



Whanganui
District Health Board

Māori Health Profile 2015



Te Rei Puta

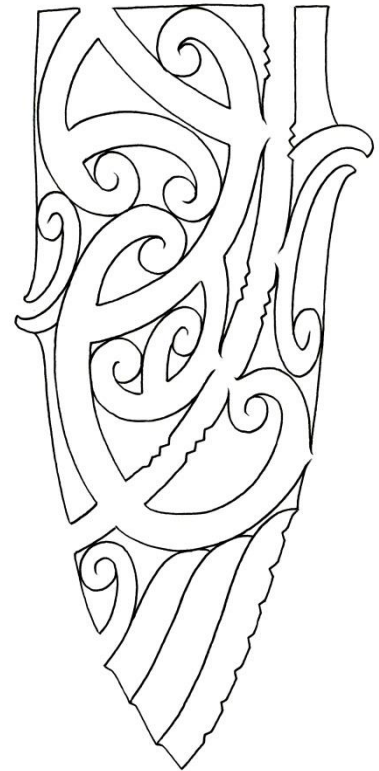
The cover design represents the journey of data from its production to its use by the health sector. The overall shape of the design is the prized rei puta. This signifies the importance of information and the acknowledgement that knowledge is a taonga.

At the centre of the design interwoven kowhaiwhai represent the complexity of data that underpins the reports. The ngutu kākā represents the verbal mechanisms for passing on knowledge and the mangopare design symbolises strength and the application of knowledge.

The reports focus on the health status of Māori, and in particular where there are inequalities compared to non-Māori. Niho taniwha represents the strength required to meet adversity and persist through to a successful end, the koru symbolises the growth that results from access to information. The retention of knowledge is embodied in the pātaka kai.

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He Mihi

Tūi Tuia i Te Herenga Tangata

Te tangi a Te Rōpū Rangahau Hauora a Eru Pōmare.

Tui Tui Tui Tuia

E ngā maunga whakahii, ngā pū kōrero huri noa

Tēnā koutou, tēnā koutou, tēnā tātou katoa.

Ngā mate huhua e hinga mai nei i runga i o tātou marae maha

Haere atu rā, okioki ai.

Ngā whakaaro, ngā kōrero aroha, ngā tautoko i awahi nei i te kaupapa

Anei te mihi ki ngā kaimahi hauora

Whakapiki te kaha

Whakapiki te ora

Whakapiki te māramatanga

Kia eke tātou katoa ki Te Pae Ora.

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Ngā mihi nui ki a koutou katoa.

Nā,

Te Rōpū Rangahau Hauora a Eru Pōmare (Eru Pōmare Māori Health Research Centre)
University of Otago Wellington



Tiro whānui

– Whanganui at a glance

Whanganui population

- In 2013, 15,850 Māori lived in the Whanganui District Health Board (DHB) region, 25% of the District's total population. Forty percent of the District's children aged 0–14 years and 36% of young adults aged 15–24 years were Māori.
- The Whanganui Māori population is youthful, with a median age of 24.6 years, but showing signs of ageing. The Māori population aged 65 years and over will increase by 42% between 2013 and 2020.

Whānau ora – Healthy families

- Data from Te Kupenga 2013 is presented for two DHBs combined: Whanganui and MidCentral. In 2013, most Māori adults (88%) in Whanganui and MidCentral reported that their whānau was doing well, but 6% felt their whānau was doing badly. A small proportion (5%) found it hard to access whānau support in times of need, but most found it easy (82%).
- Being involved in Māori culture was important to 68% of Māori adults. Spirituality was important to 64%.
- Practically all (97%) Whanganui and MidCentral Māori had been to a marae at some time. Most (68%) had been to their ancestral marae, with over half (58%) stating they would like to go more often.
- Nine percent had taken part in traditional healing or massage in the last 12 months.
- Just under a quarter of Whanganui Māori could have a conversation about a lot of everyday things in te reo Māori in 2013.

Wai ora – Healthy environments

Education

- In 2013, 96% of Whanganui Māori children had participated in early childhood education.
- In 2013, 40% of Māori adults aged 18 years and over had at least a Level 2 Certificate, a higher proportion than in 2006 (36%). Sixty percent of non-Māori had this level of qualification.

Work

- In 2013, 12% of Whanganui Māori adults aged 15 years and over were unemployed, twice the non-Māori rate.
- Most Māori adults (88%) do voluntary work.
- In 2013, Māori were more likely than non-Māori to look after someone who was disabled or ill without pay, inside the home, and outside of the household.

Income and standard of living

- In 2013, nearly one in two children and two in five 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 to one in five children and adults in other households.
- In 2013, 9% of Whanganui and MidCentral Māori adults reported putting up with feeling the cold a lot to keep costs down during the previous 12 months, 7% had gone without fresh fruit and vegetables, and 9% had postponed or put off visits to the doctor.

- Ten percent of residents of Māori households had no access to a motor vehicle compared to 4% of residents in other households in Whanganui DHB.
- People in Māori households were less likely to have access to telecommunications than those living in other households: 37% had no internet, 31% no telephone, 14% no mobile phone, and 4% had no access to any telecommunications.

Housing

- The most common housing problems reported to be a big problem by Whanganui and MidCentral Māori adults in 2013 included finding it hard to keep warm (14%), needing repairs (9%), and damp (8%).
- Over half of children in Whanganui Māori households (57%) were living in rented accommodation, nearly twice the proportion of children in other households.
- Whanganui residents of Māori households were 3 times as likely as residents of other households to be in crowded homes (i.e. requiring at least one additional bedroom) (17% compared to 6%).

Area deprivation

- Using the NZDep2013 index of small area deprivation, 51% of Whanganui Māori lived in the two most deprived decile areas compared to 31% of non-Māori. Only 3% of Māori lived in the two least deprived decile areas compared to 10% of non-Māori.

Mauri ora – Healthy individuals

Pepi, tamariki – Infants and children

- On average 404 Māori infants were born per year during 2009–2013, 46% of all live births in Whanganui DHB. Māori infants were 26% more likely than non-Māori to have low birth-weight (7.2% compared to 5.7%).
- In 2013, 81% of Māori babies in Whanganui were fully breastfed at 6 weeks.
- Nearly three-quarters of Māori infants were enrolled with a Primary Health Organisation by three months of age.
- In 2014, 92% of Māori children were fully immunised at 8 months of age, and 93% at 24 months.
- In 2013, two-thirds of Whanganui Māori children aged 5 years and just over one-third of non-Māori children had caries. At Year 8 of school, two out of three of Māori children and two out of five non-Māori children had caries. Hospitalisations for tooth and gum disease were 2.4 times as high for Māori as for non-Māori children aged 0–14 years.
- During 2011–2013, on average there were 16 hospital admissions per year for grommet insertions for otitis media among Māori children (at a rate 41% lower than for non-Māori).
- There was an average of 24 admissions per year for serious skin infections among Māori children, at a rate 87% higher than for non-Māori children.
- One Māori child per year on average was admitted to hospital at least once with acute rheumatic fever among those aged 0–14 years, and one per year aged 15–24 years.
- Just under 400 hospitalisations per year of Māori children were potentially avoidable through population-based health promotion and intersectoral actions, at a rate 57% higher than the rate of non-Māori children.
- Around 270 hospitalisations per year of Māori children were potentially avoidable through preventive or treatment intervention in primary care (ambulatory care sensitive hospitalisations, or ASH), at a rate 53% higher than non-Māori children.

Rangatahi – Young adults

- There has been a significant decrease in the proportion of Whanganui Māori aged 15–24 years who smoke regularly. However, the rate remains twice as high as non-Māori in this age group.
- By September 2014, just over 60% of Māori girls aged 16 and 17 years and over 80% of those aged 14 and 15 years had received all three doses of the human papilloma virus (HPV) immunisation. Coverage was higher for Māori than for non-Māori.

- Rates of hospitalisation for injury from self-harm were lower for Māori than for non-Māori among those aged 15–24 years during 2011–2013 with 11 admissions per year among Māori youth. Among Māori aged 25–44 years there were a similar number of admissions per year, with the rate similar to non-Māori.

Pakeke – Adults

- Just over half (55%) of Māori adults in Whanganui and MidCentral DHBs reported having excellent or very good health in 2013, and a further third (35%) reported good health. One in seven (14%) reported having fair or poor health.
- Smoking rates are decreasing, but remain twice as high for Māori as for non-Māori (38% compared to 19% in 2013).

Circulatory system diseases

- Whanganui Māori adults aged 25 years and over were 72% more likely than non-Māori to be hospitalised for circulatory system diseases (including heart disease and stroke) during 2011–2013.
- Māori were 56% more likely than non-Māori to be admitted with acute coronary syndrome, 51% more likely to have angiography, 60% more likely to have angioplasty, and just as likely to have a coronary artery bypass graft.
- Heart failure admission rates were 4.4 times as high for Māori as for non-Māori.
- Stroke admission rates were 2.5 times as high for Māori as for non-Māori and admissions for hypertensive disease 2.6 times as high.
- Chronic rheumatic heart disease admissions were 4.8 times as common for Māori as for non-Māori, while heart valve replacements were not significantly different.
- Māori under 75 years were 3.3 times as likely as non-Māori to die from circulatory system diseases during 2007–2011.

Diabetes

- In 2013, 5.4% of Māori and 6.1% of non-Māori were estimated to have diabetes. Just over half of Māori aged 25 years and over who had diabetes were regularly receiving metformin or insulin, 78% were having their blood sugar monitored regularly, and just over half were being screened regularly for renal disease.
- In 2011–2013 Māori men with diabetes were over 4.5 times as likely as non-Māori to have a lower limb amputated.

Cancer

- Compared to non-Māori, cancer incidence was 27% higher for Māori females and cancer mortality 86% higher. Among males, the cancer registration rate for Māori was similar to the rate for non-Māori while the cancer mortality rate was 56% higher.
- Lung, breast, uterine, colorectal, and thyroid cancers were the most commonly registered among Whanganui Māori women during 2008–2012. The rate of lung cancer was 6.6 times the non-Māori rate.
- Lung, breast, colorectal, and pancreatic cancers were the most common causes of death from cancer among Māori women during 2007–2011. Lung cancer mortality was 4.7 times higher, breast twice as high, and pancreatic cancer mortality 3 times as high for Māori as for non-Māori women.
- Two-year breast screening coverage of Māori women aged 45–69 years was 67% compared to 78% of non-Māori women by the end of 2014.
- Cervical screening coverage of Māori women aged 25–69 years was 67% over 3 years and 85% over five years (compared to 77% and 91% of non-Māori women respectively).
- Cancers of the prostate, lung, colon and rectum, stomach, and kidney were the most common cancers among Whanganui Māori men. Stomach cancer registration rates were over 6 times higher than for non-Māori men.
- Lung cancer and cancers of the digestive organs were the most common causes of cancer death for Māori men. Lung cancer mortality was 3 times as high for Māori as for non-Māori.

Respiratory disease

- Māori aged 45 years and over were nearly 3 times as likely as non-Māori to be admitted to hospital for chronic obstructive pulmonary disease (COPD).
- Asthma hospitalisation rates were over twice as high for Māori as for non-Māori in each age group.

- Māori under 75 years had 2.7 times the non-Māori rate of death from respiratory disease in 2007–2011.

Mental disorders

- Māori were a fifth more likely than non-Māori to be admitted to hospital for a mental disorder during 2011–2013. Schizophrenia related disorders were the most common disorders, followed by substance use disorders.

Gout

- In 2011 the prevalence of gout among Whanganui Māori was estimated to be 6%, nearly four-fifths higher than the prevalence in non-Māori (4%).
- Just under 40% of Māori with gout regularly received allopurinol, a preventive therapy to lower urate levels. Of those who received allopurinol, only 32% had a lab test for serum urate levels in the following six months. Close to half of Māori with gout used non-steroidal anti-inflammatory medication.
- During 2011–2013 the rate of hospitalisations for gout was over 5 times as high for Māori as for non-Māori, indicating a higher rate of flare-ups.

All ages

Hospitalisations

- The all-cause rate of hospital admissions was 12% higher for Māori than for non-Māori during 2011–2013.
- More than 1,000 Māori hospital admissions per year were potentially avoidable, with the rate 33% higher for Māori than for non-Māori. The ASH rate was two-thirds higher.

Mortality

- In 2012–2014, life expectancy at birth for Māori in the Manawatū-Whanganui Region was 76.4 years for females (7 years lower than for non-Māori females) and 72.3 years for males (7.2 years lower than for non-Māori).
- The all-cause mortality rate for Whanganui Māori during 2008–2012 was twice the non-Māori rate.
- Leading causes of death during 2007–2011 for Māori females were ischaemic heart disease (IHD), lung cancer, stroke, diabetes, and COPD. Leading causes of death for Māori males were IHD, accidents, lung cancer, COPD, and suicide.
- Potentially avoidable mortality and mortality amenable to health care were 2.3 and 2.5 times as high respectively for Māori as for non-Māori during 2007–2011.

Injuries

- The rate of hospitalisation due to injury was similar for Māori and non-Māori in Whanganui DHB but the injury mortality rate was twice as high. Males had higher rates of hospitalisation and mortality than females.
- The most common causes of injury resulting in hospitalisations among Māori were falls, exposure to mechanical forces, complications of medical and surgical care, assault, and transport accidents.
- Rates of hospital admission for injury caused by assault were 3.6 times higher for Māori females than for non-Māori females and 71% higher for Māori males than for non-Māori males.

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Introduction

The Ministry of Health commissioned Te Rōpū Rangahau Hauora a Eru Pōmare to produce a Māori Health Profile for each District Health Board (DHB) in Aotearoa New Zealand. Each profile report is accompanied by an Excel® data file. The profiles are intended to be used by the health sector for planning purposes. They build on and update the previous Health Needs Assessments produced by Massey University in 2012 which can be viewed [here](#).

The overall aim of the Māori Health Strategy, He Korowai Oranga, is Pae Ora or Healthy Futures. Pae Ora is a holistic concept that includes three interconnected elements; whānau ora, wai ora and mauri ora. Further detail on He Korowai Oranga can be found [here](#). Health indicators contained in the Māori Health Profiles are arranged according to these three elements. Whānau ora, healthy families, includes indicators of whānau wellbeing and support, participation in Māori culture and reo. Wai ora, or healthy environments, encompasses indicators on education, work, income, housing and deprivation. Mauri ora, healthy individuals, includes individual level indicators of health status. Mauri ora indicators are ordered according to life stage from pepi/tamariki to rangatahi then pakeke, and also a section on indicators that affect individuals of all ages.

This document presents data for residents of **Te Poari Hauora o Whanganui, the Whanganui District Health Board**.

Data sources and key methods

The main data sources for this report are: the 2013 Census of Population and Dwellings, Te Kupenga 2013 (the Māori Social Survey), mortality registrations, public hospital discharges, cancer registrations, the national immunisation register, the community oral health service, the Health Quality and Safety Commission's Atlas of Healthcare Variation, Action on Smoking and Health (ASH) Year 10 Snapshot Survey of tobacco smoking among 14 and 15 year olds, and data from the Well Child/Tamariki Ora Quality Improvement Framework indicators.

Most data are presented for Māori and non-Māori residents of Whanganui DHB. Accompanying Excel tables also include data for the total Whanganui DHB population and the total New Zealand population for reo speakers, socioeconomic indicators, mortality, cancer registrations, and hospital discharges.

The unequal distribution of the social determinants of health is an important driver of health inequities between Māori and non-Māori. Information from the 2013 Census on living conditions that influence health has been analysed by individual, household, and neighbourhood. A household was classified as Māori if there was at least one Māori resident. The 2013 NZ Deprivation Index was used for classifying neighbourhoods. The index combines eight dimensions of deprivation, including access to telecommunications and internet, income, employment, qualifications, home ownership, support, living space, and access to transport.

Māori models of health encompass cultural vitality and whānau wellbeing. Indicators of these dimensions of health have been included in these Profiles, sourced from Te Kupenga 2013, the Māori Social Survey conducted in 2013 by Statistics New Zealand (SNZ). Further information on Te Kupenga can be found [here](#). Data from Te Kupenga is presented for Māori only.

Hospitalisation, cancer registration, and mortality rates and Census data were age–sex-standardised to the 2001 Māori population¹.

Ninety-five percent confidence intervals (95% CI) were calculated for crude and age-standardised hospitalisation and mortality rates and ratios using the log-transformation method (Clayton and Hills 1993). Confidence intervals for data from Te Kupenga were calculated by Statistics New Zealand. Confidence intervals have not been calculated for data from other sources.

For ambulatory care sensitive admissions and admission rates for specific causes, transfers are only included as an admission if the principal diagnosis is not in the same diagnostic group as the initial admission.

¹ The use of the 2001 Māori population standard makes the age-standardised data in this report comparable to the Ministry of Health's Māori health chartbooks, but not to other Ministry of Health documents which use the World Health Organisation's world population.

Average numbers of events per year have been rounded to the nearest whole number.

Further technical notes and methods are provided in Appendix 2.

Further sources of data

Risk factors common to several chronic conditions such as diabetes, cardiovascular disease, cancer, respiratory disease, or vascular dementia, include smoking, alcohol and drug use, nutrition, body size, and physical activity. Improvements in these indicators require public health and intersectoral action to support healthy environments and living conditions for Māori communities, as well as primary care interventions designed for individuals and whānau. The 2012/13 New Zealand Health Survey provides evidence of inequities between Māori and non-Māori in the prevalence of these risks factors at the national level ([Ministry of Health 2013](#)).

Other useful data sources include the Ministry of Health's [publications](#) on Māori health, the Health Quality and Safety Commission's [Atlas of Healthcare Variation](#), the [DHB](#) reports and [Te Ohonga Ake](#) reports of the New Zealand Child and Youth Epidemiology Service, the [Trendly](#) health performance monitoring website, and the Māori Health Plan Indicator reports provided to DHBs.



Te Tatauranga o te Iwi

– Key demographics

In 2013, 2% (15,850) of the country’s Māori population lived in the Whanganui District Health Board. The total population of the DHB (62,300) made up 1% of the national population. In 2015, the Māori population is estimated to be 16,000 and the total population 62,400.²

Table 1: Population by age group, Whanganui DHB, 2013

Age group (years)	Māori			Non-Māori		Total DHB Number
	Number	Age distribution	% of DHB	Number	Age distribution	
0–14	5,190	33%	40	7,770	17%	12,960
15–24	2,830	18%	36	4,970	11%	7,800
25–44	3,670	23%	28	9,670	21%	13,340
45–64	3,190	20%	19	13,810	30%	17,000
65+	1,000	6%	9	10,150	22%	11,150
Total	15,850	100%	25	46,450	100%	62,300

Source: Statistics NZ Population projections for the Ministry of Health (2013 Census base) 2014 update

In 2013, Māori residents comprised 25% of the DHB population. The Māori population is relatively young, with a median age of 24.6 years, compared with 41.2 years for the total DHB population. In 2013 Māori comprised 40% of the DHB’s children aged 0–14 years and 36% of those aged 15–24 years.

