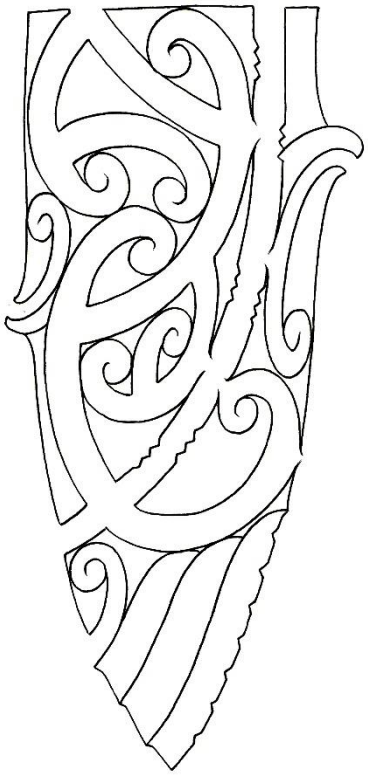
MidCentral District Health Board

Māori Health Profile 2015

By Te Rōpū Rangahau Hauora a Eru Pōmare, University of Otago, Wellington
For the Ministry of Health



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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Further information on Te Rōpū Rangahau Hauora a Eru Pōmare can be found here.

TE RŌPŪ RANGAHAU HAUORA A ERU PŌMARE

UNIVERSITY of OTAGO
Te Whare Wānanga o Otāgo
NEW ZEALAND

MANATŪ HAUORA
MINISTRY OF HEALTH

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 awhi 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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Graham Tipene designed the rei puta and Somar Design developed the document template.

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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
– MidCentral at a glance

MidCentral population

- In 2013, 32,100 Māori lived in the MidCentral District Health Board (DHB) region, 19% of the District's total population. A third of the District's children aged 0–14 years and a quarter of young adults aged 15–24 years were Māori.
- The MidCentral Māori population is youthful, but showing signs of ageing. Half the population was aged under 23 years in 2013. The number of Māori aged 65 years and over will increase by nearly 50% between 2013 and 2020.

Whānau ora – Healthy families

- Data from Te Kupenga is presented for two DHBs combined: MidCentral and Whanganui. In 2013, most Māori adults (88%) in MidCentral and Whanganui 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 67% of Māori adults, and spirituality was important to 64%.
- Nearly all MidCentral and Whanganui Māori adults (97%) 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 over a fifth of MidCentral Māori could have a conversation about a lot of everyday things in te reo Māori in 2013.

Wai ora – Healthy environments

Education

- In 2013, 97% of Māori children who started school had participated in early childhood education.
- In 2013, 47% of Māori adults aged 18 years and over had at least a Level 2 Certificate, an increase of 6% since 2006 (41%). However the proportion was still three quarters that of non-Māori.

Work

- In 2013, 11% of Māori adults aged 15 years and over were unemployed, twice the non-Māori rate.
- Most Māori adults (89%) 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, around one in three children and 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 MidCentral and Whanganui Māori adults reported putting up with feeling the cold a lot to keep costs down during the previous 12 months, 7% had often 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 MidCentral DHB.
- Residents of Māori households were less likely to have access to telecommunications at home than those living in other households: 29% had no internet, 27% no telephone, 11% no mobile phone, and 3% had no access to any telecommunications.

Housing

- The most common housing problems reported to be a big problem by MidCentral and Whanganui Māori adults in 2013 were finding it hard to keep warm (14%), needing repairs (9%), and damp (8%).
- Over half of children in MidCentral Māori households (54%) were living in rented accommodation, compared to 30% of children in other households.
- MidCentral residents of Māori households were 2.5 times as likely as residents of other households to be in crowded homes (i.e. requiring at least one additional bedroom) (15% compared to 6%).

Area deprivation

- Using the NZDep2013 index of small area deprivation, 40% of MidCentral Māori lived in the two most deprived decile areas compared to 22% of non-Māori. Only 6% of Māori lived in the two least deprived decile areas compared to 15% of non-Māori.

Mauri ora – Healthy individuals

Pepi, tamariki – Infants and children

- On average close to 840 Māori infants were born per year during 2009 to 2013, 37% of all live births in MidCentral DHB. Six percent of Māori infants had low birth-weight.
- In 2013, 59% of Māori babies in MidCentral were fully breastfed at 6 weeks.
- Three out of five Māori infants were enrolled with a Primary Health Organisation by three months of age.
- In 2014, 95% of Māori children were fully immunised at 8 months of age, also 95% at 24 months of age.
- In 2013, two out of three MidCentral Māori children aged 5 years and one out of three non-Māori children had caries. At Year 8 of school, just over half of Māori children and two out of five non-Māori children had caries. An average of 139 Māori children per year were admitted to hospital for tooth and gum disease during 2011–2013, at a similar rate to non-Māori children.
- During 2011–2013, on average there were 41 hospital admissions per year for grommet insertions for otitis media among Māori children (at a rate 27% lower than non-Māori) and a similar number of admissions for serious skin infections (with the rate 28% higher than non-Māori children).
- One Māori child aged under 15 years was admitted to hospital per year with acute rheumatic fever.
- Five hundred hospitalisations per year of Māori children were potentially avoidable through population-based health promotion and intersectoral actions, at a similar rate to non-Māori.
- Nearly 360 hospitalisations per year of Māori children were potentially avoidable through preventive or treatment intervention in primary care (ambulatory care sensitive hospitalisations, or ASH), with a rate similar to non-Māori children.

Rangatahi – Young adults

- There has been a significant increase in the proportion of MidCentral Māori aged 14 and 15 years who have never smoked, and a decrease in the proportion of Māori aged 15–24 years who smoke regularly. However, rangatahi Māori remain more than twice as likely to smoke as non-Māori.
- By September 2014, 80% of Māori girls aged 17 years and 86% of those aged 14 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 youth during 2011–2013. On average there were 17 admissions per year among Maori aged 15–24 years and a similar number per year among those aged 25–44 years.

Pakeke – Adults

- Just over half (55%) of Māori adults in MidCentral and Whanganui reported having excellent or very good health in 2013, and another 35% reported good health. Approximately one in seven reported having fair or poor health.
- Smoking rates are decreasing, but remain twice as high for Māori as for non-Māori (33% compared to 16%).

Circulatory system diseases

- Māori adults aged 25 years and over were a third more likely than non-Māori to be hospitalised for circulatory system diseases (including heart disease and stroke) during 2011–2013.
- MidCentral Māori were 19% more likely than non-Māori to be admitted to hospital with ischaemic heart disease (IHD), but had similar rates of admission for acute coronary syndrome. Māori women were 2.7 times as likely as non-Māori women to have a coronary artery bypass and graft.
- Heart failure admission rates were 2.5 times as high for Māori as for non-Māori.
- Stroke admission rates were 48% higher for Māori than for non-Māori, and hypertensive disease admissions were 2.3 times as high.
- Chronic rheumatic heart disease admission rates were 3.4 times as high for Māori as for non-Māori, and heart valve replacements were twice as high.
- Māori under 75 years were 2.5 times as likely as non-Māori to die from circulatory system diseases during 2007–2011.

Diabetes

- In 2013, 4% of Māori and 5% of non-Māori were estimated to have diabetes. Over half of Māori aged 25 years and over who had diabetes (57%) were regularly receiving metformin or insulin, 82% were having their blood sugar monitored regularly, and 62% were being screened regularly for renal disease.
- During 2011–2013, on average three Māori per year with diabetes had a lower limb amputated.

Cancer

- Compared to non-Māori, cancer incidence was 24% higher for Māori females while cancer mortality was 54% higher. For males, cancer registration rates were similar to non-Māori but cancer mortality was 34% higher.
- Breast, lung, stomach, colorectal, and uterine cancers were the most commonly registered among MidCentral Māori women. The rate of lung cancer was over 4 times the non-Māori rate, breast cancer 39% higher, and stomach cancer notably nearly 11 times as high.
- Breast screening coverage of Māori women aged 45–69 years was 61% compared to 76% of non-Māori women during the 2 years prior to 31 December 2014.
- Cervical screening coverage of Māori women aged 25–69 years was 66% over 3 years and 81% over five years (compared to 77% and 89% of non-Māori respectively).
- Prostate, lung, colorectal and stomach cancers were the most frequently registered cancers among MidCentral Māori men. Lung and stomach cancer registration rates were 2.5 and 3.5 times the rates for non-Māori men respectively.
- The most common causes of death from cancer among Māori women were lung (4.2 times the non-Māori rate), breast, and stomach cancer (over 6.3 times the non-Māori rate). For Māori men, lung cancer (3 times the non-Māori rate), prostate, and colorectal cancers were the most common causes of cancer mortality.

