atlas/cancerSF/atlas.html](http://www.hqsc.govt.nz/assets/Health-Quality-Evaluation/Atlas/cancerSF/atlas.html)

Specific data for CCDHB is limited to the more common cancer sites: lung, prostate, breast and colorectal cancers.<sup>63</sup> Other important cancers for Māori across New Zealand are uterine and cervical cancers in women and liver and stomach cancer in men,<sup>64</sup> but the numbers of cases in CCDHB each year are too small for meaningful analysis.

**Figure 36: Rate ratios of cancer incidence, comparing Māori with non-Māori in CCDHB, 2015**



Source: New Zealand Cancer Registry, StatsNZ population denominator, standardised to WHO world standard population

### Cancer screening

BreastScreen Aotearoa provides breast cancer screening free of charge to all women in New Zealand aged 45–69 years. The programme has a target to screen 70 percent of eligible women aged 50–69 every two years.<sup>65</sup> In the year to June 2018, 68 percent of eligible Māori women in CCDHB had been screened, compared with 75 percent of non-Māori, non-Pacific, non-Asian women.<sup>66</sup> It is arguable that the screening target for Māori women should be higher than for non-Māori given the higher rates of breast cancer experienced by Māori women. The fact that CCDHB is approaching the screening target for Māori should not lead to complacency in this area, as considerable work needs to be done to address cancer inequities experienced by Māori.

Currently, cervical screening is available to all women in New Zealand aged 20–69 years under the National Cervical Screening Programme (NCSP). The NCSP funds the cost of the cytological analysis, but women have to pay for the cost of the provider. However, some PHOs provide low-cost or free cervical smear-taking services. Māori women were less likely to have had a cervical smear test in the previous three years than non-Māori. The coverage data for Māori women living in CCDHB in the

<sup>63</sup> Massey University, Healthspace, Cancer: District Health Boards: Tabular Data View:

<http://healthspace.ac.nz/dataviews/tabular?viewId=4&geold=11&subsetId>

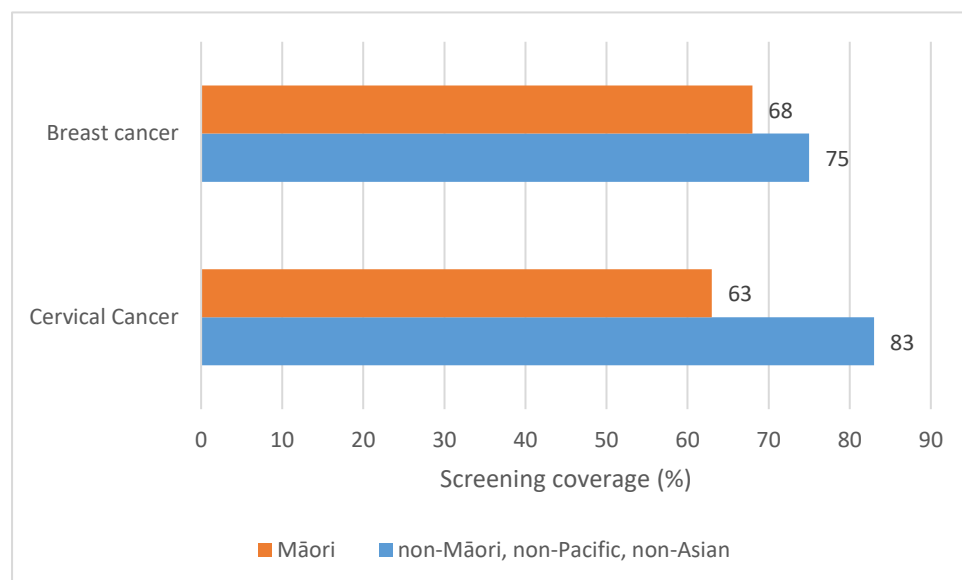
<sup>64</sup> Ministry of Health, Cancer: [www.health.govt.nz/our-work/populations/Maori-health/tatau-kahukura-Maori-health-statistics/nga-mana-hauora-tutohu-health-status-indicators/cancer](http://www.health.govt.nz/our-work/populations/Maori-health/tatau-kahukura-Maori-health-statistics/nga-mana-hauora-tutohu-health-status-indicators/cancer)

<sup>65</sup> There is no target for women aged 45–49 years because there is less evidence of the benefits of this age group's participation in a population health breast screening programme.

<sup>66</sup> <https://www.nsu.govt.nz/health-professionals/breastscreen-aotearoa/breast-screening-dhb-quarterly-reports>

three years to September 2018 was 63 percent for Māori women and 83 percent for non-Māori, non-Pacific, non-Asian women.<sup>67</sup> The NCSP target for all women is 80 percent.

**Figure 37: CCDHB female screening coverage under Breast Screen Aotearoa and the National Cervical Screening Programme, 2018**



Source: BreastScreen Aotearoa coverage report and NCSP coverage report (cervical screening)

#### Cancer survival

No cancer survival statistics for Māori appear to have been published on a DHB level. This is probably due to the small numbers of cases available for analysis. However, the Ministry of Health has published a comprehensive analysis of cancer survival across New Zealand for 1994–2011.<sup>68</sup>

One-year survival is often used as a proxy for access to treatment. For all cancers combined, across all of New Zealand, the one-year survival rate is lower for Māori than non-Māori. For cancers diagnosed in 2010–2011, the Māori one-year survival rate was 69 percent, compared with 79 percent for non-Māori.

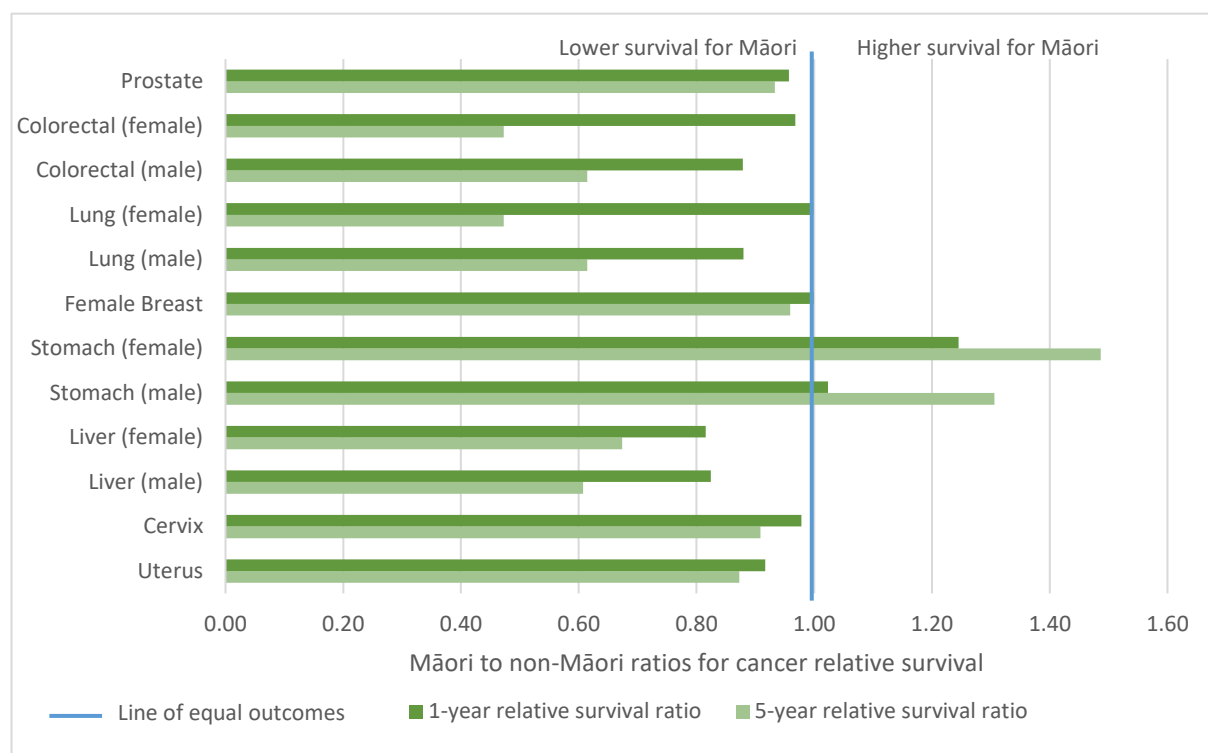
Five-year survival is the most commonly used proxy measure of effectiveness of treatment, although this measure is affected by how early a cancer is diagnosed and ongoing access to treatment. For cancers diagnosed in 2010–2011, the Māori five-year survival was 49 percent, compared with 65 percent for non-Māori.

However, since Māori experience different cancers to non-Māori, and these different cancers have different median survival times, it is misleading to consider overall cancer survival for Māori and non-Māori. Looking at specific cancers is more informative. When we do this, both one-year and five-year survival rates were lower for Māori than non-Māori, other than for stomach cancer, see Figure 38.

<sup>67</sup> National Screening Unit, National Cervical Screening Programme Coverage Report: <https://minhealthnz.shinyapps.io/nsu-ncsp-coverage/>

<sup>68</sup> Ministry of Health. 2015. *Cancer Patient Survival 1994–2011*. Wellington: Ministry of Health [www.health.govt.nz/publication/cancer-patient-survival-1994-2011](http://www.health.govt.nz/publication/cancer-patient-survival-1994-2011) (accessed 26 June 2019). Note that this publication uses relative survival methods, which accounts for the fact that Māori have higher mortality rates overall, and this applies to Māori with cancer as well as those without.

**Figure 38: Ratio of Māori to Non-Māori survival from diagnosed cancers: national data, 2010–2011**



Source: New Zealand Cancer Registry and Mortality Collection

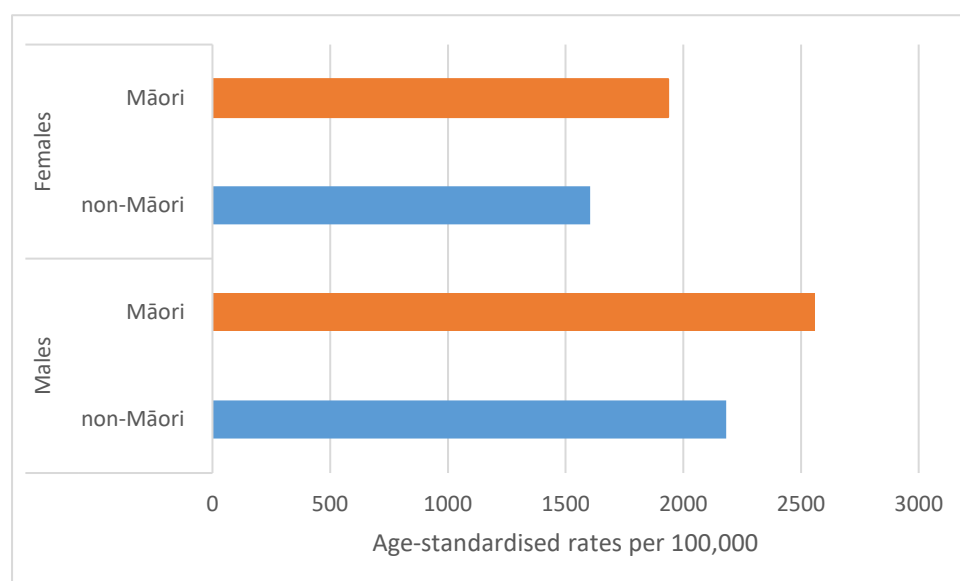
Of specific note is that, in general, the one-year survival gap between Māori and non-Māori is considerably smaller than the five-year survival gap, indicating that Māori with cancer are probably accessing services but that effectiveness of ongoing treatment may be where larger inequities lie. There are numerous reasons for this, which could include later diagnosis, associated diseases limiting treatment options or inequities in access to cancer treatment. Further research into this area is warranted, for without the knowledge of why this is occurring, interventions to alter the course of disease for Māori cannot be implemented.

### Injuries

The 'injuries' category covers a wide range of conditions. Hospitalisations for all injury conditions combined was 19 percent higher for Māori than for non-Māori in the period 2011–2013, based on the data published in the CCDHB Māori Health Profile.<sup>69</sup>

<sup>69</sup> Robson B, Purdie G, Simmonds S, Waa A, Faulkner R, Rameka R, Andrewes J. 2015. *Capital and Coast District Health Board Māori Health Profile 2015*. Wellington: Te Rōpū Rangahau Hauora a Eru Pōmare. URL: [www.otago.ac.nz/wellington/departments/publichealth/research/erupomare/research\\_otago152540.pdf](http://www.otago.ac.nz/wellington/departments/publichealth/research/erupomare/research_otago152540.pdf) (accessed 26 June 2019).

**Figure 39: CCDHB hospitalisation rates for injuries, 45+ years, 2011–2013**



Source: National Minimum Dataset, age-standardised to 2001 Māori population.

Particularly notable were higher rates for Māori compared with non-Māori for specific causes of injuries, including accidents (11 percent higher) and assault (over three times higher). Māori were 77 percent more likely to have their injury coded as ‘event of undetermined intent’ than non-Māori.

It has been reported that people of European/other ethnicities (defined as non-Māori, non-Pacific, non-Asian) in CCDHB were 61 percent more likely to submit ACC claims for falls than Māori in 2016.<sup>70</sup> Although these results are not age standardised and can partly be explained by the age distribution of the populations, the Māori rate for submitting ACC claims was lower across all age bands.

The higher rate of hospitalisation due to a fall in European/Other (18.5 per 1,000) people compared with Māori (10 per 1,000), however Māori under the age of 75 have higher rates of hospitalisations than non-Māori. Data on fractured head or femur, and preventative treatment following this, is not available for Māori due to small numbers in CCDHB.

### Gout

Measuring the true prevalence of gout is difficult. The method used most commonly involves identifying people who have either been in hospital for gout or been prescribed gout-specific medicines (urate-lowering therapy or colchicine). This will underestimate the prevalence of gout by about 20 percent.<sup>71</sup> It is also likely that this underestimation may be higher for Māori than for non-Māori, given the prescribing patterns described below.

In 2016, the prevalence of gout among Māori (6.1 percent) in CCDHB was almost double that of non-Māori, non-Pacific people (3.3 percent). In all ethnicities, gout is much more common in men than women. Also, the data is not age-standardised, therefore the inequity is likely to be higher than this, since gout is more prevalent in older people, and Māori are underrepresented in older people.

<sup>70</sup> HQSC Atlas of Variation / Falls:

<https://public.tableau.com/profile/hqi2803#!/vizhome/Fallssinglemapv12018/HQSCAtlasofVariationFalls>

<sup>71</sup> HQSC Atlas of Variation / Gout:

<https://public.tableau.com/profile/hqi2803#!/vizhome/Goutsinglemap/AtlasofHealthcareVariationGout>

Best-practice treatment for gout is preventative treatment, using urate-lowering therapy (primarily allopurinol in New Zealand), with colchicine and/or NSAIDs for managing acute flares. In 2016, 41 percent of Māori in CCDHB were on urate-lowering therapy, compared with 46 percent of non-Māori, non-Pacific people. Although this is not a big difference in CCDHB, it fits with a pattern of lower prescribing of allopurinol to Māori nationally.

The rates of serum urate tests in the previous six months (recommended for people on urate-lowering therapy) were similar for Māori and non-Māori, non-Pacific people. There was a slightly higher proportion of Māori compared with non-Māori, non-Pacific people who were using colchicine or NSAIDs but not urate-lowering therapy, but these differences were small.

In summary, although Māori experience a large proportion of the gout burden in CCDHB, treatment appears to be equitable between Māori and non-Māori, although all people with gout in the DHB should be reviewed to assess whether allopurinol treatment would be of benefit.

### *Pain management*

Analysis of New Zealand data on pain management is limited by the fact that the prescribing data does not clearly state reasons for prescribing. We therefore need to make assumptions regarding the need for pain management when we are comparing prescribing for Māori and non-Māori.

In 2016, prescribing of both strong<sup>72</sup> and weak<sup>73</sup> opioids were considerably lower for Māori in CCDHB than non-Māori, as was the prescribing of strong opioids for more than six weeks.<sup>74</sup> This data is not age-standardised, but the same pattern of higher prescribing for non-Māori is seen in age-specific groups for strong opioids.<sup>75</sup>

Interestingly, among people who had experienced a public hospital event in the previous week, Māori had a 27 percent higher rate of strong opioid prescribing than non-Māori. This suggests that the need among Māori may well be higher but that the overall prescribing rate for Māori is lower, possibly due to lower access to health care or differential prescribing choices by clinicians. However, this is a supposition, and further investigation is required to confirm the reasons for the lower prescribing rates.

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<sup>72</sup> Fentanyl, methadone, morphine, oxycodone and pethidine

<sup>73</sup> Tramadol, codeine and dihydrocodeine

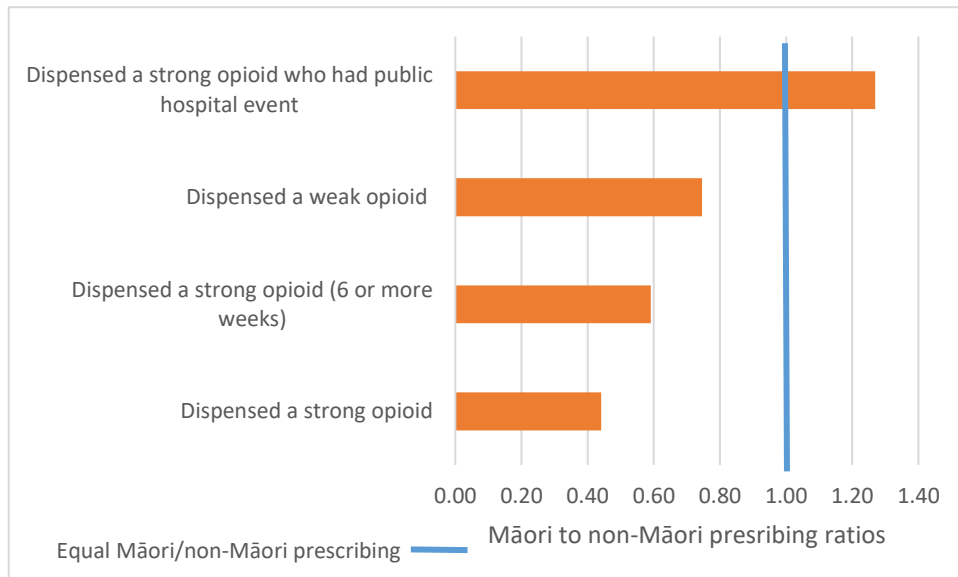
<sup>74</sup> HQSC Atlas of Variation / Opioids:

<https://public.tableau.com/profile/alexis.wevers#!/vizhome/Opioidssinglemapv1/HQSCAtlasofVariationOpioid>

<sup>75</sup> Health Quality & Safety Commission New Zealand, Atlas of Healthcare Variations, Opioids:

<https://www.hqsc.govt.nz/our-programmes/health-quality-evaluation/projects/atlas-of-healthcare-variation/opioids/>

**Figure 40: Māori to non-Māori crude prescribing ratios in CCDHB, 2016**



Source: These data are reported on the HQSC website, but the source of the data is not clear.



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## 3. Workforce development

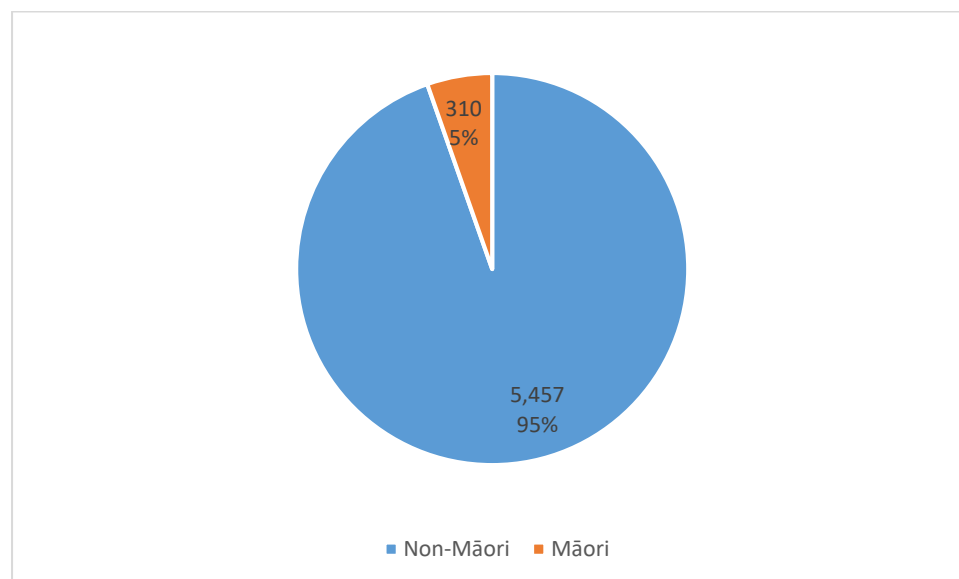
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### Developing a strong Māori health workforce

#### Māori employed at CCDHB

The workforce of the CCDHB does not reflect the population it serves. Of the 5,766 employees in CCDHB (as at October 2018), only 5 percent were Māori, while Māori make up over 11 percent of the DHB's population (10 percent of the working age population, age 15–64 years).<sup>76</sup>

**Figure 41: Breakdown of the ethnicity of CCDHB staff, October 2018**



Source: Provided by CCDHB

A very similar picture is seen when full-time equivalents (FTEs) are considered, instead of the total numbers of people. In this case, Māori account for 6 percent of the full number of FTE employees.