Table 2: Population projections, Whanganui DHB, 2013 to 2033

Year	Māori							Total DHB			NZ	
	Residents	% of DHB	% of NZ Māori	% 0–14 years	% 15–64 years	% 65+ years	Median age	Residents	Median age	% of NZ pop	NZ Māori	Total NZ
2013	15,850	25	2	33	61	6	24.6	62,300	41.2	1	692,300	4,442,100
2018	16,150	26	2	32	60	8	25.9	62,500	41.9	1	734,500	4,726,200
2023	16,250	26	2	31	59	10	27.4	62,000	42.4	1	773,500	4,935,200
2028	16,250	27	2	30	58	12	28.9	61,300	42.8	1	811,700	5,139,700
2033	16,100	27	2	29	57	14	29.9	60,200	43.8	1	850,700	5,327,700

Source: Statistics NZ Population projections for the Ministry of Health (2013 Census base) 2014 update

Note: Detailed population projections are provided in Appendix 1.

The proportion of Whanganui Māori who were aged 65 years and over in 2013 was 6% but is projected to increase to 14% in 2033. Between 2013 and 2020 the number of Māori aged 65 and over will increase by 42% from 1,000 to 1,420 (see Appendix 1). In 2013 there were 320 Māori aged 75 years and over in Whanganui, with 102 living alone (see accompanying Excel tables).

² Population projections are provided in Appendix 1.



Whānau ora

– Healthy families

The refreshed Māori health strategy, He Korowai Oranga (Ministry of Health, 2014) defines whānau ora as Māori families supported to achieve their maximum health and wellbeing. It aims to support families to be self-managing, leading healthy lifestyles, confidently participating in te ao Māori and society. This section reports selected findings from Te Kupenga 2013 on whānau well-being and support and engagement with Māori culture and reo.

Whānau well-being

Table 3: Whānau well-being reported by Māori aged 15 years and over, Whanganui and MidCentral DHBs combined, 2013

How the whānau is doing	Whanganui and MidCentral DHBs			New Zealand	
	Estimated number	%	(95% CI)	%	(95% CI)
Well / Extremely well	35,000	88.3	(85.3, 91.3)	83.4	(82.5, 84.4)
Neither well nor badly	2,500*	6.3*	(3.8, 8.7)	10.3	(9.4, 11.2)
Badly / Extremely badly	2,000*	5.5*	(3.3, 7.7)	6.3	(5.6, 7.0)

Source: Te Kupenga 2013, Statistics New Zealand customised report.

Note: An asterisk (*) shows the sampling error is 30% or more but less than 50%

Nearly 90% of Whanganui and MidCentral Māori adults reported that their whānau was doing well or extremely well in 2013 (higher than the national average). However 6% felt their whānau was doing badly or extremely badly.

Table 4: Whānau composition reported by Māori aged 15 years and over, Whanganui and MidCentral DHBs combined, 2013

Whānau description	Whanganui and MidCentral DHBs			New Zealand	
	Estimated number	%	(95% CI)	%	(95% CI)
Size of whānau					
10 or less	22,000	55	(50.0, 60.0)	53.7	(52.1, 55.3)
11 to 20	8,000	19.7	(15.8, 23.5)	22.6	(21.3, 24.0)
More than 20	10,000	25.3	(21.2, 29.4)	23.6	(22.4, 24.8)
Groups included in whānau					
Parents, partner, children, brothers & sisters	39,000	95.4	(93.4, 97.3)	94.6	(94.0, 95.2)
Aunts & uncles, cousins, nephews & nieces, other in-laws	12,500	30.6	(25.9, 35.3)	41.3	(39.8, 42.8)
Grandparents, grandchildren	15,500	37.3	(32.0, 42.5)	41.9	(40.5, 43.4)
Friends, others	4,000	10.3	(7.4, 13.1)	12.4	(11.5, 13.3)

Source: Te Kupenga 2013, Statistics New Zealand customised report.

Table 4 shows the size and composition of whānau, with quarter reporting whānau sizes of more than 20 people. Ten percent included friends in their description of whānau.

Whānau support

Table 5: Access to whānau support, Māori aged 15 years and over, Whanganui and MidCentral DHBs combined, 2013

How easy is it to get help	Whanganui and MidCentral DHBs			New Zealand	
	Estimated number	%	(95% CI)	%	(95% CI)
Support in times of need					
Easy, very easy	33,500	81.7	(77.8, 85.7)	81.2	(80.1, 82.4)
Sometimes easy, sometimes hard	5,500	13	(9.6, 16.4)	12.7	(11.7, 13.6)
Hard / very hard	2,000*	5.2*	(3.2, 7.2)	6.1	(5.4, 6.8)
Help with Māori cultural practices such as going to a tangi, speaking at a hui, or blessing a taonga					
Easy, very easy	28,000	68.0	(63.2, 72.9)	64.1	(62.7, 65.6)
Sometimes easy, sometimes hard	6,500	15.8	(12.0, 19.5)	16.9	(15.9, 18.0)
Hard / very hard	5,000*	11.7*	(8.1, 15.4)	14.7	(13.5, 15.9)
Don't need help	2,000*	4.4*	(2.3, 6.5)	4.2	(3.7, 4.7)

Source: Te Kupenga 2013, Statistics New Zealand customised report.

Note: An asterisk (*) shows the sampling error is 30% or more but less than 50%

In 2013, the majority of Māori adults in Whanganui and MidCentral (82%) reported having easy access to support in times of need. However, an estimated 2,000 (5%) had difficulty getting help.

A smaller proportion found it easy to get help with Māori cultural practices (68%), with 12% finding it hard or very hard. A further 4% reported not needing help.

Importance of participation in Māori culture

Table 6: Importance of Māori culture and spirituality, Māori aged 15 years and over, Whanganui and MidCentral DHBs combined, 2013

	Whanganui and MidCentral DHBs			New Zealand	
	Estimated number	%	(95% CI)	%	(95% CI)
Importance of being involved in Māori culture					
Very / quite	18,000	44.1	(39.3, 48.8)	46.3	(44.9, 47.6)
Somewhat	9,500	23.2	(19.4, 27.1)	24.2	(22.9, 25.6)
A little / not at all	13,500	32.7	(28.3, 37.1)	29.5	(28.3, 30.7)
Importance of spirituality					
Very / quite	19,000	46.0	(41.1, 50.9)	48.7	(47.4, 49.9)
Somewhat	7,500	17.7	(13.3, 22.0)	17.0	(16.0, 18.0)
A little / not at all	15,000	36.3	(31.5, 41.2)	34.3	(33.1, 35.5)

Source: Te Kupenga 2013, Statistics New Zealand customised report.

Being involved in Māori culture was very or quite important to 44% of Whanganui and MidCentral Māori adults, and somewhat important to a further 23%. Spirituality was important (very, quite, or somewhat) to 64%.

Te Reo Māori

Table 7: People who can have a conversation about a lot of everyday things in te reo Māori, Whanganui DHB, 2013

Māori			Non-Māori			Māori/non-Māori ratio (95% CI)	Difference in percentage
Number	%	(95% CI)	Number	%	(95% CI)		
3,282	23.8	(23.1, 24.6)	411	1.0	(0.9, 1.2)	23.24 (20.51, 26.32)	22.8

Source: 2013 Census, Statistics New Zealand

Notes: Percentages are age-standardised. Ratios in **bold** show a statistically significant difference between Māori and non-Māori.

According to the 2013 Census, nearly one in four (24%) Māori in Whanganui and 1% of non-Māori could have a conversation about a lot of everyday things in te reo Māori.

Table 8: Use of te reo Māori in the home, Māori aged 15 years and over, Whanganui and MidCentral DHBs combined, 2013

Language spoken at home	Whanganui and MidCentral DHBs			New Zealand	
	Estimated number	%	(95% CI)	%	(95% CI)
Māori is main language	500**	2.0**	(0.9 3.1)	2.6	(2.2, 3.0)
Māori is used regularly	9,000	24.7	(20.8 28.5)	20.5	(19.2, 21.8)

Source: Te Kupenga 2013, Statistics New Zealand customised report.

Note: An asterisk (*) shows the sampling error is 30% or more but less than 50%

A quarter of Māori adults in Whanganui and MidCentral DHBs reported that Māori language was used regularly in the home, and for 2% te reo Māori was the main language.

Access to marae

Table 9: Access to marae, Māori aged 15 years and over, Whanganui and MidCentral DHBs combined, 2013

Been to marae	Whanganui and MidCentral DHBs			New Zealand	
	Estimated number	%	(95% CI)	%	(95% CI)
At some time	40,000	97.1	(95.3, 98.9)	96.0	(95.5, 96.6)
In previous 12 months ⁽¹⁾	24,500	61.9	(56.9, 66.9)	58.2	(56.6, 59.7)
Ancestral marae at some time ⁽²⁾	27,500	67.9	(63.0, 72.7)	62.3	(60.9, 63.7)
Ancestral marae in previous 12 months ⁽³⁾	16,000	38.8	(33.6, 44.0)	33.6	(32.3, 34.9)
Like to go to ancestral marae more often ⁽²⁾	16,500	57.5	(52.0, 63.0)	58.7	(56.7, 60.7)

Source: Te Kupenga 2013, Statistics New Zealand customised report.

Notes: (1) Those who had been to a marae at some time.

(2) Both those who knew and did not know their ancestral marae.

(3) Those who had been to any of their ancestral marae in the last 12 months.

In 2013, almost all Māori in Whanganui and MidCentral DHBs (97%) had been to a marae, with a majority (62%) having been in the last 12 months. Two-thirds (68%) had been to at least one of their ancestral marae, with 39% having been in the last 12 months. More than half (58%) reported that they would like to go more often.

Traditional healing or massage

Table 10: Māori aged 15 years and over who took part in traditional healing or massage in last 12 months, Whanganui and MidCentral DHBs combined, 2013

Whanganui and MidCentral DHBs			New Zealand	
Estimated number	%	(95% CI)	%	(95% CI)
3,500*	8.5*	(5.9, 11.1)	10.9	(10.0, 11.7)

Source: Te Kupenga 2013, Statistics New Zealand customised report.

In 2013, an estimated 3,500 Māori adults (9%) in Whanganui and MidCentral had taken part in traditional healing or massage.



Wai ora

– Healthy environments

This section focuses on those aspects of social and physical environments that influence our health and well-being. Data is presented on individuals, households, and individuals living in households. A household that includes at least one Māori usual resident on Census night is categorised as a Māori household, and other households are categorised as non-Māori. This section reports selected findings from Te Kupenga 2013 on whānau well-being and support, and engagement with Māori culture and reo. Te Kupenga was a sample survey of Māori adults aged 15 years and above with insufficient numbers to report results for Whanganui alone. Therefore we present data for two DHBs combined: Whanganui and MidCentral.

Education

Table 11: Adults aged 18 years and over with a Level 2 Certificate or higher, Whanganui DHB, 2006 and 2013

Year	Māori			Non-Māori			Māori/non-Māori ratio (95% CI)	Difference in percentage
	Number	%	(95% CI)	Number	%	(95% CI)		
2006	2,901	35.9	(34.9, 37.0)	16,605	54.8	(54.2, 55.4)	0.66 (0.64, 0.68)	-18.9
2013	3,273	40.4	(39.3, 41.5)	17,082	59.8	(59.1, 60.5)	0.68 (0.66, 0.70)	-19.4

Source: 2006 and 2013 Censuses, Statistics New Zealand

Notes: Percentages are age-standardised. Ratios in **bold** show a statistically significant difference between Māori and non-Māori.

The proportion of Māori adults aged 18 years and over with at least a Level 2 Certificate increased from 36% to 40% between 2006 and 2013. However, the gap between Māori and non-Māori did not close, with Māori remaining two-thirds as likely as non-Māori to have this level of qualification.

Work

Table 12: Labour force status, 15 years and over, Whanganui DHB, 2006 and 2013

Labour force status	Māori			Non-Māori			Māori/non-Māori ratio (95% CI)	Difference in percentage
	Number	%	(95% CI)	Number	%	(95% CI)		
2006								
Employed full-time	4,216	47.1	(46.1, 48.0)	17,520	54.9	(54.4, 55.5)	0.86 (0.84, 0.88)	-7.9
Employed part-time	1,355	14.0	(13.3, 14.7)	5,856	17.3	(16.9, 17.8)	0.81 (0.76, 0.85)	-3.4
Unemployed	756	8.5	(7.9, 9.1)	1,005	4.1	(3.9, 4.4)	2.05 (1.87, 2.26)	4.4
Not in the labour force	2,997	30.5	(29.6, 31.4)	12,966	23.7	(23.2, 24.2)	1.29 (1.24, 1.34)	6.9
2013								
Employed full-time	3,927	42.7	(41.7, 43.7)	15,807	51.0	(50.5, 51.6)	0.84 (0.82, 0.86)	-8.4
Employed part-time	1,263	12.7	(12.0, 13.4)	5,214	15.9	(15.4, 16.3)	0.80 (0.75, 0.85)	-3.2
Unemployed	1,020	12.0	(11.3, 12.7)	1,395	6.2	(5.8, 6.5)	1.94 (1.79, 2.11)	5.8
Not in the labour force	3,315	32.8	(31.9, 33.8)	13,230	26.9	(26.4, 27.5)	1.22 (1.18, 1.26)	5.9

Source: 2006 and 2013 Censuses, Statistics New Zealand

Notes: Percentages are age-standardised. Ratios in **bold** show a statistically significant difference between Māori and non-Māori. Employed part-time includes people working 1 hour per week or more. Employed full-time includes people who usually work 30 or more hours per week. Unemployed people are without a paid job, available for work and actively seeking work. People not in the labour force includes people in the working age population who are neither employed nor unemployed.

Between 2006 and 2013 there was a decrease in the number and proportion of Māori adults employed full-time (from 47% to 43%), and a corresponding increase in the unemployment rate (from 9% to 12%). There was also an increase in the population who were not in the labour force (from 31% to 33%). In 2013 Māori were nearly twice as likely as non-Māori to be unemployed, with an absolute gap of 6% in unemployment rates.

Table 13: Leading industries in which Māori were employed, Whanganui DHB, 2013

ANZSIC Industry	Whanganui DHB						New Zealand	
	Māori			Non-Māori			%	Rank
	Number	%	Rank	Number	%	Rank		
Females								
Health Care and Social Assistance	438	19.9	1	2,106	22.3	1	17.1	1
Education and Training	375	17.0	2	1,329	14.1	2	12.9	2
Accommodation and Food Services	285	12.9	3	669	7.1	5	7.3	5
Manufacturing	279	12.7	4	549	5.8	6	6.0	6
Retail Trade	243	11.0	5	1,224	13.0	3	11.6	3
Males								
Manufacturing	705	33.5	1	1,872	17.8	1	13.4	1
Agriculture, Forestry and Fishing	405	19.3	2	1,869	17.7	2	8.7	4
Construction	237	11.3	3	1,275	12.1	3	13.2	2
Public Administration and Safety	225	10.7	4	900	8.5	4	5.2	8
Retail Trade	114	5.4	5	876	8.3	5	8.3	5

Source: 2013 Census, Statistics New Zealand

Note: Australian and New Zealand Standard Industrial Classification 2006 (ANZSIC).

Service industries were the main employers of Māori women in Whanganui. One in five worked in health care and social assistance, and one in six worked in education and training. Accommodation and food services, manufacturing and retail were the next most common industries. For Māori men, a third worked in manufacturing, and a fifth in agriculture, forestry and fishing. These were followed by construction, and public administration and safety.

Table 14: Leading occupations of employed Māori, Whanganui DHB, 2013

ANZSCO Occupation	Whanganui DHB						New Zealand	
	Māori			Non-Māori			%	Rank
	Number	%	Rank	Number	%	Rank		
Females								
Labourers	513	22.1	1	1,011	10.7	6	8.3	6
Professionals	480	20.7	2	2,214	23.5	1	26.7	1
Community and Personal Service Workers	471	20.3	3	1,512	16.1	3	12.9	4
Clerical and Administrative Workers	276	11.9	4	1,740	18.5	2	19.5	2
Sales Workers	234	10.1	5	1,071	11.4	5	11.7	5
Managers	213	9.2	6	1,269	13.5	4	14.4	3
Technicians and Trades Workers	90	3.9	7	495	5.3	7	5.0	7
Machinery Operators and Drivers	42	1.8	8	105	1.1	8	1.5	8
Males								
Labourers	837	36.5	1	1,896	18.2	3	13.6	4
Technicians and Trades Workers	393	17.1	2	2,031	19.5	2	18.5	3
Machinery Operators and Drivers	309	13.5	3	978	9.4	5	9.1	5
Managers	255	11.1	4	2,436	23.4	1	22.7	1
Community and Personal Service Workers	222	9.7	5	708	6.8	6	5.4	7
Professionals	159	6.9	6	1,350	12.9	4	18.6	2
Sales Workers	60	2.6	7	627	6.0	7	7.1	6
Clerical and Administrative Workers	57	2.5	8	402	3.9	8	5.1	8

Source: 2013 Census, Statistics New Zealand

Note: Australian and New Zealand Standard Classification of Occupations (ANZSCO), major grouping.

Among employed Māori women in Whanganui, the leading occupational groupings were labourers (22%), professionals (21%), and community and personal service workers (20%).

Māori men were most likely to be employed as labourers (37%), technicians and trade workers (17%), machinery operators and drivers (14%), and managers (11%).

Table 15: Unpaid work, 15 years and over, Whanganui DHB, 2013

Unpaid work	Māori			Non-Māori			Māori/non-Māori ratio (95% CI)	Difference in percentage
	Number	%	(95% CI)	Number	%	(95% CI)		
Any unpaid work	7,470	88.1	(87.4, 88.8)	29,403	89.2	(88.7, 89.6)	0.99 (0.98, 1.00)	-1.1
Looking after disabled/ill household member	1,067	12.7	(12.0, 13.5)	2,511	7.6	(7.2, 7.9)	1.68 (1.56, 1.81)	5.1
Looking after disabled/ill non-household member	1,118	12.5	(11.8, 13.2)	3,594	8.9	(8.6, 9.3)	1.39 (1.30, 1.49)	3.5

Source: 2013 Census, Statistics New Zealand

Notes Percentages are age-standardised. Ratios in **bold** show a statistically significant difference between Māori and non-Māori.