Respiratory disease

- Māori aged 45 years and over were 2.5 times as likely as non-Māori to be admitted to hospital for chronic obstructive pulmonary disease (COPD) during 2011–2013.
- Asthma hospitalisation rates were 60% higher for Māori than for non-Māori aged 15–34 years and 41% higher in the 35–64 year age group.
- Māori under 75 years of age had 3.2 times the non-Māori rate of death from respiratory disease in 2007–2011.

Mental disorders

- Māori were 49% more likely than non-Māori to be admitted to hospital for a mental disorder during 2011–2013. Maori males had higher rates of admission than Maori females. Schizophrenia type disorders and mood disorders were the most common disorders for Māori men and women.

Gout

- In 2011 the prevalence of gout was estimated to be 6% among MidCentral Māori and 4% among non-Māori.
- Just under 40% of Māori with gout regularly received allopurinol, a preventive therapy to lower urate levels. Of those who received allopurinol, only 30% had a lab test for serum urate levels in the following six months.
- During 2011–2013 the rate of hospitalisations for gout was over 4 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 6% lower for Māori than for non-Māori during 2011–2013.
- More than 1,500 Māori hospital admissions per year were potentially avoidable, with the rate 7% higher for Māori than for non-Māori. The ASH rate was 14% 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 MidCentral Māori was 73% higher than for non-Māori during 2008–2012.
- Leading causes of death during 2007–2011 for Māori females were lung cancer, IHD, accidents, stroke, 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 both twice as high for Māori as for non-Māori in MidCentral during 2007–2011.

Injuries

- The rate of hospitalisation due to injury was 11% lower for Māori females than for non-Māori females, while injury mortality was twice as high. Among males, the Māori hospitalisation rate was similar to that of non-Māori, but the injury mortality rate was around 50% higher.
- 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 2.2 times as high for Māori as for non-Māori. Males had higher rates than females.

Contents

List of Tables and Figures

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 Pae Hauora o Ruahine o Tararua, MidCentral 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 MidCentral DHB. Accompanying Excel tables also include data for the total MidCentral 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 population[1].

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, approximately 5% (32,100) of the country's Māori population lived in the MidCentral District Health Board region. The total population of the DHB (168,900) made up 4% of the national population. In 2015, the Māori population is estimated to be 32,800 and the total population 170,800. [2]

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

	Māori			Non-Māori		Total DHB
Age group (years)	Number	Age distribution	% of DHB	Number	Age distribution	Number
0–14	11,080	35%	32	23,190	17%	34,270
15–24	6,290	20%	25	18,920	14%	25,210
25–44	7,520	23%	19	31,570	23%	39,090
45–64	5,550	17%	13	37,300	27%	42,850
65+	1,600	5%	6	25,910	19%	27,510
Total	32,100	100%	19	136,800	100%	168,900

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

In 2013, Māori residents comprised 19% of the MidCentral DHB population. The Māori population is relatively young, with a median age of 22.6 years in 2013, compared to 38.2 years for the total DHB population. Māori comprised 32% of the DHB's children aged 0–14 years and 25% of those aged 15–24 years.

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

	Māori							Total DHB				
Year	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	32,100	19	5	35	60	5	22.6	168,900	38.2	4	692,300	4,442,100
2018	33,600	19	5	33	61	6	23.8	173,100	39.0	4	734,500	4,726,200
2023	35,000	20	5	31	61	8	25.2	176,500	39.6	4	773,500	4,935,200
2028	36,400	20	5	30	61	10	26.4	179,600	40.4	4	811,700	5,139,700
2033	37,700	21	4	29	60	11	27.5	181,800	41.6	3	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 MidCentral Māori who were aged 65 years and over was 5% in 2013 but is projected to increase to 11% in 2033. Between 2013 and 2020 the number of Māori aged 65 and over will increase by 48% from 1,600 to 2,370 (see Appendix 1). In 2013 there were 500 Māori aged 75 years and over in MidCentral, with 168 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 also 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 MidCentral alone. Therefore we present data for two DHBs combined: MidCentral and Whanganui.

Whānau well-being

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

	MidCentral and Whanganui DHBs			New Zealand	
How the whānau is doing	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%

In 2013, 88% of MidCentral and Whanganui Māori adults reported that their whānau was doing well or extremely well (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, MidCentral and Whanganui DHBs combined, 2013

	MidCentral and Whanganui DHBs			New Zealand	
Whānau description	Estimated number	%	(95% CI)	%	(95% CI)
Size of whānau					
10 or less	22,000	55.0	(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 a 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, MidCentral and Whanganui DHBs combined, 2013

	MidCentral and Whanganui DHBs			New Zealand	
How easy is it to get help	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	13.0	(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: * Sampling error is 30% or more but less than 50%.

In 2013, the majority of Māori adults in MidCentral and Whanganui (82%) reported having easy access to whānau 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, MidCentral and Whanganui DHBs combined, 2013

	MidCentral and Whanganui 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	(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 MidCentral and Whanganui Māori adults, and somewhat important to a further 23%. Spirituality was very, quite, or somewhat important to 64%.

Te Reo Māori

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

Māori			Non-Māori			Māori/non-Māori ratio (95% CI)		Difference in proportion
Number	%	(95% CI)	Number	%	(95% CI)			
5,919	21.3	(20.8, 21.7)	885	0.7	(0.7, 0.8)	**28.82**	**(26.58, 31.25)**	20.5

Source: 2013 Census, Statistics New Zealand

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

According to the 2013 Census, one in five (21%) Māori in MidCentral 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, MidCentral and Whanganui DHBs combined, 2013

	MidCentral and Whanganui DHBs			New Zealand	
Language spoken at home	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: ** Sampling error is 50% or more but less than 100%.

A quarter of Māori adults in MidCentral and Whanganui DHBs reported that Māori language was used regularly in the home in 2013, and for 2% te reo Māori was the main language.

Access to marae

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

	MidCentral and Whanganui DHBs			New Zealand	
Been to marae	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 MidCentral and Whanganui (97%) had been to a marae, with a majority (62%) having been in the last 12 months. Just under 70% 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, MidCentral and Whanganui DHBs combined, 2013

MidCentral and Whanganui 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.
Note: * Sampling error is 30% or more but less than 50%.

In 2013, an estimated 3,500 Māori adults (9%) in MidCentral and Whanganui had taken part in traditional healing or massage in the previous 12 months.

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.

Education

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

	Māori			Non-Māori			Māori/non-Māori ratio (95% CI)		Difference in percentage
Year	Number	%	(95% CI)	Number	%	(95% CI)			
2006	6,159	41.1	(40.3, 41.9)	50,997	59.3	(58.9, 59.6)	**0.69**	**(0.68, 0.71)**	-18.2
2013	7,587	47.2	(46.4, 48.0)	54,660	63.8	(63.5, 64.2)	**0.74**	**(0.73, 0.75)**	-16.6

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 41% to 47% between 2006 and 2013. The gap between Māori closed by two percentage points, but Māori were still three quarters as likely as non-Māori to have this level of qualification as the non-Māori proportion had also increased.

Work

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

	Māori			Non-Māori			Māori/non-Māori ratio (95% CI)		Difference in percentage
Labour force status	Number	%	(95% CI)	Number	%	(95% CI)			
2006									
Employed full-time	8,310	50.8	(50.1, 51.5)	51,444	55.1	(54.8, 55.5)	**0.92**	**(0.91, 0.94)**	-4.3
Employed part-time	2,406	13.8	(13.3, 14.4)	16,887	17.6	(17.3, 17.8)	**0.79**	**(0.76, 0.82)**	-3.7
Unemployed	1,263	7.3	(7.0, 7.7)	2,868	3.8	(3.7, 3.9)	**1.93**	**(1.81, 2.06)**	3.5
Not in the labour force	4,869	27.9	(27.3, 28.6)	33,465	23.5	(23.2, 23.8)	**1.19**	**(1.16, 1.22)**	4.4
2013									
Employed full-time	7,926	45.0	(44.3, 45.7)	47,700	51.2	(50.9, 51.5)	**0.88**	**(0.86, 0.89)**	-6.2
Employed part-time	2,460	12.9	(12.4, 13.4)	15,546	16.0	(15.7, 16.2)	**0.81**	**(0.77, 0.84)**	-3.1
Unemployed	1,962	11.0	(10.5, 11.4)	4,107	5.5	(5.3, 5.7)	**1.99**	**(1.89, 2.10)**	5.5
Not in the labour force	6,141	31.2	(30.6, 31.8)	37,434	27.4	(27.1, 27.7)	**1.14**	**(1.11, 1.17)**	3.8

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 51% to 45%), and corresponding increases in the unemployment rate (from 7% to 11%) and the proportion not in the labour force (from 28% to 31%). In 2013 Māori were twice as likely as non-Māori to be unemployed, with an absolute gap of 5.5% in unemployment rates.