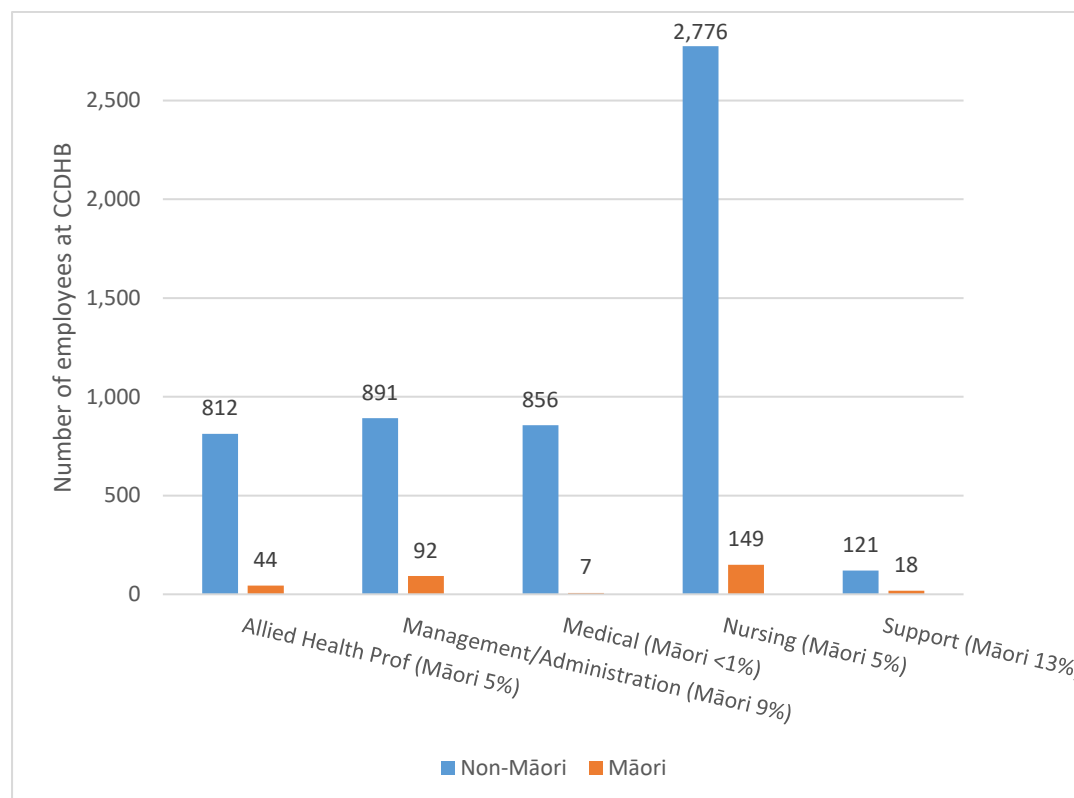
A key component of CCDHB aiming to be a pro-equity organisation will be Māori involvement in decision-making. At the moment, this does not happen to a sufficient extent. Most Māori are employed in nursing (149 people), although this only represents 5 percent of nurses. Of the management/administration staff, 92 are Māori, representing 9 percent of all staff in these roles. Support staff are the only roles in which the proportion of Māori employed by CCDHB (13 percent) is similar to the proportion in the population (11 percent).

A significant proportion of Māori employed at CCDHB are non-clinical; specifically, there are only seven medically trained employees at CCDHB. This is less than 1 percent of all the doctors in the DHB. In an equitable organisation, there should be proportionality across all professional groupings.

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<sup>76</sup> CCDHB workforce data

**Figure 42: Māori compared with non-Māori employment roles in CCDHB, October 2018**

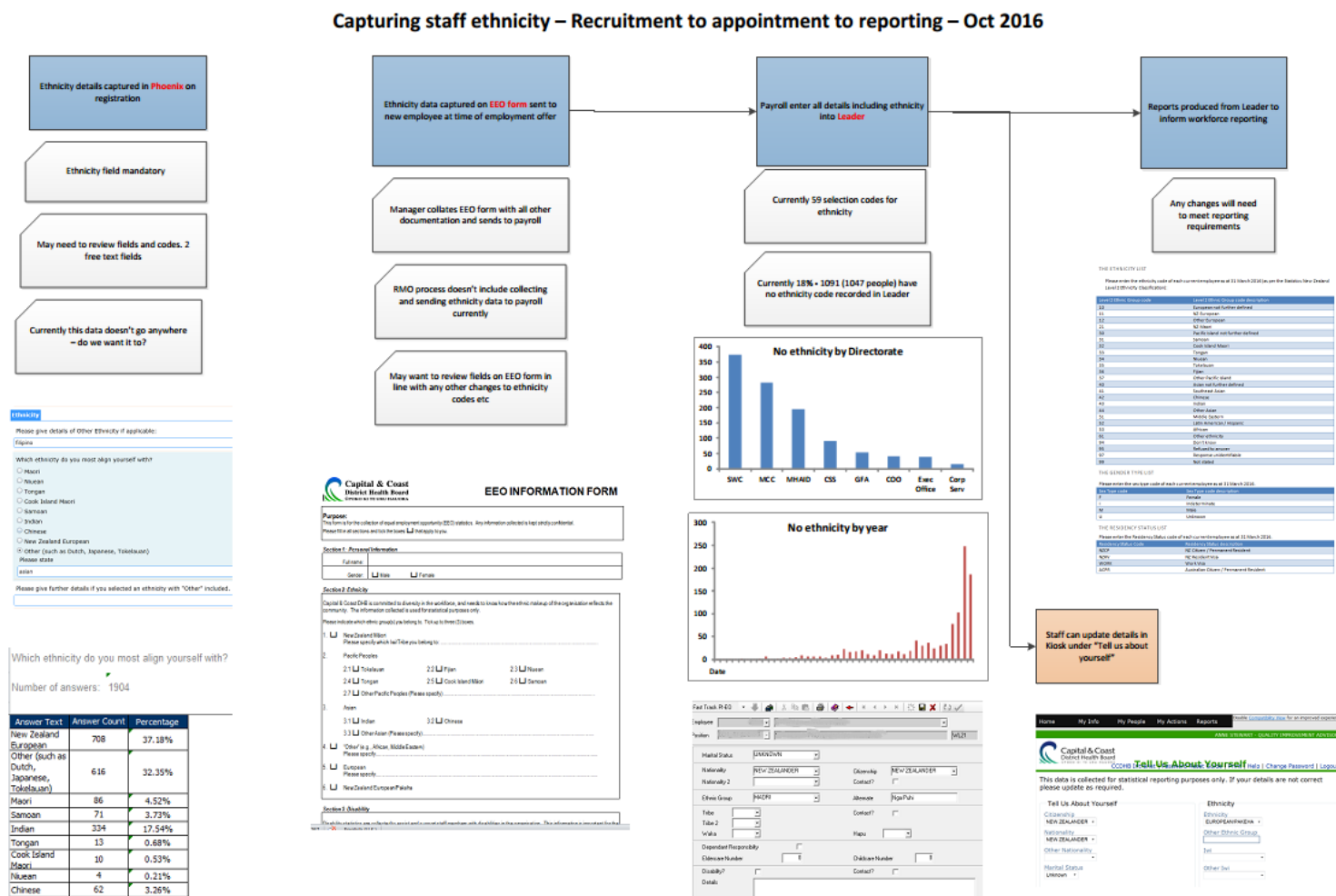


Source: Provided by CCDHB

#### *Ethnicity data collection in CCDHB*

It is important to note that of the non-Māori shown in Figure 42 above, 792 (15 percent) had unknown or 'other' ethnicity. Work is underway to improve the ethnicity data collection in CCDHB, to allow robust analysis by ethnicity of recruitment, appointment and regular monitoring of staff numbers. This work is limited by the different points where ethnicity data is collected along the recruitment path, the different coding systems used at each point and the electronic systems that do not interact. These are summarised in Figure 43 below.

Figure 43: Points of ethnicity data collection in CCDHB's recruitment path, 2016



## Staff turnover and retention

The monthly turnover of staff in CCDHB is calculated as the number of staff who leave in any given month, as a proportion of the total number of staff who are employed at the beginning of that month. The average annual turnover of staff from 2014 to 2018 is similar for Māori and non-Māori, approximately 2 percent per month. Looking across staff employment categories, the turnover rates is similar for all, although the number of Māori staff leaving is highest among nurses and management/administrative staff, since these are the categories with highest numbers of Māori staff.

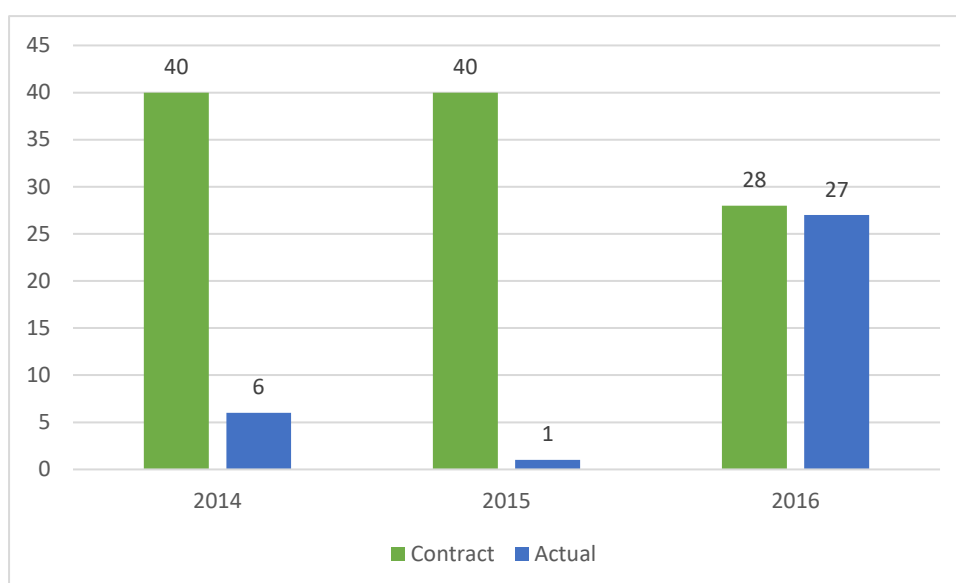
Retention of staff in an organisation is a reflection of the culture of that organisation. It is not calculated directly in CCDHB, and therefore we can only draw inferences regarding retention of Māori staff from the turnover rate. Given the turnover figures, it does not appear that there are significant problems with staff retention in CCDHB. However, these figures are highly dependent on accurate and complete ethnicity data collection. Māori staff may be unwilling to divulge their ethnicity due to perceived or real institutional racism or implicit racial bias. Staff with no recorded ethnicity may be the ones who are more likely to leave due to the lack of a supportive work environment. The experience of these people will not be reflected in the numbers that we have presented. This reinforces the need for improved ethnicity data collection as described above.

## Staff Training: Hauora Māori Training Fund

The Ministry of Health funds the Hauora Māori Training Fund. The primary aim of the fund is to allow Māori employed in the non-regulated health and disability workforce to develop competencies in their current roles and expand their capabilities to give them the potential to move across roles in the health sector. Non-Māori employees of Māori providers and services are also eligible to apply for the fund.

Māori uptake of workforce development in CCDHB has improved since the Ministry of Health mandated CCDHB's Māori Health Development Group (MHDG) to begin managing the Hauora Māori Training Fund in 2016. Before then, there was the budget for 40 contracts, but very few of these were taken up. It is clear from Figure 44 that, although the MHDG approved a reduced number of training opportunities in its first year of management, the success of the fund rose hugely.

**Figure 44: Use of the Hauora Māori Training Fund, 2014–2016**



Source: Provided by CCDHB

## Staff training: Professional development

The DHB does not offer specific funding for professional development of Māori staff. However, on the DHB intranet, there are links to DHB-specific funding for professional development, and Māori-specific funding, although not necessarily within the DHB. These include:

- Scholarship / Professional Development and Recognition Programme (PDRP) funding for nurses
- Huarahi Whakatū
- Tipu Ora Hauora Māori education programmes (National Certificate in Hauora Māori (level 4) and the National Diploma in Hauora Māori Health (level 6))
- Ngā Manukura o Āpōpō: a Māori clinical leadership programme
- Hauora Māori Scholarships (via the Ministry of Health)
- CCDHB/PSA study assistance fund, for members of the Public Service Association (PSA).

## Equipping the workforce: cultural competency training

### Te Tohu Whakawaiaora

Having the competency to engage with the people one serves is critical in the health sector. Central Region Māori Managers identified the need for cultural competency training to achieve a competent and capable workforce in 2008. Their vision was to develop a culturally responsive workforce that would accelerate Māori health gain. The resulting programme, Te Tohu Whakawaiaora (Certificate in Healthcare Capability), was developed over a number of years and first piloted in CCDHB in 2015.

The aim of Te Tohu Whakawaiaora is to raise the capability of staff to help improve Māori health outcomes. The programme is an NZQA accredited, level 3 course, delivered in three modules: The

Treaty and Healthcare; Tikanga and Healthcare; and, Cultural Competence and Healthcare. The course combines a mix of self-directed learning, face-to-face workshops and a noho marae.

In the pilot year (2015), there were 41 expressions of interest, from which 10 participants were selected. Over subsequent years, expressions of interest remained at similar levels (30 in 2016, 48 in 2017 and 51 in 2018), with participant numbers more than doubling (21, 30 and 23 respectively).

In 2015, the programme was evaluated by independent evaluators, Quigley and Watts. They stated that the programme is filling a gap not met by other training. They complimented, in particular, its alignment with the NZQA qualification framework and noted that all respondents would recommend the programme to others at their work.

#### *Stand-alone modules*

It is recognised that not all staff have the time or desire to complete the full Te Tohu Whakawaiora course. Therefore, three stand-alone modules are also offered. These are the Treaty of Waitangi & Health and Wellbeing (8 hours), tikanga Māori (1 hour) and te reo Māori (8 hours). Each module is offered a number of times each year, and the numbers of people attending these are considerably higher than those attending the Te Tohu Whakawaiora, as shown in Table 1 below.

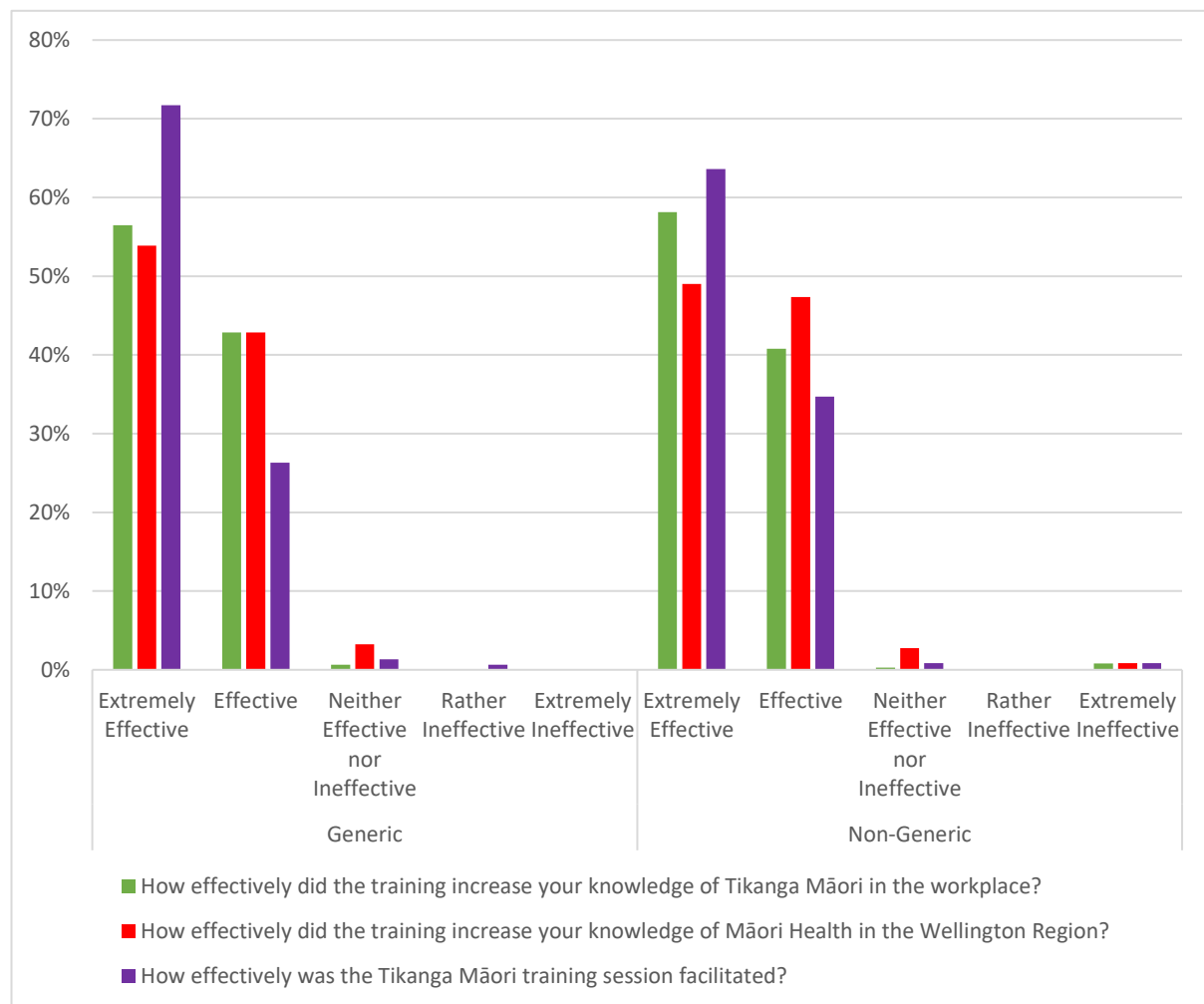
**Table 1: Number of people attending cultural competency training in CCDHB, 2017–2018**

Training	2017	2018
Te Tohu Whakawaiora	48	51
Treaty of Waitangi & Health and Wellbeing	79	90
MHAID Treaty of Waitangi in Practice	76	91
Beginners Te Reo Course Level 1	108	112
Beginners Te Reo Course Level 2	160	64
Beginners Te Reo Course Level 3	0	10
Tikanga Māori	1,142	1,101
<b>Total</b>	<b>1,613</b>	<b>1,519</b>

Source: Provided by CCDHB

The tikanga Māori sessions are attended by the highest number of people. The sessions are open to all staff, although some staff are required to attend as part of their annual practising certificate renewal. Some sessions are run as generic sessions and attended by a variety of staff; others are targeted at specific groups, such as emergency department (ED) staff. The feedback from the standard forms that staff are asked to complete are shown in Figure 45 below. The patterns of feedback from the generic and non-generic sessions was similar, with almost all staff saying that the content and the facilitation of the sessions was effective or extremely effective.

**Figure 45: Feedback from CCDHB staff attending tikanga Māori sessions, 2018**



Source: Provided by CCDHB

Qualitative feedback was equally complimentary. Comments relating to tikanga Māori included “Practical information”, “Noa and tapu explanation will change my practice” and “Learned about WCS being clinical as well as cultural”. Comments relating to Māori health included “Very informative”, “Appreciated examples of tikanga to give context at CCDHB” and “Was unaware that there was a difference with Māori and non-Māori wellbeing”. The feedback relating to the facilitation of the sessions was overwhelmingly good. This is clearly a useful and valuable session.

In summary, both Te Tohu Whakawaiaora and the stand-alone modules are well established in CCDHB, with good results. CCDHB intends to continue evolving, promoting and delivering these training programmes as a key component of workforce development.

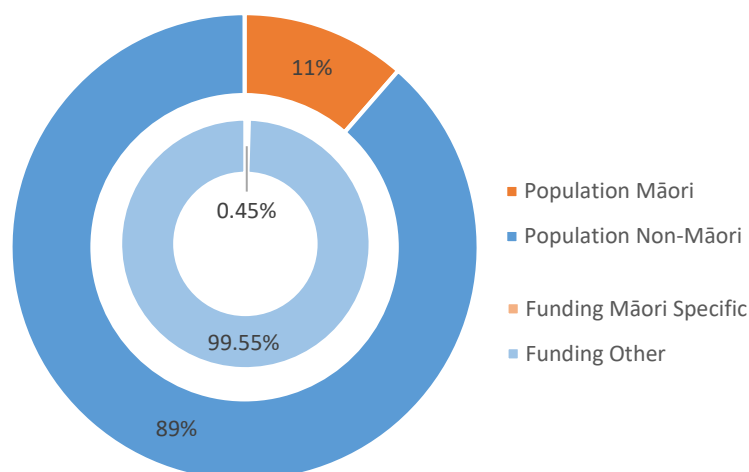
## 4. Funding and commissioning

Under legislation, DHBs have a responsibility to support Māori involvement in service delivery. This is demonstrated through service contracts to Māori health providers.

### Are Māori health providers thriving?

The CCDHB Māori Health Portfolio funds three 'By Māori for Māori' providers and two mainstream providers delivering services specifically targeting Māori to the value of \$2.2m, of the total CCDHB budget of \$689.6m. This represents 0.45 percent of the DHB budget, to serve 11 percent of the population.

**Figure 46: The mismatch between the funding of Māori health providers and the Māori population, CCDHB, 2015/16**



Source: Provided by CCDHB

As the majority of Māori continue to receive most of their health care from mainstream services, considerable effort is required to ensure that mainstream services make it a key priority to reduce the health inequities that affect Māori and to work effectively for Māori.

The Ministry of Health recognises that there are service gaps in the health system, resulting in unmet need for Māori. In response to this, Te Ao Auahatanga Hauora Māori: Māori Health



Innovation Fund was set up in 2009, to fund new approaches to service delivery and “address the service gaps and unmet needs of Māori by the health system”.<sup>77</sup>

The value of the Māori health portfolio (funding to Māori health providers) rose \$1.6m from 2011/12 to 2015/16, an increase of 44 percent.<sup>78</sup> Over the same period, Crown funding to CCDHB rose 10.5 percent, but as this started at a considerably higher baseline, the absolute rise was \$65.6m, compared with the \$1.6m to Māori providers. On a national level, the funding to Māori health providers, as a percentage of the overall health budget, Vote Health, fell from 1.93 percent in 2011/12 to 1.86 percent in 2015/16.<sup>79</sup> In the light of this, it is unlikely that Māori health providers in CCDHB can be thriving, although clearly measures other than funding are required to look further in to this.

## Are contracted services achieving equity?

Although other domains of equity may also be important to address this question, this report demonstrates that, for virtually every health outcome, Māori experience poorer health outcomes than non-Māori.

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<sup>77</sup> Ministry of Health, Te Ao Auahatanga Hauora Māori: the Māori Health Innovation Fund 2018–2022: [www.health.govt.nz/our-work/populations/maori-health/maori-health-providers/te-ao-auahatanga-hauora-maori-maori-health-innovation-fund-2018-2022](http://www.health.govt.nz/our-work/populations/maori-health/maori-health-providers/te-ao-auahatanga-hauora-maori-maori-health-innovation-fund-2018-2022)

<sup>78</sup> Ministry of Health. 2017. *Funding to Māori Health Providers by the Ministry of Health and District Health Boards (DHBs), 2011/12 to 2015/16*. Wellington: Ministry of Health. URL: [www.health.govt.nz/publication/funding-maori-health-providers-ministry-health-and-district-health-boards-dhbs-2011-12-2015-16](http://www.health.govt.nz/publication/funding-maori-health-providers-ministry-health-and-district-health-boards-dhbs-2011-12-2015-16) (accessed 26 June 2019).