In 2013, 88% of Māori adults did voluntary work. Māori were 68% more likely than non-Māori to look after someone who was disabled or ill within the home, and 39% more likely to care for someone outside of the household, without pay.

Income and standard of living

Table 16: Unmet need reported by Māori aged 15 years and over to keep costs down in the last 12 months, Whanganui and MidCentral DHBs combined, 2013

Actions taken <u>a lot</u> to keep costs down	Whanganui and MidCentral DHBs			New Zealand	
	Estimated number	%	(95% CI)	%	(95% CI)
Put up with feeling the cold	4,000*	9.2*	(6.2, 12.2)	11.0	(10.2, 11.8)
Go without fresh fruit and vegetables	3,000*	7.1*	(4.9, 9.4)	5.4	(4.8, 6.0)
Postpone or put off visits to the doctor	4,000	9.4	(6.8, 11.9)	8.8	(7.9, 9.6)

Source: Te Kupenga 2013, Statistics New Zealand customised report.

Note: An asterisk (*) shows the sampling error is 30% or more but less than 50%.

In 2013, an estimated 4,000 Māori adults (9%) in Whanganui and MidCentral DHBs combined reported putting up with feeling cold a lot to keep costs down during the previous 12 months; 3,000 (7%) had gone without fresh fruit and vegetables; and 4,000 (9%) had often postponed or put off visits to the doctor.

Table 17: Children aged 0–17 years living in families where the only income is means-tested benefits, Whanganui DHB, 2006 and 2013

Year	Māori families			Non-Māori families			Māori/non-Māori ratio (95% CI)	Difference in percentage
	Number	%	(95% CI)	Number	%	(95% CI)		
2006	1,290	21.3	(20.3, 22.3)	681	7.8	(7.3, 8.4)	2.72 (2.49, 2.97)	13.5
2013	1,365	23.8	(22.7, 24.9)	714	9.2	(8.6, 9.8)	2.60 (2.39, 2.82)	14.6

Source: Statistics New Zealand, 2006 and 2013 Census

Notes: Māori families include at least one Māori member. Non-Māori families have no Māori members.

Ratios in **bold** show a statistically significant difference between Māori and non-Māori.

In 2013 24% of children under 18 years of age in Māori families were living in families where the only income was means-tested benefits. Children in Māori families were 2.6 times as likely as non-Māori children to be in this situation.

Table 18: Children and adults living in households with low incomes, Whanganui DHB, 2013

Age group	Māori households			Non-Māori households			Māori/non-Māori ratio (95% CI)	Difference in percentage
	Number	%	(95% CI)	Number	%	(95% CI)		
Children 0–17 years	2,205	46.7	(45.4, 48.2)	1,533	20.6	(19.7, 21.6)	2.26 (2.15, 2.39)	26.1
Adults 18 years & over	3,321	41.0	(39.9, 42.1)	4,299	19.4	(18.7, 20.1)	2.11 (2.02, 2.21)	21.6

Source: 2013 Census, Statistics New Zealand

Notes: % is age-standardised. Ratios in **bold** show a statistically significant difference between Māori and non-Māori.

A Māori household is a household with at least one Māori resident. Non-Māori households have no Māori residents.

Household income is equivalised using the revised Jensen scale. Low income is defined as an equivalised household income under \$15,172.

Nearly half of children in Whanganui Māori households (2,205) were in households with low equivalised household incomes, 2.3 times the proportion of other children. Forty-one percent of adults in Māori households (3,321) lived in low income households, over twice the proportion of other adults.

Table 19: Households with no access to a motor vehicle, Whanganui DHB, 2006 and 2013

Measure	Māori households			Non-Māori households			Māori/non-Māori ratio (95% CI)	Difference in percentage
	Number	%	(95% CI)	Number	%	(95% CI)		
Households								
2006	681	12.8	(11.9, 13.7)	1,617	9.2	(8.7, 9.6)	1.39 (1.28, 1.51)	3.6
2013	756	13.3	(12.5, 14.3)	1,542	8.9	(8.4, 9.3)	1.51 (1.39, 1.64)	4.5
People (% age-standardised)								
2006	1,626	9.4	(9.0, 9.9)	2,115	3.6	(3.3, 3.8)	2.66 (2.46, 2.87)	5.9
2013	1,725	10.2	(9.7, 10.7)	2,085	4.2	(3.9, 4.4)	2.44 (2.26, 2.63)	6.0

Source: 2006 and 2013 Census, Statistics New Zealand

Note: A Māori household is a household with at least one Māori resident. Non-Māori households have no Māori residents.

Ratios in **bold** show a statistically significant difference between Māori and non-Māori.

In 2013, 13% of Māori households had no access to a motor vehicle, 1.5 times the proportion of non-Māori households. Residents of Māori households were 2.4 times as likely as residents of other households not to have a vehicle.

Table 20: People in households with no access to telephone, mobile/cell phone, internet, or any telecommunications, Whanganui DHB, 2013

Mode of tele-communication	Māori households			Non-Māori households			Māori/non-Māori ratio (95% CI)	Difference in percentage
	Number	%	(95% CI)	Number	%	(95% CI)		
No mobile/cell phone	2,601	13.9	(13.4, 14.5)	6,180	11.7	(11.3, 12.1)	1.19 (1.13, 1.25)	2.3
No telephone	4,932	30.9	(30.2, 31.6)	4,134	14.8	(14.3, 15.2)	2.09 (2.01, 2.18)	16.1
No internet	6,387	37.2	(36.5, 38.0)	9,087	18.3	(17.8, 18.7)	2.04 (1.97, 2.11)	19.0
No tele-communications	600	3.6	(3.3, 3.9)	471	1.5	(1.3, 1.6)	2.43 (2.12, 2.78)	2.1

Source: 2013 Census, Statistics New Zealand

Note: A Māori household is a household with at least one Māori resident. Non-Māori households have no Māori residents.

% is age–sex-standardised to the 2001 Māori population.

Ratios in **bold** show a statistically significant difference between Māori and non-Māori.

Whanganui Māori are less likely to have access to telecommunications than non-Māori. In 2013, 37% of people in Māori households had no access to the internet, 31% had no telephone, 14% did not have a mobile phone, and 4% had no access to any telecommunications in the home. The largest absolute gap between Whanganui Māori and non-Māori households was in access to the internet (a difference of 19 percentage points).

Housing

Table 21: Housing problems reported by Māori aged 15 years and over, Whanganui and MidCentral DHBs combined, 2013

Housing problem (a big problem)	Whanganui and MidCentral DHBs			New Zealand	
	Estimated number	%	(95% CI)	%	(95% CI)
Too small	1,000**	3.5**	(1.4, 5.6)	5.3	(4.7, 5.9)
Damp	2,500*	7.8*	(4.1, 11.6)	11.3	(10.5, 12.2)
Hard to keep warm	4,000*	14.0*	(9.1, 18.9)	16.5	(15.4, 17.7)
Needs repairs	2,500*	9.0*	(4.6, 13.5)	13.8	(12.7, 14.9)
Pests in the house	.	S		5.8	(5.1, 6.5)

Source: Te Kupenga 2013, Statistics New Zealand customised report.

Note: * Sampling error is 30% or more but less than 50%. ** Sampling error is 50% or more but less than 100%. S shows the data was suppressed

Housing problems reported by Whanganui and MidCentral Māori adults to be a big problem in 2013 included difficulty keeping the house warm (14%), needing repairs (9%), and damp (8%). Four percent felt their house was too small.

Housing security

Table 22: Children and adults living in households where rent payment are made, Whanganui DHB, 2013

Measure	Māori households			Non-Māori households			Māori/non-Māori ratio (95% CI)	Difference in percentage
	Number	%	(95% CI)	Number	%	(95% CI)		
Households	2,772	49.5	(48.2, 50.9)	4,053	23.7	(23.1, 24.3)	2.09 (2.01, 2.17)	25.8
Children under 18 years (% age-standardised)	3,414	56.5	(55.3, 57.8)	2,361	29.7	(28.7, 30.7)	1.90 (1.83, 1.98)	26.8
Adults 18 years and over (% age-standardised)	4,974	50.1	(49.1, 51.0)	6,264	31.4	(30.7, 32.1)	1.60 (1.55, 1.64)	18.7

Source: 2013 Census, Statistics New Zealand

Note: A Māori household is a household with at least one Māori resident. Non-Māori households have no Māori residents. Ratios in **bold** show a statistically significant difference between Māori and non-Māori.

In 2013, 2,772 Māori households in the Whanganui district were rented, making up 50% of all Māori households, compared to 24% of non-Māori households.

Among children living in a Māori household, 57% (3,414 children) were living in rented homes, compared to 30% (2,361 children) in non-Māori households.

Half of adult residents of Māori households were living in rented accommodation (around 5,000), 60% higher than the proportion of adults living in non-Māori households.

Household crowding

Table 23: People living in crowded households (requiring at least one more bedroom), Whanganui DHB, 2013

Measure	Māori households			Non-Māori households			Māori/non-Māori ratio (95% CI)	Difference in percentage
	Number	%	(95% CI)	Number	%	(95% CI)		
Households	474	8.4	(7.7, 9.1)	255	1.5	(1.3, 1.7)	5.72 (4.93, 6.64)	6.9
People (% age standardised)	2,712	17.4	(16.8, 18.0)	1,323	5.7	(5.4, 6.0)	3.04 (2.85, 3.25)	11.7

Source: 2013 Census, Statistics New Zealand

Notes: A Māori household is a household with at least one Māori resident. Non-Māori households have no Māori residents. Crowding was defined as needing at least one additional bedroom according to the Canadian National Occupancy Standard (based on the age, sex and number of people living in the dwelling).

Ratios in **bold** show a statistically significant difference between Māori and non-Māori.

In 2013, Māori households were 5.7 times as likely as non-Māori households to be classified as crowded using the Canadian National Occupancy Standard, with 474 homes needing at least one additional bedroom. People living in Māori households were 3 times as likely as people living in non-Māori households to be living in crowded conditions (2,712 people).

Fuel poverty

Table 24: People living in households where no heating fuels are used, Whanganui DHB, 2013

Measure	Māori households			Non-Māori households			Māori/non-Māori ratio (95% CI)	Difference in percentage
	Number	%	(95% CI)	Number	%	(95% CI)		
Households	129	2.3	(1.9, 2.7)	225	1.3	(1.1, 1.5)	1.77 (1.43, 2.19)	1.0
People (% age standardised)	321	2.0	(1.8, 2.2)	405	1.4	(1.2, 1.5)	1.47 (1.26, 1.72)	0.6

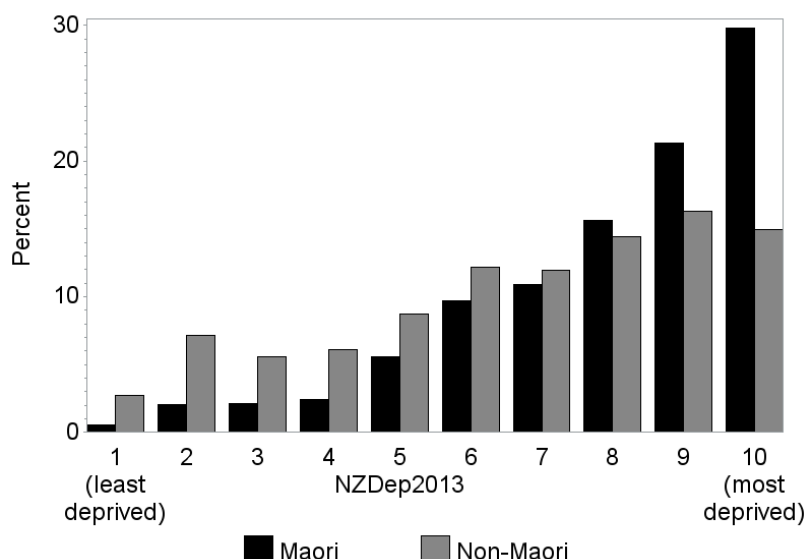
Source: 2013 Census, Statistics New Zealand

Notes: No form of heating used in the dwelling (including electricity, coal, mains or bottled gas, wood, solar heating equipment, other heating). A Māori household is a household with at least one Māori resident. Non-Māori households have no Māori residents. Ratios in **bold** show a statistically significant difference between Māori and non-Māori.

In 2013, 2% of Māori households (129 homes with 321 residents) had no heating, three-quarters higher than the proportion of non-Māori households (225 homes with 405 residents).

Area deprivation

Figure 1: Distribution by NZDep 2013 decile, Whanganui DHB, 2013



Source: 2013 Census, Statistics New Zealand. Atkinson J, Salmond C, Crampton P. 2014. NZDep2013 Index of Deprivation. University of Otago Wellington.

Whanganui has a more deprived small area profile than the national population. In addition, Māori are more likely than non-Māori to live in the most deprived areas. In 2013, 51% of Māori lived in the two most deprived decile areas, compared to 31% of non-Māori (see accompanying Excel table). Just under 3% of Māori lived in the two least deprived deciles, a quarter of the proportion of non-Māori (10%).



Mauri ora: Pepi, tamariki

– Infants and children

This section presents information on infants and children. Indicators include birth-weight and gestation, immunisations, breastfeeding and other well-child/tamariki ora indicators, oral health, skin infections, middle ear disease, acute rheumatic fever, and potentially preventable hospitalisations.

Infant mortality, including perinatal mortality and sudden unexpected death in infants (SUDI), are also important indicators of Māori health need. Although the numbers are too small to present at a DHB level, the national data shows that Māori infant mortality and SUDI rates are improving, but significant inequities still remain. The reports of the Perinatal and Maternal Mortality Review Committee ([PMMRC](#)) and the Child and Youth Mortality Review Committee ([CYMRC](#)) provide useful information and recommendations on preventing infant and child deaths.

Other useful sources of information include the DHB reports by the Child and Youth Epidemiology Service (CYES) on health status (2011), the determinants of health (2012), chronic conditions and disability (2013). The [Te Ohonga Ake](#) reports by the CYES also include in-depth information on Māori child and youth health at a national level.

Births

Table 25: Birth-weight and gestation, Whanganui DHB, 2009–2013

Indicator	Māori		Non-Māori		Māori/non-Māori ratio (95% CI)	Rate difference
	Ave. no. per year	% of live births (95% CI)	Ave. no. per year	% of live births (95% CI)		
Low birth-weight	29	7.2 (6.1, 8.4)	27	5.7 (4.8, 6.7)	1.26 (1.01, 1.59)	1.5%
High birth-weight	11	2.7 (2.0, 3.5)	17	3.6 (2.9, 4.5)	0.73 (0.52, 1.02)	-1.0%
Preterm	32	8.0 (6.9, 9.3)	31	6.5 (5.5, 7.6)	1.23 (1.00, 1.53)	1.5%

Source: Birth registrations, Ministry of Health

Notes: Low birth-weight less than 2500g, High birth-weight greater than or equal to 4500g, Preterm less than 37 weeks gestation

During 2009 to 2013 there were 404 Māori infants born per year on average, 46% of all live births in Whanganui DHB (876 per year). On average, 29 Māori babies per year were born with low birth-weight, at a rate of 7%; 11 per year (3%) were born with high birth-weight, and 32 per year (8%) were born preterm. The rates of low birth-weight and preterm babies were a quarter higher for Māori than for non-Māori.

Well child/Tamariki ora indicators

Table 26: Selected Well Child/Tamariki Ora indicators for Māori children, Whanganui DHB

Indicator	Period	Māori	
		Count	%
1. Babies enrolled with a Primary Health Organisation (PHO) by three months old	20 Aug to 19 Nov 2013	65	72
11. Babies exclusively or fully breastfed at 2 weeks	January to June 2013	104	72
12. Babies exclusively or fully breastfed at 6 weeks		134	81
19. Mothers smoke-free two weeks postnatal		77	48
5. Children under 5 years enrolled with oral health services (PHO enrolled children)	2012	1,403	70
7. Children starting school who have participated in ECE	2013	338	96
15. Children with a healthy weight at 4 years, DHB of service	July to Dec 2013	134	74

Source: Well Child/Tamariki Ora Indicators, Ministry of Health, March 2014

Notes: Since the production of this table, the Ministry of Health (2015) has published more recent Well Child/Tamariki Ora Indicators for March 2015 which can be viewed [here](#).

Indicator 1: Source: PHO Enrolment Collection (numerator), National Immunisation Register enrolment (denominator)

Indicator 11: Source: National Maternity Collection. Number of babies with breastfeeding recorded (denominator)
 Indicator 12: Source: National Maternity Collection. Number of babies with breastfeeding recorded (denominator)
 Indicator 19: Source: National Maternity Collection. Number of mother with tobacco use recorded at 2 weeks postnatal (denominator)
 Indicator 5: Source Community Oral Health Services (numerator); PHO enrolments (denominator)
 Indicator 7: Source: ENROL Ministry of Education
 Indicator 15: Source: B4 School Check Information System. Children who have a BMI recorded at their B4 School Check (denominator)

During late 2013, 72% of Māori babies were enrolled with a PHO by three months of age. In the first half of 2013, 72% of Māori babies were breastfed at two weeks of age and 81% at six weeks. Almost half (48%) of Māori and non-Māori mothers were smoke-free two weeks after giving birth.

Among pre-school children enrolled with a PHO 70% of Māori were enrolled with oral health services in 2012. Almost all (96%) Māori children who started school in 2013 had participated in early childhood education. Three quarters (74%) of Māori children who had their BMI recorded at their B4 School Check had a healthy weight.

Table 27: Children fully immunised by the milestone age, Whanganui DHB, 1 Jan 2014 to 31 Dec 2014

Milestone age	Māori		Non-Māori		Māori/non-Māori ratio	Difference in percentage
	No. fully immunised for age	% fully immunised	No. fully immunised for age	% fully immunised		
6 months	269	69	360	83	0.83	-14
8 months	353	92	400	94	0.97	-2
12 months	364	93	425	94	0.99	-1
18 months	284	72	393	85	0.85	-13
24 months	404	93	449	90	1.03	3
5 years	355	89	497	86	1.04	3

Source: National Immunisation Register

In the 12 months to 31 December 2014, just over two thirds (69%) of Māori infants aged six months were fully immunised, compared to 83% of non-Māori infants. However, 92% of Māori children aged eight months and 93% of those aged 24 months were fully immunised. At five years of age 89% of Māori children were fully immunised.