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

	MidCentral DHB						New Zealand	
	Māori			Non-Māori				
ANZSIC Industry	Number	%	Rank	Number	%	Rank	%	Rank
Females								
Health Care and Social Assistance	960	20.1%	1	6,171	21.1%	1	17.1%	1
Education and Training	789	16.5%	2	4,398	15.0%	2	12.9%	2
Retail Trade	570	11.9%	3	3,669	12.5%	3	11.6%	3
Public Administration and Safety	438	9.2%	4	1,689	5.8%	7	5.0%	7
Accommodation and Food Services	432	9.0%	5	1,905	6.5%	5	7.3%	5
Males								
Manufacturing	897	19.1%	1	4,014	12.7%	2	13.4%	1
Public Administration and Safety	636	13.5%	2	2,730	8.6%	5	5.2%	8
Construction	549	11.7%	3	3,579	11.3%	3	13.2%	2
Agriculture, Forestry and Fishing	483	10.3%	4	4,404	13.9%	1	8.7%	4
Retail Trade	366	7.8%	5	2,895	9.2%	4	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 MidCentral, including health care and social assistance; education and training; retail; public administration and safety; and accommodation and food services. For Māori men, leading industries were manufacturing; public administration and safety; agriculture, forestry, fishing; and retail trade.

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

	MidCentral DHB						New Zealand	
	Māori			Non-Māori				
ANZSCO Occupation	Number	%	Rank	Number	%	Rank	%	Rank
Females								
Professionals	981	20.3	1	7,203	24.9	1	26.7	1
Community and Personal Service Workers	918	19.0	2	4,128	14.2	3	12.9	4
Labourers	786	16.3	3	2,457	8.5	6	8.3	6
Clerical and Administrative Workers	747	15.5	4	5,697	19.7	2	19.5	2
Sales Workers	552	11.4	5	3,453	11.9	5	11.7	5
Managers	504	10.4	6	4,023	13.9	4	14.4	3
Technicians and Trades Workers	261	5.4	7	1,620	5.6	7	5.0	7
Machinery Operators and Drivers	78	1.6	8	399	1.4	8	1.5	8
Males								
Labourers	1,146	24.3	1	4,431	14.3	4	13.6	4
Technicians and Trades Workers	738	15.7	2	5,718	18.5	2	18.5	3
Machinery Operators and Drivers	696	14.8	3	2,850	9.2	5	9.1	5
Managers	624	13.2	4	7,470	24.1	1	22.7	1
Community and Personal Service Workers	597	12.7	5	2,010	6.5	7	5.4	7
Professionals	477	10.1	6	4,764	15.4	3	18.6	2
Sales Workers	237	5.0	7	2,286	7.4	6	7.1	6
Clerical and Administrative Workers	198	4.2	8	1,449	4.7	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 MidCentral, the leading occupational groupings were professionals (20%), community and personal service workers (19%), labourers (16%), and clerical and administrative workers (15%).

Māori men were most likely to be employed as labourers (24%), technicians and trade workers (16%), machinery operators and drivers (15%), and managers (13%).

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

	Māori			Non-Māori			Māori/non-Māori ratio (95% CI)			Difference in percentage
Unpaid work	Number	%	(95% CI)	Number	%	(95% CI)				
Any unpaid work	15,114	88.8	(88.3, 89.2)	87,459	89.2	(89.0, 89.5)	0.99	(0.99,	1.00)	-0.5
Looking after disabled/ill household member	2,094	12.3	(11.8, 12.8)	6,999	6.9	(6.7, 7.1)	**1.79**	**(1.70,**	**1.88)**	5.4
Looking after disabled/ill non-household member	2,111	12.0	(11.5, 12.5)	9,570	8.2	(8.0, 8.4)	**1.46**	**(1.40,**	**1.53)**	3.8

Source: 2013 Census, Statistics New Zealand

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

Around 90% of Māori adults did voluntary work in 2013. Māori were 79% more likely than non-Māori to look after someone who was disabled or ill within the home, and 46% 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, MidCentral and Whanganui DHBs combined, 2013

	MidCentral and Whanganui DHBs			New Zealand	
Actions taken a lot to keep costs down	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: * Sampling error is 30% or more but less than 50%.

In 2013, an estimated 4,000 Māori adults (9%) in MidCentral and Whanganui DHBs combined reported putting up with feeling the cold a lot during the previous 12 month to keep costs down, 3,000 (7%) had gone without fresh fruit and vegetables, and 4,000 (9%) had 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, MidCentral DHB, 2006 and 2013

	Māori families			Non-Māori families			Māori/non-Māori ratio (95% CI)			Difference in percentage
Year	Number	%	(95% CI)	Number	%	(95% CI)				
2006	2,544	20.7	(20.0, 21.5)	1,944	7.9	(7.5, 8.2)	**2.64**	**(2.50,**	**2.79)**	12.9
2013	2,829	22.1	(21.4, 22.8)	1,983	8.5	(8.1, 8.9)	**2.60**	**(2.46,**	**2.74)**	13.6

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 22% of children under 18 years of age were living in families where the only income was means-tested benefits. Children in Māori families were 2.6 times as likely as children in non-Māori families to be in this situation.

Table 18: Children and adults living in households with low incomes, MidCentral 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	3,942	36.0	(35.1, 36.9)	4,302	19.6	(19.1, 20.1)	**1.84**	**(1.77,**	**1.91)**	16.4
Adults 18 years & over	6,120	31.4	(30.8, 32.1)	13,296	20.5	(20.2, 20.9)	**1.53**	**(1.49,**	**1.57)**	10.9

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.

Just over a third of children in Māori households (over 3,900) were in households with low equivalised household incomes, 1.8 times the proportion of other children. Just under a third of adults in Māori households (over 6,100) lived in low income households, 1.5 times the proportion of adults in other households.

Table 19: Households with no access to a motor vehicle, MidCentral 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	1,101	10.3	(9.7, 10.9)	3,708	7.9	(7.6, 8.1)	**1.31**	**(1.23,**	**1.40)**	2.4
2013	1,431	12.0	(11.4, 12.6)	3,654	7.7	(7.4, 7.9)	**1.57**	**(1.48,**	**1.66)**	4.4
People (% age-standardised)										
2006	2,628	7.6	(7.3, 7.9)	5,157	3.1	(3.0, 3.3)	**2.42**	**(2.29,**	**2.55)**	4.5
2013	3,525	9.5	(9.2, 9.8)	5,274	3.7	(3.6, 3.9)	**2.54**	**(2.42,**	**2.66)**	5.8

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, 12% of Māori households had no access to a motor vehicle, 1.6 times the proportion of non-Māori households. The proportion of Māori households without a vehicle increased between 2006 and 2013. Residents of Māori households were 2.5 times as likely as other residents not to have a vehicle (10% compared to 4%).

Table 20: People in households with no access to telephone, mobile/cell phone, internet, or any telecommunications, MidCentral 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 cell/mobile phone	4,515	11.3	(10.9, 11.6)	15,297	9.9	(9.7, 10.1)	**1.14**	**(1.10,**	**1.18)**	1.4
No telephone	9,495	26.9	(25.9, 26.8)	11,730	13.3	(13.0, 13.5)	**1.98**	**(1.93,**	**2.03)**	13.1
No internet	10,854	28.6	(28.2, 29.1)	20,544	13.2	(13.0, 13.5)	**2.17**	**(2.11,**	**2.22)**	15.4
No tele-communications	930	2.5	(2.3, 2.7)	993	0.9	(0.9, 1.0)	**2.65**	**(2.40,**	**2.92)**	1.5

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.

In 2013, 29% of people in Māori households had no access to the internet, 27% did not have a telephone, 11% had no mobile phone, and 3% had no access to any telecommunications in the home. The largest absolute gap between MidCentral Māori and non-Māori households was in access to the internet (a difference of 15 percentage points).