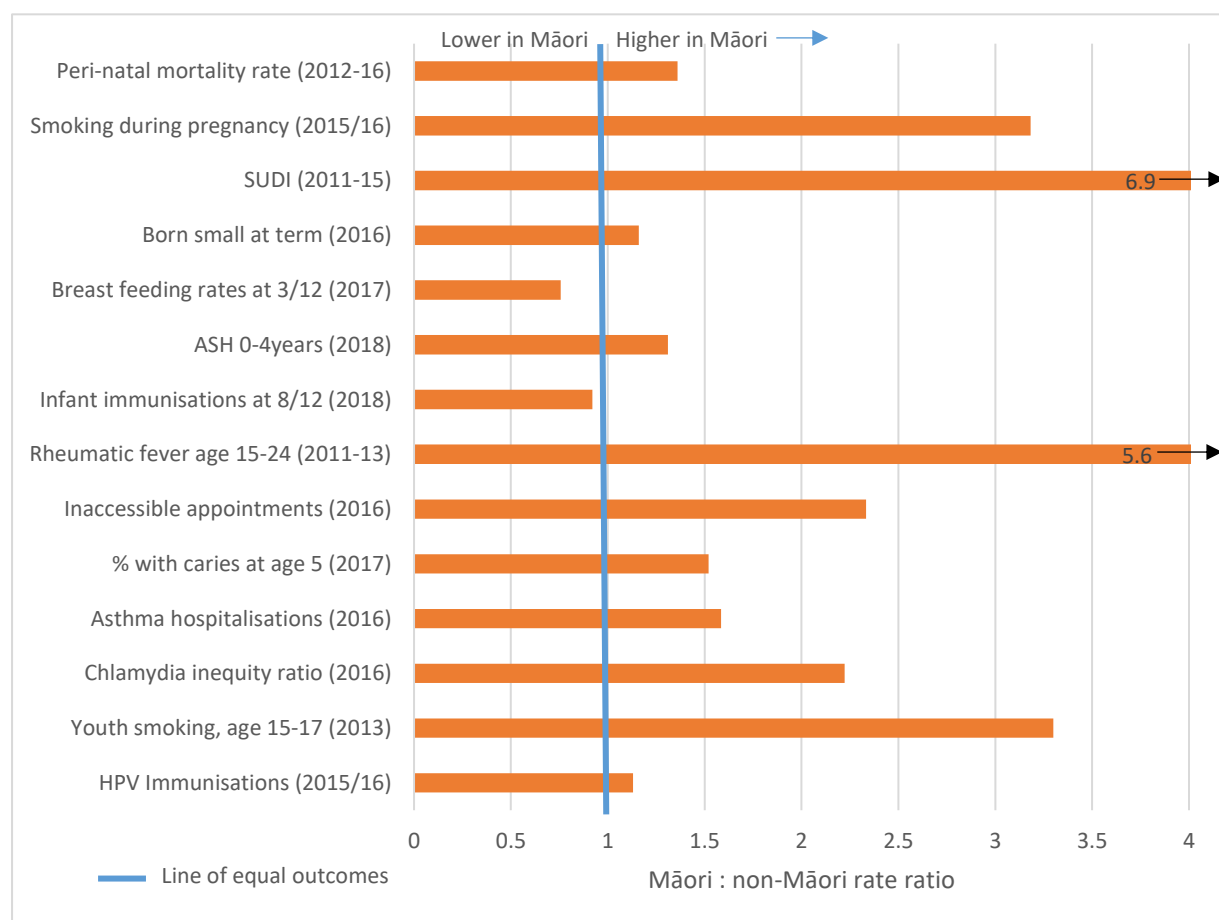
<sup>79</sup> Ministry of Health. 2017. *Funding to Māori Health Providers by the Ministry of Health and District Health Boards (DHBs), 2011/12 to 2015/16*. Wellington: Ministry of Health. URL: [www.health.govt.nz/publication/funding-maori-health-providers-ministry-health-and-district-health-boards-dhbs-2011-12-2015-16](http://www.health.govt.nz/publication/funding-maori-health-providers-ministry-health-and-district-health-boards-dhbs-2011-12-2015-16) (accessed 26 June 2019).

## 5. Maternal, child and youth health

A summary of inequity between Māori and non-Māori across a range of maternal, child and youth health indicators is shown in Figure 47. Each indicator is discussed in greater detail below, however, for almost all, Māori do less well than non-Māori.

The results in Figure 47 are presented as rate ratios, which is a comparison between Māori and non-Māori. If the rates for a particular indicator are equal, the rate ratio is 1.0. A rate ratio of over 1.0 means that the rate in Māori is higher (e.g. smoking in pregnancy); a rate ratio of under 1.0 means that the rate in Māori is lower (e.g. breast feeding at 3/12).

**Figure 47: Māori to non-Māori rate ratios of maternal, child and youth health indicators in CCDHB, 2011–2018**



**Notes:**

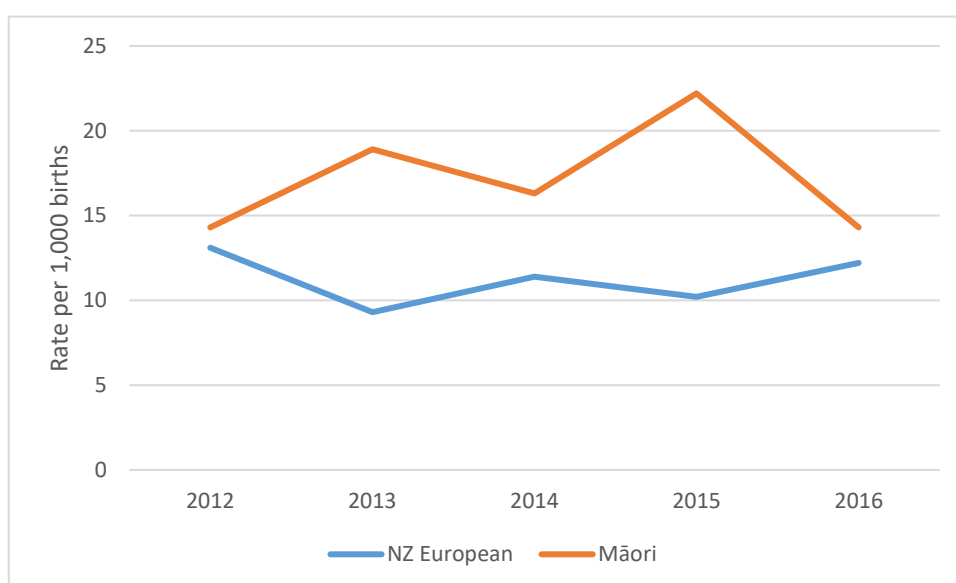
- Mental health outcomes in youth are discussed in section 6 to follow.
- No data are available for post-natal depression, so this has been omitted from this figure.
- The data for chlamydia relates to the Wellington region, not CCDHB specifically.
- The source of each dataset is provided below each figure later in the section.

## Perinatal mortality rate

The perinatal mortality rate is defined as all foetal and neonatal deaths under 28 days. Foetal death includes stillbirths and terminations of pregnancy from 20 completed weeks gestation or weighing over 400 grams at birth if gestation is unknown.

In 2016 in CCDHB, there were 23 foetal deaths and 15 neonatal deaths, as well as a further four neonatal deaths in the CCDHB neonatal intensive care unit (NICU) to mothers from other DHBs. Although the numbers are small, and hence the uncertainty of the accuracy of the figures is high, the rates for Māori in CCDHB have been consistently higher than for New Zealand European mothers for all years from 2012 to 2016, and also higher than for Māori in other DHBs.<sup>80</sup>

**Figure 48: Perinatal mortality rate in CCDHB, by ethnicity, 2012–2016**



Source: These data were reported in *The Women's Health Service Annual Clinical Report 2016*, but the source of the data was not stated.

## Smoking during pregnancy

Smoking during pregnancy is known to have significant effects on the pregnancy and foetus. It increases the risk of miscarriage and pre-term delivery and low birth weight / small for gestational age, as well as asthma and sudden unexplained death in infancy (SUDI). It is also known that pregnancy is a time when women are more likely to try to stop smoking, for the health of their baby, and additional support should be available during this time.

In 2015/16 in CCDHB, 35 percent of Māori women were identified as current smokers by their lead maternity carer (LMC) at the time of booking, compared with 11 percent of non-Māori.<sup>81</sup> Smoking

<sup>80</sup> CCDHB. 2016. *The Women's Health Service Annual Clinical Report 2016*. Wellington: Capital and Coast District Health Board. URL: [www.ccdhb.org.nz/news-publications/publications-and-consultation-documents/ccdhb-whs-2016-annual-clinical-report.pdf](http://www.ccdhb.org.nz/news-publications/publications-and-consultation-documents/ccdhb-whs-2016-annual-clinical-report.pdf) (accessed 26 June 2019).

<sup>81</sup> WDHB, HVDHB, CCDHB. 2016. *Tobacco Control Plan 2016–2019: Wairarapa DHB, Hutt Valley DHB & Capital & Coast DHB*. Wellington: Capital and Coast District Health Board. URL: [www.ccdhb.org.nz/news-publications/publications-and-consultation-documents/2016-19-3dhd-tobacco-control-plan-final-20161020.pdf](http://www.ccdhb.org.nz/news-publications/publications-and-consultation-documents/2016-19-3dhd-tobacco-control-plan-final-20161020.pdf) (accessed 26 June 2019).

during pregnancy is extremely high among teenage Māori who are pregnant; this was 44 percent in CCDHB in 2017, compared with 29 percent in the total population of mothers under 20 years old.<sup>82</sup>

Midwives are good at offering brief advice to pregnancy women who smoke.<sup>83</sup> About three-quarters of women who smoke are offered cessation support. The proportion of Māori who are offered support is slightly higher than the proportion of non-Māori. Although only about one-third of women offered cessation support actually accept it, it is important to note that a higher proportion of Māori women have accepted this support than non-Māori. It is therefore vital that a higher proportion of women are offered smoking cessation advice at the time of booking with a LMC.

Second-hand smoke also has a large impact on babies' health. The proportion of babies living in smoke-free homes in CCDHB was 86 percent in the second half of 2017. However, this was 62 percent for Māori and 92 percent for non-Māori, non-Pacific people,<sup>84</sup> reinforcing the importance of smoking cessation advice to mothers and their whānau.

## Sudden unexpected death in infancy

Although there are very small numbers of infants in CCDHB who die unexpectedly, the inequity between Māori and non-Māori is large, and the deaths are preventable.<sup>85</sup> In Figure 49, it is clear that the rate in Māori is considerably higher than in non-Māori. There is much uncertainty in these figures, however; the CCDHB are based on 11 deaths (seven in Māori, four in non-Māori).

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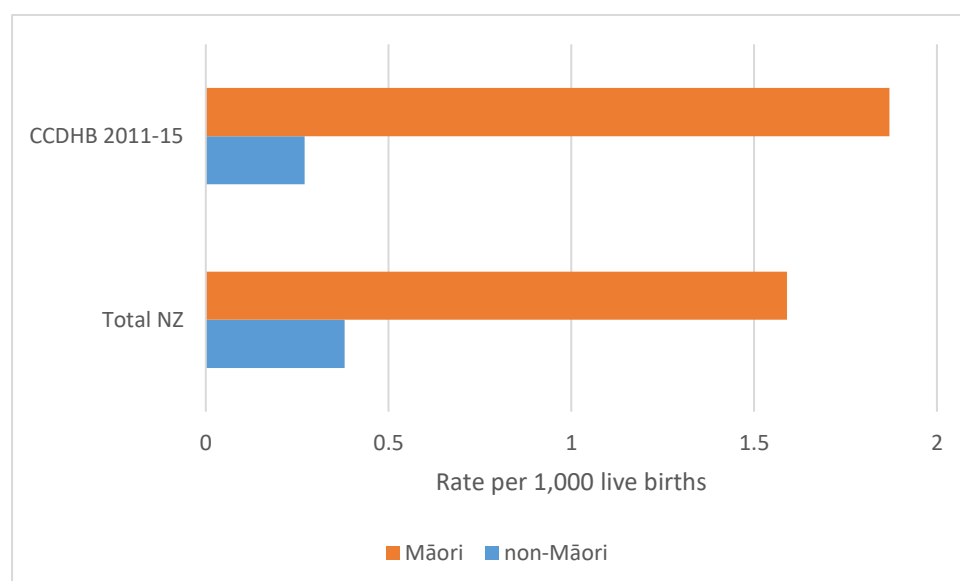
<sup>82</sup> CCDHB. 2017. *The Women's Health Service Annual Clinical Report 2017*. Wellington: Capital and Coast District Health Board. URL: [www.ccdhb.org.nz/news-publications/publications-and-consultation-documents/ccdhb-whs-2017-annual-clinical-report.pdf](http://www.ccdhb.org.nz/news-publications/publications-and-consultation-documents/ccdhb-whs-2017-annual-clinical-report.pdf) (accessed 27 June 2019).

<sup>83</sup> These data are reported in graph form in WDHB, HVDHB, CCDHB. 2016. *Tobacco Control Plan 2016–2019: Wairarapa DHB, Hutt Valley DHB & Capital & Coast DHB*. Wellington: Capital and Coast District Health Board. URL: [www.ccdhb.org.nz/news-publications/publications-and-consultation-documents/2016-19-3dhd-tobacco-control-plan-final-20161020.pdf](http://www.ccdhb.org.nz/news-publications/publications-and-consultation-documents/2016-19-3dhd-tobacco-control-plan-final-20161020.pdf) (accessed 26 June 2019).

<sup>84</sup> Nationwide Service Framework Library, Health Quality Measures NZ: [www.hqmnz.org.nz/library/SLM\\_Babies\\_Living\\_in\\_Smokefree\\_Homes](http://www.hqmnz.org.nz/library/SLM_Babies_Living_in_Smokefree_Homes)

<sup>85</sup> McDonald G, Healey M. New Zealand Mortality Review Data Group, University of Otago. SUDI data request 14 November 2016.

**Figure 49: CCDHB and national rates of SUDI in Māori and non-Māori, 2011–2015**



Sources: CCDHB data: Mortality Review Database and NZHIS Live Births 2011–2015

Total NZ data<sup>86</sup>: Not stated

Well Child / Tamariki Ora data from 2017 shows that more Māori women (80 percent) in CCDHB are being provided with SUDI information before the first 50 days of life of a new baby, compared with non-Māori women (68 percent).<sup>87</sup>

## Low Birthweight

Low birth weight infants may be more at risk for many health problems. Low birth weight is associated with neonatal infection and infant mortality. Babies may suffer from longer-term problems such as delayed motor and social development or learning disabilities. There is also evidence that if babies have low birth weight, they may be at higher risk of chronic adult diseases, including obesity, CVD and diabetes.

In CCDHB, no difference between Māori and non-Māori was reported in the proportion of babies of low birth weight (<2,500 grams) between 2009 and 2013.<sup>88</sup> Interestingly, national data suggest a 20 percent higher risk of low birth weight in Māori compared with non-Māori (2010–2012).<sup>89</sup>

Birth weight is a function of gestational age. Therefore, being ‘small for gestational age’ is a more useful concept than birth weight *per se*. The maternity indicator that is reported by the HQSC is

<sup>86</sup> Ministry of Health, Infant health: [www.health.govt.nz/our-work/populations/maori-health/tatau-kahukura-maori-health-statistics/nga-mana-hauora-tutohu-health-status-indicators/infant-health](http://www.health.govt.nz/our-work/populations/maori-health/tatau-kahukura-maori-health-statistics/nga-mana-hauora-tutohu-health-status-indicators/infant-health)

<sup>87</sup> Nationwide Service Framework Library, Well Child / Tamariki Ora Quality Improvement Framework: <https://nsfl.health.govt.nz/dhb-planning-package/well-child-tamariki-ora-quality-improvement-framework>

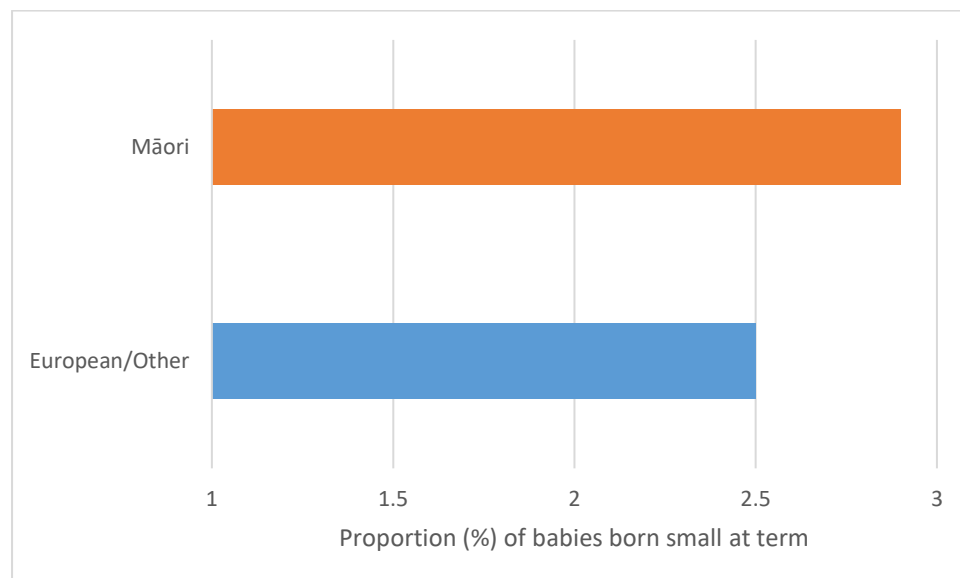
<sup>88</sup> Robson B, Purdie G, Simmonds S, Waa A, Faulkner R, Rameka R, Andrewes J. 2015. *Capital and Coast District Health Board Māori Health Profile 2015*. Wellington: Te Rōpū Rangahau Hauora a Eru Pōmare. URL: [www.otago.ac.nz/wellington/departments/publichealth/research/erupomare/research/otago152540.pdf](http://www.otago.ac.nz/wellington/departments/publichealth/research/erupomare/research/otago152540.pdf) (accessed 21 June 2019).

<sup>89</sup> Ministry of Health, Infant health: [www.health.govt.nz/our-work/populations/maori-health/tatau-kahukura-maori-health-statistics/nga-mana-hauora-tutohu-health-status-indicators/infant-health](http://www.health.govt.nz/our-work/populations/maori-health/tatau-kahukura-maori-health-statistics/nga-mana-hauora-tutohu-health-status-indicators/infant-health)

'being small when born at term (37 to 42 weeks)'. In 2016 in CCDHB, a higher proportion of babies were born small at term than of low birth weight.

There was a small number of babies born small at term in CCDHB (17 Māori and 43 European/Other in 2016). This suggests that the difference between Māori and European/Other shown in Figure 50 may be due to chance. However, the rate has been higher in Māori than European/Other every year from 2009 to 2016, suggesting that there might be a true difference between the two groups.

**Figure 50: Proportion of babes in CCDHB born small at term, 2016**



Source: Reported on the HQSC website, but the source is not stated

## Family Violence

The Well Child/Tamariki Ora programme has a target that all women should be screened for family violence at least three times in the first year of life of a newborn.<sup>90</sup>

In the latest reporting period (July 2016 to December 2017) in CCDHB, Māori women with new babies were less likely to be screened (35%) compared to non-Māori (49%), despite the evidence that Māori have a higher need. This suggests that Well Child/Tamariki Ora providers are not comfortable in discussing this with Māori women.

From 2007-2011, Māori children aged up to 14 years in CCDHB were over 3 times more likely to be admitted to hospital for injuries arising from the assault, neglect or maltreatment.<sup>91</sup>

<sup>90</sup> <https://nsfl.health.govt.nz/dhb-planning-package/well-child-tamariki-ora-quality-improvement-framework>

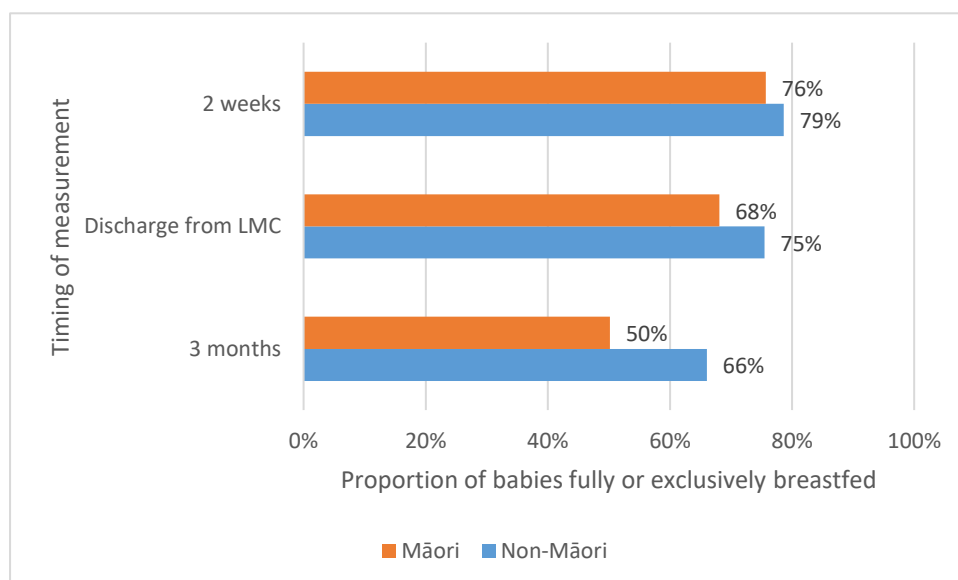
<sup>91</sup> <http://dnmeds.otago.ac.nz/departments/womens/paediatrics/research/nzcyes/pdf/rpt2012-hvdhb-ccdhb.pdf>

## Breastfeeding rates

There are multiple benefits to breastfeeding. These include the immediate effects of helping to protect the baby against colds, infections and allergies. Breast feeding also has a longer term beneficial effect on lower rates of childhood obesity. It also promotes bonding between the mother and baby and is associated with lower rates of breast cancer in the mother.

Initiation of breastfeeding after birth is high (82 percent) among Māori, and very similar to New Zealand European women, at discharge.<sup>92</sup> However, this may be because Māori women tend to be discharged directly from the delivery suite, and breast feeding rates decline quickly in the first six weeks after delivery. The most recent available data for breast feeding in CCDHB is for July to December 2017.<sup>93</sup> Breast feeding rates for Māori were 76 percent at two weeks, 68 percent at six weeks (discharge from LMC) and 50 percent at three months (see Figure 51 below).

**Figure 51: Breast feeding rates in CCDHB at various points post-partum in Māori and non-Māori, 2017**



Source: Well Child / Tamariki Ora dataset

It is clear that Māori mothers need support or interventions to continue breast feeding in the early post-natal period.