Oral health

Table 28: Oral health status of children aged 5 or in Year 8 at school, Whanganui DHB, 2013

Age group	Māori				Non-Māori				Māori/non-Māori ratio % with caries (95% CI)	Difference in percentage
	Total	% with caries (95% CI)	Mean DMFT		Total	% with caries (95% CI)	Mean DMFT			
Age 5	316	68 (63, 73)	3.6		698	37 (33, 40)	1.4		1.86 (1.65, 2.11)	32
Year 8	300	65 (59, 70)	1.8		585	43 (39, 47)	0.9		1.50 (1.32, 1.70)	22

Source: Community Oral Health Service, Ministry of Health

Notes: DMFT is Decayed, missing or filled teeth

Ratios in **bold** show that Māori rates were significantly different from non-Māori rates in the DHB.

Around two-thirds of Māori children aged five years in 2013 had caries, 86% higher than the proportion of non-Māori children. The mean number of decayed, missing or filled teeth was 3.6 for Māori compared to 1.4 for non-Māori. Of those in year eight at school almost two thirds of Māori and two fifths of non-Māori children had caries. The mean number of decayed, missing or filled teeth was 1.8 for Māori and 0.9 for non-Māori.

Table 29: Hospitalisations for tooth and gum disease, children aged 0–14 years, Whanganui DHB, 2011–2013

Gender	Māori			Non-Māori			Māori/non-Māori ratio (95% CI)	Rate difference
	Ave. no. per year	Rate per 100,000 (95% CI)		Ave. no. per year	Rate per 100,000 (95% CI)			
Female	52	2,046.9	(1,749.3, 2,395.2)	32	837.6	(685.5, 1,023.4)	2.44 (1.89, 3.15)	1,209.4
Male	55	2,028.4	(1,740.4, 2,364.1)	34	847.8	(697.3, 1,030.8)	2.39 (1.87, 3.07)	1,180.6
Total	107	2,037.7	(1,826.0, 2,274.0)	66	842.7	(732.7, 969.3)	2.42 (2.02, 2.89)	1,195.0

Source: National Minimum Data Set (NMDS).

Note: Ratios in **bold** show that Māori rates were significantly different from non-Māori rates in the DHB.

There were 107 hospital admissions per year on average for tooth and gum disease among Māori children, at a rate that was 2.4 times higher than non-Māori, or 1,195 more admissions per 100,000 children per year.

Middle ear disease

Table 30: Hospitalisations for grommet insertions, children aged 0–14 years, Whanganui DHB, 2011–2013

Gender	Māori			Non-Māori			Māori/non-Māori ratio (95% CI)	Rate difference
	Ave. no. per year	Rate per 100,000 (95% CI)		Ave. no. per year	Rate per 100,000 (95% CI)			
Female	6	220.5	(137.0, 354.8)	18	479.7	(367.3, 626.4)	0.46 (0.27, 0.79)	-259.2
Male	10	365.5	(255.5, 522.9)	20	515.5	(400.2, 664.1)	0.71 (0.46, 1.10)	-150.0
Total	16	293.0	(220.1, 390.1)	38	497.6	(414.1, 597.9)	0.59 (0.42, 0.83)	-204.6

Source: NMDS

Note: Ratios in **bold** show that Māori rates were significantly different from non-Māori rates in the DHB.

On average, 16 Māori children per year were admitted for insertion of grommets for otitis media, at a rate 41% lower than the non-Māori rate, or 205 fewer procedures per 100,000 children.

Healthy skin

Table 31: Hospitalisations for serious skin infections, children aged 0–14 years, Whanganui DHB, 2011–2013

Gender	Māori			Non-Māori			Māori/non-Māori ratio (95% CI)	Rate difference
	Ave. no. per year	Rate per 100,000 (95% CI)		Ave. no. per year	Rate per 100,000 (95% CI)			
Female	7	269.8	(175.8, 414.0)	8	203.0	(134.9, 305.7)	1.33 (0.73, 2.40)	66.8
Male	17	614.0	(465.3, 810.3)	11	268.9	(190.1, 380.6)	2.28 (1.46, 3.56)	345.1
Total	24	441.9	(350.1, 557.8)	18	236.0	(181.1, 307.5)	1.87 (1.32, 2.66)	205.9

Source: NMDS

Note: Ratios in **bold** show that Māori rates were significantly different from non-Māori rates in the DHB.

There were 24 admissions per year on average for serious skin infections among Māori children. The rate was 87% higher than for non-Māori children, or 206 more admissions per 100,000 children per year.

Acute rheumatic fever

Table 32: Individuals admitted to hospital for acute rheumatic fever, ages 0–14 years, Whanganui DHB, 2011–2013

Age group and Gender	Māori			Non-Māori			Māori/non-Māori ratio (95% CI)	Rate difference
	Ave. no. per year	Rate per 100,000 (95% CI)		Ave. no. per year	Rate per 100,000 (95% CI)			
0–14 years								
Female	1	27.6	(6.9, 110.3)	0.3	9.0	(1.3, 64.1)	3.05 (0.28, 33.67)	18.5
Male	<1	12.1	(1.7, 86.0)	0	0.0	. .	. . .	12.1
Total	1	19.8	(6.4, 61.7)	0.3	4.5	(0.6, 32.1)	4.39 (0.46, 42.28)	15.3
15–24 years								
Female	<1	22.8	(3.2, 161.9)	0	0.0	. .	. . .	22.8
Male	<1	24.8	(3.5, 176.3)	0	0.0	. .	. . .	24.8
Total	1	23.8	(6.0, 95.4)	0	0.0	. .	. . .	23.8

Source: NMDS

On average, one Māori child aged 14 years and under was admitted to hospital per year for acute rheumatic fever. Among Māori aged 15 to 24 years there was also an average of one person admitted per year.

Potentially preventable hospitalisations

Potentially preventable hospitalisations can be categorised into those which are considered potentially avoidable and those more likely to be unavoidable. Potentially avoidable hospitalisations are those resulting from diseases preventable through population-based health promotion strategies and those related to the social determinants of health. Addressing these can require actions beyond the health care system, including intersectoral actions.

A subgroup of potentially avoidable hospitalisations, ambulatory care sensitive hospitalisations (ASH) reflect hospitalisations for conditions considered sensitive to preventive or treatment interventions in primary care. It is also recognised that while access to effective primary care is important in reducing ASH, addressing the factors which drive the underlying burden of disease such as housing, or second hand smoke exposures, is also important.

Table 33: Potentially avoidable hospitalisations for children aged 1 month to 14 years, Whanganui DHB, 2011–2013

Gender	Māori		Non-Māori		Māori/non-Māori ratio (95% CI)	Rate difference
	Ave. no. per year	Rate per 100,000 (95% CI)	Ave. no. per year	Rate per 100,000 (95% CI)		
Female	169	6,527.6 (5,982.9, 7,121.9)	169	4,527.6 (4,149.6, 4,940.1)	1.44 (1.27, 1.63)	2,000.0
Male	225	8,228.8 (7,630.6, 8,873.8)	190	4,900.7 (4,513.8, 5,320.8)	1.68 (1.50, 1.88)	3,328.1
Total	394	7,378.2 (6,968.9, 7,811.5)	358	4,714.1 (4,440.3, 5,004.8)	1.57 (1.44, 1.70)	2,664.0

Source: NMDS

Note: Ratios in **bold** show that Māori rates were significantly different from non-Māori rates in the DHB.

There were almost 400 potentially avoidable hospitalisations per year on average among Māori children during 2011–2013, at a rate 57% higher than for non-Māori children, or 2,664 more admissions per 100,000 children.

Table 34: Ambulatory care sensitive hospitalisations for children aged 1 month to 14 years, Whanganui DHB, 2011–2013

Gender	Māori		Non-Māori		Māori/non-Māori ratio (95% CI)	Rate difference
	Ave. no. per year	Rate per 100,000 (95% CI)	Ave. no. per year	Rate per 100,000 (95% CI)		
Female	117	4,561.4 (4,107.8, 5,065.1)	125	3,357.4 (3,034.0, 3,715.3)	1.36 (1.17, 1.57)	1,204.0
Male	155	5,712.5 (5,216.5, 6,255.7)	130	3,356.1 (3,039.1, 3,706.3)	1.70 (1.49, 1.95)	2,356.4
Total	272	5,137.0 (4,796.1, 5,502.0)	255	3,356.8 (3,127.0, 3,603.4)	1.53 (1.39, 1.69)	1,780.2

Source: NMDS

Note: Ratios in **bold** show that Māori rates were significantly different from non-Māori rates in the DHB.

On average there were 272 admissions per year for ambulatory care sensitive conditions among Māori children, at a rate 53% higher than among non-Māori children, or 1,780 more admissions per 100,000 children.



Mauri ora: Rangatahi

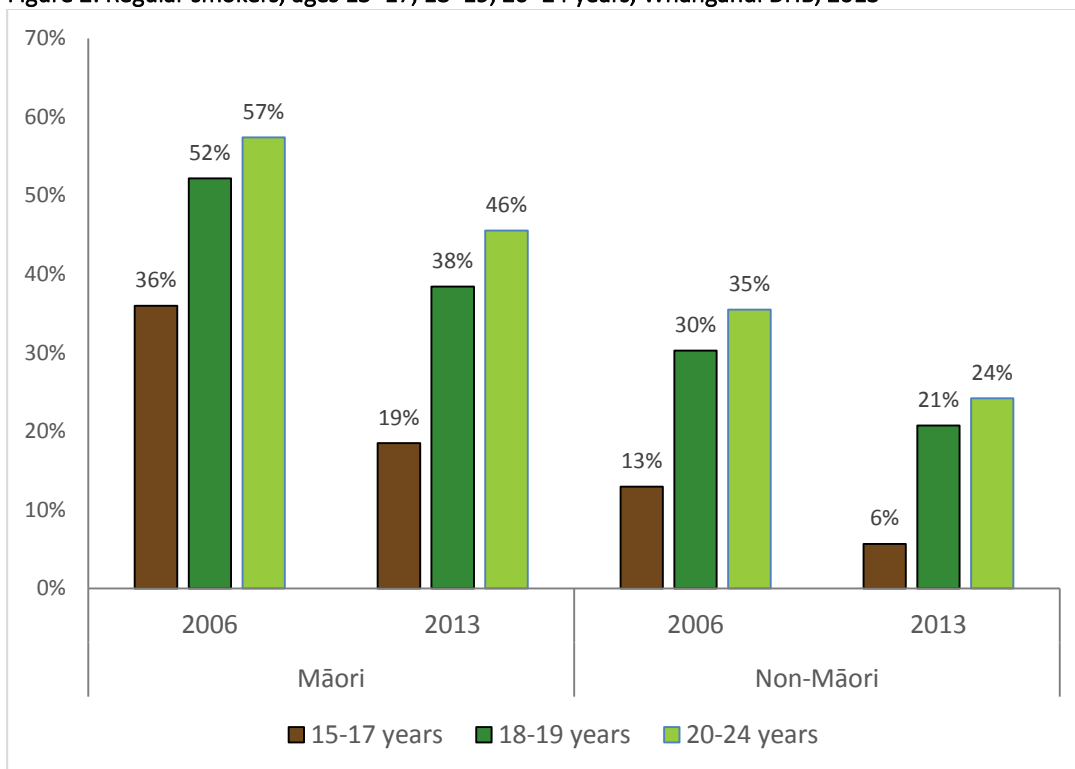
– Young adults

This section presents data on smoking, immunisations, and self-harm as an indicator of mental health. Nationally, leading causes of hospitalisation among Māori aged 15 to 24 years include pregnancy and childbirth, injury, digestive system diseases, symptoms and signs (unknown causes), and mental disorders. Major causes of death for Māori in this age group include accidents, suicide, cancer, and homicide ([Robson and Harris 2007](#)).

Challenges faced by rangatahi Māori that can affect their health and wellbeing include socioeconomic factors, perceived positive school climate, access to healthcare, exposure to violence, and risky health behaviours including suicide attempts ([Crengle et al, 2013](#)). Other data related to youth can be found in the CYES reports on child and youth health. The [Child and Youth Health Compass](#) provides exemplars of youth specific services.

Smoking

Figure 2: Regular smokers, ages 15–17, 18–19, 20–24 years, Whanganui DHB, 2013



Source: 2013 Census, Statistics New Zealand

Note: Regular smoker defined as smoking at least one cigarette daily.

Smoking rates have decreased significantly among young Māori and non-Māori youth in Whanganui since 2006. However, smoking uptake remains relatively high among those aged 18–24 years, indicating a sizeable group starting smoking in young adulthood. At ages 20–24 years, 46% of Māori were smoking regularly in 2013. Non-Māori in each age group were half as likely as Māori to smoke regularly.

Immunisations

Table 35: Human papilloma virus immunisations (HPV) by birth cohorts, Whanganui DHB, 1 September 2008 to 30 September 2014

Birth cohort	Age in 2014	Offered HPV vaccine in (year)	Māori		Non-Māori		Māori/non-Māori ratio	Difference in percentage
			Fully immunised	% fully immunised	Fully immunised	% fully immunised		
2000	14	2013	132	82.5	145	51.8	1.59	30.7
1999	15	2012	110	84.6	160	64.0	1.32	20.6
1998	16	2011	113	66.5	154	59.2	1.12	7.2
1997	17	2010	117	61.6	143	51.1	1.21	10.5

Source: National Immunisation Register.

Three doses are required to be fully immunised. Young women are eligible for free vaccination up to the age of 20.

Human papilloma virus immunisation rates are higher for Māori than for non-Māori girls in Whanganui DHB. Sixty-two percent of Whanganui Māori women who were aged 17 years in 2014 had received all three doses by September 2014. Coverage was highest among Māori girls aged 14 years (83%) and 15 years (85%).

Mental health

Table 36: Hospitalisations for injury from intentional self-harm, 15–24 and 25–44 years, Whanganui DHB, 2011–2013

Age group and gender	Māori			Non-Māori			Māori/non-Māori ratio (95% CI)	Rate difference
	Ave. no. per year	Age-standardised rate per 100,000 (95% CI)		Ave. no. per year	Age-standardised rate per 100,000 (95% CI)			
15–24 years								
Female	9	599.0	(407.9, 879.9)	23	960.4	(758.5, 1,216.0)	0.62 (0.40, 0.98)	-361.4
Male	2	169.8	(80.9, 356.3)	6	237.4	(151.4, 372.2)	0.72 (0.30, 1.70)	-67.6
Total	11	384.4	(273.2, 540.8)	29	598.9	(485.9, 738.2)	0.64 (0.43, 0.96)	-214.5
25–44 years								
Female	7	366.7	(241.2, 557.5)	19	378.9	(289.9, 495.2)	0.97 (0.59, 1.59)	-12.2
Male	4	197.0	(108.6, 357.4)	9	173.0	(116.9, 256.1)	1.14 (0.56, 2.32)	24.0
Total	11	281.8	(200.0, 397.1)	27	275.9	(221.2, 344.2)	1.02 (0.68, 1.54)	5.9

Source: NMDS.

Note: Ratios in **bold** show that Māori rates were significantly different from non-Māori rates in the DHB.

Māori aged 15–24 years were less likely than non-Māori to be admitted to hospital for injury from intentional self-harm. Māori aged 25–44 years were just as likely as non-Māori to be admitted. On average 11 Māori per year in both age groups were admitted for injury caused by intentional self-harm.



Mauri ora: Pakeke

– Adults

This section focuses mainly on long term conditions among adults, including heart disease and stroke, cancer, diabetes, respiratory disease (asthma, chronic obstructive pulmonary disease), mental disorders, and gout. Information is also presented on hip fractures, hip replacements and cataract surgery. Self-assessed health status and smoking status are also included.

Information on other causes of hospitalisation or deaths in Whanganui can be found in the accompanying Excel® tables labelled ‘Death registrations’ and ‘Hospitalisations by principal diagnosis’. For example, the hospitalisations table shows disparities between Whanganui Māori and non-Māori in rates of admission for thyroid disorders, epilepsy, bronchiectasis, gastric ulcers, acute pancreatitis and gallbladder diseases, head injuries, and burns.

The New Zealand Health Survey provides other information on long term conditions and risk factors that have been shown to be more common for Māori adults than other adults at a national level, including medicated blood pressure, obesity, chronic pain, arthritis, oral disease, and mental distress ([Ministry of Health 2014](#)).

Self-assessed health

Table 37: Health status reported by Māori aged 15 years and over, Whanganui and MidCentral DHBs combined, 2013

Health status	Whanganui and MidCentral DHBs			New Zealand	
	Estimated number	%	(95% CI)	%	(95% CI)
Excellent	8,500	20.7	(16.2, 25.1)	18.1	(16.8, 19.3)
Very good	14,000	34.6	(30.0, 39.3)	37.0	(35.5, 38.5)
Good	12,500	31.0	(26.7, 35.4)	28.5	(27.3, 29.7)
Fair / poor	5,500	13.7	(10.2, 17.1)	16.4	(15.3, 17.5)

Source: Te Kupenga 2013, Statistics New Zealand customised report.

Just over half of Whanganui and MidCentral Māori adults (55%) reported having excellent or very good health in 2013 and another third (35%) described their health as good. One in seven (14%) reported having fair or poor health.

Smoking status

Table 38: Cigarette smoking status, 15 years and over, Whanganui DHB, 2006 and 2013

Smoking status	Māori			Non-Māori			Māori/non-Māori ratio (95% CI)	Difference in proportion
	Number	%	(95% CI)	Number	%	(95% CI)		
2006								
Regular smoker	3,971	47.8	(46.7, 48.8)	7,524	26.0	(25.4, 26.5)	1.84 (1.78, 1.90)	21.8
Ex-smoker	1,593	17.7	(16.9, 18.5)	8,631	18.8	(18.4, 19.3)	0.94 (0.89, 0.99)	-1.1
Never smoked	2,969	34.8	(33.8, 35.8)	19,107	55.2	(54.6, 55.9)	0.63 (0.61, 0.65)	-20.5
2013								
Regular smoker	3,204	38.1	(37.1, 39.2)	5,343	19.1	(18.6, 19.7)	2.00 (1.92, 2.08)	19.0
Ex-smoker	2,115	22.0	(21.2, 22.9)	9,219	20.6	(20.1, 21.1)	1.07 (1.02, 1.12)	1.4
Never smoked	3,471	39.8	(38.8, 40.8)	19,461	60.3	(59.6, 60.9)	0.66 (0.64, 0.68)	-20.5

Source: 2006 and 2013 Census, Statistics New Zealand

Notes: % is age-standardised to the 2001 Māori population

Regular smokers smoke one or more cigarettes per day.