Housing

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

Housing problem (a big problem)	MidCentral and Whanganui 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 to be a big problem by MidCentral and Whanganui Māori adults 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, MidCentral DHB, 2013

Measure	Māori households			Non-Māori households			Māori/non-Māori ratio (95% CI)		Difference in percentage
	Number	%	(95% CI)	Number	%	(95% CI)			
Households	5,883	50.0	(49.1, 50.9)	11,598	24.7	(24.3, 25.1)	**2.03**	**(1.98, 2.08)**	25.3
Children under 18 years (% age-standardised)	7,056	53.7	(52.9, 54.6)	7,170	30.1	(29.5, 30.7)	**1.78**	**(1.74, 1.83)**	23.6
Adults 18 years and over (% age-standardised)	11,262	49.2	(48.6, 49.8)	20,580	33.3	(32.9, 33.7)	**1.48**	**(1.45, 1.50)**	15.9

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, 5,883 Māori households in the MidCentral district were rented, 50% of all Māori households compared to 25% of non-Māori households.

Among children living in a Māori household, 54% (7,056 children) were living in rented homes, compared to 30% (7,170 children) in non-Māori households.

Around half of adults living in Māori households were living in rented accommodation (around 11,300), compared to a third of adults living in non-Māori households.

Household crowding

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

Measure	Māori households			Non-Māori households			Māori/non-Māori ratio (95% CI)		Difference in percentage
	Number	%	(95% CI)	Number	%	(95% CI)			
Households	960	8.1	(7.6, 8.6)	876	1.8	(1.7, 2.0)	**4.40**	**(4.02, 4.81)**	6.2
People (% age standardised)	5,208	14.7	(14.3, 15.1)	4,491	5.8	(5.7, 6.0)	**2.52**	**(2.42, 2.62)**	8.9

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 more than 4 times as likely as non-Māori households to be classified as crowded using the Canadian National Occupancy Standard, with 960 homes needing at least one additional bedroom, affecting over 5,200 people. Residents of Māori households were 2.5 times as likely as residents of non-Māori households to be living in crowded conditions.

Fuel poverty

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

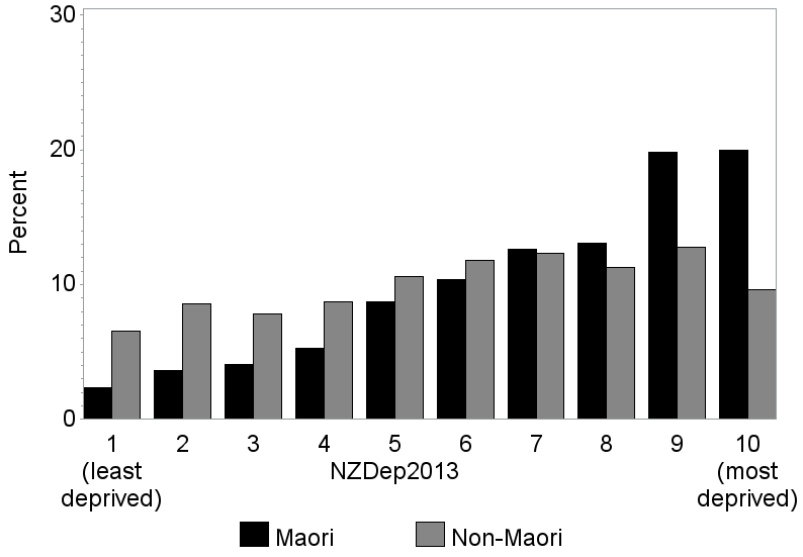
	Māori households			Non-Māori households			Māori/non-Māori ratio (95% CI)	Difference in percentage
Measure	Number	%	(95% CI)	Number	%	(95% CI)		
Households	300	2.5	(2.3, 2.8)	624	1.3	(1.2, 1.4)	**1.94 (1.69, 2.22)**	1.2
People (% age standardised)	798	2.1	(2.0, 2.3)	1,368	1.6	(1.5, 1.6)	**1.38 (1.26, 1.52)**	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, 3% of Māori households (300 homes with 798 residents) had no heating, twice the proportion of non-Māori households (including 624 homes with 1,368 residents).

Area deprivation

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



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

MidCentral Māori have a more deprived small area profile than non-Māori in the DHB. In 2013, 40% of Māori lived in the two most deprived decile areas (Dep 9 and 10), compared to 22% of non-Māori (see accompanying Excel table). Only 6% of Māori lived in the two least deprived deciles compared to 15% of non-Māori.

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, MidCentral DHB, 2009–2013

	Māori		Non-Māori			
Indicator	Ave. no. per year	% of live births (95% CI)	Ave. no. per year	% of live births (95% CI)	Māori/non-Māori ratio (95% CI)	Rate difference
Low birth-weight	54	6.4 (5.7, 7.2)	77	5.5 (5.0, 6.0)	**1.17 (1.01, 1.36)**	0.9
High birth-weight	20	2.4 (1.9, 2.9)	48	3.4 (3.0, 3.8)	**0.71 (0.56, 0.89)**	-1.0
Preterm	68	8.1 (7.3, 9.0)	104	7.3 (6.7, 8.0)	1.11 (0.97, 1.26)	0.8

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 838 Māori infants born per year on average, 37% of all live births in the DHB (2,254 per year). On average, 54 Māori babies per year were born with low birth-weight, at a rate of 6%, slightly higher than the rate for non-Māori; 20 per year were born with high birth-weight at a rate of 2%, lower than non-Māori. Sixty-eight Māori babies (8%) were born preterm.

Well child/Tamariki ora indicators

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

		Māori	
Indicator	Period	Count	%
1. Babies enrolled with a Primary Health Organisation (PHO) by three months old	20 Aug to 19 Nov 2013	93	62
11. Babies exclusively or fully breastfed at 2 weeks	January to June 2013	216	70
12. Babies exclusively or fully breastfed at 6 weeks		193	59
19. Mothers smoke-free two weeks postnatal		184	60
5. Children under 5 years enrolled with oral health services (PHO enrolled children)	2012	1,888	44
7. Children starting school who have participated in ECE	2013	726	97
15. Children with a healthy weight at 4 years, DHB of service	July to Dec 2013	224	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, 62% of Māori babies were enrolled with a PHO by three months of age. In the first half of 2013, 70% of Māori babies were breastfed at two weeks of age and almost 60% at six weeks. Sixty percent of Māori mothers were smoke-free two weeks after giving birth.

Among pre-school children enrolled with a PHO, 44% of Māori were enrolled with oral health services in 2012. Almost all Māori children who started school in 2013 had participated in early childhood education (97%). Almost three quarters of MidCentral 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, MidCentral DHB, 1 Jan 2014 to 31 Dec 2014

	Māori		Non-Māori			
Milestone age	No. fully immunised for age	% fully immunised	No. fully immunised for age	% fully immunised	Māori/non-Māori ratio	Difference in percentage
6 months	558	74	1,191	84	0.88	-10
8 months	709	95	1,315	96	0.99	0
12 months	751	98	1,336	96	1.01	1
18 months	704	86	1,200	91	0.94	-5
24 months	788	95	1,290	95	0.99	-1
5 years	670	88	1,360	89	0.99	-1

Source: National Immunisation Register

At six months of age, 74% of Māori babies were fully immunised compared to 84% of non-Māori babies. However at eight months, the proportion was 95% and at 24 months, 95% (both similar to non-Māori). At five years of age, 88% of Māori children had completed their immunisations.

Oral health

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

	Māori				Non-Māori					
Age group	Total	% with caries (95% CI)		Mean DMFT	Total	% with caries (95% CI)		Mean DMFT	Māori/non-Māori ratio % with caries (95% CI)	Difference in percentage
Age 5	482	64	(60, 69)	3.4	1,218	35	(32, 38)	1.4	**1.84 (1.66, 2.04)**	29
Year 8	446	54	(49, 59)	1.9	1,626	40	(38, 43)	1.1	**1.34 (1.21, 1.48)**	14

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.

Two-thirds of Māori children aged five years in 2013 had caries, 84% higher than the proportion of non-Māori children. The mean number of decayed, missing or filled teeth was 3.4 for Māori and 1.4 for non-Māori. Of those in Year 8, 54% of Māori children had caries, 34% higher than non-Māori with a mean DMFT of 1.9 compared to 1.1.

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

	Māori			Non-Māori				
Gender	Ave. no. per year	Rate per 100,000 (95% CI)		Ave. no. per year	Rate per 100,000 (95% CI)		Māori/non-Māori ratio (95% CI)	Rate difference
Female	64	1,180.8	(1,024.4, 1,361.0)	121	1,061.1	(957.1, 1,176.4)	1.11 (0.93, 1.33)	119.6
Male	75	1,311.8	(1151.3, 1,494.6)	143	1,231.6	(1,120.1, 1,354.1)	1.07 (0.91, 1.25)	80.2
Total	139	1,246.3	(1,132.0, 1,372.0)	263	1,146.3	(1,069.0, 1,229.2)	1.09 (0.97, 1.22)	99.9

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 139 admissions per year on average for tooth and gum disease among Māori children, at a similar rate to non-Māori children.