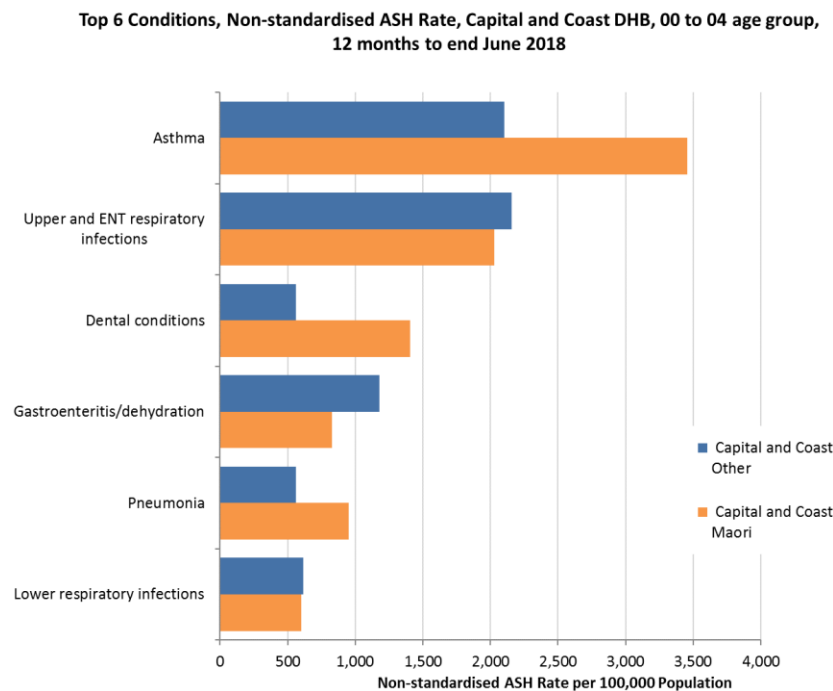
<sup>92</sup> CCDHB. 2017. *The Women's Health Service Annual Clinical Report 2016*. Wellington: Capital and Coast District Health Board. URL: [www.ccdhb.org.nz/news-publications/publications-and-consultation-documents/ccdhb-whs-2016-annual-clinical-report.pdf](http://www.ccdhb.org.nz/news-publications/publications-and-consultation-documents/ccdhb-whs-2016-annual-clinical-report.pdf) (accessed 27 June 2019).

<sup>93</sup> Nationwide Service Framework Library, Well Child / Tamariki Ora Quality Improvement Framework: <https://nsfl.health.govt.nz/dhb-planning-package/well-child-tamariki-ora-quality-improvement-framework>

## Ambulatory sensitive hospitalisation rate, 0–4 years

The importance of ASH is discussed in more detail under section 2: CCDHB as a pro-equity organisation (see page 20). Avoidable hospital admissions in pre-school children indicate how inadequate primary health care in children will impact on youth of the future, since poor health in childhood tracks to adolescence and adulthood. Māori children in CCDHB are 30 percent more likely to be admitted to hospital for an avoidable condition. The biggest cause of avoidable hospitalisation in this age group is asthma.

**Figure 52: Six top ambulatory sensitive hospitalisations in 0 to 4 year olds in CCDHB, 2018**



Source: Nationwide Service Framework Library, based on National Minimum Dataset

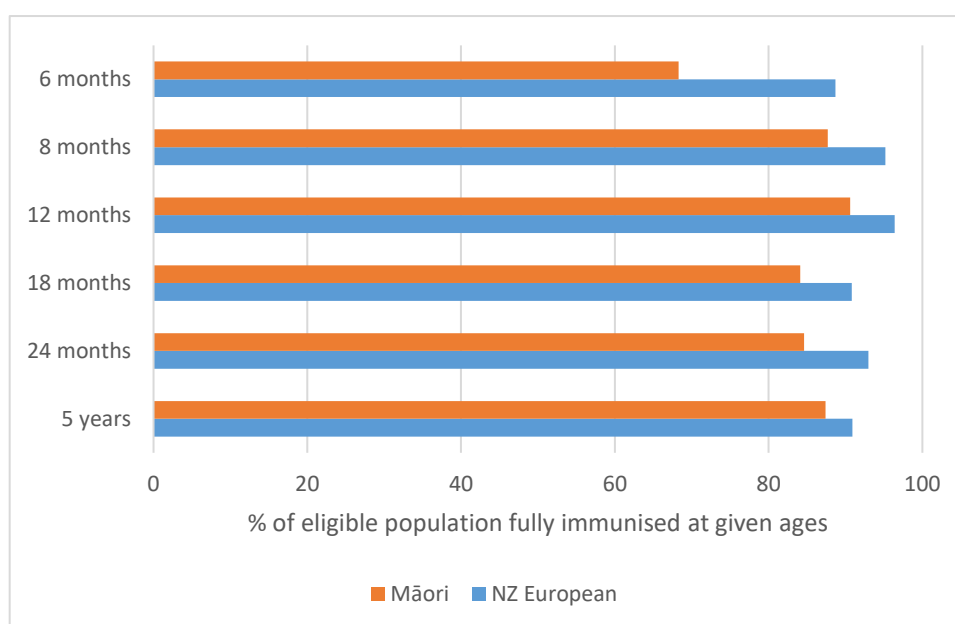
## Infant immunisations

Immunisation rates for Māori are good, but there is still inequity at all ages of infants up to five years. Figure 53 shows that at six months, 68 percent of Māori and 89 percent of the New Zealand European population were fully immunised. By five years of age, this has risen to 87 percent in Māori and nearly 91 percent of New Zealand Europeans, and the inequity was smaller.<sup>94</sup>

<sup>94</sup> <https://www.health.govt.nz/our-work/preventative-health-wellness/immunisation/immunisation-coverage/national-and-dhb-immunisation-data>



**Figure 53: Proportion of children in CCDHB who were full immunised at given ages, 2018 (first half)**



Source: National Immunisation Register

The target that is being used by the Ministry of Health is 95 percent of infants fully immunised at 8 months old. In CCDHB, the proportion of Māori infants fully immunised at 8 months in the most recent period for which data was available (January to June 2018) is 88 percent, compared with 95 percent for New Zealand European babies.

## Rheumatic fever, age 15–24 years

Rheumatic fever is a rare but very serious consequence of a streptococcal infection (Group A streptococcal (GAS) infections, with the most common form being strep throat). Strep throat is generally assumed to be a precursor to rheumatic fever, although a recent hypothesis suggests that streptococcal skin infection may also be a precursor. What is clear is that although only a few people with streptococcal infection develop rheumatic fever, the ones who do are those who live in more deprived areas, live in damp and/or overcrowded houses and are less likely to have received treatment for their infection. It is for these reasons, rather than ethnicity *per se*, that Māori are more likely to develop rheumatic fever than non-Māori.

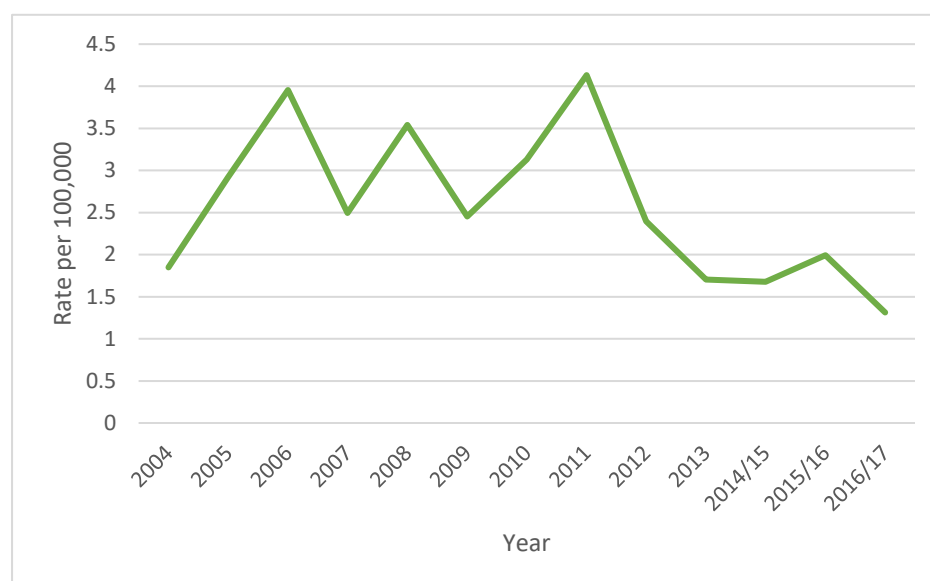
The age-standardised hospitalisation rate for rheumatic fever in CCDHB in 2011–2013 in Māori aged 15–24 years was 19.5 per 100,000, compared with the non-Māori rate of 3.5 per 100,000.<sup>95</sup>

Because the numbers are small, it is also useful to identify trends of rheumatic fever in CCDHB. From 2004 to 2017, the numbers of cases in CCDHB (all ethnicities) ranged from under four to 12 cases per year. The corresponding rates are shown in Figure 54 below. Although it appears that the rate of

<sup>95</sup> Robson B, Purdie G, Simmonds S, Waa A, Faulkner R, Rameka R, Andrewes J. 2015. *Capital and Coast District Health Board Māori Health Profile 2015*. Wellington: Te Rōpū Rangahau Hauora a Eru Pōmare. URL: [www.otago.ac.nz/wellington/departments/publichealth/research/erupomare/research\\_otago152540.pdf](http://www.otago.ac.nz/wellington/departments/publichealth/research/erupomare/research_otago152540.pdf) (accessed 21 June 2019).

rheumatic fever has been decreasing since 2011, there is a suggestion that the rates for 2018 will be high (data not shown), and continued monitoring of this is required.

**Figure 54: Rates of rheumatic fever hospitalisations in CCDHB, all ethnicities, 2004–2017**



Source: National Minimum Dataset

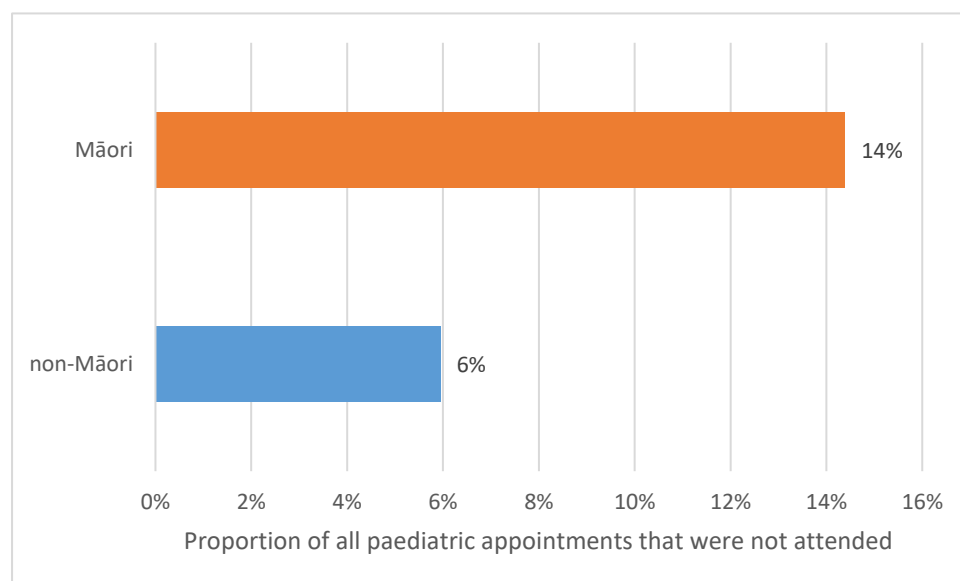
CCDHB hospitalisation rates for skin infections in Māori aged 0–14 years are 60 percent higher than rates in non-Māori.<sup>96</sup> It is not known what proportion of these infections are related to streptococcal, but further investigation is warranted.

## Inaccessible paediatric appointments

As described in section 2: CCDHB as a pro-equity organisation (see page 20), the onus is on CCDHB as a pro-equity organisation to provide accessible appointments. Figure 55 below relates to all paediatric hospital appointments in CCDHB from July to December 2016. These inequities in access to paediatric clinics point strongly towards there being structural reasons why Māori are unable to attend appointments.

<sup>96</sup> Robson B, Purdie G, Simmonds S, Waa A, Faulkner R, Rameka R, Andrewes J. 2015. *Capital and Coast District Health Board Māori Health Profile 2015*. Wellington: Te Rōpū Rangahau Hauora a Eru Pōmare. URL: [www.otago.ac.nz/wellington/departments/publichealth/research/erupomare/research/otago152540.pdf](http://www.otago.ac.nz/wellington/departments/publichealth/research/erupomare/research/otago152540.pdf) (accessed 21 June 2019).

**Figure 55: The proportion of all paediatric hospital appointments in CCDHB that were not accessible, July–December 2016**



Source: Data provided by CCDHB

CCDHB has carried out research in this area. A literacy review of non-attendance, covering families of all ethnicities, found broadly the same issues around inaccessible appointments as was described in section 2 (page [20](#)).

## Oral Health

Starting good dental health habits at an early age has lifelong benefits on overall good health and wellbeing. Teeth help us to eat and speak and are important for self-esteem. Poor oral health is also an indicator of other poor outcomes.

Oral health on a population level is often measured as ‘dmft/DMFT’ scores (decayed, missing, filled teeth – ‘dmft’ for baby teeth; ‘DMFT’ for adult teeth). Three measures are counted: the number of teeth with caries lesions (D), the number of teeth that have been extracted (M) and the number with fillings or crowns (F). The sum of the three measures forms the DMFT value.

In 2017 in CCDHB, based on data from the Community Oral Health Service this was 2.12 in Māori and 0.82 in non-Māori/non-Pacific at age 5.<sup>97</sup> Furthermore, at this age, 51 percent of Māori were caries-free, compared with 77 percent of the non-Māori, non-Pacific population. In Year 8 (age 12–13 years), the DMFT value was 0.80 for Māori and 0.46 for the non-Māori, non-Pacific population.<sup>98</sup>

Part of the reason that Māori children are likely to have poorer teeth is that they are much less likely to be enrolled in a Community Oral Health Service than non-Māori. The CCDHB Well Child / Tamariki Ora data of 2017 shows that virtually all non-Māori were enrolled, whereas only 70 percent of Māori

<sup>97</sup> Ministry of Health, Age 5 and Year 8 oral health data from the Community Oral Health Service: [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](http://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)

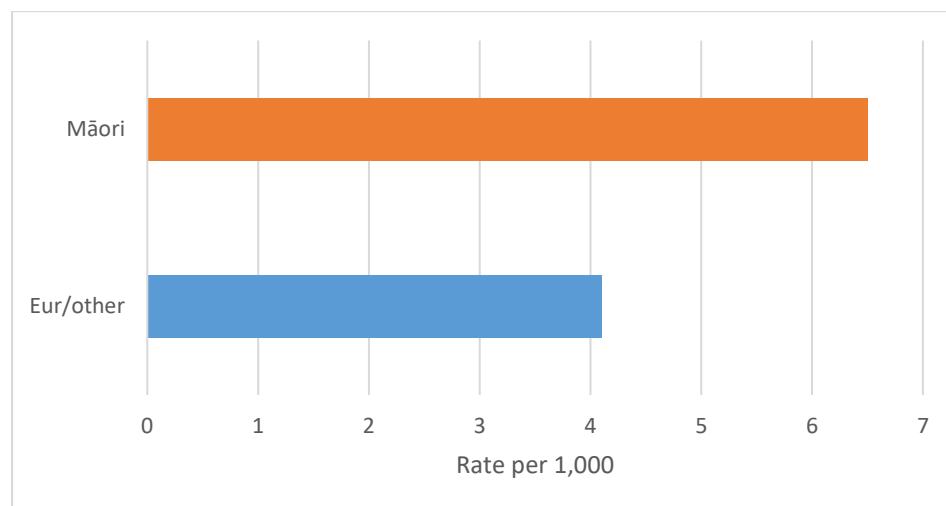
<sup>98</sup> CCDHB. 2017. *Capital & Coast District Health Board: Annual Plan 2017/18*. Wellington: Capital and Coast District Health Board. URL: [www.ccdhb.org.nz/news-publications/publications-and-consultation-documents/ccdhb-annual-plan-may-2018.pdf](http://www.ccdhb.org.nz/news-publications/publications-and-consultation-documents/ccdhb-annual-plan-may-2018.pdf) (accessed 28 June 2019).

were.<sup>99</sup> The inequity may actually be larger than this, as the data collection in the Community Oral Health Service has been of uncertain quality for Māori.<sup>100</sup> Oral health is an area where improved access could result in significant oral health outcomes for Māori children.

## Asthma hospitalisations

Asthma is a condition that in the majority of cases should be able to be managed by primary health care services. In the New Zealand Health Survey (2014–2017), 18 percent of Māori aged under 15 years reported having asthma that is currently medicated, compared with 16 percent of the total population.<sup>101</sup> No data is available on the prevalence of unmedicated asthma. Rates of hospitalisations for Māori are nearly 60 percent higher than non-Māori.<sup>102</sup> Child asthma hospitalisations appear to have decreased in recent years, but there is still a large inequity between Māori and non-Māori.

**Figure 56: Hospitalisations in CCDHB due to asthma in 0- to 14-year-olds, 2016**



Source: HQSC Atlas of Variation, source not reported

<sup>99</sup> Nationwide Service Framework Library, Well Child / Tamariki Ora Quality Improvement Framework: <https://nsfl.health.govt.nz/dhb-planning-package/well-child-tamariki-ora-quality-improvement-framework>

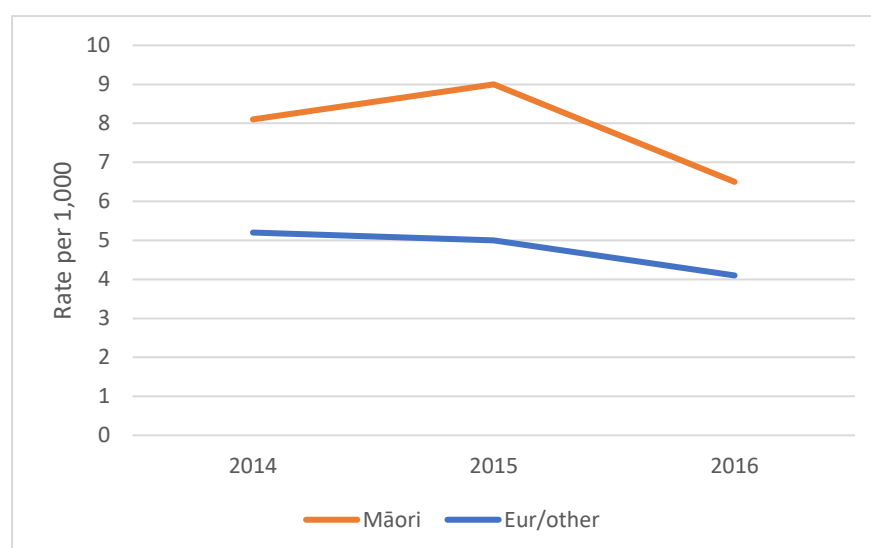
<sup>100</sup> DHBNZ. (2004). *School Dental Service Review Final Report*. Wellington: District Health Boards New Zealand. [www.health.govt.nz/publication/dhbnz-school-dental-service-review-final-report](http://www.health.govt.nz/publication/dhbnz-school-dental-service-review-final-report) (accessed 26 June 2019).

<sup>101</sup> Ministry of Health, New Zealand Health Survey, Regional Data Explorer 2014–17: [https://minhealthnz.shinyapps.io/nz-health-survey-2014-17-regional-update/\\_w\\_45825cab/#!/compare-regions](https://minhealthnz.shinyapps.io/nz-health-survey-2014-17-regional-update/_w_45825cab/#!/compare-regions)

<sup>102</sup> Atlas of healthcare variation / Asthma:

<https://public.tableau.com/profile/hqi2803#!/vizhome/Asthmasinglemap2018/AtlasofhealthcarevariationAsthma?publish=yes>

**Figure 57: Trends in hospitalisations in CCDHB due to asthma in 0- to 14-year-olds, 2014–2016**



Source: HQSC Atlas of Variation, source not reported

Asthma patients who use their reliever medication more than twice a week should be treated with inhaled corticosteroids. Treatment data published by the HQSC is not available for children only.<sup>103</sup> Among people aged 5–49 years, Māori were more likely than European/Other to be dispensed an inhaled corticosteroid regularly in the year after admission (69 percent compared with 63 percent). This suggests that there is no inequity in treatment among patients with asthma that is severe enough to result in hospitalisation.

## Sexual health

Data from the New Zealand Sexual Health Survey (2015) is due to be published in January 2019 and will contain data on the sexual health of young Māori in CCDHB. Only data on sexually transmitted infections (STIs) is presented here. STIs, with the exception of AIDS, are not notifiable. Surveillance is based on the voluntary provision of data from sexual health clinics, family planning clinics and laboratories. Laboratories receive specimens from all health providers. Data on STIs are only available for CCDHB combined with Hutt Valley DHB (HVDHB).<sup>104</sup>

### Chlamydia

Chlamydia is the most common STI in New Zealand. Infection is asymptomatic in about 70 percent of female and 25 percent of male cases. Untreated infection can lead to serious complications. Infants can be infected from their mothers during delivery, leading to neonatal conjunctivitis or pneumonia.

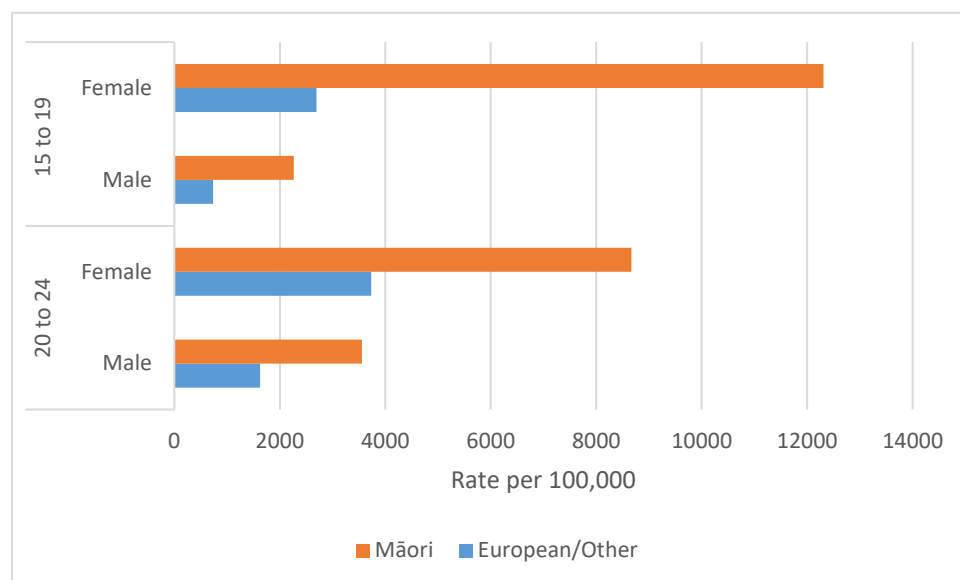
<sup>103</sup>Atlas of healthcare variation / Asthma:

<https://public.tableau.com/profile/hqi2803#!/vizhome/Asthmasinglemap2018/AtlasofhealthcarevariationAsthma?publish=yes>

<sup>104</sup> Nationwide Service Framework Library, Youth SLM Data: <https://nsfl.health.govt.nz/dhb-planning-package/system-level-measures-framework/data-support-system-level-measures/youth-slm-0>

In 2016, a total of 2,040 cases of chlamydia were recorded in 15- to 24-year-olds in CCDHB and HVDHB. Of these, 29 percent were in Māori. The rates of chlamydia infection in Māori and non-Māori are shown in Figure 58. For males and females in both the 15- to 19- and 20 to 24-year-old age groups, the rates in Māori were considerably higher than those in non-Māori. This was particularly noticeable for women.