Between 2006 and 2013 the proportion of Māori adults who smoked cigarettes regularly decreased from 48% to 38%. However, Māori remained twice as likely as non-Māori to smoke regularly.

Heart disease and stroke

Table 39: Hospitalisations for circulatory system diseases, 25 years and over, Whanganui DHB, 2011–2013

Gender	Māori			Non-Māori			Māori/non-Māori ratio (95% CI)		Rate difference
	Ave. no. per year	Age-standardised rate per 100,000 (95% CI)		Ave. no. per year	Age-standardised rate per 100,000 (95% CI)				
Female	106	1,799.2	(1,602.6, 2,019.9)	518	1,034.8	(950.7, 1,126.3)	1.74	(1.51, 2.01)	764.4
Male	111	2,290.2	(2,046.5, 2,563.0)	577	1,337.6	(1,254.2, 1,426.6)	1.71	(1.50, 1.95)	952.6
Total	217	2,044.7	(1,885.6, 2,217.2)	1,095	1,186.2	(1,126.3, 1,249.3)	1.72	(1.57, 1.90)	858.5

Source: NMDS

Note: Ratios in **bold** show that Māori rates were significantly different from non-Māori rates in the DHB.

On average, 217 Whanganui Māori were admitted to hospital per year for diseases of the circulatory system (heart disease and stroke), at a rate 72% higher than non-Māori, or 859 more admissions per 100,000.

Table 40: Ischaemic heart disease indicators, 25 years and over, Whanganui DHB, 2011–2013

Gender	Māori			Non-Māori			Māori/non-Māori ratio (95% CI)		Rate difference
	Ave. no. per year	Age-standardised rate per 100,000 (95% CI)		Ave. no. per year	Age-standardised rate per 100,000 (95% CI)				
Ischaemic heart disease admissions									
Female	27	442.3	(352.0, 555.7)	150	235.0	(207.0, 266.7)	1.88	(1.45, 2.44)	207.3
Male	31	645.9	(522.6, 798.3)	209	473.2	(429.4, 521.5)	1.36	(1.08, 1.72)	172.7
Total	58	544.1	(465.4, 636.1)	359	354.1	(327.7, 382.5)	1.54	(1.29, 1.83)	190.0
Angiography procedures									
Female	13	226.4	(163.1, 314.2)	60	142.4	(117.3, 172.8)	1.59	(1.09, 2.33)	84.0
Male	21	441.2	(341.9, 569.4)	109	299.4	(263.2, 340.5)	1.47	(1.11, 1.96)	141.8
Total	34	333.8	(272.8, 408.5)	169	220.9	(198.4, 245.9)	1.51	(1.20, 1.90)	112.9
Angioplasty procedures									
Female	4	69.6	(37.5, 129.1)	19	40.7	(30.0, 55.2)	1.71	(0.86, 3.41)	28.9
Male	8	185.0	(122.5, 279.2)	40	118.0	(96.5, 144.2)	1.57	(0.99, 2.48)	67.0
Total	12	127.3	(90.3, 179.5)	59	79.3	(67.0, 93.9)	1.60	(1.09, 2.35)	47.9
Coronary Artery Bypass Graft (CABG)									
Female	1	17.3	(5.6, 53.8)	10	17.7	(11.9, 26.3)	0.98	(0.30, 3.24)	-0.4
Male	2	41.7	(19.7, 88.4)	17	45.5	(33.0, 62.9)	0.92	(0.40, 2.07)	-3.9
Total	3	29.5	(15.8, 55.2)	27	31.6	(24.5, 40.9)	0.93	(0.47, 1.84)	-2.1
Acute coronary syndrome admissions									
Female	17	289.9	(218.1, 385.3)	101	146.5	(125.4, 171.2)	1.98	(1.43, 2.74)	143.4
Male	21	429.7	(332.4, 555.5)	141	313.8	(277.9, 354.3)	1.37	(1.03, 1.82)	115.9
Total	39	359.8	(297.1, 435.7)	242	230.2	(209.0, 253.4)	1.56	(1.26, 1.94)	129.7

Source: NMDS.

Note: Ratios in **bold** show that Māori rates were significantly different from non-Māori rates in the DHB.

On average, 58 Māori per year were admitted to hospital for ischaemic heart disease, at a rate 54% higher than non-Māori. Of these, 39 were admitted with acute coronary syndrome (with a rate 56% higher than non-Māori).

Māori men had higher rates of angiography than Māori women. There were 34 angiography procedures conducted for Māori patients per year, at a rate 51% higher than non-Māori. On average, eight Māori men and four Māori women per year had angioplasty procedures (with a total rate 60% higher than non-Māori). One Māori woman and two Māori men per year on average had a coronary artery bypass graft.

Table 41: Hospitalisations for heart failure, stroke, and hypertensive disease, 25 years and over, Whanganui DHB, 2011–2013

Gender	Māori				Non-Māori				Māori/non-Māori ratio (95% CI)	Rate difference
	Ave. no. per year	Age-standardised rate per 100,000 (95% CI)			Ave. no. per year	Age-standardised rate per 100,000 (95% CI)				
Heart failure										
Female	21	338.1	(261.9, 436.6)	76	69.0	(57.6, 82.8)	4.90	(3.58, 6.70)	269.1	
Male	28	513.0	(413.3, 636.6)	82	124.2	(104.9, 147.2)	4.13	(3.14, 5.43)	388.7	
Total	49	425.5	(360.8, 501.9)	158	96.6	(85.1, 109.7)	4.40	(3.58, 5.42)	328.9	
Stroke										
Female	14	220.9	(160.8, 303.5)	74	95.7	(77.3, 118.4)	2.31	(1.58, 3.39)	125.3	
Male	13	258.2	(186.4, 357.6)	50	94.2	(76.2, 116.6)	2.74	(1.86, 4.04)	163.9	
Total	27	239.5	(190.6, 301.1)	124	95.0	(81.7, 110.4)	2.52	(1.92, 3.32)	144.6	
Hypertensive disease										
Female	4	69.7	(39.3, 123.6)	8	16.3	(8.9, 29.8)	4.27	(1.86, 9.80)	53.4	
Male	1	13.5	(3.3, 54.4)	4	15.9	(6.5, 38.7)	0.85	(0.16, 4.43)	-2.4	
Total	5	41.6	(24.5, 70.7)	12	16.1	(9.5, 27.5)	2.58	(1.22, 5.48)	25.5	

Source: NMDS.

Note: Ratios in **bold** show that Māori rates were significantly different from non-Māori rates in the DHB.

There were 49 admissions per year on average for Māori with heart failure, at over 4 times the rate for non-Māori, or around 330 more admissions per 100,000.

On average, 27 Māori per year were admitted for stroke, 2.5 times the non-Māori rate, or 145 more admissions per 100,000.

There were five Māori admissions per year on average for hypertensive disease, at 2.6 times the rate of non-Māori, or 26 more admissions per 100,000.

Table 42: Hospitalisations for chronic rheumatic heart disease and heart valve replacements, 25 years and over, Whanganui DHB, 2011–2013

Gender	Māori				Non-Māori				Māori/non-Māori ratio (95% CI)	Rate difference
	Ave. no. per year	Age-standardised rate per 100,000 (95% CI)			Ave. no. per year	Age-standardised rate per 100,000 (95% CI)				
Chronic rheumatic heart disease										
Female	1	22.4	(8.4, 59.8)	3	4.6	(1.8, 11.9)	4.88	(1.24, 19.20)	17.8	
Male	<1	9.8	(1.4, 69.5)	1	2.1	(0.7, 6.6)	4.64	(0.48, 44.73)	7.7	
Total	2	16.1	(6.5, 39.9)	4	3.4	(1.6, 7.1)	4.80	(1.48, 15.54)	12.7	
Heart valve replacements										
Female	1	21.0	(6.5, 67.5)	6	16.2	(7.9, 33.4)	1.30	(0.33, 5.12)	4.8	
Male	1	18.2	(5.7, 58.5)	6	13.0	(7.0, 24.2)	1.40	(0.37, 5.24)	5.2	
Total	2	19.6	(8.6, 44.9)	12	14.6	(9.0, 23.8)	1.34	(0.51, 3.51)	5.0	

Source: NMDS.

Note: Ratios in **bold** show that Māori rates were significantly different from non-Māori rates in the DHB.

On average, there were two hospital admissions per year for Māori with chronic rheumatic heart disease. While the average number of admissions was low, the rate for Māori was 4.8 times the rate for non-Māori, or 13 more admissions per 100,000.

Heart valve replacements were conducted on two Māori per year on average.

Table 43: Early deaths from circulatory system disease, Whanganui DHB, 2007–2011

Gender	Māori			Non-Māori			Māori/non-Māori ratio (95% CI)	Rate difference
	Ave. no. per year	Age-standardised rate per 100,000 (95% CI)		Ave. no. per year	Age-standardised rate per 100,000 (95% CI)			
Female	8	63.8	(46.5, 87.5)	11	16.1	(11.5, 22.4)	3.97 (2.51, 6.29)	47.7
Male	10	107.5	(81.6, 141.7)	26	38.0	(31.1, 46.5)	2.83 (2.01, 3.98)	69.5
Total	18	85.7	(69.5, 105.6)	36	27.0	(22.8, 32.1)	3.17 (2.41, 4.15)	58.6

Source: Mortality data, Ministry of Health

Notes: “Early deaths” are defined as those occurring under 75 years of age.

Ratios in **bold** show that Māori rates were significantly different from non-Māori rates in the DHB.

On average 18 Māori per year died early from circulatory system disease (including heart disease and stroke), at a rate more than three times the non-Māori rate, or 59 more deaths per 100,000.

Diabetes

Table 44: Diabetes prevalence, medication use, monitoring of blood glucose levels, screening for renal disease, Whanganui DHB, 2013

Indicator	Māori		Non-Māori		Māori/non-Māori ratio	Difference in percentage
	Count	% (crude)	Count	% (crude)		
Prevalence of diabetes (all ages)	877	5.4	2,841	6.1	0.88	-0.7
People with diabetes regularly receiving metformin or insulin, 25+	463	52.8	1,513	53.3	0.99	-0.5
People with diabetes having regular Hb1Ac monitoring, 25+	685	78.1	2,355	79.1	0.99	-1.0
People with diabetes having regular screening for renal disease, 25+	475	54.2	1,706	60.0	0.90	-5.9

Source: NZ Atlas of Healthcare Variation

Note: The ‘crude’ percentage is not adjusted for differences in the age structure of the Māori and non-Māori populations.

In the Whanganui district, 877 Māori were estimated to have diabetes in 2013, giving a crude prevalence of 5.4%. The prevalence has not been adjusted for age and may be higher than the non-Māori prevalence (6.1%) if age differences were taken into account. Half of Māori with diabetes were regularly receiving metformin or insulin in 2013. Almost 80% were having regular monitoring of blood glucose levels and 54% were being screened for renal disease.

Table 45: Hospitalisations for lower limb amputations for people with concurrent diabetes, 15 years and over, Whanganui DHB, 2011–2013

Gender	Māori			Non-Māori			Māori/non-Māori ratio (95% CI)	Rate difference
	Ave. no. per year	Age-standardised rate per 100,000 (95% CI)		Ave. no. per year	Age-standardised rate per 100,000 (95% CI)			
Female	0	0.0	. .	3	8.0	(3.0, 21.1)	0.00 . .	-8.0
Male	3	37.2	(18.3, 75.6)	4	8.3	(4.0, 17.4)	4.48 (1.61, 12.45)	28.9
Total	3	18.6	(9.1, 37.8)	7	8.2	(4.4, 15.0)	2.28 (0.90, 5.80)	10.4

Source: NMDS

Note Ratios in **bold** show that Māori rates were significantly different from non-Māori rates in the DHB.

On average three Māori men per year with diabetes had lower limbs amputated, at a rate 4.5 times that of non-Māori men.

Cancer

Table 46: Most common cancer registrations for Māori by site, all ages, Whanganui DHB, 2008–2012

Gender and site	Māori			Non-Māori			Māori/non-Māori ratio (95% CI)	Rate difference
	Ave. no. per year	Age-standardised rate per 100,000 (95% CI)		Ave. no. per year	Age-standardised rate per 100,000 (95% CI)			
Female								
All cancers	29	229.8	(194.6, 271.5)	144	180.8	(162.7, 201.0)	1.27 (1.04, 1.55)	49.0
Lung	9	67.1	(49.6, 90.7)	13	10.1	(7.5, 13.6)	6.62 (4.33, 10.12)	56.9
Breast	8	60.7	(43.9, 83.8)	37	52.2	(43.7, 62.4)	1.16 (0.80, 1.68)	8.5
Uterus	1	11.4	(5.4, 23.9)	5	5.5	(3.3, 9.2)	2.05 (0.84, 5.05)	5.8
Colorectal	1	11.0	(5.1, 23.7)	22	19.5	(14.7, 26.0)	0.56 (0.25, 1.28)	-8.5
Thyroid	1	10.7	(4.6, 24.6)	3	5.0	(2.5, 10.1)	2.13 (0.72, 6.33)	5.7
Males								
All cancers	23	211.7	(175.2, 255.7)	184	220.4	(202.0, 240.5)	0.96 (0.78, 1.18)	-8.7
Prostate	6	56.1	(39.4, 79.8)	61	67.1	(59.3, 75.9)	0.84 (0.58, 1.21)	-11.0
Lung	3	24.4	(14.3, 41.6)	16	15.1	(11.8, 19.2)	1.62 (0.90, 2.91)	9.3
Colorectal	2	23.2	(12.5, 43.0)	24	21.2	(17.0, 26.4)	1.10 (0.57, 2.11)	2.0
Stomach	2	17.6	(9.4, 32.9)	3	2.8	(1.5, 5.1)	6.40 (2.66, 15.41)	14.9
Kidney	1	12.1	(5.3, 27.6)	6	9.5	(5.9, 15.4)	1.27 (0.49, 3.30)	2.6

Source: Cancer Registry, Ministry of Health

Note Ratios in **bold** show that Māori rates were significantly different from non-Māori rates in the DHB.

There were 29 cancer registrations per year on average among Māori females, with a rate 27% higher than non-Māori. The most common cancers registered for Māori females were lung (30% of all cancers), breast (28%), uterine, colorectal cancer and thyroid cancer (4% each). Lung cancer registration rates for Māori women were over 6.6 times the rate for non-Māori women.

Among Māori males there were 23 cancer registrations per year on average. Prostate (26% of all cancers) and lung (13%) were the most common cancers registered for Māori males followed by colorectal and stomach (9% each) and kidney cancer (4%). The stomach cancer registration rate was 6.4 times the non-Māori rate, with 15 more registrations per 100,000.

Table 47: Most common cancer deaths for Māori by site, all ages, Whanganui DHB, 2007–2011

Gender and site	Māori			Non-Māori			Māori/non-Māori ratio (95% CI)	Rate difference
	Ave. no. per year	Age-standardised rate per 100,000 (95% CI)		Ave. no. per year	Age-standardised rate per 100,000 (95% CI)			
Female								
All cancers	13	110.0	(86.0, 140.7)	67	59.1	(50.0, 69.9)	1.86 (1.38, 2.50)	50.9
Lung	5	42.5	(28.7, 63.0)	10	9.0	(6.3, 12.7)	4.73 (2.80, 7.99)	33.5
Breast	3	23.3	(13.2, 41.1)	10	11.4	(7.8, 16.6)	2.05 (1.04, 4.05)	11.9
Colorectal	1	9.2	(4.1, 20.9)	10	9.2	(5.9, 14.2)	1.01 (0.40, 2.54)	0.1
Pancreas	1	9.7	(4.3, 21.7)	3	3.2	(1.5, 6.6)	3.04 (1.02, 9.04)	6.5
Male								
All cancers	12	111.9	(86.1, 145.6)	76	72.0	(63.3, 81.8)	1.56 (1.16, 2.08)	40.0
Lung	4	35.3	(22.5, 55.4)	13	11.5	(8.7, 15.2)	3.08 (1.81, 5.23)	23.8
Digestive organs	3	30.6	(19.0, 49.4)	23	23.1	(18.5, 28.7)	1.33 (0.79, 2.25)	7.6

Source: Death registrations, Ministry of Health

Note Ratios in **bold** show that Māori rates were significantly different from non-Māori rates in the DHB.

For Māori females, deaths from cancer comprised just over a quarter of all deaths, with an all cancers death rate 86% higher than the rate for non-Māori. Lung cancer was the most common cause of cancer death (39% of all cancer deaths), followed breast (23%), colorectal and pancreatic cancers (8% each). The Māori mortality rate for lung cancer was almost 5 times the non-Māori rate, and twice the non-Māori rate for breast cancer.

For Māori males, cancer deaths accounted for a quarter of all deaths, with an all cancers death rate a half as high again as that of non-Māori males. Lung cancer was the most common cause of cancer death for Māori males, comprising 33% of all cancer deaths, at a rate 3 times that of non-Māori males. Cancers of the digestive organs were the next most common causes of deaths from cancer, making up 25% of all cancer deaths.

Breast and cervical cancer screening

Table 48: BreastScreen Aotearoa breast screening coverage, women aged 45–69 years, Whanganui DHB, 24 months to 31 December 2014

Māori			Non-Māori		
Number screened	Eligible population	% screened	Number screened	Eligible population	% screened
1,273	1,915	66.5	6,689	8,530	78.4

Source: National Screening Unit, Ministry of Health

BreastScreen Aotearoa provides free mammography screening for breast cancer to women aged 45 to 69 years, with a target of at least 70% of eligible women screened every two years. During the two years up to the end of 2014, 67% of Māori women and 78% of non-Māori women in Whanganui had been screened.

Table 49: Cervical screening coverage, women aged 25–69 years, Whanganui DHB, 3 years and 5 years to 31 December 2014

Māori					Non-Māori				
Eligible population	Women screened in		Women screened in		Eligible population	Women screened in		Women screened in	
	last 5 years	5-year coverage %	last 3 years	3-year coverage %		last 5 years	5-year coverage %	last 3 years	3-year coverage %
3,484	2,972	85.3	2,337	67.1	11,615	10,594	91.2	8,938	77.0

Source: National Screening Unit, Ministry of Health

Note: Population is adjusted for hysterectomy.

Among women aged 25 to 69 years, 85% of Māori women and 91% of non-Māori women had had a cervical smear test during the five years prior to December 2014. The three year cervical screening coverage was 67% for Māori women and 77% for non-Māori women. The National Cervical Screening Programme has a three year screening coverage target of 80%.