Middle ear disease

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

	Māori			Non-Māori					
Gender	Ave. no. per year	Rate per 100,000 (95% CI)		Ave. no. per year	Rate per 100,000 (95% CI)		Māori/non-Māori ratio (95% CI)		Rate difference
Female	16	303.6	(229.4, 401.9)	44	394.2	(332.4, 467.6)	0.77	(0.55, 1.07)	-90.6
Male	25	426.1	(339.2, 535.2)	69	609.2	(531.6, 698.2)	**0.70**	**(0.54, 0.91)**	-183.1
Total	41	364.9	(305.7, 435.5)	113	501.7	(451.0, 558.1)	**0.73**	**(0.59, 0.89)**	-136.9

Source: NMDS

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

On average, 41 Māori children per year were admitted for insertion of grommets for otitis media, at a rate 27% lower than the non-Māori rate.

Healthy skin

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

	Māori			Non-Māori					
Gender	Ave. no. per year	Rate per 100,000 (95% CI)		Ave. no. per year	Rate per 100,000 (95% CI)		Māori/non-Māori ratio (95% CI)		Rate difference
Female	23	427.3	(338.0, 540.3)	34	299.9	(246.9, 364.2)	**1.43**	**(1.05, 1.93)**	127.5
Male	19	326.3	(251.1, 424.1)	34	289.5	(238.1, 351.9)	1.13	(0.81, 1.56)	36.8
Total	42	376.8	(316.4, 448.8)	68	294.7	(256.8, 338.2)	**1.28**	**(1.02, 1.60)**	82.1

Source: NMDS

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

There were 42 admissions per year on average for serious skin infections among Māori children. The rate was nearly 30% higher than the rate than for non-Māori children, or 82 more admissions per 100,000 children per year.

Acute rheumatic fever

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

	Māori			Non-Māori					
Gender	Ave. no. per year	Rate per 100,000 (95% CI)		Ave. no. per year	Rate per 100,000 (95% CI)		Māori/non-Māori ratio (95% CI)		Rate difference
Female	1	12.5	(3.1, 49.9)	1	8.0	(2.6, 24.9)	1.55	(0.26, 9.30)	4.4
Male	<1	6.0	(0.8, 42.3)	0	0.0	. .	.	. .	6.0
Total	1	9.2	(3.0, 28.6)	1	4.0	(1.3, 12.5)	2.29	(0.46, 11.37)	5.2

Source: NMDS

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

One Māori child aged 0–14 years was admitted per year on average with acute rheumatic fever between 2011 and 2013, and one non-Māori child. The rate for Māori was not significantly different from the non-Māori rate. There were no admissions for acute rheumatic fever among either Māori or non-Māori young people aged 15–24 years.

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, MidCentral DHB, 2011–2013

	Māori		Non-Māori			
Gender	Ave. no. per year	Rate per 100,000 (95% CI)	Ave. no. per year	Rate per 100,000 (95% CI)	Māori/non-Māori ratio (95% CI)	Rate difference
Female	229	4,140.7 (3,841.7, 4,462.9)	426	3,804.8 (3,601.6, 4,019.4)	1.09 (0.99, 1.19)	335.9
Male	272	4,678.6 (4,367.9, 5,011.3)	533	4,700.2 (4,475.3, 4,936.4)	1.00 (0.91, 1.08)	-21.6
Total	500	4,409.6 (4,191.8, 4,638.7)	959	4,252.5 (4,099.8, 4,410.9)	1.04 (0.97, 1.10)	157.1

Source: NMDS

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

There were 500 potentially avoidable hospitalisations per year on average among Māori children, at a similar rate to non-Māori.

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

	Māori		Non-Māori			
Gender	Ave. no. per year	Rate per 100,000 (95% CI)	Ave. no. per year	Rate per 100,000 (95% CI)	Māori/non-Māori ratio (95% CI)	Rate difference
Female	165	3,009.7 (2,755.3, 3,287.5)	338	3,010.3 (2,830.3, 3,201.6)	1.00 (0.90, 1.11)	-0.6
Male	192	3,329.9 (3,068.6, 3,613.5)	386	3,390.3 (3,200.4, 3,591.3)	0.98 (0.89, 1.09)	-60.4
Total	357	3,169.8 (2,985.2, 3,365.8)	724	3,200.3 (3,068.3, 3,337.8)	0.99 (0.92, 1.07)	-30.5

Source: NMDS

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

On average there were 357 admissions per year for ambulatory care sensitive conditions among MidCentral Māori children, with a rate similar to that of non-Māori 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.

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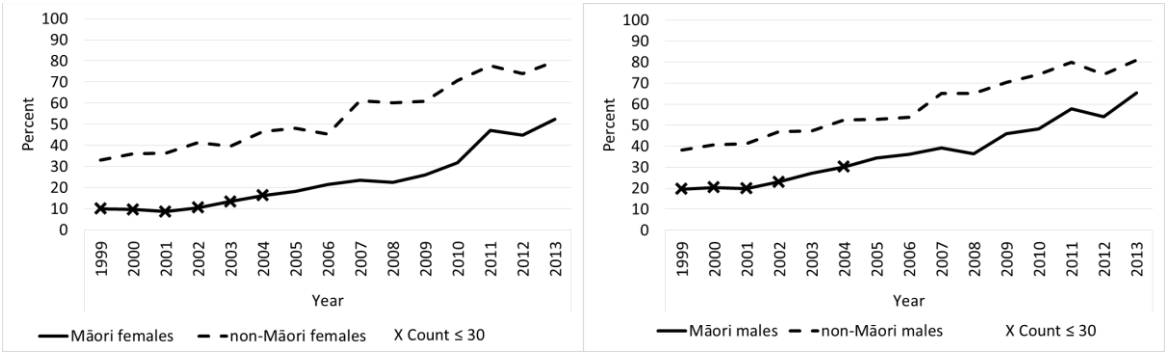
Smoking

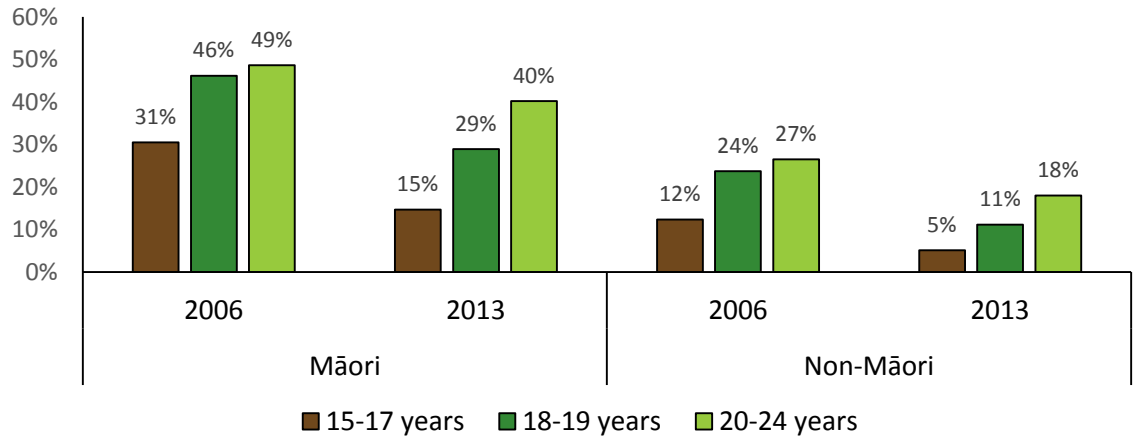
Figure 2: Trends in the proportion of students aged 14–15 years who have never smoked, by gender, MidCentral DHB, 1999–2013



Source: ASH Year 10 Snapshot Survey, 2013

Over the last 15 years there has been a significant increase in the number of Māori aged 14 and 15 who have never smoked cigarettes (Figure 2). In 2013, 55% had never smoked.

Figure 3: Regular smokers, ages 15–17, 18–19, 20–24 years, MidCentral 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 adults in MidCentral since 2006. However, the relatively high smoking rates among those aged 18–24 years indicate a sizeable group start smoking in young adulthood. At ages 20–24 years, 40% of Māori were smoking regularly in 2013, twice the proportion of non-Māori (18%).