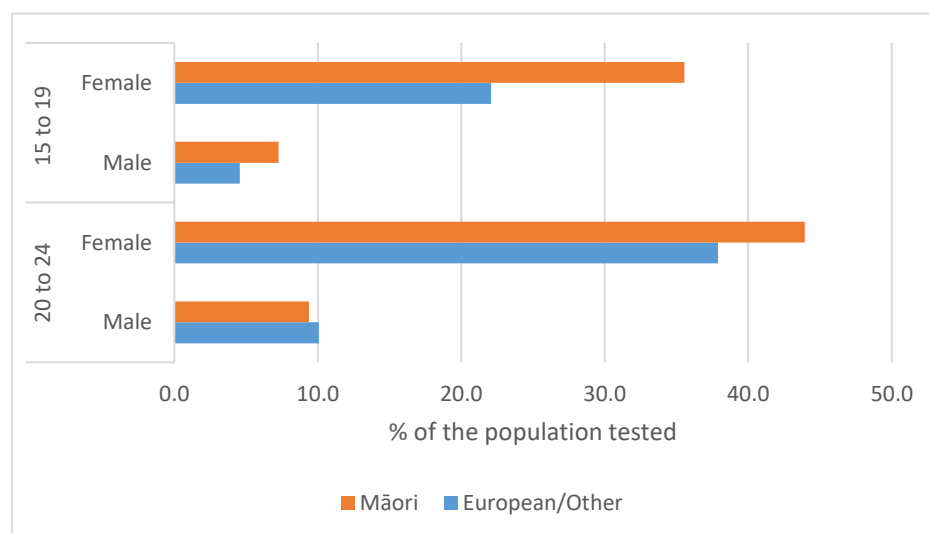
**Figure 58: Rate of detected chlamydia in CCDHB and HVDHB combined, 2016**



Source: Number of laboratory-confirmed cases, divided by 2013 census population counts. Ethnicity is derived from the National Health Index (NHI).

Chlamydia testing (rates are measured as a percent, defined as the number of people tested per 100 of the population). Since chlamydia testing occurs in sexual health and family planning clinics, as well as samples being sent from other health providers, this measure incorporates dimensions of access as well as need. Coverage, shown in Figure 59, shows that testing in females occurs at a higher rate in Māori than the European/Other population.

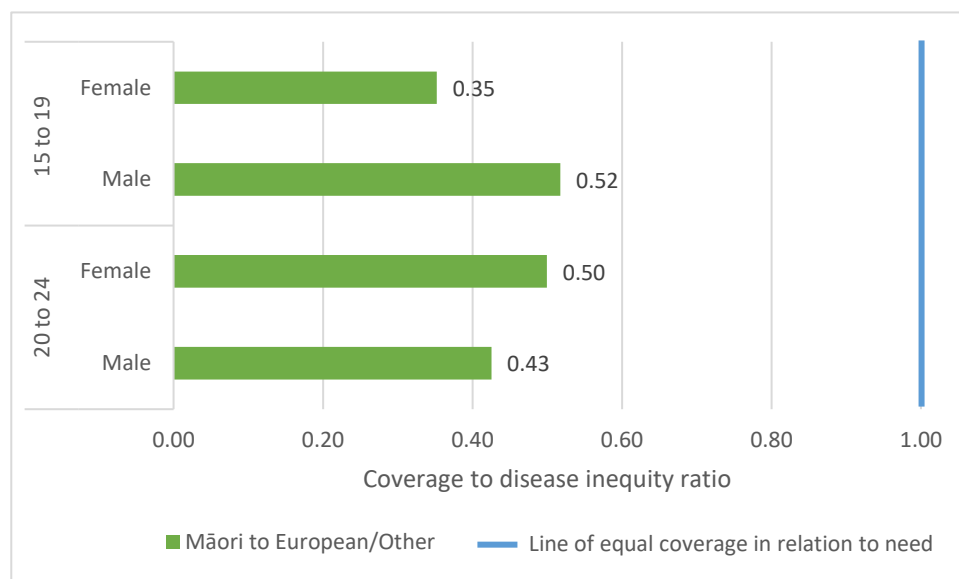
**Figure 59: Coverage of chlamydia testing in CCDHB and HVDHB combined, 2016**



Source: Number of people tested for chlamydia, divided by 2013 census population counts. Ethnicity is derived from the National Health Index (NHI).

To improve equity, coverage would be in proportion to the level of disease in the population. To measure this, we have calculated a 'coverage to disease inequity ratio' for chlamydia. If Māori and non-Māori had the same prevalence of chlamydia and the same level of coverage of testing, the ratio would be 1.0. A ratio under 1 implies that although Māori have a higher rate of chlamydia, their level of testing does not approach the need level. This inadequate testing on the basis of need is shown in Figure 60.

**Figure 60: Coverage to disease inequity ratio for chlamydia, CCDHB and HVDHB, 2016**



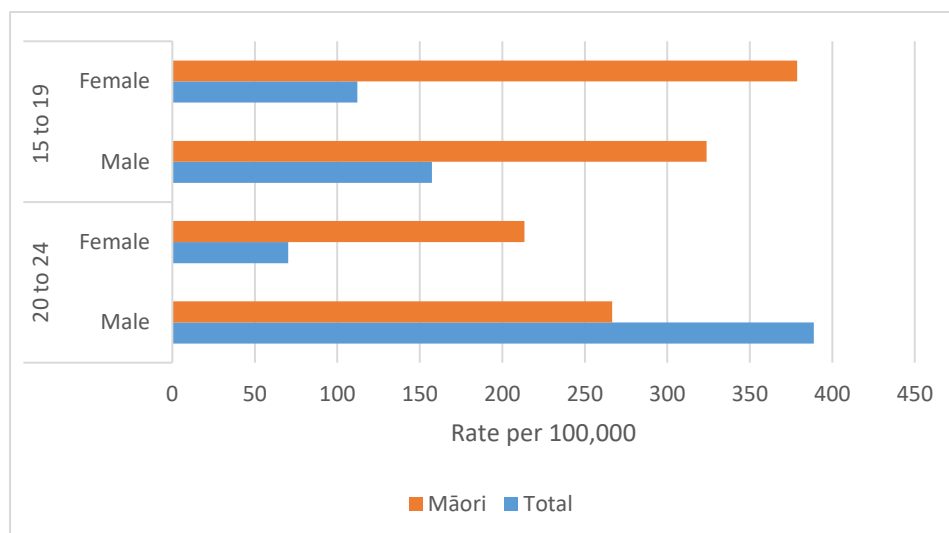
Source: Derived for this report from prevalence and coverage described above.

## Gonorrhoea

Gonorrhoea is not very common in the Wellington region. In 2016, there were 127 recorded cases in 15- to 24-year-olds, 26 of which (20 percent) were in Māori. In 20- to 24-year-old males, the rate in the total population was higher than in Māori. However, ethnicity was unknown for 30 percent of the cases, therefore, it is not clear whether this pattern is a true reflection of the rates in young Māori men or not.

The very small numbers of cases preclude any further meaningful analysis.

**Figure 61: Rate of detected gonorrhoea in CCDHB and HVDHB combined, 2016**

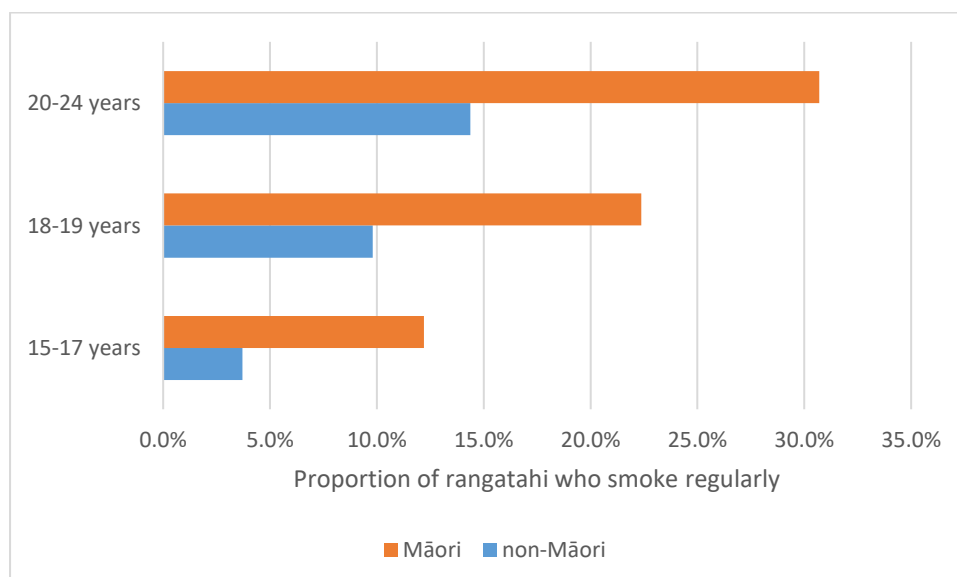


Source: Number of laboratory-confirmed cases, divided by 2013 census population counts. Ethnicity is derived from the National Health Index (NHI)

## Youth smoking, age 15–17 years

Although data on youth smoking rates by ethnicity in CCDHB has been collected, it is not routinely published. Action for Smokefree 2025 (ASH) publish data on an annual survey of year-10 students (age 14–15 years), but this data is not always reported by DHB. The data presented here is therefore taken from the CCDHB Māori Health Profile<sup>105</sup> and based on 2013 census data.

**Figure 62: Prevalence of daily smoking in Māori and non-Māori, aged 15–24 years, 2013**

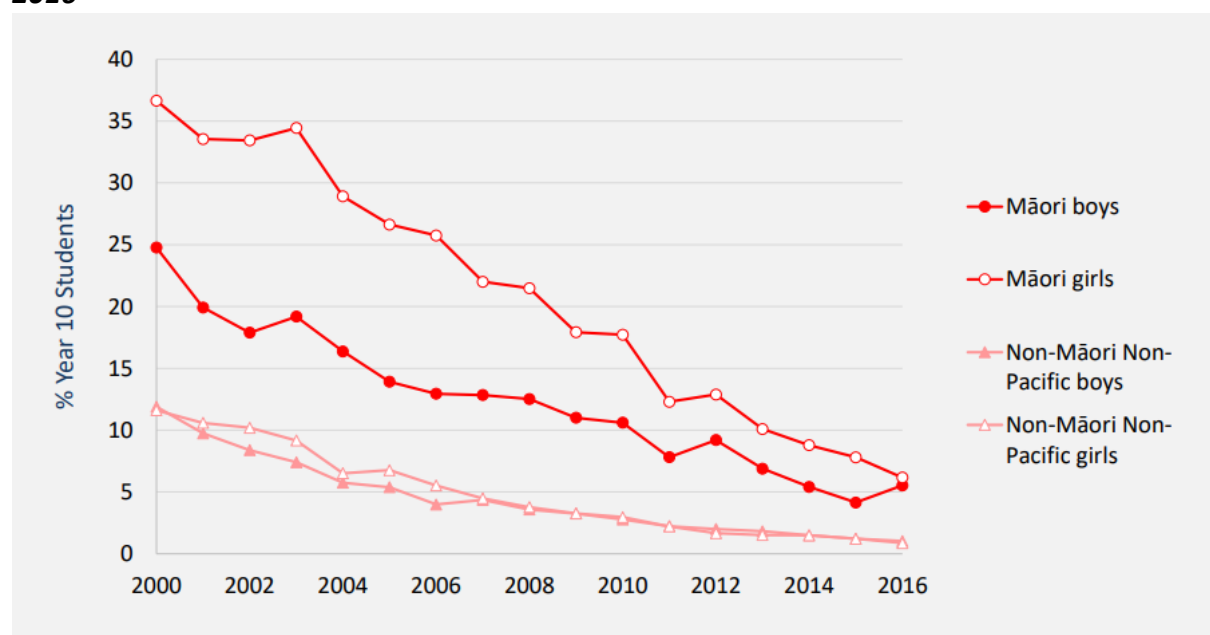


Source: 2013 census.

Daily smoking rates have fallen considerably since 2000, but this decline may be levelling off, and there remains an inequity in smoking rates for Māori youth.<sup>106</sup>



**Figure 63: Trends in daily smoking rates in year-10 boys and girls, national data, 2000–2016**



Source: ASH (Action for Smokefree 2025) Year 10 Smoking Survey

There is a close relationship between smoking and mental health. One in five Māori smokers (21 percent) had a diagnosed mental health condition. This was also seen in other ethnic groups. Having taken into account age, sex and deprivation levels, Māori smokers were 30 percent more likely to report mental health conditions than Māori non-smokers. There is also a relationship between smoking and hazardous drinking patterns; 53 percent of Māori smokers had hazardous drinking patterns. This was also seen in other ethnic groups. Having taken into account age, sex and deprivation levels, Māori smokers were 70 percent more likely to report hazardous drinking patterns than Māori non-smokers.<sup>107</sup>

## HPV immunisations

Immunisation against the strains of human papilloma virus (HPV) that are most likely to lead to cervical cancer has been available in New Zealand since 2008. Initially, only girls aged up to 20 years were eligible to receive the vaccine.

It has been reported that, in 2015/16 in CCDHB, 78 percent of year-8 Māori girls, compared with 69 percent of the total year-8 population, had completed the final dose of the HPV vaccine.<sup>108</sup>

Since 2017, HPV immunisation has been free for males and females, aged 9 to 26 years. Ongoing monitoring of Māori (girls/women and boys/men) in CCDHB is warranted to ensure that uptake

<sup>105</sup> Robson B, Purdie G, Simmonds S, Waa A, Faulkner R, Rameka R, Andrewes J. 2015. *Capital and Coast District Health Board Māori Health Profile 2015*. Wellington: Te Rōpū Rangahau Hauora a Eru Pōmare. URL: [www.otago.ac.nz/wellington/departments/publichealth/research/erupomare/research/otago152540.pdf](http://www.otago.ac.nz/wellington/departments/publichealth/research/erupomare/research/otago152540.pdf) (accessed 21 June 2019).

<sup>106</sup> [https://d3n8a8pro7vhmx.cloudfront.net/ashnz/pages/70/attachments/original/1518396379/2016\\_ASH\\_Y10\\_Snapshot\\_Maori\\_FINAL.pdf?1518396379](https://d3n8a8pro7vhmx.cloudfront.net/ashnz/pages/70/attachments/original/1518396379/2016_ASH_Y10_Snapshot_Maori_FINAL.pdf?1518396379)

<sup>107</sup> [https://www.ash.org.nz/ash\\_year\\_10](https://www.ash.org.nz/ash_year_10)

<sup>108</sup> CCDHB data

equitable. Since the vaccine programme is delivered primarily through schools, offered to all children in Year 8, Māori are more likely to miss out because Māori are about three times more likely to be transient than the New Zealand European population.<sup>109</sup>

## Other

### Post-natal depression

An old Auckland study reported that Māori had higher rates of postnatal depression than non-Māori.<sup>110</sup> However, a more recent study suggests that the differences in rates of post-natal depression between Māori and non-Māori, if they exist at all, are small.<sup>111</sup> Recent data for CCDHB is not available.

### Family violence

The Well Child / Tamariki Ora programme has a target to have all women screened for family violence at least three times in the first year of life of a newborn.<sup>112</sup>

In the latest reporting period (July 2016 to December 2017) in CCDHB, Māori women with new babies were less likely to be screened (35 percent) compared with non-Māori (49 percent), despite the evidence that Māori have a higher need. This suggests that Well Child / Tamariki Ora providers are not comfortable discussing this issue with Māori women.

From 2007–2011, Māori children aged up to 14 years in CCDHB were over three times more likely to be admitted to hospital for injuries arising from assault, neglect or maltreatment.<sup>113</sup>

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<sup>109</sup> Education Counts, Transient students:

<https://www.educationcounts.govt.nz/statistics/indicators/main/student-engagement-participation/transient-students>

<sup>110</sup> Webster ML, Thompson JM, Mitchell EA, et al. 1994. Postnatal depression in a community cohort. *Aust NZ J Psychiatry*. Mar; 28(1): 42–9.

<sup>111</sup> Underwood L, Waldie KE, D'Souza S, et al. 2016. A longitudinal study of pre-pregnancy and pregnancy risk factors associated with antenatal and postnatal symptoms of depression: evidence from growing up in New Zealand. *Maternal and Child Health Journal*. DOI: 10.1007/s10995-016-2191-x

<sup>112</sup> Nationwide Service Framework Library, Well Child / Tamariki Ora Quality Improvement Framework: <https://nsfl.health.govt.nz/dhb-planning-package/well-child-tamariki-ora-quality-improvement-framework>

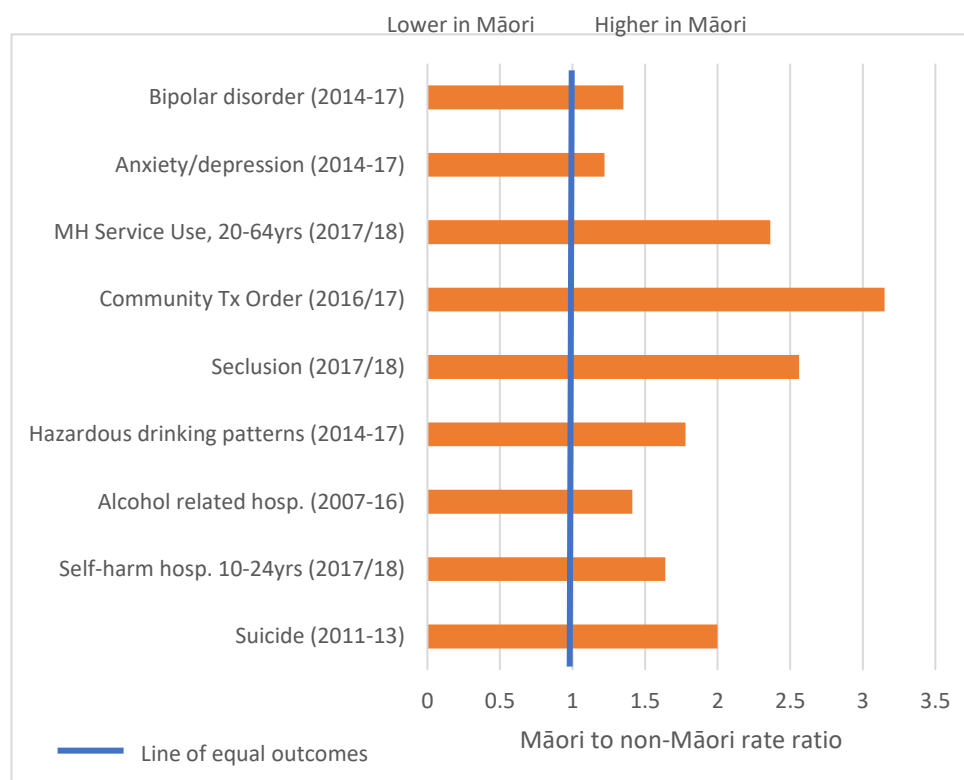
<sup>113</sup> Craig E, Dell R, Reddington A, et al. 2012. *The Determinants of Health for Children and Young People in the Hutt Valley and Capital and Coast DHBs*. Wellington: New Zealand Child and Youth Epidemiology Service, University of Otago. URL: <http://dnmeds.otago.ac.nz/departments/womens/paediatrics/research/nzcyes/pdf/rpt2012-hvdhb-ccdhb.pdf> (accessed 28 June 2019).

## 6. Mental health and addictions

Māori are exposed to mental health problems and alcohol and drug addictions at a higher rate than non-Māori. A recent report from the Mental Health Commissioner identified that almost one in three Māori will experience mental illness and/or addiction in a given year, compared with one in five in the general population. Māori are also more likely than non-Māori to access services later and have the highest rate of suicide of any ethnic group.<sup>114</sup> This same report identified that Māori are more likely than non-Māori to experience serious mental health disorders and/or co-existing conditions, but it is not clear whether this is a true difference or a result of differential (biased) diagnostic patterns.

A summary for the Māori: non-Māori inequity for each of the chosen measures in relation to mental health outcomes is shown in Figure 64. For many of the indicators, Māori do less well than non-Māori, although the differences are small. However, for key measures, such as being treated under Section 29 of the Mental Health (Compulsory Assessment and Treatment) Act 1992 (a Community Treatment Order, CTO), being hospitalised for self-harm and suicide, the Māori: non-Māori inequity is very marked.

**Figure 64: Summary of Māori to non-Māori rates of mental health and addiction indicators**



Notes:

MH = mental health

Tx Order = Treatment

Source: The source of each dataset is provided below each figure later in this section.

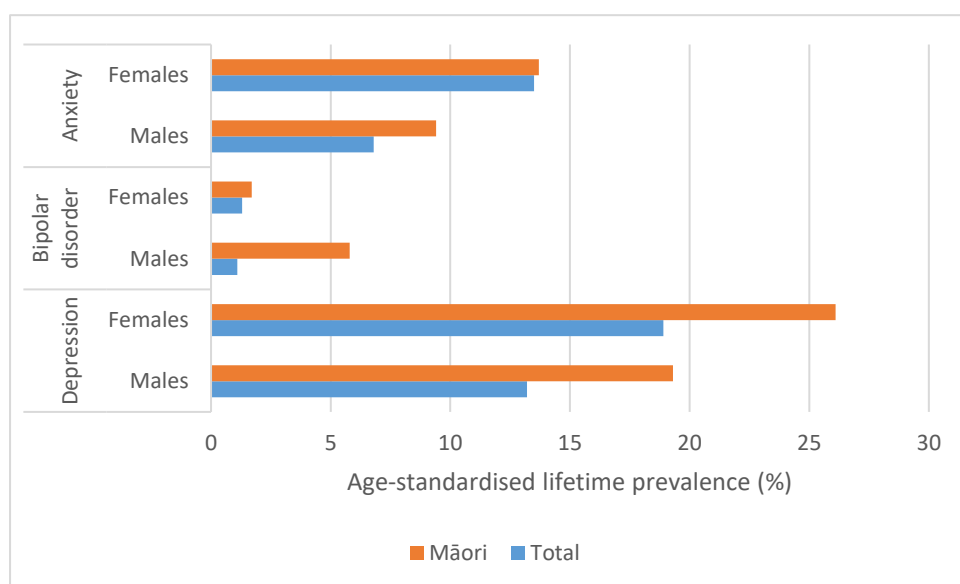
<sup>114</sup> HDC. 2018. *New Zealand's Mental Health and Addiction Services: The monitoring and advocacy report of the Mental Health Commissioner*. Wellington: Office of the Health and Disability Commissioner. URL: <https://www.hdc.org.nz/media/4688/mental-health-commissioners-monitoring-and-advocacy-report-2018.pdf> (accessed 28 June 2019).