Respiratory disease

Table 50: Hospitalisations for asthma, by age group, Whanganui DHB, 2011–2013

Gender and age group	Māori			Non-Māori			Māori/non-Māori ratio (95% CI)	Rate difference
	Ave. no. per year	Age-standardised rate per 100,000 (95% CI)		Ave. no. per year	Age-standardised rate per 100,000 (95% CI)			
0–14 years								
Female	16	622.7	(469.1, 826.5)	19	501.2	(386.5, 650.0)	1.24 (0.85, 1.82)	121.4
Male	32	1,168.0	(956.2, 1426.8)	13	332.1	(242.5, 454.8)	3.52 (2.42, 5.10)	835.9
Total	48	895.3	(760.3, 1054.4)	32	416.7	(341.0, 509.1)	2.15 (1.66, 2.78)	478.7
15–34 years								
Female	8	327.9	(219.0, 490.9)	6	121.4	(75.4, 195.3)	2.70 (1.45, 5.04)	206.5
Male	4	173.9	(95.7, 316.0)	3	60.6	(31.5, 116.5)	2.87 (1.18, 5.96)	113.3
Total	12	250.9	(179.4, 350.8)	9	91.0	(61.9, 133.7)	2.76 (1.66, 4.59)	159.9
35–64 years								
Female	12	476.5	(338.6, 670.5)	17	166.4	(123.6, 223.9)	2.86 (1.82, 4.50)	310.1
Male	4	136.6	(74.9, 249.1)	8	99.5	(63.8, 155.2)	1.37 (0.65, 2.90)	37.0
Total	15	306.5	(227.7, 412.6)	25	133.0	(103.6, 170.6)	2.31 (1.56, 3.40)	173.6
65 years and over								
Female	2	400.7	(177.2, 906.4)	4	65.0	(33.6, 125.9)	6.16 (2.16, 17.61)	335.7
Male	0	0.0	.	4	75.4	(38.8, 146.4)	0.00	-75.4
Total	2	200.4	(88.6, 453.2)	7	70.2	(43.9, 112.3)	2.85 (1.11, 7.32)	130.1

Source: NMDS.

Ratios in **bold** show that Māori rates were significantly different from non-Māori rates in the DHB.

There were 48 admissions for asthma per year among Māori children aged 0 to 14 years, at a rate twice that of non-Māori. Among Māori adults age 15 to 34 years there were 12 admissions per year, at nearly 3 times the rate of non-Māori. Among those aged 35 to 64 years, there were 15 admissions per year on average, at a rate of over twice that of non-Māori. On average there were two admissions per year among Māori aged 65 years and over at a rate nearly three times that of non-Māori.

Table 51: Hospitalisations for chronic obstructive pulmonary disease (COPD), 45 years and over, Whanganui DHB, 2011–2013

Gender	Māori			Non-Māori			Māori/non-Māori ratio (95% CI)	Rate difference
	Ave. no. per year	Age-standardised rate per 100,000 (95% CI)		Ave. no. per year	Age-standardised rate per 100,000 (95% CI)			
Female	39	1,636.3	(1,362.6, 1,964.9)	113	468.6	(410.1, 535.5)	3.49 (2.78, 4.38)	1167.7
Male	25	1,251.3	(991.3, 1,579.6)	125	526.8	(467.8, 593.2)	2.38 (1.83, 3.09)	724.6
Total	64	1,443.8	(1,249.3, 1,668.7)	238	497.7	(455.4, 543.9)	2.90 (2.45, 3.44)	946.1

Source: NMDS.

Ratios in **bold** show that Māori rates were significantly different from non-Māori rates in the DHB.

There were 64 hospitalisations per year on average for Māori with COPD, at a rate almost 3 times that of non-Māori, or 946 more admissions per 100,000.

Table 52: Early deaths from respiratory disease, Whanganui DHB, 2007–2011

Gender	Māori			Non-Māori			Māori/non-Māori ratio (95% CI)	Rate difference
	Ave. no. per year	Age-standardised rate per 100,000 (95% CI)		Ave. no. per year	Age-standardised rate per 100,000 (95% CI)			
Female	3	28.1	(16.7, 47.4)	8	10.8	(7.5, 15.5)	2.61 (1.38, 4.91)	17.3
Male	3	26.4	(15.3, 45.7)	7	9.3	(6.4, 13.6)	2.84 (1.46, 5.54)	17.1
Total	6	27.3	(18.7, 39.8)	15	10.0	(7.7, 13.1)	2.72 (1.71, 4.30)	17.2

Source: Mortality data, Ministry of Health

“Early deaths” defined as those occurring under 75 years of age.

Ratios in **bold** show that Māori rates were significantly different from non-Māori rates in the DHB.

On average, six Whanganui Māori per year died early from respiratory disease, at a rate that was 2.7 times the non-Māori rate, or 17 more deaths per 100,000.

Mental disorders

Table 53: Hospitalisations for mental disorders, all ages, Whanganui DHB, 2011–2013

Disorder	Māori			Non-Māori			Māori/non-Māori ratio (95% CI)	Rate difference
	Ave. no. per year	Age-standardised rate (95% CI)		Ave. no. per year	Age-standardised rate (95% CI)			
Female								
All disorders	49	590.3 (499.7, 697.3)		138	579.3 (516.1, 650.1)		1.02 (0.83, 1.25)	11.0
Schizophrenia	13	147.6 (106.5, 204.7)		23	88.8 (67.3, 117.1)		1.66 (1.08, 2.55)	58.9
Mood (affective)	12	157.9 (113.5, 219.9)		38	183.5 (149.3, 225.6)		0.86 (0.58, 1.27)	-25.6
—Bipolar	5	68.4 (41.1, 113.9)		16	76.4 (56.4, 103.4)		0.90 (0.49, 1.62)	-8.0
—Depressive episode	4	45.6 (25.0, 82.9)		11	53.1 (35.8, 78.9)		0.86 (0.42, 1.76)	-7.6
Substance use	12	141.4 (100.8, 198.5)		21	89.4 (66.4, 120.2)		1.58 (1.01, 2.48)	52.1
—Alcohol	9	101.2 (68.2, 150.2)		18	69.9 (50.2, 97.3)		1.45 (0.87, 2.42)	31.3
Anxiety, stress-related	8	98.9 (66.3, 147.6)		24	87.4 (64.9, 117.6)		1.13 (0.69, 1.86)	11.5
Male								
All disorders	47	610.3 (515.0, 723.1)		109	402.8 (353.4, 459.0)		1.52 (1.22, 1.88)	207.5
Schizophrenia	19	265.2 (203.5, 345.6)		32	118.8 (93.9, 150.3)		2.23 (1.57, 3.18)	146.4
Mood (affective)	9	114.9 (78.4, 168.5)		17	61.8 (44.7, 85.3)		1.86 (1.13, 3.07)	53.2
—Bipolar	7	90.3 (58.6, 139.2)		7	28.8 (17.8, 46.5)		3.14 (1.64, 5.99)	61.5
—Depressive episode	1	17.7 (6.5, 47.8)		4	17.1 (9.1, 32.3)		1.03 (0.32, 3.35)	0.5
Substance use	11	144.4 (102.5, 203.4)		25	108.9 (83.9, 141.3)		1.33 (0.86, 2.04)	35.5
—Alcohol	7	88.3 (57.1, 136.5)		22	94.7 (71.8, 125.1)		0.93 (0.56, 1.56)	-6.5
Anxiety, stress-related	2	30.1 (14.2, 64.2)		19	75.9 (56.0, 102.7)		0.40 (0.18, 0.90)	-45.7
Total								
All disorders	96	600.3 (533.0, 676.1)		248	491.0 (450.3, 535.5)		1.22 (1.06, 1.42)	109.3
Schizophrenia	32	206.4 (167.9, 253.7)		55	103.8 (86.8, 124.1)		1.99 (1.51, 2.61)	102.6
Mood (affective)	21	136.4 (106.2, 175.2)		55	122.6 (103.0, 146.0)		1.11 (0.82, 1.51)	13.8
—Bipolar	12	79.3 (57.0, 110.4)		24	52.6 (40.7, 67.9)		1.51 (0.99, 2.29)	26.8
—Depressive episode	5	31.6 (18.9, 52.8)		15	35.1 (25.1, 49.2)		0.90 (0.49, 1.66)	-3.5
Substance use	23	142.9 (112.3, 181.9)		46	99.1 (81.5, 120.6)		1.44 (1.06, 1.97)	43.8
—Alcohol	16	94.7 (70.7, 127.0)		40	82.3 (66.5, 101.8)		1.15 (0.80, 1.65)	12.4
Anxiety, stress-related	11	64.5 (45.3, 91.9)		43	81.6 (66.0, 100.9)		0.79 (0.52, 1.19)	-17.1

Source: NMDS

Ratios in **bold** show that Māori rates were significantly different from non-Māori rates in the DHB.

Rates of hospitalisation for mental disorders were 22% higher for Māori than non-Māori.

The most common cause of admission for Māori was schizophrenia related disorders, with 32 admissions per year on average, at a rate twice that of non-Māori. Admissions for substance use and mood disorders were the next most common cause of Māori admission with 23 per year for substance use and 21 per year for mood disorders.

Admissions for substance use disorders were 44% higher for Māori than for non-Māori.

Gout

Table 54: Gout prevalence and treatment, 20–79 years, Whanganui DHB, 2011

Indicator	Māori		Non-Māori		Māori/non-Māori ratio	Difference in percentage
	Count	%	Count	%		
Gout prevalence	616	6.4	1,217	3.6	1.78	2.8
People with gout who received allopurinol regularly	233	37.8	571	46.9	0.81	-9.1
Colchicine use by people with gout not dispensed allopurinol	55	8.9	86	7.1	1.26	1.9
NSAID use by people with gout	289	46.9	509	41.8	1.12	5.1
Serum urate test within six months following allopurinol dispensing	115	31.9	232	31.9	1.00	0.1

Source: NZ Atlas of Healthcare Variation, Ministry of Health.

Notes: Denominator is people in contact with health services (using Health Tracker). Prevalence may be underestimated by up to 20%. Prevalence rates are not age adjusted. NSAID is non-steroidal anti-inflammatory medication.

Over 600 Māori were estimated to have gout in 2011, a prevalence of 6%, 78% higher than the prevalence among non-Māori. Nearly 40% of Māori with gout regularly received allopurinol, a preventive therapy to lower urate levels. Of those who received allopurinol, only a third had a lab test for serum urate levels within the following six months. Nearly half of Māori with gout used non-steroidal anti-inflammatory medication.

Table 55: Hospitalisations for gout, 25 years and over, Whanganui DHB, 2011–2013

Gender	Māori			Non-Māori			Māori/non-Māori ratio (95% CI)	Rate difference
	Ave. no. per year	Age-standardised rate per 100,000 (95% CI)		Ave. no. per year	Age-standardised rate per 100,000 (95% CI)			
Female	2	22.8	(9.3, 56.0)	1	2.0	(0.6, 6.6)	11.24 (2.54, 49.69)	20.8
Male	12	237.2	(169.4, 332.0)	11	47.2	(29.3, 76.1)	5.02 (2.80, 9.00)	189.9
Total	14	130.0	(94.7, 178.4)	13	24.6	(15.6, 39.0)	5.28 (3.02, 9.22)	105.3

Source: NMDS

Ratios in bold show that Māori rates were significantly different from non-Māori rates in the DHB.

There were 14 hospital admissions for gout per year on average among Whanganui Māori, more frequent among males than females. The rate of admission was over 11 times as high for Māori females as for non-Māori females, or 20 more admissions per 100,000. Māori males had an admission rate over five times as high as the rate for non-Māori males, or 190 more admissions per 100,000.

Hip fractures

Table 56: Hospitalisations for hip fractures, 65 years and over, Whanganui DHB, 2011–2013

Gender	Māori			Non-Māori			Māori/non-Māori ratio (95% CI)	Rate difference
	Ave. no. per year	Age-standardised rate per 100,000 (95% CI)		Ave. no. per year	Age-standardised rate per 100,000 (95% CI)			
Female	2	347.4	(153.1, 788.3)	45	418.1	(338.9, 515.8)	0.83 (0.36, 1.94)	-70.7
Male	0	0.0	. .	21	308.3	(231.8, 410.1)	0.00 . .	-308.3
Total	2	173.7	(76.5, 394.2)	65	363.2	(306.1, 431.0)	0.48 (0.21, 1.10)	-189.5

Source: NMDS

Ratios in **bold** show that Māori rates were significantly different from non-Māori rates in the DHB.

On average, two Māori women aged 65 and over were admitted to hospital per year for hip fractures, at a rate of 347 per 100,000. No admissions for hip fractures were recorded for Māori males over the 2011–2013 period.

Elective surgery

Table 57: Hospitalisations for hip replacements, 50 years and over, Whanganui DHB, 2011–2013

Gender	Māori			Non-Māori			Māori/non-Māori ratio (95% CI)	Rate difference
	Ave. no. per year	Age-standardised rate per 100,000 (95% CI)		Ave. no. per year	Age-standardised rate per 100,000 (95% CI)			
Female	10	582.1 (403.8, 839.1)		55	406.4 (341.3,484.0)		1.43 (0.96, 2.15)	175.7
Male	9	591.7 (402.1, 870.8)		43	360.1 (296.9,436.9)		1.64 (1.07, 2.53)	231.6
Total	18	586.9 (449.8, 765.8)		98	383.3 (336.6,436.3)		1.53 (1.14, 2.06)	203.6

Source: NMDS

Ratios in **bold** show that Māori rates were significantly different from non-Māori rates in the DHB.

On average, 18 Māori per year were admitted to hospital for a hip replacement, at a rate 53% higher than the rate for non-Māori, or 204 more admissions per 100,000.

Table 58: Publicly funded hospitalisations for cataract surgery, 45 years and over, Whanganui DHB, 2011–2013

Gender	Māori			Non-Māori			Māori/non-Māori ratio (95% CI)	Rate difference
	Ave. no. per year	Age-standardised rate per 100,000 (95% CI)		Ave. no. per year	Age-standardised rate per 100,000 (95% CI)			
Female	14	554.8 (406.1, 758.0)		84	285.6 (245.4, 332.3)		1.94 (1.37, 2.75)	269.2
Male	12	562.0 (401.5, 786.6)		71	347.4 (295.6, 408.2)		1.62 (1.11, 2.35)	214.6
Total	25	558.4 (443.9, 702.4)		155	316.5 (283.0, 353.9)		1.76 (1.37, 2.28)	241.9

Source: NMDS

Ratios in **bold** show that Māori rates were significantly different from non-Māori rates in the DHB.

On average 25 Māori per year aged 45 years and over were admitted to hospital for cataract surgery. The rate for Māori was 76% higher than non-Māori, or 242 more admissions per 100,000.



Mauri ora: All ages

This section presents information on overall hospitalisations, potentially avoidable and ambulatory sensitive hospitalisations, overall mortality rates, potentially avoidable mortality and mortality amenable to health care, and injuries. ICD codes for these classifications are provided in Appendix 2. Life expectancy is presented for residents of the Manawatū-Whanganui Region, as this data was not available by DHB.

Hospitalisations

Table 59: All-cause hospitalisations, all ages, Whanganui DHB, 2011–2013

Gender	Māori		Non-Māori		Māori/non-Māori ratio (95% CI)	Rate difference
	Ave. no. per year	Age-standardised rate per 100,000 (95% CI)	Ave. no. per year	Age-standardised rate per 100,000 (95% CI)		
Female	2,490	29,497.7 (28,812.1, 30,199.5)	7,215	25,417.3 (24,956.7, 25,886.3)	1.16 (1.13, 1.20)	4,080.4
Male	1,693	20,461.8 (19,888.3, 21,051.8)	6,157	19,113.2 (18,718.4, 19,516.3)	1.07 (1.03, 1.11)	1,348.6
Total	4,183	24,979.7 (24,531.2, 25,436.5)	13,372	22,265.2 (21,961.1, 22,573.6)	1.12 (1.10, 1.15)	2,714.5

Source: NMDS

Ratios in **bold** show that Māori rates were significantly different from non-Māori rates in the DHB.

On average, there were 4,183 Māori hospital admissions per year and 13,372 non-Māori admissions. All-cause admission rates were 12% higher for Māori than non-Māori.

Data on hospital admissions by principal diagnosis are available in the accompanying Excel tables.

Potentially avoidable hospitalisations

Table 60: Potentially avoidable hospitalisations, 0–74 years, Whanganui DHB, 2011–2013

Gender	Māori		Non-Māori		Māori/non-Māori ratio (95% CI)	Rate difference
	Ave. no. per year	Age-standardised rate per 100,000 (95% CI)	Ave. no. per year	Age-standardised rate per 100,000 (95% CI)		
Female	569	6,581.6 (6,264.9, 6,914.2)	1,181	5,030.0 (4,822.5, 5,246.4)	1.31 (1.23, 1.40)	1,551.6
Male	498	6,203.6 (5,888.1, 6,536.0)	1,191	4,594.4 (4,402.1, 4,795.0)	1.35 (1.26, 1.44)	1,609.2
Total	1,067	6,392.6 (6,167.4, 6,625.9)	2,372	4,812.2 (4,669.8, 4,958.8)	1.33 (1.27, 1.39)	1,580.4

Source: NMDS

Ratios in **bold** show that Māori rates were significantly different from non-Māori rates in the DHB. Table revised April 2016.

More than 1,000 Māori hospital admissions per year were potentially avoidable through population based prevention strategies, at a rate a third higher for Māori than for non-Māori, or 1,580 more admissions per 100,000.

Table 61: Ambulatory care sensitive hospitalisations, 0–74 years, Whanganui DHB, 2011–2013

Gender	Māori		Non-Māori		Māori/non-Māori ratio (95% CI)	Rate difference
	Ave. no. per year	Age-standardised rate per 100,000 (95% CI)	Ave. no. per year	Age-standardised rate per 100,000 (95% CI)		
Female	322	3,804.8 (3,563.9, 4,062.0)	558	2,457.5 (2,310.9, 2,613.5)	1.55 (1.42, 1.69)	1,347.3
Male	329	4,082.7 (3,828.4, 4,353.9)	620	2,423.5 (2,282.9, 2,572.7)	1.68 (1.54, 1.84)	1,659.2
Total	651	3,935.3 (3,758.8, 4,119.9)	1,178	2,435.3 (2,333.0, 2,542.0)	1.62 (1.52, 1.72)	1,500.0

Source: NMDS

Ratios in **bold** show that Māori rates were significantly different from non-Māori rates in the DHB.