Immunisations

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

			Māori		Non-Māori			
Birth cohort	Age in 2014	Offered HPV vaccine in (year)	Fully immunised	% fully immunised	Fully immunised	% fully immunised	Māori/non-Māori ratio	Māori % minus non-Māori %
2000	14	2013	257	85.7	454	53.4	1.60	32.3
1999	15	2012	237	76.5	463	58.6	1.30	17.8
1998	16	2011	229	63.6	387	47.8	1.33	15.8
1997	17	2010	256	80.0	374	43.5	1.84	36.5

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. Eighty percent of MidCentral Māori girls who were aged 17 years in 2014 had received all three doses of the vaccine, and Māori aged 14 years had an even higher rate of coverage at 86%. Among Māori, girls aged 16 had the lowest coverage at 64%.

Mental health

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

	Māori			Non-Māori				
Age group and gender	Ave. no. per year	Age-standardised rate per 100,000 (95% CI)		Ave. no. per year	Age-standardised rate per 100,000 (95% CI)		Māori/non-Māori ratio (95% CI)	Rate difference
15–24 years								
Female	10	333.3	(234.4, 474.0)	58	625.2	(538.2, 726.3)	**0.53 (0.36, 0.78)**	-291.9
Male	7	234.9	(153.1, 360.3)	22	235.0	(184.7, 299.0)	1.00 (0.61, 1.63)	-0.1
Total	17	284.1	(216.4, 372.9)	80	430.1	(378.7, 488.5)	**0.66 (0.49, 0.89)**	-146.0
25–44 years								
Female	10	240.2	(166.8, 345.9)	69	405.6	(353.3, 465.6)	**0.59 (0.40, 0.87)**	-165.4
Male	8	223.3	(148.1, 336.6)	30	200.6	(163.1, 246.9)	1.11 (0.70, 1.76)	22.6
Total	17	231.7	(176.3, 304.6)	99	303.1	(270.2, 340.1)	0.76 (0.57, 1.03)	-71.4

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

For injury from intentional self-harm there were 17 admissions per year on average among Māori aged 15–24 years and 17 per year among Māori aged 25–44 years. In both age groups the rate for Māori males was similar to the non-Māori male rate while Māori females had just over half the admission rate of non-Māori females.

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 MidCentral can be found in the accompanying Excel© tables labelled 'Death registrations' and 'Hospitalisations by principal diagnosis'. For example, the hospitalisations table shows higher rates of admission for MidCentral Māori than for non-Māori for epilepsy, bronchiectasis, and head injuries.

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, MidCentral and Whanganui DHBs combined, 2013

	MidCentral and Whanganui DHBs			New Zealand	
Health status	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.

Over half of MidCentral Māori adults (55%) reported having excellent or very good health in 2013and almost another third (31%) describe their health as good. Fourteen percent reported having fair or poor health status.

Smoking status

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

	Māori			Non-Māori			Māori/non-Māori ratio (95% CI)			Difference in proportion
Smoking status	Number	%	(95% CI)	Number	%	(95% CI)				
2006										
Regular smoker	6,718	42.6	(41.9, 43.4)	19,428	22.5	(22.2,, 22.8)	**1.90**	**(1.85,**	**1.94)**	20.1
Ex-smoker	2,960	18.8	(18.2, 19.4)	22,626	18.0	(17.8,, 18.3)	**1.04**	**(1.01,**	**1.08)**	0.7
Never smoked	6,135	38.7	(38.0, 39.5)	57,570	59.5	(59.2,, 59.8)	**0.65**	**(0.64,**	**0.66)**	-20.8
2013										
Regular smoker	5,661	33.2	(32.5, 33.9)	14,223	16.1	(15.8,, 16.3)	**2.07**	**(2.01,**	**2.12)**	17.1
Ex-smoker	4,194	23.2	(22.6, 23.8)	24,081	18.7	(18.5,, 19.0)	**1.24**	**(1.20,**	**1.28)**	4.5
Never smoked	7,623	43.6	(42.9, 44.3)	62,058	65.2	(64.9,, 65.5)	**0.67**	**(0.66,**	**0.68)**	-21.6

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 43% to 33%. The proportion of ex-smokers increased four percentage points and the proportion who had never smoked increased five percentage points. However, Māori remained twice as likely as non-Māori to smoke regularly in 2013.

Heart disease and stroke

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

	Māori		Non-Māori			
Gender	Ave. no. per year	Age-standardised rate per 100,000 (95% CI)	Ave. no. per year	Age-standardised rate per 100,000 (95% CI)	Māori/non-Māori ratio (95% CI)	Rate difference
Female	125	1,356.9 (1,222.6, 1,505.9)	1,235	893.1 (851.0, 937.2)	**1.52 (1.35, 1.70)**	463.8
Male	143	1,730.2 (1,570.5, 1,906.1)	1,555	1,447.7 (1,393.6, 1,504.0)	**1.20 (1.08, 1.33)**	282.5
Total	268	1,543.5 (1,437.7, 1,657.1)	2,791	1,170.4 (1,135.9, 1,205.9)	**1.32 (1.22, 1.42)**	373.1

Source: NMDS

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

On average, 268 MidCentral Māori were admitted to hospital per year for diseases of the circulatory system (including heart disease and stroke), at a rate 32% higher than for non-Māori, or 373 more admissions per 100,000.

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

	Māori			Non-Māori				
Gender	Ave. no. per year	Age-standardised rate per 100,000 (95% CI)		Ave. no. per year	Age-standardised rate per 100,000 (95% CI)		Māori/non-Māori ratio (95% CI)	Rate difference
Ischaemic heart disease admissions								
Female	30	303.3	(245.6, 374.7)	354	226.1	(209.0, 244.7)	**1.34 (1.07, 1.68)**	77.2
Male	50	601.2	(510.7, 707.8)	574	533.8	(503.5, 566.0)	1.13 (0.95, 1.34)	67.4
Total	80	452.3	(397.3, 514.9)	927	380.0	(362.4, 398.4)	**1.19 (1.04, 1.37)**	72.3
Angiography procedures								
Female	20	217.6	(168.2, 281.4)	170	159.4	(144.2, 176.2)	**1.37 (1.04, 1.80)**	58.2
Male	37	446.8	(370.1, 539.3)	351	407.0	(379.0, 437.1)	1.10 (0.90, 1.34)	39.7
Total	57	332.2	(285.3, 386.7)	521	283.2	(267.1, 300.2)	1.17 (1.00, 1.38)	49.0
Angioplasty procedures								
Female	5	48.6	(28.7, 82.4)	39	36.0	(29.4, 44.1)	1.35 (0.77, 2.38)	12.6
Male	14	165.3	(121.2, 225.4)	117	139.4	(123.4, 157.4)	1.19 (0.85, 1.66)	25.9
Total	18	107.0	(81.8, 139.9)	156	87.7	(78.9, 97.4)	1.22 (0.91, 1.63)	19.3
Coronary Artery Bypass Graft (CABG)								
Female	2	18.9	(8.5, 42.1)	9	7.0	(4.7, 10.4)	**2.71 (1.11, 6.66)**	11.9
Male	5	56.5	(34.0, 93.8)	49	48.0	(40.0, 57.5)	1.18 (0.69, 2.02)	8.5
Total	7	37.7	(24.5, 57.9)	58	27.5	(23.3, 32.4)	1.37 (0.87, 2.18)	10.2
Acute coronary syndrome admissions								
Female	16	160.2	(120.2, 213.6)	229	136.6	(123.3, 151.3)	1.17 (0.86, 1.59)	23.7
Male	32	380.9	(310.3, 467.5)	374	342.6	(318.1, 368.9)	1.11 (0.89, 1.38)	38.3
Total	48	270.5	(228.8, 319.9)	602	239.6	(225.5, 254.5)	1.13 (0.95, 1.35)	31.0

Source: NMDS.

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

Eighty Māori per year were admitted to hospital for ischaemic heart disease at a rate 19% higher than non-Māori. Of these, 48 were admitted with acute coronary syndrome.

There were 57 angiography procedures per year conducted for Māori patients. On average, 14 Māori men and five Māori women per year had angioplasty procedures, at similar rates to non-Māori. On average, two Māori women and five Māori men were admitted per year for a coronary artery bypass and graft. The rate for Māori women was 2.7 time that of non-Māori women.

Men had higher rates of admission than women.