## Prevalence of diagnosed mental ill health

The New Zealand Health Survey asks respondents whether they have ever had a diagnosis of, among others, the following conditions: anxiety, depression or bipolar disorder. The data therefore does not capture those people who have not been diagnosed. Also, what is being measured is the lifetime prevalence, i.e. people who have had a mental illness in the past but do not currently will be included in these figures.

Prevalence of mental ill health in CCDHB (2014–2017) is shown in Figure 65 below. The proportion of Māori who reported ever having being diagnosed with anxiety, depression or bipolar disorder is higher than that seen in the total population, other than for anxiety in females, where it is similar between Māori and the total population. Note that, since the comparator is the total population, inequities between Māori and non-Māori may be underestimated.

**Figure 65: Self-reported diagnosed mental ill health (lifetime prevalence) in CCDHB, 2014–2017**



Source: New Zealand Health Survey, age-standardised to WHO world population

Treatment of mental health conditions is lower for Māori than non-Māori and is not related to need.<sup>115</sup> An analysis of prescribing in relation to need identified that Māori were less likely to be prescribed newer anti-depressants than non-Māori, non-Pacific people. For anti-psychotic medication, Māori were more likely to be prescribed anti-psychotic medication overall, but the pattern of prescribing differed. Māori were twice as likely to be prescribed older depot agents as non-Māori but less likely to be prescribed oral antipsychotics, especially newer oral agents, when compared with non-Māori.

A sub-population who are often overlooked in population-based studies is people in prison, 51 percent of whom are Māori (for female prisoners, the proportion who are Māori is even higher: 58 percent in 2012).<sup>116</sup> Almost all Māori in prison have experienced mental health or addiction

<sup>115</sup> Metcalfe S, Laking G, Arnold J. 2013. Variation in the use of medicines by ethnicity during 2006/07 in New Zealand: a preliminary analysis. *NZ Med J*. Vol 126:1384. URL: [www.nzma.org.nz/journal/read-the-journal/all-issues/2010-2019/2013/vol-126-no-1384/5869](http://www.nzma.org.nz/journal/read-the-journal/all-issues/2010-2019/2013/vol-126-no-1384/5869) (accessed 28 June 2019).

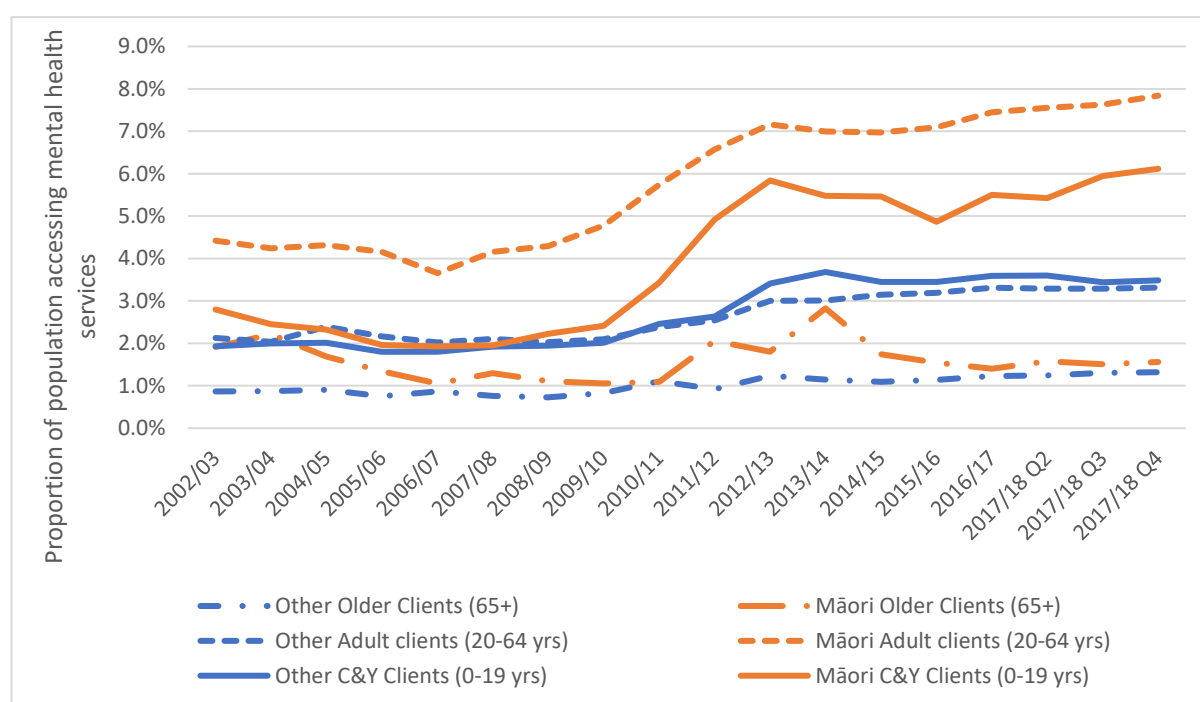
<sup>116</sup> StatsNZ, NZ Official Yearbook 2012, New Zealand's prison population: [http://archive.stats.govt.nz/browse\\_for\\_stats/snapshots-of-nz/yearbook/society/crime/corrections.aspx](http://archive.stats.govt.nz/browse_for_stats/snapshots-of-nz/yearbook/society/crime/corrections.aspx)

problems in their lifetime (92.5 percent lifetime prevalence).<sup>117</sup> In the previous 12 months, 60 percent of Māori prisoners report a mental health issues, compared with 21 percent of Māori in the general population and 68 percent of New Zealand European prisoners. Levels of substance abuse in Māori prisoners are similar to other ethnic groups (48 percent) but considerably higher than non-prisoners. In terms of treatment, less than half of people in prison with a mental health and/or addiction diagnosis in the past 12 months (46 percent) received treatment during that time. Although data is not published for Māori separately, there is clearly a significant level of unmet need.

## Mental health service utilisation

Utilisation of mental health services in CCDHB is greater for Māori at all ages, compared with non-Māori, non-Pacific people.<sup>118</sup> For both Māori and non-Māori, non-Pacific people, older adults tend to use mental health services less than children, youth or middle-aged adults. The inequity between Māori and non-Māori is greatest for adults aged 20–64 years. Within this large age bracket, accounting for age (standardisation) would probably increase the inequity, since the burden of mental health is higher in younger than older adults and Māori form a greater proportion of younger rather than older adults.

**Figure 66: Hospital usage of mental health services in CCDHB, 2002–2018**



Source: PRIMHD database

<sup>117</sup> Indig D, Gear C, Wilhelm K. 2016. *Comorbid Substance Use Disorders and Mental Health Disorders among New Zealand Prisoners*. Wellington: New Zealand Department of Corrections. URL: [www.corrections.govt.nz/data/assets/pdf\\_file/0011/846362/Comorbid\\_substance\\_use\\_disorders\\_and\\_mental\\_health\\_disorders\\_among\\_NZ\\_prisoners\\_June\\_2016\\_final.pdf](http://www.corrections.govt.nz/data/assets/pdf_file/0011/846362/Comorbid_substance_use_disorders_and_mental_health_disorders_among_NZ_prisoners_June_2016_final.pdf) (accessed 28 June 2019).

<sup>118</sup> Nationwide Service Framework Library, Mental Health, Alcohol and Drug Addiction Sector Performance Monitoring and Improvement: <https://nsfl.health.govt.nz/accountability/performance-and-monitoring/mental-health-alcohol-and-drug-addiction-sector>

Te Rau Hinengaro: The New Zealand Mental Health Survey, conducted in 2003/4, found that of Māori with a serious mental health disorder, 48 percent had some contact with health services, compared with 25 percent of those with moderate disorder and 16 percent of those with mild disorder.<sup>119</sup> This suggests that, at that time, there was significant unmet need for Māori. As can be seen from Figure 66 above, Māori access to mental health services has increased markedly since the early 2000s. It is unknown whether the level of ill health has stayed the same but service accessibility has increased over this time or whether mental ill health has increased over this time or both.

Mental health is provided in primary health care services through the three PHOs in CCDHB (Compass Health, Cosine and Ora Toa) as well as through Evolve, the youth health and social support service in Wellington city. As one of CCDHB's performance measures (PP26), brief quantitative data and a narrative report on youth mental health services delivered are produced each quarter. In 2017/18, 13 percent of the clients seen were Māori. In the first quarter of the 2018/19 financial year, 30 percent were Māori. No other pertinent data was available in these reports, and this is highlighted as a gap that could be addressed for future work (see section 7: Future monitoring, page 82).

## Compulsory assessment and treatment

Section 29 of New Zealand's Mental Health (Compulsory Assessment and Treatment) Act 1992 (the Mental Health Act) requires patients to accept psychiatric treatment outside hospital, as directed by their responsible clinician. This is known as Community Treatment Orders (CTOs). If the patient does not comply with treatment, the legislation authorises their rapid return to hospital. Data from April 2016 to March 2017 shows that Māori in CCDHB are over three times more likely (430 per 100,000) to be subject to a CTO than non-Māori (137 per 100,000).<sup>120</sup> This data is not age standardised, and without data on the rate of CTOs in different age groups, it is not possible to know what effect, if any, age standardisation might have on the comparison of Māori and non-Māori rates of CTO.

The average length of community treatment days per service user in CCDHB was 5.8 in 2017/18, but this data is not available by ethnicity.<sup>121</sup> The CCDHB Māori Health Plan (2016/17) identified the need to develop short- and long-term recovery plans to support Māori to receive non-compulsory treatment.<sup>122</sup>

The rate per 100,000 of population for Māori people being required to accept treatment under any section of the Mental Health Act was 3.8 times higher than for non-Māori in CCDHB in 2017/18.<sup>123</sup> The number of days of required treatment under the Mental Health Act per 100,000 population was four times higher for Māori than for non-Māori. Possible reasons for this may include differential access to patient advocates and/or lawyers; barriers to whānau involvement or biased beliefs about the severity of illness or 'dangerousness' of Māori patients.

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<sup>119</sup> MA Oakley Browne, JE Wells, KM Scott (eds). 2006. *Te Rau Hinengaro: The New Zealand Mental Health Survey*. Wellington: Ministry of Health. URL: [www.health.govt.nz/system/files/documents/publications/mental-health-survey.pdf](http://www.health.govt.nz/system/files/documents/publications/mental-health-survey.pdf) (accessed 28 June 2019).

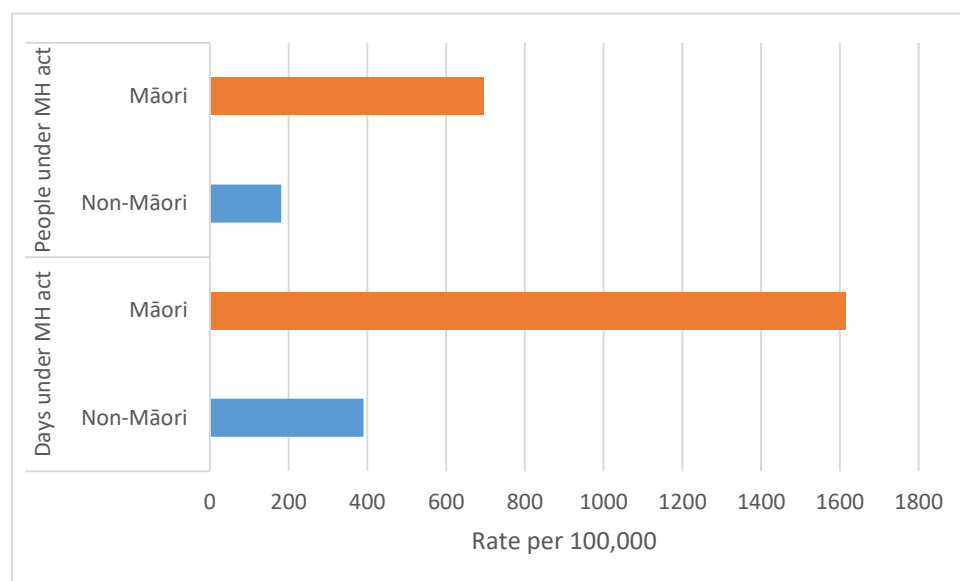
<sup>120</sup> Nationwide Service Framework Library, Mental Health, Alcohol and Drug Addiction Sector Performance Monitoring and Improvement: <https://nsfl.health.govt.nz/accountability/performance-and-monitoring/baseline-data-quarterly-reports-and-reporting/mental>

<sup>121</sup> MH KPI Adult, National Dashboard for Financial Years 2014/15 to 2017/18: [www.mhakpi.health.nz/Data/Data/Adult\\_Ending\\_2018\\_06\\_30](http://www.mhakpi.health.nz/Data/Data/Adult_Ending_2018_06_30)

<sup>122</sup> CCDHB. 2016. *Capital & Coast District Health Board: Māori Health Plan 2016–17*. Wellington: Capital and Coast District Health Board. URL: [www.ccdhb.org.nz/news-publications/publications-and-consultation-documents/ccdhb-maori-health-plan-2016-17-final.pdf](http://www.ccdhb.org.nz/news-publications/publications-and-consultation-documents/ccdhb-maori-health-plan-2016-17-final.pdf) (accessed 28 June 2019).

<sup>123</sup> MHAIDS Legal Status Report, based on PRIMHD Dataset

**Figure 67: Rate of being required to accept treatment under the Mental Health Act, and duration, in CCDHB, 2017/18**



Note: MH Act = Mental Health (Compulsory Assessment and Treatment) Act 1992

Source: Mental Health, Addictions and Intellectual Disability Service (MHAIDS) legal status report, based on PRIMHD dataset

## Seclusion and restraint

In the first half of 2016, the seclusion rate in CCDHB was approximately 50 per 100,000 people.<sup>124</sup> The same report shows that, on a national level, the proportion of referrals in adult inpatient mental health services was consistently higher for Māori than non-Māori, non-Pacific people from 2010 to 2017.

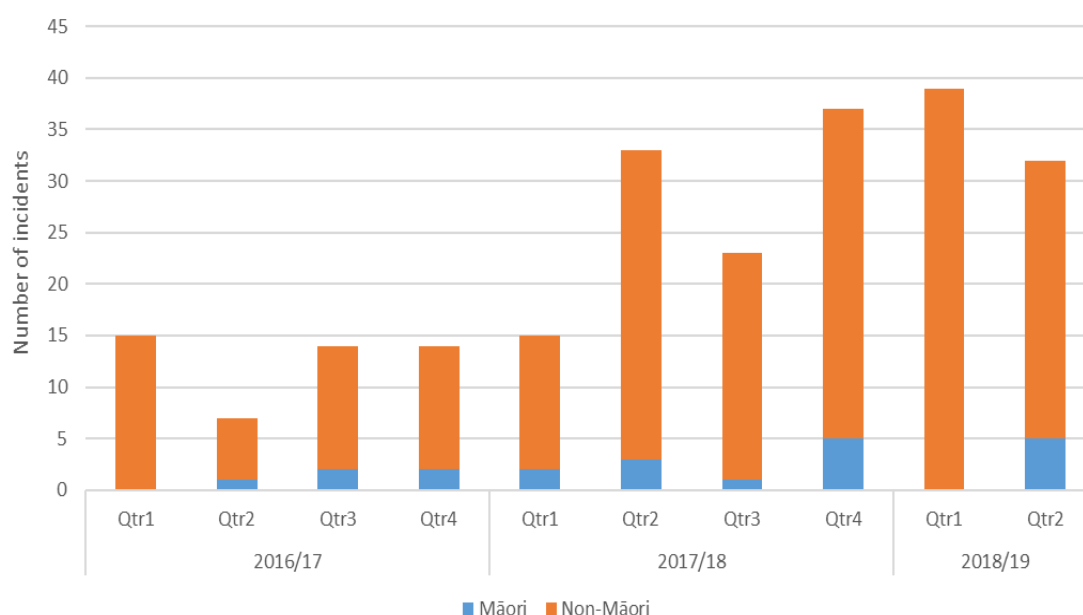
CCDHB data relating to seclusion has been analysed via QLIK (a new DHB reporting system). From July 2017 to November 2018, 27 Māori and 31 non-Māori, non-Pacific people were secluded. The percentage of inpatients who were secluded was higher for Māori (10.5 percent) than for non-Māori, non-Pacific people (4.1 percent). It is unclear whether these data are reliable or not, and there may be the potential for under-reporting that may differ by ethnicity.

The seclusion hours per person were lower for Māori (49 hours) than non-Māori, non-Pacific people (159 hours). It is not possible to interpret the data fully, without understanding the reasons for the seclusions. However, the higher proportion of Māori who are secluded, but for shorter times, suggests the possibility that Māori are being secluded unnecessarily. Further work is required to understand this fully.

Over the past 2½ years, 9.2 percent of all restraint incidents reported by the Mental Health, Addictions and Intellectual Disability Service (MHAIDS) in CCDHB involved a Māori service user. This data has been sourced from CCDHB reportable events data (SQUARE). If there is ambiguity in the criteria requiring restraint to be reported, this could allow for biased estimates of equity. Fuller transparency of data on seclusion and restraint is warranted.

<sup>124</sup> Te Pou o te Whakaaro Nui. 2018. *Reducing and Eliminating Seclusion in Mental Health Inpatient Services: An evidence review for the Health Quality & Safety Commission New Zealand*. Auckland: Te Pou o te Whakaaro Nui. URL: [www.hqsc.govt.nz/assets/Mental-Health-Addiction/Resources/Reducing-and-eliminating-seclusion-in-mental-health-inpatient-services-Jul-2018.pdf](http://www.hqsc.govt.nz/assets/Mental-Health-Addiction/Resources/Reducing-and-eliminating-seclusion-in-mental-health-inpatient-services-Jul-2018.pdf) (accessed 28 June 2019).

**Figure 68: The number of incidents involving restraint of a service user, CCDHB, 2016/17–2018/19**



Source: CCDHB reportable events

## Alcohol abuse

The social impact of alcohol abuse begins in the home, affecting family and particularly children. Alcohol abuse and addiction plays a role in family violence, causes financial problems for families, impairs decision-making skills and plays a role in child neglect and abuse. Occasional binge drinking can also have negative effects on families. One study found that spousal violence is more likely not only when a partner is alcohol dependent or a problem drinker but also when the partner is an infrequent drinker who occasionally drinks heavily.<sup>125</sup> The impact of alcohol abuse extends into the community and affects society as a whole.

Rates of hazardous drinking are particularly high for Māori in CCDHB. In the New Zealand Health Survey, hazardous drinking is measured using the 10-question Alcohol Use Disorders Identification Test (AUDIT) developed by the WHO. The questions cover alcohol consumption, alcohol-related problems and abnormal drinking behaviour. The self-reported prevalence of hazardous drinking was estimated as 32 percent for Māori and 18 percent for non-Māori. Taking age and sex differences of the respondents into account, Māori were 60 percent more likely to report hazardous drinking than non-Māori. As seen in the discussions to follow, this is related to higher rates of hospitalisations wholly due to alcohol in Māori and higher rates of alcohol-related ED admissions in male Māori teenagers aged 15–19 years (but not other groups).

## Hospital admissions

The crude 10-year rate of hospital admissions (including same day, overnight and ED visits) wholly attributable to alcohol among Māori was 168 per 100,000 (2007–2016).<sup>126</sup> Figure 69 shows the age-

<sup>125</sup> Buddy T. 2018. The impact of alcoholism on society. *Verywell mind*: [www.verywellmind.com/impact-on-society-63268](http://www.verywellmind.com/impact-on-society-63268) (accessed 28 June 2019).

<sup>126</sup> Massey University, healthspace, Resources: <http://healthspace.ac.nz/explorer/resources/list?page=1&itemsPerPage=-1>

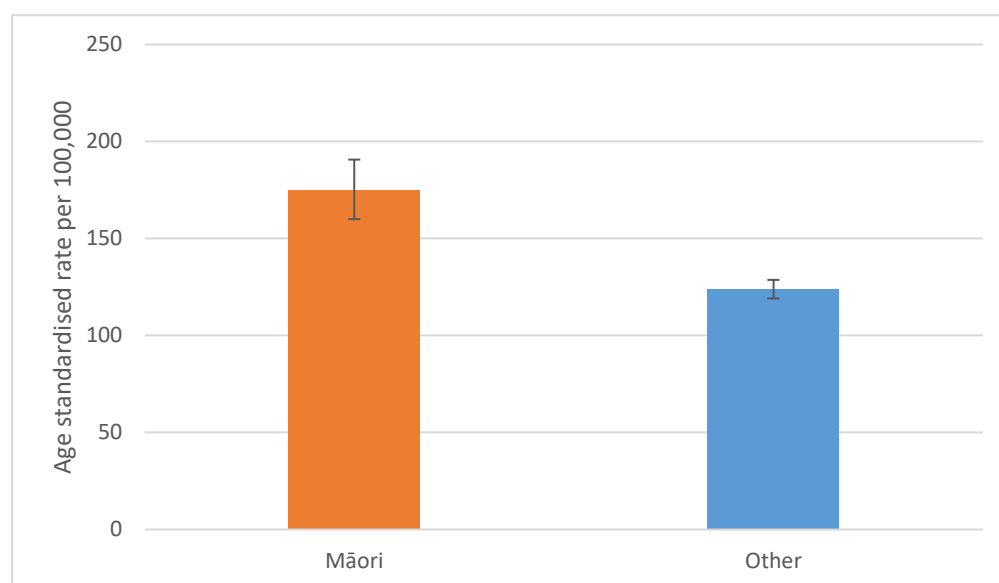


standardised rates for Māori and 'Other' ethnicities, defined as non-Māori, non-Pacific, non-Asian. It is clear that the impact of alcohol use is markedly higher for Māori than for other ethnicities.