On average, there were 651 ambulatory care sensitive hospitalisations per year among Māori, at a rate that was 62% higher than the non-Māori rate, or 1,500 more admissions per 100,000.

Mortality

Table 62: Life expectancy at birth, Manawatū-Whanganui Region, 2012–2014

Gender	Māori		Non-Māori		Difference in years
	Years (95% credible interval)		Years (95% credible interval)		
Female	76.4	(75.5, 77.3)	83.4	(83.1, 83.6)	-7.0
Male	72.3	(71.4, 73.2)	79.5	(79.2, 79.8)	-7.2

Source: Statistics New Zealand Subnational Period Life Tables: 2012–14.

Notes: This data is for the Manawatū-Whanganui Region. A map of Regional Council boundaries can be found [here](#). The credible interval is the 2.5th percentile and the 97.5th percentile, the expected years of life at birth is the 50th percentile. Further information on the regional life tables and methods can be found [here](#).

Life expectancy at birth is a summary measure of age-specific mortality rates during a specific period, and takes no account of changes in death rates after that period. During 2012–2014, among residents of the Manawatū-Whanganui Region, life expectancy at birth was 76.4 years for Māori females, 7.0 years lower than that of non-Māori females (83.4 years). For Māori males, life expectancy was 72.3 years, 7.2 years lower than for non-Māori males (79.5 years).

Table 63: All-cause deaths, all ages, Whanganui DHB, 2008–2012

Gender	Māori			Non-Māori			Māori/non-Māori ratio (95% CI)	Rate difference
	Ave. no. per year	Age-standardised rate per 100,000 (95% CI)		Ave. no. per year	Age-standardised rate per 100,000 (95% CI)			
Female	45	384.3	(349.2, 423.0)	259	168.0	(155.1, 181.9)	2.29 (2.02, 2.59)	216.3
Male	49	528.1	(482.3, 578.3)	247	255.5	(239.8, 272.4)	2.07 (1.85, 2.31)	272.6
Total	94	456.2	(426.9, 487.5)	506	211.8	(201.5, 222.6)	2.15 (1.98, 2.34)	244.4

Source: Mortality dataset, Ministry of Health.

Ratios in **bold** show that Māori rates were significantly different from non-Māori rates in the DHB.

There were 94 Māori deaths per year on average during 2008 to 2012. The Māori all-cause mortality rate was twice the non-Māori rate, or 244 more deaths per 100,000.

Table 64: Leading causes of death for Māori, all ages, Whanganui DHB, 2007–2011

Gender and cause	Māori			Non-Māori			Māori/non-Māori ratio (95% CI)	Rate difference
	Ave. no. per year	Age-standardised rate per 100,000 (95% CI)		Ave. no. per year	Age-standardised rate per 100,000 (95% CI)			
Female								
IHD	7	44.8	(31.6, 63.6)	56	17.2	(14.6, 20.2)	2.61 (1.78, 3.84)	27.7
Lung cancer	5	42.5	(28.7, 63.0)	10	9.0	(6.3, 12.7)	4.73 (2.80, 7.99)	33.5
Stroke	4	25.6	(16.4, 40.0)	32	10.3	(8.1, 13.0)	2.49 (1.50, 4.13)	15.3
Diabetes	3	22.5	(13.6, 37.3)	6	2.6	(1.6, 4.1)	8.81 (4.45, 17.48)	20.0
COPD	3	22.8	(13.8, 37.6)	18	11.0	(8.4, 14.5)	2.08 (1.17, 3.67)	11.8
Male								
IHD	11	104.2	(79.1, 137.2)	56	41.4	(35.3, 48.7)	2.51 (1.83, 3.46)	62.8
Accidents	6	75.7	(52.5, 109.0)	10	26.8	(18.2, 39.4)	2.82 (1.66, 4.80)	48.8
Lung cancer	4	35.3	(22.5, 55.4)	13	11.5	(8.7, 15.2)	3.08 (1.81, 5.23)	23.8
COPD	4	33.1	(20.7, 53.0)	20	13.0	(10.4, 16.3)	2.55 (1.51, 4.30)	20.1
Suicide	2	34.0	(19.1, 60.6)	6	24.2	(16.0, 36.6)	1.41 (0.69, 2.86)	9.8
Total								
IHD	17	74.5	(59.9, 92.8)	112	29.3	(25.9, 33.2)	2.54 (1.98, 3.27)	45.2
Lung cancer	9	38.9	(28.9, 52.3)	23	10.2	(8.2, 12.7)	3.80 (2.63, 5.50)	28.7
Accidents	9	50.8	(37.3, 69.1)	19	19.6	(14.3, 27.0)	2.58 (1.66, 4.03)	31.1
COPD	7	28.0	(19.8, 39.5)	38	12.0	(10.1, 14.3)	2.33 (1.58, 3.44)	16.0
Stroke	6	20.9	(14.2, 30.9)	49	10.8	(8.9, 13.2)	1.93 (1.25, 2.98)	10.1

Source: Mortality dataset, Ministry of Health.

IHD is ischaemic heart disease, COPD is chronic obstructive pulmonary disease.

Ratios in **bold** show that Māori rates were significantly different from non-Māori rates in the DHB.

The leading causes of death for Māori women were ischaemic heart disease (IHD), lung cancer, stroke, diabetes mellitus, and chronic obstructive pulmonary disease (COPD). Mortality rates for these conditions were 2 to almost 9 times higher for Māori women than non-Māori women.

For Māori men, the leading causes of death were IHD, accidents, lung cancer, COPD, and suicide. Mortality rates for most of these conditions were around 2.5 to 3 times higher for Māori than for non-Māori men.

Data on leading causes of death for Māori by ICD chapter are available in the accompanying Excel tables.

Potentially avoidable mortality

Avoidable mortality includes deaths occurring among those less than 75 years old that could potentially have been avoided through population-based interventions (including actions to address the social determinants of health) or through preventive and curative interventions at an individual level.

Amenable mortality is a subset of avoidable mortality and is restricted to deaths from conditions that are amenable to health care.

Table 65: Potentially avoidable mortality, 0–74 years, Whanganui DHB, 2007–2011

Gender	Māori			Non-Māori			Māori/non-Māori ratio (95% CI)		Rate difference
	Ave. no. per year	Age-standardised rate per 100,000 (95% CI)		Ave. no. per year	Age-standardised rate per 100,000 (95% CI)				
Female	25	228.7	(190.9, 273.9)	47	91.2	(75.6, 110.1)	2.51	(1.93, 3.25)	137.4
Male	28	318.3	(268.9, 376.8)	71	143.1	(124.5, 164.5)	2.22	(1.79, 2.77)	175.2
Total	53	273.5	(241.7, 309.5)	118	117.2	(104.8, 131.1)	2.33	(1.97, 2.76)	156.3

Source: Mortality, Ministry of Health

Ratios in **bold** show that Māori rates were significantly different from non-Māori rates in the DHB.

There were 53 potentially avoidable Māori deaths per year, at a rate 2.3 times the non-Māori rate, or 156 more deaths per 100,000.

Table 66: Amenable mortality, 0–74 years, Whanganui DHB, 2007–2011

Gender	Māori			Non-Māori			Māori/non-Māori ratio (95% CI)		Rate difference
	Ave. no. per year	Age-standardised rate per 100,000 (95% CI)		Ave. no. per year	Age-standardised rate per 100,000 (95% CI)				
Female	17	152.5	(122.3, 190.1)	31	55.3	(44.4, 68.8)	2.76	(2.02, 3.76)	97.2
Male	22	245.0	(201.9, 297.3)	51	105.5	(89.5, 124.5)	2.32	(1.80, 2.99)	139.5
Total	38	198.7	(171.7, 230.0)	82	80.4	(70.5, 91.8)	2.47	(2.03, 3.01)	118.3

Source: Mortality, Ministry of Health

Ratios in **bold** show that Māori rates were significantly different from non-Māori rates in the DHB.

Amenable mortality was 2.5 times as high for Māori as for non-Māori, or 118 more deaths per 100,000. On average, 38 Whanganui Māori per year died from conditions that were amenable to health care.

Injuries

A table on the causes of hospital admissions for injuries can be found in the accompanying Excel tables. The most common causes of injury among Whanganui Māori were falls, exposure to mechanical forces, complications of medical and surgical care, assault, and transport accidents.

Table 67: Hospitalisations for injuries, all ages, Whanganui DHB, 2011–2013

Gender	Māori			Non-Māori			Māori/non-Māori ratio (95% CI)	Rate difference
	Ave. no. per year	Age-standardised rate per 100,000 (95% CI)		Ave. no. per year	Age-standardised rate per 100,000 (95% CI)			
Female	179	2,154.0	(1,973.8, 2,350.7)	658	2,069.5	(1,941.7, 2,205.6)	1.04 (0.93, 1.16)	84.6
Male	259	3,359.0	(3,124.9, 3,610.6)	781	3,115.9	(2,960.5, 3,279.6)	1.08 (0.99, 1.18)	243.1
Total	438	2,756.5	(2,607.2, 2,914.4)	1440	2,592.7	(2,491.3, 2,698.3)	1.06 (0.99, 1.14)	163.8

Source: NMDS

Ratios in **bold** show that Māori rates were significantly different from non-Māori rates in the DHB.

On average there were 438 hospitalisations for injury per year among Whanganui Māori, at a similar rate to non-Māori. Males had a higher rates of admission than females.

Table 68: Hospitalisations for assault, all ages, Whanganui DHB, 2011–2013

Gender	Māori			Non-Māori			Māori/non-Māori ratio (95% CI)	Rate difference
	Ave. no. per year	Age-standardised rate per 100,000 (95% CI)		Ave. no. per year	Age-standardised rate per 100,000 (95% CI)			
Female	15	188.2	(139.9, 253.3)	9	51.7	(34.7, 77.1)	3.64 (2.21, 5.99)	136.5
Male	28	389.3	(312.8, 484.5)	38	227.3	(188.0, 274.7)	1.71 (1.28, 2.29)	162.0
Total	43	288.8	(242.1, 344.4)	48	139.5	(117.5, 165.5)	2.07 (1.62, 2.65)	149.3

Source: NMDS

Ratios in **bold** show that Māori rates were significantly different from non-Māori rates in the DHB.

On average 43 Māori per year were admitted to hospital for injury caused by assault, at a rate twice as high as the non-Māori rate, or 149 more admissions per 100,000. Males had higher admission rates than females.

Table 69: Deaths from injury, all ages, Whanganui DHB, 2007–2011

Gender	Māori			Non-Māori			Māori/non-Māori ratio (95% CI)	Rate difference
	Ave. no. per year	Age-standardised rate per 100,000 (95% CI)		Ave. no. per year	Age-standardised rate per 100,000 (95% CI)			
Female	4	39.3	(24.7, 62.5)	11	19.4	(12.3, 30.7)	2.02 (1.05, 3.88)	19.9
Male	9	115.7	(85.6, 156.5)	17	52.3	(39.7, 69.0)	2.21 (1.47, 3.33)	63.4
Total	13	77.5	(60.1, 100.0)	27	35.9	(28.3, 45.4)	2.16 (1.53, 3.06)	41.6

Source: Mortality dataset, Ministry of Health.

Ratios in **bold** show that Māori rates were significantly different from non-Māori rates in the DHB.

On average 13 Māori per year died from injuries, at a rate twice as high as that of non-Māori, or 42 more deaths per 100,000. Injury mortality rates were higher for males than for females.



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Appendix 1: Population projections

Table 70: Māori population projections, single year by age group, Whanganui DHB, 2013 to 2020

Projected Māori Ethnic Population by Age and Sex at 30 June 2014–33 (2013-Base)

*** Medium Projection : Assuming Medium Fertility, Medium Mortality, Medium Inter-Ethnic Mobility, and Medium Migration ***

Age	Male	Female	Total	Male	Female	Total	Male	Female	Total	Male	Female	Total
	2013(Base)			2014			2015			2016		
0	190	200	390	200	190	400	200	190	390	200	190	380
1-4	730	740	1,470	700	740	1,440	700	720	1,430	740	710	1,450
5-9	880	810	1,680	900	820	1,720	920	840	1,760	900	880	1,770
10-14	870	780	1,650	880	810	1,690	830	800	1,620	810	780	1,590
15-19	800	790	1,590	770	760	1,530	800	750	1,560	770	720	1,490
20-24	600	640	1,240	600	600	1,200	600	630	1,230	650	640	1,290
25-29	460	530	990	480	570	1,060	510	550	1,060	510	560	1,070
30-34	420	460	880	400	450	850	390	480	870	400	490	890
35-39	390	480	870	410	460	880	410	450	860	410	420	840
40-44	450	470	930	420	490	900	400	480	880	370	490	860
45-49	460	520	980	470	500	970	450	470	920	460	460	920
50-54	430	500	930	430	500	930	460	510	970	450	510	960
55-59	340	370	710	360	390	740	350	410	760	340	410	760
60-64	260	310	570	280	320	590	280	320	600	300	340	640
65-69	200	200	410	210	220	430	220	230	450	220	250	460
70-74	130	140	270	130	150	280	130	170	300	150	160	310
75-79	70	110	170	80	110	190	90	110	190	90	110	200
80-84	40	50	100	50	50	90	50	60	100	50	60	110
85-89	10	20	30	20	20	40	20	20	40	20	30	50
90+	0	10	20	0	10	20	0	10	20	10	10	20
All Ages	7,750	8,150	15,850	7,800	8,150	15,950	7,800	8,200	16,000	7,850	8,200	16,050
	2017			2018			2019			2020		
0	200	180	380	190	180	370	190	180	370	190	180	360
1-4	760	730	1,490	760	710	1,480	750	700	1,450	740	690	1,430
5-9	870	850	1,720	850	890	1,740	840	870	1,720	840	860	1,700
10-14	820	770	1,590	810	760	1,580	840	770	1,610	860	800	1,650
15-19	730	710	1,440	730	670	1,400	740	700	1,440	690	690	1,380
20-24	680	630	1,310	680	640	1,320	650	600	1,260	680	590	1,280
25-29	520	570	1,080	540	580	1,120	540	540	1,080	530	580	1,110
30-34	420	500	920	430	500	930	450	550	1,000	480	520	1,000
35-39	410	440	840	400	430	830	370	430	800	360	450	810
40-44	350	460	820	350	450	800	380	430	810	380	420	800
45-49	430	450	880	420	450	860	390	460	840	370	450	820
50-54	430	510	940	430	490	910	440	470	910	420	440	860
55-59	380	450	830	400	470	870	400	470	870	420	480	910
60-64	310	340	650	310	340	650	320	360	680	310	380	700
65-69	240	250	490	230	280	510	240	290	530	250	290	540
70-74	150	170	320	170	180	350	180	190	370	190	200	390
75-79	90	120	210	100	110	220	100	120	220	100	140	240
80-84	50	60	110	50	80	130	60	80	140	60	80	150
85-89	20	40	60	30	30	60	30	30	60	30	30	70
90+	10	10	20	10	10	20	10	20	20	10	20	30
All Ages	7,850	8,250	16,100	7,900	8,250	16,150	7,900	8,300	16,200	7,900	8,300	16,200

These projections were derived in October 2014.

Source: Statistics New Zealand

Table 71: Total population projections, single year, by age group, Whanganui DHB, 2013 to 2020

Projected Total DHB Population by Age and Sex at 30 June 2014–33 (2013-Base)

*** Medium Projection : Assuming Medium Fertility, Medium Mortality, Medium Inter-Ethnic Mobility, and Medium Migration ***

Age	Male	Female	Total	Male	Female	Total	Male	Female	Total	Male	Female	Total
	2013(Base)			2014			2015			2016		
0	430	410	840	420	400	820	430	410	830	430	410	840
1-4	1,820	1,780	3,600	1,750	1,740	3,490	1,710	1,670	3,380	1,710	1,640	3,350
5-9	2,170	2,040	4,200	2,250	2,070	4,320	2,290	2,130	4,420	2,280	2,180	4,450
10-14	2,240	2,080	4,320	2,160	2,080	4,250	2,070	2,050	4,120	2,040	1,980	4,020
15-19	2,200	2,050	4,250	2,210	1,990	4,200	2,240	1,960	4,190	2,150	1,910	4,060
20-24	1,810	1,740	3,550	1,810	1,740	3,540	1,820	1,740	3,560	1,890	1,720	3,610
25-29	1,520	1,610	3,130	1,600	1,690	3,290	1,680	1,750	3,440	1,770	1,820	3,600
30-34	1,490	1,560	3,050	1,490	1,580	3,070	1,500	1,630	3,130	1,510	1,680	3,190
35-39	1,570	1,710	3,280	1,530	1,620	3,150	1,470	1,570	3,050	1,470	1,530	2,990
40-44	1,850	2,030	3,880	1,770	2,010	3,770	1,720	1,920	3,640	1,650	1,840	3,490
45-49	2,020	2,260	4,280	1,960	2,160	4,120	1,930	2,100	4,030	1,890	2,090	3,980
50-54	2,300	2,370	4,670	2,300	2,370	4,670	2,260	2,310	4,570	2,170	2,270	4,440
55-59	2,110	2,180	4,290	2,160	2,190	4,350	2,140	2,280	4,420	2,140	2,270	4,410
60-64	1,870	1,880	3,760	1,920	1,960	3,880	1,970	1,980	3,950	2,030	2,060	4,090
65-69	1,680	1,730	3,410	1,720	1,770	3,490	1,790	1,870	3,660	1,850	1,920	3,770
70-74	1,220	1,460	2,670	1,280	1,480	2,760	1,320	1,460	2,780	1,340	1,490	2,820
75-79	940	1,160	2,100	940	1,190	2,130	980	1,240	2,230	1,040	1,300	2,340
80-84	700	860	1,560	680	880	1,560	660	890	1,550	660	880	1,540
85-89	370	630	990	390	620	1,010	420	600	1,020	440	580	1,020
90+	120	300	420	120	310	430	130	340	470	140	360	500
All Ages	30,400	31,800	62,300	30,500	31,900	62,300	30,500	31,900	62,400	30,600	31,900	62,500
	2017			2018			2019			2020		
0	430	410	840	430	410	830	430	410	830	430	410	840
1-4	1,710	1,640	3,350	1,710	1,630	3,340	1,710	1,630	3,340	1,710	1,630	3,340
5-9	2,250	2,160	4,410	2,200	2,160	4,360	2,120	2,100	4,230	2,080	2,030	4,110
10-14	2,050	1,970	4,020	2,060	1,950	4,010	2,140	1,980	4,120	2,180	2,030	4,220
15-19	2,070	1,860	3,920	2,000	1,780	3,770	1,920	1,770	3,690	1,820	1,740	3,560
20-24	1,910	1,700	3,620	1,930	1,700	3,630	1,920	1,630	3,560	1,930	1,590	3,530
25-29	1,820	1,880	3,700	1,840	1,910	3,750	1,820	1,890	3,710	1,810	1,880	3,690
30-34	1,560	1,680	3,240	1,600	1,750	3,350	1,660	1,810	3,470	1,730	1,860	3,600
35-39	1,460	1,530	2,990	1,470	1,530	3,000	1,460	1,550	3,010	1,460	1,590	3,050
40-44	1,560	1,740	3,300	1,490	1,660	3,150	1,450	1,570	3,020	1,390	1,510	2,900
45-49	1,830	2,060	3,890	1,790	1,990	3,790	1,700	1,970	3,670	1,650	1,870	3,530
50-54	2,090	2,240	4,330	1,950	2,160	4,100	1,880	2,060	3,940	1,850	2,000	3,850
55-59	2,180	2,290	4,470	2,260	2,320	4,580	2,260	2,320	4,580	2,220	2,260	4,480
60-64	2,090	2,130	4,220	2,090	2,170	4,250	2,130	2,180	4,310	2,110	2,260	4,370
65-69	1,820	1,870	3,690	1,840	1,880	3,720	1,890	1,960	3,850	1,940	1,970	3,910
70-74	1,450	1,590	3,040	1,560	1,670	3,230	1,610	1,710	3,320	1,670	1,810	3,480
75-79	1,080	1,330	2,410	1,060	1,320	2,380	1,120	1,340	2,460	1,150	1,320	2,470
80-84	680	920	1,600	720	950	1,670	720	970	1,690	760	1,030	1,790
85-89	420	590	1,000	410	580	1,000	400	600	1,000	380	610	980
90+	160	370	530	170	390	560	180	390	570	210	380	600
All Ages	30,600	31,900	62,600	30,600	31,900	62,500	30,500	31,800	62,400	30,500	31,800	62,300

These projections were derived in October 2014.