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

	Māori			Non-Māori					
Gender	Ave. no. per year	Age-standardised rate per 100,000 (95% CI)		Ave. no. per year	Age-standardised rate per 100,000 (95% CI)		Māori/non-Māori ratio (95% CI)		Rate difference
Heart failure									
Female	18	184.3	(140.3, 241.9)	174	71.6	(62.9, 81.6)	**2.57**	**(1.90, 3.48)**	112.6
Male	29	325.2	(262.3, 403.1)	205	130.8	(117.5, 145.5)	**2.49**	**(1.96, 3.16)**	194.4
Total	47	254.7	(215.1, 301.6)	379	101.2	(93.2, 110.0)	**2.52**	**(2.08, 3.04)**	153.5
Stroke									
Female	16	172.5	(129.0, 230.7)	166	95.7	(84.0, 109.1)	**1.80**	**(1.31, 2.48)**	76.8
Male	14	165.0	(121.3, 224.3)	172	131.8	(117.7, 147.6)	1.25	(0.90, 1.74)	33.2
Total	30	168.7	(136.6, 208.4)	338	113.7	(104.4, 123.9)	**1.48**	**(1.18, 1.86)**	55.0
Hypertensive disease									
Female	6	64.9	(41.2, 102.3)	39	38.9	(29.5, 51.3)	1.67	(0.98, 2.85)	26.1
Male	4	59.7	(34.2, 104.4)	13	16.3	(10.5, 25.3)	**3.67**	**(1.80, 7.48)**	43.5
Total	11	62.3	(43.6, 89.1)	52	27.6	(21.8, 34.8)	**2.26**	**(1.48, 3.47)**	34.8

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

There were 47 admissions per year for Māori with heart failure, at 2.5 times the rate for non-Māori, or over 150 more admissions per 100,000.

Thirty Māori per year were admitted for stroke, at a rate 48% higher than for non-Māori rate, or 55 more admissions per 100,000.

There were 11 Māori admissions per year on average for hypertensive disease at 2.3 times the non-Māori rate, or 35 more admissions per 100,000.

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

	Māori			Non-Māori					
Gender	Ave. no. per year	Age-standardised rate per 100,000 (95% CI)		Ave. no. per year	Age-standardised rate per 100,000 (95% CI)		Māori/non-Māori ratio (95% CI)		Rate difference
Chronic rheumatic heart disease									
Female	4	59.2	(34.0, 102.8)	8	7.3	(4.3, 12.5)	**8.06**	**(3.75, 17.33)**	51.8
Male	<1	5.4	(0.8, 38.6)	10	11.8	(7.2, 19.3)	0.46	(0.06, 3.46)	-6.4
Total	5	32.3	(19.0, 55.0)	18	9.6	(6.7, 13.8)	**3.37**	**(1.77, 6.42)**	22.7
Heart valve replacements									
Female	3	43.6	(23.1, 82.4)	9	7.5	(4.5, 12.6)	**5.81**	**(2.56, 13.19)**	36.1
Male	1	13.5	(4.3, 42.4)	19	21.9	(15.5, 31.0)	0.62	(0.19, 2.04)	-8.4
Total	4	28.6	(16.4, 49.8)	29	14.7	(11.0, 19.7)	**1.94**	**(1.04, 3.64)**	13.9

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

On average, there were four hospitalisations per year for Māori women with chronic rheumatic heart disease, and one every 3 years for Māori men. The rate for Māori women was 8 times the rate for non-Māori women, or 52 more hospitalisations per 100,000.

Heart valve replacements were conducted on four Māori per year on average, at a rate nearly twice that of non-Māori, or 14 more procedures per 100,000.

Table 43: Early deaths from circulatory system disease, MidCentral 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	44.0	(32.1, 60.3)	36	18.4	(15.5, 21.7)	**2.40**	**(1.68, 3.42)**	25.6
Male	14	86.9	(68.7, 110.0)	59	34.8	(30.5, 39.8)	**2.50**	**(1.90, 3.27)**	52.1
Total	22	65.4	(54.2, 79.0)	95	26.6	(23.9, 29.5)	**2.46**	**(1.98, 3.06)**	38.9

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 22 Māori per year died early from diseases of the circulatory system (including heart disease and stroke), at a rate two-and-a-half times that of Māori, or 39 more deaths per 100,000.

Diabetes

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

Indicator	Māori		Non-Māori		Māori/non-Māori ratio	Difference in percentage
	Count	% (crude)	Count	% (crude)		
Prevalence of diabetes (all ages)	1,138	3.5	74,820	5.4	0.65	-1.9
People with diabetes regularly receiving metformin or insulin, 25+	648	56.9	4,234	56.6	1.01	0.3
People with diabetes having regular Hb1Ac monitoring, 25+	928	81.6	6,352	82.7	0.99	-1.1
People with diabetes having regular screening for renal disease, 25+	700	61.5	4,902	65.5	0.94	-4.0

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 MidCentral region, 1,138 Māori were estimated to have diabetes in 2013, giving a crude prevalence of 4%. Although this was lower than the prevalence for non-Māori (5%), it has not been adjusted for age. Over half (57%) of Māori with diabetes were regularly receiving metformin or insulin in 2013. Eighty-two percent were having regular monitoring of blood glucose levels and 62% were being screened regularly for renal disease.

Table 45: Hospitalisations for lower limb amputations for people with concurrent diabetes, 15 years and over, MidCentral 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	1	9.5	(3.6, 25.4)	9	5.9	(3.8, 9.2)	1.61	(0.55, 4.71)	3.6
Male	2	21.2	(9.4, 48.1)	13	9.5	(6.6, 13.7)	2.24	(0.91, 5.50)	11.7
Total	3	15.4	(8.1, 29.2)	22	7.7	(5.8, 10.2)	2.00	(0.99, 4.03)	7.7

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

On average, three MidCentral Māori per year with diabetes had lower limbs amputated at a rate of 15 per 100,000.

Cancer

Table 46: Most common cancer registrations for Māori by site, all ages, MidCentral 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	44	226.7	(198.3, 259.2)	373	183.3	(172.4, 194.8)	**1.24**	**(1.07,**	**1.43)**	43.5
Breast	15	77.6	(61.6, 97.7)	99	55.8	(50.1, 62.1)	**1.39**	**(1.08,**	**1.79)**	21.8
Lung	9	43.5	(32.5, 58.3)	30	10.5	(8.6, 12.8)	**4.15**	**(2.92,**	**5.90)**	33.0
Stomach	3	13.8	(7.9, 24.1)	4	1.3	(0.8, 2.1)	**10.97**	**(5.14,**	**23.41)**	12.6
Colorectal	3	13.3	(7.8, 22.6)	62	20.3	(17.5, 23.5)	0.65	(0.38,	1.14)	-7.0
Uterus	2	11.2	(6.2, 20.2)	17	8.5	(6.5, 11.0)	1.31	(0.69,	2.51)	2.7
Male										
All cancers	34	198.2	(170.4, 230.6)	440	206.3	(195.3, 217.9)	0.96	(0.82,	1.13)	-8.1
Prostate	8	43.0	(31.2, 59.1)	133	56.0	(51.5, 60.8)	0.77	(0.55,	1.07)	-13.0
Lung	7	37.3	(26.4, 52.6)	44	14.9	(12.6, 17.5)	**2.51**	**(1.71,**	**3.67)**	22.4
Colorectal	3	15.5	(9.2, 26.3)	60	23.7	(20.6, 27.3)	0.66	(0.38,	1.13)	-8.2
Stomach	2	11.0	(5.9, 20.5)	8	3.1	(2.2, 4.6)	**3.49**	**(1.68,**	**7.23)**	7.8

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 44 cancer registrations per year on average among Māori females, at a rate nearly one quarter higher than for non-Māori males. The most common cancers registered for Māori females were breast (34% of all cancers), lung (20%), stomach, colorectal, and uterine cancers. Registration rates were higher for Māori than non-Māori women for stomach (11 times as high), lung (4 times as high) and breast cancer (39% higher).

Among Māori males there were 34 cancer registrations per year on average, at a similar rate non-Māori men. Prostate (24% of all cancers) and lung (21%) were the most common cancers registered for Māori males followed by colorectal and stomach cancers. Lung and stomach cancer rates were 2.5 and 3.5 times the non-Māori rates.

Table 47: Most common cancer deaths for Māori by site, all ages, MidCentral 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	17	86.8	(70.0, 107.6)	162	56.5	(51.3, 62.2)	**1.54**	**(1.21,**	**1.94)**	30.3
Lung	8	38.3	(27.9, 52.6)	27	9.1	(7.4, 11.2)	**4.19**	**(2.87,**	**6.11)**	29.2
Breast	2	12.6	(7.2, 22.2)	23	10.1	(8.0, 12.7)	1.25	(0.68,	2.30)	2.5
Stomach	1	6.9	(3.1, 15.7)	3	1.1	(0.5, 2.2)	**6.35**	**(2.18,**	**18.46)**	5.9
Males										
All cancers	16	94.9	(76.0, 118.5)	195	70.5	(64.9, 76.7)	**1.34**	**(1.06,**	**1.71)**	24.3
Lung	6	36.6	(25.7, 52.2)	39	12.4	(10.6, 14.6)	**2.95**	**(2.00,**	**4.34)**	24.2
Prostate	2	12.0	(6.4, 22.5)	27	6.8	(5.6, 8.3)	1.77	(0.92,	3.42)	5.2
Colorectal	2	10.7	(5.5, 20.5)	28	9.3	(7.7, 11.3)	1.14	(0.58,	2.26)	1.3

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 a third of all deaths, with a rate 54% higher than the rate for non-Māori. Lung cancer was the most common cause of cancer death (46% of all cancer deaths), followed by cancers of the breast and stomach. The mortality rate for lung cancer was 4.2 times and stomach cancer 6.4 times as high as for non-Māori.