## Alcohol-related ED presentation rates

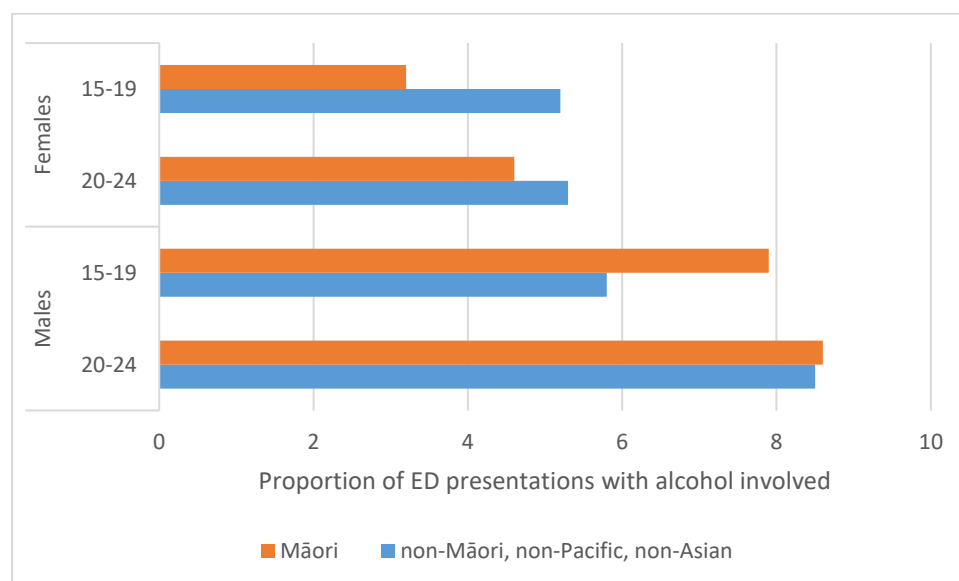
The burden of alcohol abuse resulting in hospitalisation lies with youth. Among 10- to 24-year-olds, in the year to March 2018 in CCDHB, there were 608 ED presentations involving alcohol. Of these, 105 were among Māori (a rate of 4.9 percent for Māori, compared with 5.2 percent for the non-Māori, non-Pacific, non-Asian population).<sup>127</sup> From Figure 70, it is clear that, young men aged 15–19 years make up the majority of Māori alcohol-related ED admissions.

**Figure 69: Rate of hospitalisations wholly due to alcohol in CCDHB, 2007–2016**



Source: National Minimum Dataset

**Figure 70: Rates of alcohol-related ED presentation in youth of CCDHB, 2017/18**



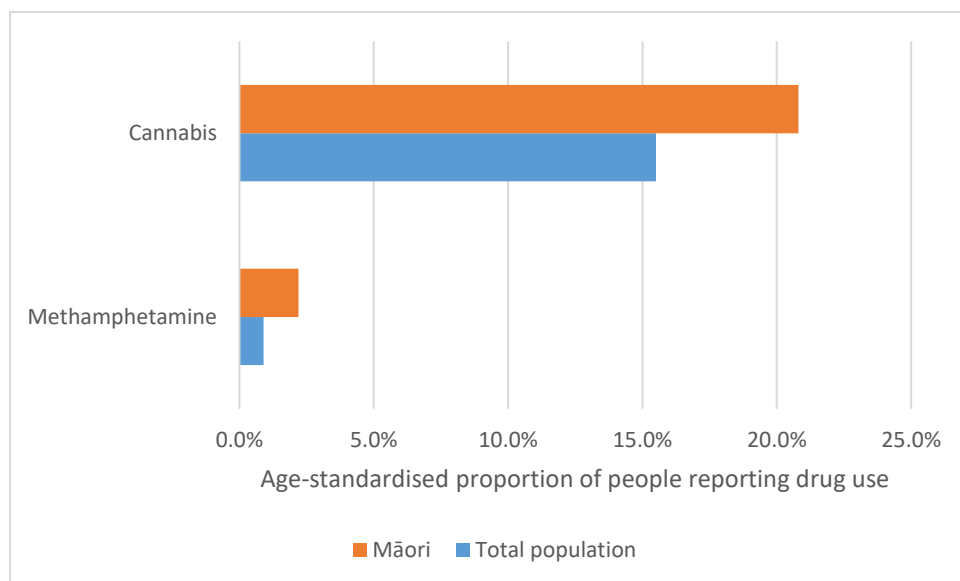
Source: National non-admitted patient collection

<sup>127</sup> Nationwide Service Framework Library, Youth SLM Data: <https://nsfl.health.govt.nz/dhb-planning-package/system-level-measures-framework/data-support-system-level-measures/youth-slm-0>

## Illicit drug use

There appears to be very little data available on illicit drug use among Māori in the CCDHB area. In the New Zealand Health Survey 2014–17,<sup>128</sup> Māori in CCDHB reported higher rates of illicit drug use than the total population (cannabis use 21 percent for Māori compared with 16 percent for the total population; amphetamine use 2 percent for Māori compared with 1 percent for the total population). It is important to note that the numbers are small and the differences with non-Māori for these outcomes may be due to chance as well as under-reporting due to stigma and/or illegality. The inequities will be larger than reported due to the comparison of Māori with the total population.

**Figure 71: Age-standardised self-reported drug use in CCDHB, 2014–2017**



Source: New Zealand Health Survey, age-standardised to the WHO world population

The Illicit Drug Monitoring System (IDMS) uses nationwide data, which may not accurately reflect the CCDHB population. In this system, it is clear that the burden of illegal drug use, and hence the impact, is borne predominantly by Māori. This is particularly true for methamphetamine use and injecting drug users. Conversely, Māori are less likely to use ecstasy than non-Māori. There has been a rise in methamphetamine use among Māori: the proportion of frequent methamphetamine users who were Māori increased from 22 percent in 2006 to 32 percent in 2014.<sup>129</sup> The use of injecting drugs and ecstasy among Māori did not change over this time period. After adjusting for age and sex

<sup>128</sup> Ministry of Health, New Zealand Health Survey, Regional Data Explorer 2014–17: [https://minhealthnz.shinyapps.io/nz-health-survey-2014-17-regional-update/\\_w\\_ffcb243d/#!/compare-indicators](https://minhealthnz.shinyapps.io/nz-health-survey-2014-17-regional-update/_w_ffcb243d/#!/compare-indicators)

<sup>129</sup> Wilkins C, Prasad J, Wong K, et al. 2015. *Recent Trends in Illegal Drug Use in New Zealand, 2006–2014*. Auckland: Social and Health Outcomes Research and Evaluation, College of Health, Massey University. URL: [www.massey.ac.nz/massey/fms/Colleges/College%20of%20Humanities%20and%20Social%20Sciences/Shore/reports/IDMS%202014%20Final%20Report.pdf?38B9C25FBFC4F517CCB03BCA4C7CF64A](http://www.massey.ac.nz/massey/fms/Colleges/College%20of%20Humanities%20and%20Social%20Sciences/Shore/reports/IDMS%202014%20Final%20Report.pdf?38B9C25FBFC4F517CCB03BCA4C7CF64A) (accessed 28 June 2019).

differences, on a national level, Māori were 3.4 times as likely (adjusted rate ratio 3.4, 95 percent CI 2.2 to 5.2) to have used amphetamines in the past year as non-Māori in 2015/16.<sup>130</sup>

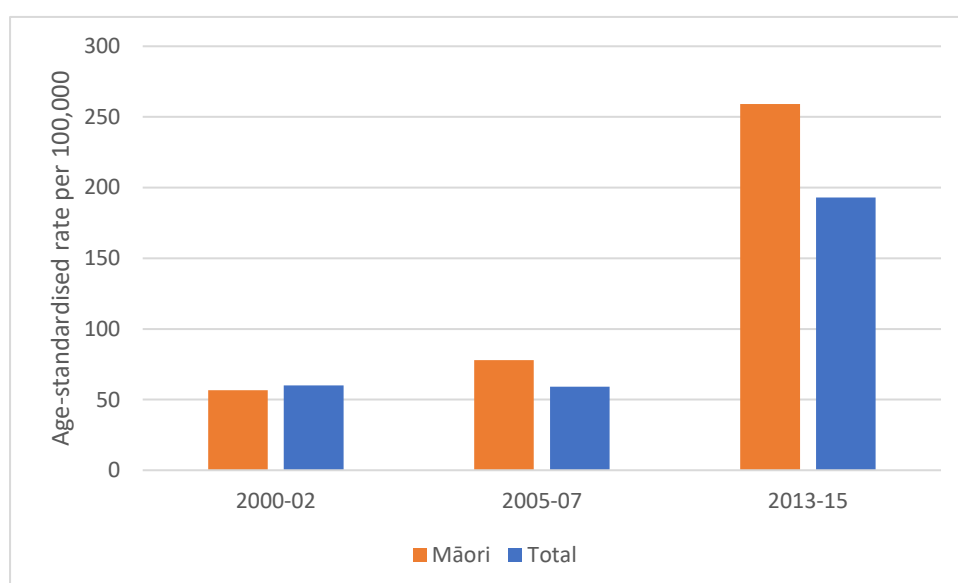
## Self-harm hospitalisation rate

Over a 15-year period, the rate of hospitalisations for self-harm has risen markedly. Although the rates from 2000 to 2007 were similar for Māori and the total population, the rates for Māori rose markedly in the most recent period, resulting in a 35 percent higher rate of hospitalisations for Māori compared with the total population. Since no data were available for non-Māori separately, the comparison of Māori with the total population underestimates the inequity that Māori experience for self-harm hospitalisations.

For the purposes of assessing need, crude rates are necessary. The crude rate of self-harm hospitalisations in 2013–2015 was 281 per 100,000 for Māori in the CCDHB area. This was considerably higher for Māori women (383 per 100,000) than for Māori men (166 per 100,000).

Age-standardised rates are used to compare Māori with non-Māori. As shown in Figure 72 below, admissions to hospital were much higher for Māori than non-Māori in the latest period, 2013–2015. The data shown is for all ages. It is important to note that self-harm rates in Māori youth are considerably higher than in non-Māori.<sup>131</sup>

**Figure 72: Age-standardised rates per 100,000 of people admitted to hospital for self-harm, 2000–2015**



Source: National Minimum Dataset, standardised to the WHO world population

## Suicide mortality rate

Because of the small numbers of suicides per DHB, it is helpful to look at national data. On a nationwide level, the rates of suicide are 2.4 times higher in Māori females compared with non-Māori females, and 1.7 times in Māori males compared with non-Māori males.<sup>132</sup> A comparison of

<sup>130</sup> Ministry of Health, New Zealand Health Survey, Amphetamine Use 2015/16:

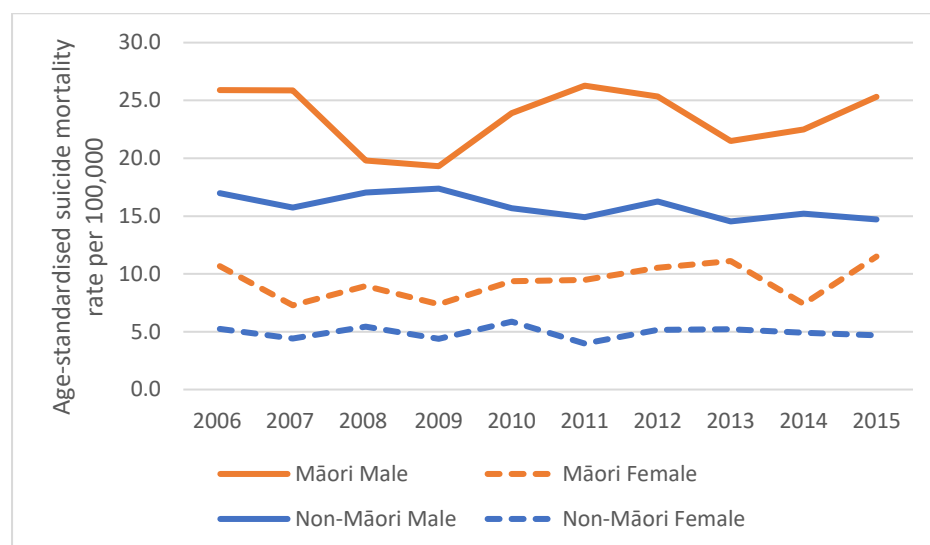
[www.health.govt.nz/system/files/documents/publications/amphetamine-use-2015-16-nzhs-dec16.pdf](http://www.health.govt.nz/system/files/documents/publications/amphetamine-use-2015-16-nzhs-dec16.pdf)

<sup>131</sup> Nationwide Service Framework Library, Youth SLM Data: <https://nsfl.health.govt.nz/dhb-planning-package/system-level-measures-framework/data-support-system-level-measures/youth-slm-0>

<sup>132</sup> Ministry of Health, Suicide Facts: 2015 data: [www.health.govt.nz/publication/suicide-facts-2015-data](http://www.health.govt.nz/publication/suicide-facts-2015-data)

Māori to non-Māori suicide rates in young people is only available on a national level. Based on 2013 data, the inequity is 1.6 times higher in young Māori than in all ages combined and over three times higher than in non-Māori.<sup>133</sup>

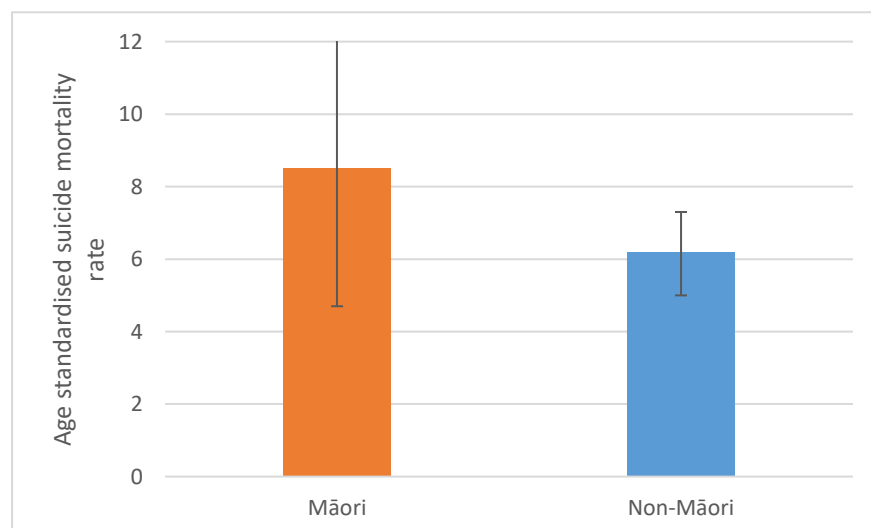
**Figure 73: Age-standardised national suicide mortality rate, 2006–2015**



Source: Ministry of Health Mortality Collection, standardised to the WHO world population

Combining mortality data from 2009 to 2015 in CCDHB, Māori have a 37 percent higher risk of mortality than non-Māori.<sup>134</sup> However, there is uncertainty in these estimates because of the relatively small numbers of suicides in CCDHB (19 in Māori, 134 in non-Māori from 2009 to 2015).

**Figure 74: Age-standardised CCDHB suicide mortality rate, 2009–2015**



Source: Data provided by CCDHB, rates calculated by M Jeffreys, using CCDHB 2013 population as denominator and standardised to CCDHB 2013 Māori population in five-year age bands

<sup>133</sup> Calculated from data tables available from: Ministry of Health. 2016. *Suicide Facts: Deaths and intentional self-harm hospitalisations 2013*. Wellington: Ministry of Health. URL: [www.health.govt.nz/publication/suicide-facts-deaths-and-intentional-self-harm-hospitalisations-2013](http://www.health.govt.nz/publication/suicide-facts-deaths-and-intentional-self-harm-hospitalisations-2013) (accessed 28 June 2019).

<sup>134</sup> Data provided by CCDHB, mortality rates calculated by M Jeffreys, age-standardised to CCDHB Māori population 2013.

A closer look at national suicide deaths in 2013<sup>135</sup> reveals that the majority of deaths among Māori were in those who were living in the most deprived areas, whereas there was no relationship between deprivation and suicide in non-Māori, non-Pacific people. Furthermore, 18 percent of European/other people who died of suicide had seen a GP in the year before their death, whereas Māori were less likely to have seen a GP. Note, actual figures are not given in this report. The majority of people – both Māori and non-Māori – who died from suicide had not been seen by acute mental health services in the year before death.

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<sup>135</sup> *An Overview of Suicide Statistics:* [www.health.govt.nz/system/files/documents/pages/data-story-overview-suicide-prevention-strategy-april2017newmap.pdf](http://www.health.govt.nz/system/files/documents/pages/data-story-overview-suicide-prevention-strategy-april2017newmap.pdf)

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## 7. Future monitoring

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During the writing of this report, we found several crucial gaps in the data. These gaps are described in more detail below. We recommend that consideration be given to addressing these gaps in the Māori Health Strategy Action Plan.

### Gaps: Specific outcomes

#### *Life expectancy*

Life expectancy is not currently available on a DHB level for Māori and non-Māori. Having this as a baseline would allow changes in life expectancy inequity to be tracked over time.

#### *Health loss*

Health loss (specifically, DALYs) is not currently calculated on a DHB level for Māori and non-Māori in a methodology similar to that done on a national scale. Instead of only highlighting the main contributors to DALYS, it is important to know the total number of DALYs, by sex and ethnicity, as well as the age-standardised DALY rate for Māori and non-Māori.

#### *Inaccessible appointments*

The coding of reasons for appointments being inaccessible needs to be addressed. It appears that people are being described as “Did Not Attend” specialist appointments and then referred back to their GP when, in fact, there were systemic failures in the data recording, resulting in patients not being seen by specialists.

#### *Ethnicity data*

Ongoing work is needed to improve the collection of ethnicity data on staff at CCDHB. This could be in line with the 2017 Ethnicity Data Protocols.<sup>136</sup>

#### *Post-natal depression*

No data on post-natal depression appears to be available on a CCDHB level. This data gap needs to be addressed.

#### *Smoking in youth*

There is insufficient data on young people’s smoking habits. Such data is collected in the New Zealand Health Survey, but it is not available in an interactive way that would enable the data to be analysed by age group, ethnicity and DHB.

#### *Ambulatory sensitive hospitalisations in youth*

As described in section 2: CCDHB as a pro-equity organization (page 20), ambulatory sensitive hospitalisations are a marker of primary or community health care service failure. This data is not routinely published and analysed specifically for youth. If this were done, it could be used as a marker of access to primary health care for rangatahi (youth).

#### *HPV vaccination*

Following the introduction of HPV vaccines for boys/men, ongoing monitoring of Māori (girls/women and boys/men) on a CCDHB level is required to ensure that uptake of the vaccine is equitable.

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<sup>136</sup> Ministry of Health. 2017. *HISO 10001:2017 Ethnicity Data Protocols*. Wellington: Ministry of Health. URL: [www.health.govt.nz/publication/hiso-100012017-ethnicity-data-protocols](http://www.health.govt.nz/publication/hiso-100012017-ethnicity-data-protocols)

Although this data is available in the Integrated Data Infrastructure (IDI) from the National Immunisation Register,<sup>137</sup> this is not routinely reported on for CCDHB data.

#### *Mental health*

Key performance indicators in the Mental Health and Addiction Services are comprehensive for the total population but do not report on data for Māori.

We are not certain of the accuracy in reporting instances of seclusion, and we need to assess this carefully, along with the potential overlap with de-escalation, to ensure we are using consistent reporting methods.

The quarterly template for the CCDHB performance measure PP26 (*Rising to the Challenge: The Mental Health and Addiction Service Development Plan*)<sup>138</sup> reports the number of Māori clients. If data were reported for Māori and non-Māori instead, it would allow us to have a better understanding of the provision of primary mental health care to Māori youth.

## Methodological issues

#### *Age standardisation*

Many of the results presented in this report are standardised to the WHO world population, as this is how they were published. The current Ministry of Health recommendation suggests that the 2001 Māori population be used as the standard for Māori equity analyses.<sup>139</sup> Adhering to this, or using a time-relevant CCDHB Māori population as has been done for mortality analyses in this report, allows for fewer changes to be applied to the Māori data, which are based on smaller numbers than non-Māori data, thus minimising statistical uncertainty.

#### *Ongoing monitoring*

If future work included trends as well as analysis of contemporary data, this would allow monitoring of whether changes are occurring in the right direction.

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<sup>137</sup> Ministry of Health, National Immunisation Register: [www.health.govt.nz/our-work/preventative-health-wellness/immunisation/national-immunisation-register](http://www.health.govt.nz/our-work/preventative-health-wellness/immunisation/national-immunisation-register)

<sup>138</sup> Ministry of Health. 2012. *Rising to the Challenge: The Mental Health and Addiction Service Development Plan 2012–2017*. Wellington: Ministry of Health. URL: [www.health.govt.nz/publication/rising-challenge-mental-health-and-addiction-service-development-plan-2012-2017](http://www.health.govt.nz/publication/rising-challenge-mental-health-and-addiction-service-development-plan-2012-2017) (accessed 29 June 2019).

<sup>139</sup> Ministry of Health. 2018. *Position Paper on Māori Health Analytics: Age standardisation*. Wellington: Ministry of Health. URL: [www.health.govt.nz/system/files/documents/publications/position-paper-maori-health-analytics-age-standardisation-nov18\\_0.pdf](http://www.health.govt.nz/system/files/documents/publications/position-paper-maori-health-analytics-age-standardisation-nov18_0.pdf) (accessed 29 June 2019).

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# Acknowledgements

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We would like to acknowledge

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Ngā mihi nui ki a koutou katoa.



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# Appendix 1: Methodology

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## Data sources

Most of the data presented is based on published data and referenced in the footnotes. In some cases, data and figures have been taken directly from published sources. In others, data has been accessed via online tools, thus the link provided does not directly link to the data presented but to the tools used.