Source: Statistics New Zealand DHB Population Projections

Appendix 2: Technical notes

This appendix provides a list of data sources and technical information on the analyses of deaths, cancer registrations, and hospitalisations, Census data and data from Te Kupenga 2013.

Data sources

Table 72: Data sources

Source (agency or collection)	Data	Period
Action on Smoking and Health (ASH)	ASH Year 10 Snapshot Survey	2013
Health Quality and Safety Commission	New Zealand Atlas of Healthcare Variation	2011, 2013
Ministry of Education	ENROL (Education Counts)	2013
Ministry of Health	Birth registrations	2009–2013
	B4 School Check Information System	2013
	Cancer Registry	2008–2012
	Community Oral Health Service	2013
	Death registrations	2007–2012*
	National Immunisation Register	2008–2014
	National Maternity Collection	2013
	National Screening Unit	2010–2014
	PHO Enrolment Collection	2012–2013
	Well Child/Tamariki Ora Indicators	2014
	National Minimum Data Set (NMDS) – hospital discharges	2011–2013
Plunket	Breastfeeding rates	2013
Statistics New Zealand	Census of Population and Dwellings	2006
	Census of Population and Dwellings	2013
	NZ Population projections for the Ministry of Health (2013 Census base)	2014
	Te Kupenga 2013, the Māori Social Survey	2013
	Subnational Period Life Tables	2012–2014

Note: *no causes for 2012

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Data from the Census of Population and Dwellings

Indicators using data from the Census of Population and Dwellings include the Census usually resident population.

Prioritised ethnicity was used to identify Māori individuals (any person who identified Māori as any of their ethnic groups) and non-Māori included people who had at least one valid ethnic response, none of which was Māori.

Households were classified as Māori if any usual resident was Māori. Households were counted if they were in private occupied dwellings.

People living in households included the population resident in permanent private households.

Standard Census definitions and forms can be found [here](#).

Data on proportions of people were age-standardised to the 2001 Māori population.

Data from Te Kupenga 2013

Te Kupenga 2013 was a post-census survey of individuals who identified with Māori ethnicity or Māori descent in the 2013 Census. The target population was the usually resident Māori population of New Zealand, living in

occupied private dwellings on the 2013 Census night and aged 15 years or older. The data was collected during June to August 2013.

All estimates of numbers, percentages, and confidence intervals for data presented from Te Kupenga were calculated by Statistics New Zealand. The estimates of numbers of people in the DHB were rounded to the nearest five hundred in order to provide a more appropriate level of precision to the sample survey. All percentages were calculated from unrounded data.

Further details on the survey measures are available in the Te Kupenga 2013 [Data Dictionary](#).

Deaths, hospitalisations and cancer registrations

Ethnicity

Most indicators are presented for Māori and non-Māori. In each data set a person was classified as Māori if any one of their recorded ethnicity was Māori. No adjusters for undercount of hospitalisations, cancer registrations, or deaths were applied.

Residence

The DHB of residence was determined from the domicile code attached to the public hospital discharge record, the death registration, or the cancer registration.

Hospital transfers

For ambulatory sensitive hospitalisations and analyses of hospitalisations by cause (such as asthma, ischaemic heart disease) transfers to other services or other hospitals were not counted as an admission if the admission had an ambulatory sensitive diagnosis or had the same principal diagnosis group respectively, was on the same day or the following day as the initial admission and either had its admission source code as 'transfer from another hospital facility' or initial admission had its event end type code indicating a discharge to an acute facility, another healthcare facility, or other service within same facility. For avoidable hospitalisations, all admissions, the tables of hospitalisations for mental disorders, causes of hospital admissions for injuries and causes of admissions, admissions were not counted if the admission had its admission source code as 'transfer from another hospital facility'.

Suppression of causes of death or hospitalisation

In tables presenting data on causes of death, hospitalisation, or cancer registrations by site, data is not presented where there were fewer than five Māori events during the period represented by the data.

Ninety-five percent confidence intervals

The rates and ratios presented are estimates of the 'true' rate or ratio, calculated using data available. The 95% confidence interval (CI) indicates the interval that has a 95% probability of enclosing the 'true' value.

The CI is influenced by the population size of the group. When the population is small, the CI becomes wider and there is less certainty about the rate.

When the CIs of two groups do not overlap, the difference in rates between the groups is statistically significant. Sometimes, even when there are overlapping CIs, the difference between the groups may be statistically significant. In this report, if CIs overlap but a difference has been reported, a test of statistical significance (the log-transformation method) was performed (Clayton and Hills 1993).

Age standardisation

Age-standardised rates adjust for differences in age distribution of the populations being compared. They are artificial rates created to allow comparisons to be made with differing groups. Age-standardised rates are calculated by applying age-specific rates to a standard population; they should only be compared with other adjusted rates that were calculated using the same 'standard' population. The standard population used in this report was the 2001 Census Māori population (shown below).

Rates for the total Māori and non-Māori populations were age–sex-standardised. This means the rates were standardised to a population with equal numbers of males and females and the age distribution of the total Māori population from the 2001 Census (Robson, Purdie et al 2007).

Standardising to the Māori population provides age-standardised rates that closely approximate the crude Māori rates (the actual rates among the Māori population) while also allowing comparisons with the non-Māori population. Care should be taken when using data from another source that are standardised using a different standard population, as they are not comparable.

Table 73: 2001 Census total Māori population

Age group (years)	2001 Census total Māori population	Weighting
0–4	67,404	12.81
5–9	66,186	12.58
10–14	62,838	11.94
15–19	49,587	9.42
20–24	42,153	8.01
25–29	40,218	7.64
30–34	39,231	7.46
35–39	38,412	7.30
40–44	32,832	6.24
45–49	25,101	4.77
50–54	19,335	3.67
55–59	13,740	2.61
60–64	11,424	2.17
65–69	8,043	1.53
70–74	5,046	0.96
75–79	2,736	0.52
80–84	1,251	0.24
85 and over	699	0.13

ICD-10 codes

The International Classification of Diseases (ICD-10) codes used for the calculation of avoidable and ambulatory sensitive hospitalisations and avoidable and amenable mortality are presented in Tables 45 to 49 below. For the Excel tables of deaths by cause, hospitalisations by cause, mental disorders, hospitalisations for injuries by external cause, and cancer registrations, the codes are listed in Appendix 2 of [Hauora: Māori Standards of Health IV](#). For other tables, the ICD codes are listed in the accompanying Excel tables.

Table 74: Potentially avoidable hospitalisation ICD-10 codes for children aged 1 month to 14 years

Condition	ICD-10-AM code
Acute bronchiolitis	J21
Acute rheumatic fever	I00–I02
Acute upper respiratory tract infection excluding croup	J00–J03, J06
Asthma	J45, J46
Bacterial meningitis*	G00, G01

Bacterial/Unspecified pneumonia	J13–J16, J18
Bronchiectasis	J47
Constipation	K59.0
Chronic rheumatic heart disease	I05–I09
Croup, acute laryngitis, tracheitis	J04, J05.0
Dental (dental caries, pulp, periodontal)	K02, K04, K05
Dermatitis/eczema	L20–L30
Febrile convulsions	R560
Gastroenteritis	A00–A09, K529, R11,
Gastro oesophageal reflux	K21
Meningococcal disease	A39
Nutritional deficiency	D50–D53, E40–E64,
Otitis media	H65–H67
Osteomyelitis	M86
Skin infection	H00.0, H01.0, J34.0, L00–L05, L08, L98.0
Tuberculosis	A15–A19
Urinary tract infection ≥ 5 years	N10, N12, N13.6, N30.0, N30.9, N39.0,
Vaccine preventable diseases: tetanus neonatorum congenital rubella	P350, A33, A34
tetanus, diphtheria, pertussis, polio, hepatitis B	A35, A36, A37, A80, B16, B18.0, B18.1
measles, rubella, mumps	B05, B06, B26, M01.4
Viral pneumonia	J12, J10.0, J11.0
Viral /other / unspecified meningitis	A87, G02, G03
Viral infection of unspecified site	B34

Source: Anderson et al (2012)

Notes:

Includes all acute admissions and arranged admissions that were admitted within 7 days.

Waiting list admissions were excluded, apart from dental admissions which were all included.

Admissions were included for patients aged 29 days through to 14 years, at admission.

Table 75: Ambulatory care sensitive hospitalisation ICD-10 codes for children aged 1 month to 14 years

Condition	ICD-10-AM code
Acute rheumatic fever	I00–I02
Acute upper respiratory tract infections excluding croup	J00–J03, J06
Asthma	J45, J46
Bacterial/Unspecified pneumonia	J13–J16, J18
Bronchiectasis	J47
Constipation	K59.0
Chronic rheumatic heart disease	I05–I09
Dental (dental caries, pulp, periodontal)	K02, K04, K05
Dermatitis/eczema	L20–L30
Gastroenteritis	A02–A09, K529, R11
Gastro oesophageal reflux	K21
Nutritional deficiency	D50–D53, E40–E64
Otitis media	H65–H67
Skin infection	L00–L04, L08, L98.0, J34.0, H01.0, H00.0
Urinary tract infection ≥ 5 years	N10, N12, N136, N30.0, N30.9, N39.0
Vaccine preventable diseases: tetanus neonatorum congenital rubella	P350, A33, A34
> 6 months: tetanus, diphtheria, pertussis, polio, hepatitis B	A35, A36, A37, A80, B16, B18.0, B18.1
> 16 months: measles, rubella, mumps	B05, B06, B26, M01.4

Source: Anderson et al (2012)

Notes:

Includes all acute admissions and arranged admissions that were admitted within 7 days.

Waiting list admissions were excluded, apart from dental admissions which were all included.

Admissions were included for patients aged 29 days through to 14 years, at admission.

Table 76: Ambulatory care sensitive hospitalisation ICD-10 codes for people aged 1 month to 74 years

Condition	ICD-10 code
Gastroenteritis/dehydration	A02–A09, K52.9, R11
Vaccine preventable disease MMR	B05*, B06*, B26*, M01.4*, P35.0
Vaccine preventable disease Other ‡	A33–A37, A40.3, A80, B16, B18
Sexually transmitted infections §	A50–A59, A60, A63, A64, I98.0, M02.3, M03.1, M73.0, M73.1, N29.0, N34.1
Cervical cancer §	C53
Nutrition deficiency and anaemia	D50–D53, E40–E46, E50–E64, M83.3§
Diabetes §	E10–E14, E162
Epilepsy §	G40, G41, O15, R56.0, R56.8
Upper respiratory and ENT	H65, H66, H67, J00–J04, J06
Rheumatic fever/heart disease	I00, I01, I02, I05–I09
Hypertensive disease §	I10–I15, I67.4
Angina and chest pain † §	I20, R07.2–R07.4
Myocardial infarction † §	I21–I23, I24.1
Other ischaemic heart disease † §	I24.0, I24.8, I24.9, I25
Congestive heart failure §	I50, J81
Stroke † §	I61, I63–I66
Pneumonia	J13–J16, J18
Asthma	J45, J46
Bronchiectasis ||	J47
Dental conditions	K02, K04, K05
Gastro-oesophageal reflux disease	K21
Peptic ulcer §	K25–K28
Constipation	K590
Cellulitis	H00.0, H01.0, J34.0, L01–L04, L08, L98.0
Dermatitis and eczema	L20–L30
Kidney/urinary infection ¶	N10, N12, N13.6, N30.9, N39.0

Source: Ministry of Health

Notes:

Acute and arranged (occurring in less than 7 days of decision) admissions, except dental where elective admission are also included.

Excluding discharges from an emergency department with one day of stay or shorter.

* Aged 15 months to 14 years.

† Each admission counts as a half.

‡ Aged six months to 14 years.

§ Aged 15 years and over.

|| Aged more than 15 years.

¶ Aged 5 years and over.

Table 77: Avoidable mortality ICD-10 codes

Condition	ICD-10-AM
Tuberculosis	A15–A19, B90
Selected invasive bacterial and protozoal infection	A38–A41, A46, A48.1, B50–B54, G00, G03, J02.0, J13–J15, J18, L03
Hepatitis	B15–B19
HIV/AIDS	B20–B24
Viral pneumonia and influenza	J10, J12, J17.1, J21
Lip, oral cavity and pharynx cancers	C00–C14
Oesophageal cancer	C15
Stomach cancer	C16
Colorectal cancer	C18–C21
Liver cancer	C22
Lung cancer	C33–C34
Bone and cartilage cancer	C40–C41*
Melanoma of skin	C43
Non-melanotic skin cancer	C44
Breast cancer (female only)	C50
Uterine cancer	C54–C55
Cervical cancer	C53
Prostate	C61*

Testis	C62*
Bladder cancer	C67
Thyroid cancer	C73
Hodgkin's disease	C81
Lymphoid leukaemia, acute/chronic	C91.0, C91.1
Benign tumours	D10–D36
Thyroid disorders	E00–E07
Diabetes	E10–E14**
Alcohol-related diseases	F10, I42.6, K29.2, K70
Illicit drug use disorders	F11–F16, F18–F19
Epilepsy	G40–G41
Rheumatic and other valvular heart diseases	I01–I09, I33–I37*
Hypertensive heart disease	I10*, I11
Ischaemic heart disease	I20–I25
Heart failure	I50*
Cerebrovascular diseases	I60–I69
Aortic aneurysm	I71
Nephritis and nephrosis	I12–I13, N00–N09, N17–N19
Obstructive uropathy and prostatic hyperplasia	N13, N20–N21, N35, N40, N99.1
DVT with pulmonary embolism	I26, I80.2
COPD	J40–J44***
Asthma	J45–J46***
Peptic ulcer disease	K25–K28
Acute abdomen, appendicitis, intestinal obstruction, cholecystitis/lithiasis, pancreatitis, hernia	K35–K38, K40–K46, K80–K83, K85–K86, K91.5
Chronic liver disease (excluding alcohol related disease)	K73, K74
Complications of pregnancy	O00–O96*, O98–O99*
Birth defects	H31.1, P00, P04, Q00–Q99
Complications of perinatal period	P01–P02*, P03, P05–P95
Road traffic injuries	V01–V04, V06, V09–V80, V82–V86*, V87, V88.0–V88.5*, V88.7–V88.9*, V89, V98*, V99
Accidental poisonings	X40–X49
Falls	W00–W19
Fires	X00–X09
Drownings	W65–W74
Suicide and self-inflicted injuries	X60–X84, Y87.0
Violence	X85–Y09, Y87.1
Event of undetermined intent	Y10–Y34, Y87.2****
Treatment injury	Y60–Y82*

Notes: *Added from amenable mortality

**E09 should be added if using ICD-10 AM version 3 or higher.

***All ages added from amenable mortality

****Y87.2 added by authors for completeness

Table 78: Amenable mortality ICD-10 codes

Group	Condition	ICD-10
Infections	Pulmonary tuberculosis	A15–A16
	Meningococcal disease	A39
	Pneumococcal disease	A40.3, G00.1, J13
	HIV/AIDS	B20–B24
Cancers	Stomach	C16
	Rectum	C19–C21
	Bone and cartilage	C40–C41
	Melanoma	C43
	Female breast	C50
	Cervix	C53
	Testis	C62
	Prostate	C61
	Thyroid	C73
	Hodgkin's	C81
	Acute lymphoblastic leukaemia (age 0–44 years)	C91.0
Maternal and infant	Complications of pregnancy	O00–O96, O98–O99
	Complications of the perinatal period	P01–P03, P05–P94
	Cardiac septal defect	Q21
Chronic disorders	Diabetes	E10–E14*
	Valvular heart disease	I01, I05–I09, I33–I37
	Hypertensive diseases	I10–I13
	Coronary disease	I20–I25
	Heart failure	I50
	Cerebrovascular diseases	I60–I69
	Renal failure	N17–N19
	Pulmonary embolism	I26
	COPD	J40–J44
	Asthma	J45–J46
	Peptic ulcer disease	K25–K27
Cholelithiasis	K80	
Injuries	Suicide	X60–X84
	Land transport accidents (excluding trains)	V01–V04, V06–V14, V16–V24, V26–V34, V36–V44, V46–V54, V56–V64, V66–V74, V76–V79, V80.0–V80.5, V80.7–V80.9, V82–V86, V87.0–V87.5, V87.7–V87.9, V88.0–V88.5, V88.7–V88.9, V89, V98–V99
	Falls (accidental fall on same level)	W00–W08, W18
	Fire, smoke or flames	X00–X09
	Treatment injury	Y60–Y82

Source: Ministry of Health 2010

Note: * E09 should be added if using ICD-10 AM version 3 or higher.