- NZ.Stat table viewer lets users view and download information from large datasets. It was used to access census data: <http://nzdotstat.stats.govt.nz/wbos/index.aspx>
- HealthSpace provides data and information for a wide range of health indicators. It is a platform to view Ministry of Health data by DHB. It was used for some health outcomes: <http://healthspace.ac.nz/>
- New Zealand Health Survey: [https://minhealthnz.shinyapps.io/nz-health-survey-2014-17-regional-update/\\_w\\_a96a9866/#!/compare-indicators](https://minhealthnz.shinyapps.io/nz-health-survey-2014-17-regional-update/_w_a96a9866/#!/compare-indicators)
- Tatau Kahukura: Māori Health Chart Book 2015: [www.health.govt.nz/our-work/populations/maori-health/tatau-kahukura-maori-health-statistics](http://www.health.govt.nz/our-work/populations/maori-health/tatau-kahukura-maori-health-statistics)
- CCDHB Māori Health Profile 2015: [www.otago.ac.nz/wellington/otago152540.pdf](http://www.otago.ac.nz/wellington/otago152540.pdf), and associated data tables: [www.otago.ac.nz/wellington/departments/publichealth/research/erupomare/research/otago147631.html#capital](http://www.otago.ac.nz/wellington/departments/publichealth/research/erupomare/research/otago147631.html#capital)
- *The Determinants of Health for Children and Young People, in the Hutt Valley and Capital and Coast DHBs*: <http://dnmeds.otago.ac.nz/departments/womens/paediatrics/research/nzcyes/pdf/rpt2012-hvdhb-ccdhb.pdf>
- Education Counts: [www.educationcounts.govt.nz/home](http://www.educationcounts.govt.nz/home)
- Nationwide Service Framework Library: <https://nsfl.health.govt.nz/home>
- Health Quality and Safety Commission New Zealand, Atlas of Healthcare Variation: <https://www.hqsc.govt.nz/our-programmes/health-quality-evaluation/projects/atlas-of-healthcare-variation/>
- CCDHB data from Qlik was provided by Māori Health Development Group
- CCDHB Māori Health Plan 2016–17: [www.ccdhb.org.nz/news-publications/publications-and-consultation-documents/ccdhb-maori-health-plan-2016-17-final.pdf](http://www.ccdhb.org.nz/news-publications/publications-and-consultation-documents/ccdhb-maori-health-plan-2016-17-final.pdf)
- Technical Advisory Services (DHB Employed Workforce Quarterly Report – June 2018)
- Illicit Drug Monitoring System reports
- *Te Rau Hinengaro: The New Zealand Mental Health Survey*: [www.health.govt.nz/system/files/documents/publications/mental-health-survey.pdf](http://www.health.govt.nz/system/files/documents/publications/mental-health-survey.pdf)
- *Capital & Coast District Health Board. The Women's Health Service Annual Clinical Report 2016*: [www.ccdhb.org.nz/news-publications/publications-and-consultation-documents/ccdhb-whs-2016-annual-clinical-report.pdf](http://www.ccdhb.org.nz/news-publications/publications-and-consultation-documents/ccdhb-whs-2016-annual-clinical-report.pdf)
- *Tobacco Control Plan 2016–2019, Wairarapa DHB, Hutt Valley DHB & Capital & Coast DHB*: [www.ccdhb.org.nz/news-publications/publications-and-consultation-documents/2016-19-3dhb-tobacco-control-plan-final-20161020.pdf](http://www.ccdhb.org.nz/news-publications/publications-and-consultation-documents/2016-19-3dhb-tobacco-control-plan-final-20161020.pdf)
- Well Child / Tamariki Ora Quality Improvement Framework: <https://nsfl.health.govt.nz/dhb-planning-package/well-child-tamariki-ora-quality-improvement-framework>

- Various Ministry of Health health statistics and data sets as referenced in the text: [www.health.govt.nz/nz-health-statistics/health-statistics-and-data-sets](http://www.health.govt.nz/nz-health-statistics/health-statistics-and-data-sets)
- Action for Smokefree 2025 (ASH) Year 10 Smoking Survey: [www.ash.org.nz/ash\\_year\\_10](http://www.ash.org.nz/ash_year_10)

## Measuring ethnicity

In line with a Treaty of Waitangi approach to Māori data, we have compared Māori with non-Māori. In some cases, such comparison has been limited by a lack of data. We used a number of methods to overcome this.

- Sometimes it is necessary to compare Māori with non-Māori, non-Pacific people.
- If no other option is available, Māori have been compared with the total population, acknowledging that this will dilute inequities, where they are present.
- It is made clear for each outcome which approach was followed.

In all instances, the Māori population is the 'total Māori' population. Thus, if someone identifies as Māori, whether or not they also identify as another ethnic group, they are counted in the Māori group. All others are counted in the non-Māori group. Where the comparator group is something other than non-Māori (e.g. 'non-Māori, non-Pacific' or 'European/Other'), prioritised ethnicity is used to avoid the issue of people with multiple ethnicities being included in more than one group.

Although there has been evidence of an undercount of Māori in health statistics, we have made no adjustment to the data presented in this report to account for this. The main reason for this is that most of the data in the report has been taken from published sources, and we did not have access to the raw data.

## Measuring outcomes

New Zealand health research recognises that there is an undercount of some outcomes for Māori.<sup>140</sup> This is likely to be particularly the case for hospitalisations and cancer registrations and is less of an issue for mortality. In this report, we have not adjusted previously reported data to account for this undercount. We acknowledge that, for some outcomes, the true inequities may be larger than those reported here.

## Measuring uncertainty

In all estimates, particularly those that are based on small numbers of people, there will be uncertainty in the accuracy of the measure. To address this, confidence intervals are often used. The 95 percent confidence interval can be interpreted as the range across which we can be 95 percent sure that the true value lies. In this report, 95 percent confidence intervals are reported where these were given in the original source. However, in many instances, confidence intervals were not provided, and insufficient data was presented to allow us to calculate the confidence interval. We ask that readers acknowledge the possibility of differences between Māori and non-Māori being due to chance, particularly for rare outcomes, where the number of events is small.

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<sup>140</sup> Ministry of Health, Ngā tapuae me ngā raraunga: Methods and data sources: [www.health.govt.nz/our-work/populations/maori-health/tatau-kahukura-maori-health-statistics/nga-tapuae-me-ngararaunga-methods-and-data-sources](http://www.health.govt.nz/our-work/populations/maori-health/tatau-kahukura-maori-health-statistics/nga-tapuae-me-ngararaunga-methods-and-data-sources)

## Age standardisation

Because of differences in the age structure of the Māori and non-Māori populations, for a valid comparison, it is necessary to use age standardised rates. There are a number of important points to note regarding this.

- When data is given by age group, it is not necessary to use age standardisation.
- It does not particularly matter what 'standard' is used, as long as the same standard population is used for all groups being considered.
- Different 'standard' populations are used in different publications. Therefore, standardised rates cannot be compared against one another, unless the same standard is used. In this report, where standard rates for Māori and non-Māori are given in the same graph, they can be compared, but they can not necessarily be compared with standardised rates given in other graphs.
- The interpretation of standardised data should be restricted to comparing two or more groups. Crude rates are required for needs assessments.
- In some instances, only crude rates were available. We have pointed out in the text how this might possibly impact on interpretation.
- The only new standardised analysis in this report is for mortality rates. In this case, the 2013 CCDHB Māori population was used as the standard. The weights used for the standardisation are shown in Table 2 below.

**Table 2: Weights used for direct standardisation of mortality rates, based on the Māori population in CCDHB in 2013**

Age group	Population	Weight
0–4 years	3640	0.1135
5–9 years	3385	0.1056
10–14 years	3040	0.0948
15–19 years	3325	0.1037
20–24 years	3435	0.1071
25–29 years	2295	0.0716
30–34 years	2010	0.0627
35–39 years	2100	0.0655
40–44 years	2195	0.0685
45–49 years	1930	0.0602
50–54 years	1645	0.0513
55–59 years	1195	0.0373
60–64 years	835	0.0260
65–69 years	540	0.0168
70–74 years	315	0.0098
75–79 years	135	0.0042
80–84 years	35	0.0011
85 years and over	10	0.0003

## Geographical areas

Where possible, data presented are based on the CCDHB area. However, in some cases, this was not possible because the data available via StatsNZ is only available on a TLA level, and the Kāpiti Coast District includes some areas that are part of MidCentral DHB. In some instances, it was possible to exclude the areas of Te Horo, Ōtaki and Ōtaki Forks. In others, it was necessary to present the data as the sum of Wellington city, Porirua city and the Kāpiti Coast District as a whole. The data that is reported on is clearly noted in each section.

For some outcomes, data was not available, so nationwide data is presented.

## Justification of measures included in this report

### *Population profile*

This report includes a description of the age, sex and geographical breakdown of the CCDHB population to provide a baseline for a health needs assessment. There is an emphasis on deprivation because of its impacts on health and access to services. We also include measures of Māori wellbeing.

### *System equity: CCDHB as pro-equity organisation*

We present life expectancy, mortality and health loss for Māori and non-Māori as summary measures that indicate that the current system is failing Māori. We then focus on measures that are amenable to system change and the main contributors to mortality and morbidity for Māori. We also included self-reported health and patient experience as these are as close as we can get, using routinely collected data, to the Māori experience of health and wellbeing.

### *Workforce*

We focus on workforce as an area where inequity between Māori and non-Māori is large and fully within the remit of the DHB to alter. Ideally, the workforce of a pro-equity organisation would have: a strong Māori health workforce, a workforce who are equipped to improve Māori health and thriving Māori health providers.

### *Funding and commissioning*

It is imperative for an organisation that is pro-equity to ensure that there is enough funding to ensure services for Māori can succeed. We investigated the mismatch between the level of funding of Māori health providers and the Māori population and the changes over recent years to the funding of Māori health providers compared with changes in the overall CCDHB budget.

### *Maternal, child and youth health*

Maternal, child and youth health was chosen as a key focus of Taurite Ora: Māori Health Strategy because of the relevance to whānau ora and the lasting impact of child health on the future health of Māori, pae ora. Child wellbeing is a government priority; the Department of the Prime Minister and Cabinet (DPMC) is launching the first Child and Youth Wellbeing Strategy in 2019. This will focus on five areas. These are that children:

- are happy and healthy
- are loved, nurtured and safe
- have what they need
- belong, contribute and are valued
- are learning and developing.

The specific measures that have we report on here are not as broad as those in the DPMC strategy. They have been chosen as being of particular importance to Māori in terms of the burden of ill health.

#### *Mental health and addictions*

A focus on this outcome was chosen because of the large burden borne by Māori and the lack of focus on mental health to date. Mental health and addictions is also a government priority. At the time of writing, the *He Ara Oranga: Report of the Government Inquiry into Mental Health and Addiction* had recently been published.<sup>141</sup> Many of the recommendations from *He Ara Oranga* align with the need to redress inequities as described in this report. The specific outcomes included here cover a range of mental health issues, from distress to severe mental illness, and include risk behaviours, community care, hospital care and suicide.

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<sup>141</sup> Government Inquiry into Mental Health and Addiction. 2018. *He Ara Oranga: Report of the Government Inquiry into Mental Health and Addiction*. Wellington: Mental health and Addiction Inquiry. URL: [www.mentalhealth.inquiry.govt.nz/inquiry-report/](http://www.mentalhealth.inquiry.govt.nz/inquiry-report/) (accessed 29 June 2019).

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## Appendix 2: Life expectancy – further data

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For comparative purposes, the average life expectancy for the total population in the TLAs in the Wellington region are shown in Table 3 below. This shows that the authorities that are part of CCDHB tend to have a higher average life expectancy than those that are not (Hutt Valley and Wairarapa), although this is not the case for Porirua city.

No data is published on whether similar patterns are seen for Māori compared with the total population. Therefore, it is not clear whether the ethnic disparities shown in Figure 14 will be greater, smaller or similar, when only CCDHB data are included.

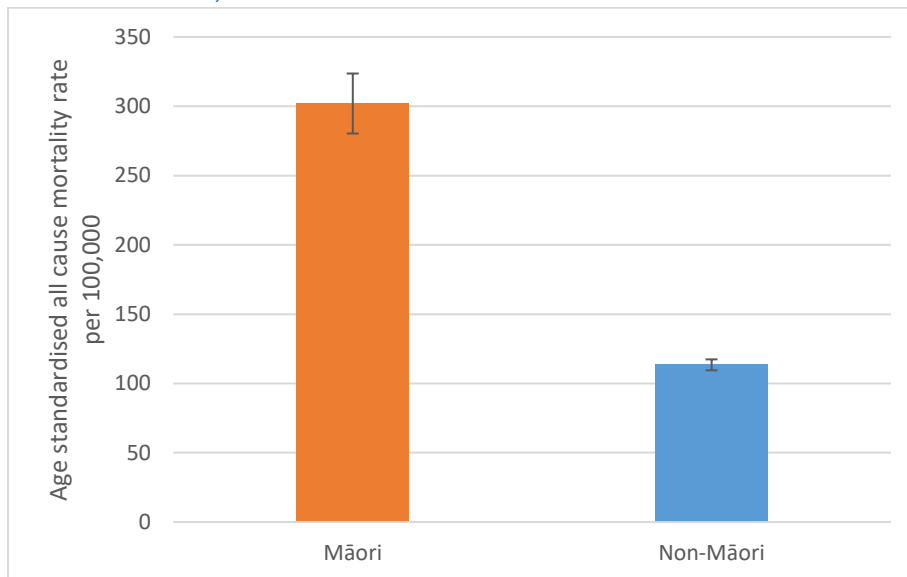
**Table 3: Life expectancy in the Wellington region, total population, 2012–2014**

TERRITORIAL AUTHORITY	MALE LIFE EXPECTANCY (years)	FEMALE LIFE EXPECTANCY (years)
<i>Part of CCDHB</i>		
Wellington city	80.9	84.2
Porirua city	77.7	81.6
Kāpiti Coast District	80.6	84.5
<i>Not part of CCDHB</i>		
Masterton district	77.8	82.0
Carterton district	78.6	82.8
South Wairarapa district	80.3	83.8
Upper Hutt city	79.6	83.0
Lower Hutt city	78.9	82.6

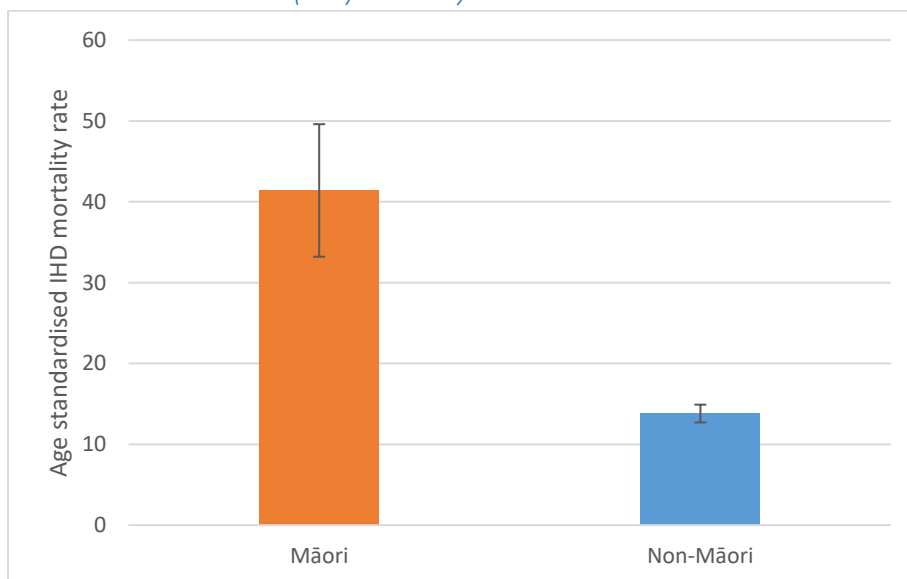
## Appendix 3: Mortality rates for Māori compared with non-Māori

**Figure 75: Age-standardised mortality rates for various outcomes comparing Māori with non-Māori in CCDHB, 2009–2015**

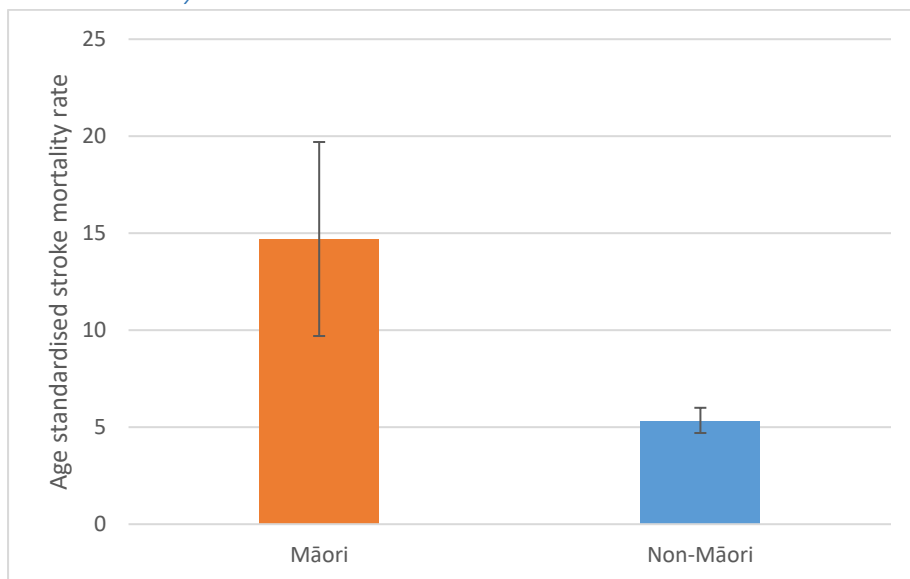
### All-cause mortality



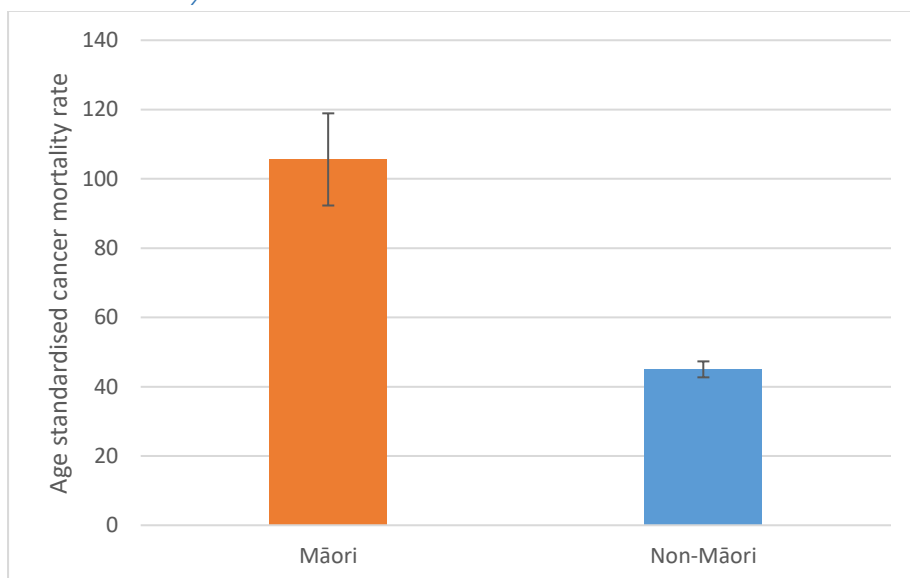
### Ischaemic heart disease (IHD) mortality



### Stroke mortality

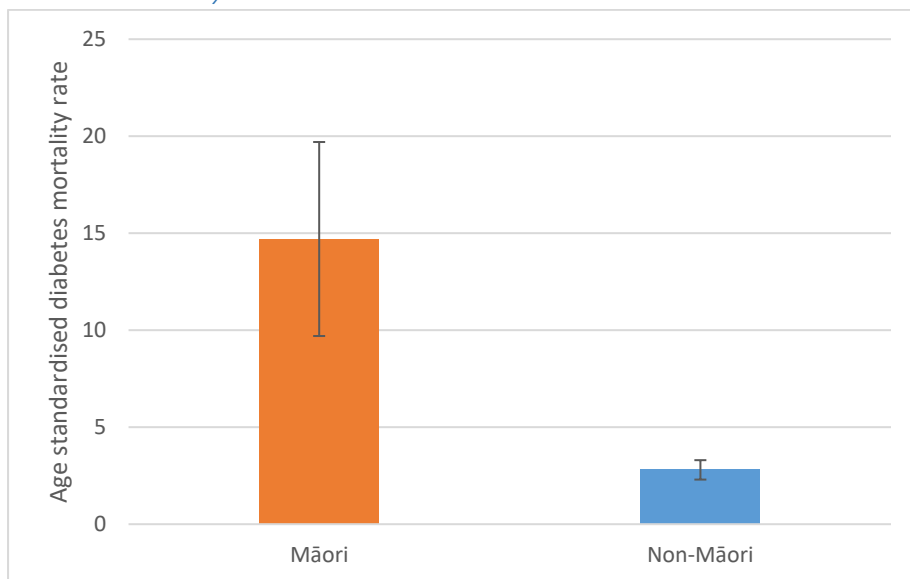


### Cancer mortality

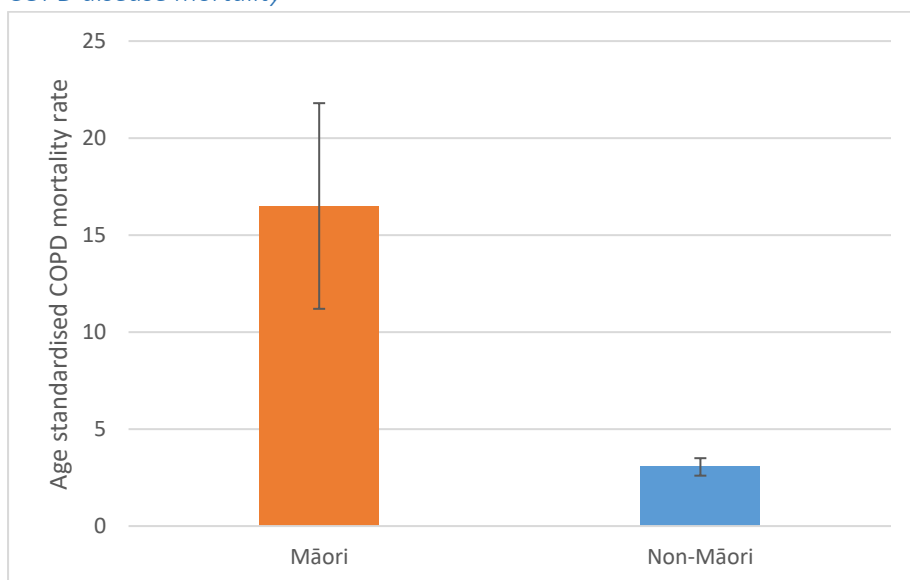




### Diabetes mortality



### COPD disease mortality



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## Appendix 4: Elective surgery rates

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Elective surgery operations improve quality of life. Māori are 1.5 to 2 times more likely to have hip and cataract operations at public hospitals compared with non-Māori.<sup>142</sup> However, the interpretation of this data is complicated. It is possible that the need among Māori for these procedures is 1.5 to 2 times higher than the need of non-Māori, in which case the higher rates of elective surgery rates among Māori are equitable in terms of access. Alternatively, the need among Māori may be lower than non-Māori. Without knowing the level of need, interpreting the elective surgery rates is not possible. Furthermore, the data may reflect a higher proportion of non-Māori having these procedures at private hospitals. For these reasons, we have not used data on elective surgery as a measure of pro-equity in this report.

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<sup>142</sup> Robson B, Purdie G, Simmonds S, Waa A, Faulkner R, Rameka R, Andrewes J. 2015. *Capital and Coast District Health Board Māori Health Profile 2015*. Wellington: Te Rōpū Rangahau Hauora a Eru Pōmare. URL: [www.otago.ac.nz/wellington/departments/publichealth/research/erupomare/research/otago152540.pdf](http://www.otago.ac.nz/wellington/departments/publichealth/research/erupomare/research/otago152540.pdf) (accessed 21 June 2019).





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