For Māori males, cancer deaths accounted for 26% of all deaths, with a rate 34% higher than that of non-Māori males. Lung cancer was the most common cause of cancer death, comprising 39% of all cancer deaths, with a rate 3 times that of non-Māori. Prostate and colorectal cancers were the next leading causes of cancer mortality.

Breast and cervical cancer screening

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

Māori			Non-Māori		
Number screened	Eligible population	% screened	Number screened	Eligible population	% screened
2,025	3,310	61.2	17,945	23,535	76.2

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, 61% of Māori women and 76% of non-Māori women in MidCentral had been screened.

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

Māori					Non-Māori				
Eligible population	Women screened in last 5 years	5-year coverage %	Women screened in last 3 years	3-year coverage %	Eligible population	Women screened in last 5 years	5-year coverage %	Women screened in last 3 years	3-year coverage %
6,804	5,505	80.9	4,483	65.9	34,999	31,290	89.4	26,758	76.5

Source: National Screening Unit, Ministry of Health
Note: Population is adjusted for hysterectomy.

Among women aged 25 to 69 years, 81% of Māori women and 89% 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 66% for Māori women and 77% for non-Māori women. The National Cervical Screening Programme has a three-year screening coverage target of 80% of eligible women aged 25 to 69 years.

Respiratory disease

Table 50: Hospitalisations for asthma, by age group, MidCentral 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	21	374.7	(292.0, 480.7)	34	305.8	(252.1, 371.0)	1.23	(0.89, 1.68)		68.9
Male	28	488.2	(394.6, 603.9)	51	441.6	(376.6, 517.8)	1.11	(0.85, 1.44)		46.6
Total	49	431.4	(366.9, 507.2)	85	373.7	(330.5, 422.5)	1.15	(0.94, 1.41)		57.7
15–34 years										
Female	16	301.3	(226.5, 400.9)	37	219.6	(182.3, 264.4)	1.37	(0.98, 1.93)		81.8
Male	9	174.1	(118.8, 255.3)	13	77.5	(56.7, 105.8)	**2.25**	**(1.37,**	**3.68)**	96.7
Total	25	237.7	(189.1, 298.9)	51	148.5	(126.6, 174.2)	**1.60**	**(1.21,**	**2.12)**	89.2
35–64 years										
Female	11	221.1	(157.3, 310.8)	39	148.8	(122.4, 181.0)	**1.49**	**(1.00,**	**2.20)**	72.3
Male	5	118.8	(70.6, 199.8)	28	91.9	(73.1, 115.5)	1.29	(0.73, 2.28)		26.8
Total	16	169.9	(127.6, 226.3)	67	120.4	(103.7, 139.7)	**1.41**	**(1.02,**	**1.95)**	49.6
65 years and over										
Female	3	328.8	(163.6, 660.9)	17	111.2	(80.8, 152.9)	**2.96**	**(1.37,**	**6.37)**	217.7
Male	1	101.3	(25.2, 407.7)	14	118.4	(85.4, 164.1)	0.86	(0.20, 3.58)		-17.1
Total	3	215.1	(115.0, 402.3)	30	114.8	(91.3, 144.2)	1.87	(0.96, 3.65)		100.3

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

There were 49 admissions for asthma per year among Māori children aged 0–14 years, at a rate similar to that of non-Māori. Among Māori adults aged 15–34 and 35–64 years, there were 25 and 16 admissions per year on average respectively, at rates around 1.5 times the rate of non-Māori. Older Māori women (aged 65 years and over) were admitted at a rate 3 times the non-Māori rate, with 3 admissions per year on average.

Table 51: Hospitalisations for chronic obstructive pulmonary disease (COPD), 45 years and over, MidCentral 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	44	1,123.0	(944.8, 1334.9)	195	406.6	(370.1, 446.7)	**2.76**	**(2.27,**	**3.36)**	716.4
Male	27	808.0	(650.0, 1004.3)	202	371.2	(337.8, 407.8)	**2.18**	**(1.72,**	**2.76)**	436.8
Total	71	965.5	(843.1, 1105.7)	398	388.9	(363.8, 415.6)	**2.48**	**(2.13,**	**2.89)**	576.6

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

There were 71 hospitalisations per year on average for Māori with COPD, at a rate 2.5 times that of non-Māori, or 577 more admissions per 100,000.

Table 52: Early deaths from respiratory disease, MidCentral 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	17.0	(10.2, 28.3)	13	6.2	(4.5, 8.5)	**2.75**	**(1.51,**	**5.02)**	10.8
Male	3	19.9	(12.1, 32.5)	10	5.5	(4.0, 7.5)	**3.64**	**(2.03,**	**6.54)**	14.4
Total	6	18.4	(12.9, 26.3)	23	5.8	(4.6, 7.3)	**3.17**	**(2.08,**	**4.82)**	12.6

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 Māori per year died early from respiratory disease, at a rate 3.2 times the non-Māori rate, or 13 more deaths per 100,000.

Mental disorders

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

	Māori			Non-Māori				
Disorder	Ave. no. per year	Age-standardised rate (95% CI)		Ave. no. per year	Age-standardised rate (95% CI)		Māori/non-Māori ratio (95% CI)	Rate difference
Female								
All disorders	86	516.1	(456.0, 584.2)	403	466.9	(437.1, 498.7)	1.11 (0.96, 1.27)	49.2
Schizophrenia	28	170.2	(137.0, 211.6)	58	69.2	(58.5, 81.9)	**2.46 (1.87, 3.24)**	101.0
Mood (affective)	28	162.6	(130.8, 202.2)	149	163.5	(147.1, 181.8)	0.99 (0.78, 1.27)	-0.9
—Bipolar	19	106.4	(81.7, 138.7)	49	55.1	(46.0, 65.9)	**1.93 (1.40, 2.66)**	51.4
—Depressive episode	6	36.6	(22.6, 59.3)	79	89.0	(76.9, 103.0)	**0.41 (0.25, 0.68)**	-52.4
Substance use	10	61.5	(43.1, 87.7)	40	53.6	(44.0, 65.4)	1.15 (0.76, 1.72)	7.8
—Alcohol	7	44.0	(28.8, 67.2)	30	41.6	(33.1, 52.1)	1.06 (0.66, 1.71)	2.4
Anxiety, stress-related	11	72.0	(51.0, 101.7)	86	108.5	(94.4, 124.8)	**0.66 (0.46, 0.96)**	-36.5
Male								
All disorders	102	706.8	(630.4, 792.4)	287	351.3	(324.9, 379.8)	**2.01 (1.75, 2.31)**	355.5
Schizophrenia	52	350.3	(298.4, 411.3)	82	121.2	(106.0, 138.7)	**2.89 (2.34, 3.56)**	229.1
Mood (affective)	25	183.4	(145.6, 231.0)	64	74.6	(63.4, 87.9)	**2.46 (1.85, 3.26)**	108.8
—Bipolar	16	117.0	(87.7, 156.1)	20	22.4	(16.7, 30.1)	**5.21 (3.45, 7.87)**	94.5
—Depressive episode	6	47.3	(29.9, 74.8)	29	34.1	(26.6, 43.7)	1.39 (0.82, 2.34)	13.2
Substance use	14	95.2	(69.7, 130.1)	57	73.7	(62.3, 87.3)	1.29 (0.91, 1.84)	21.5
—Alcohol	10	66.3	(45.8, 96.1)	48	58.4	(48.4, 70.5)	1.14 (0.75, 1.72)	7.9
Anxiety, stress-related	8	56.5	(37.8, 84.5)	38	47.9	(38.8, 59.1)	1.18 (0.75, 1.86)	8.7
Total								
All disorders	188	611.5	(562.0, 665.2)	690	409.1	(389.0, 430.2)	**1.49 (1.35, 1.65)**	202.4
Schizophrenia	80	260.3	(228.7, 296.2)	140	95.2	(85.7, 105.8)	**2.73 (2.31, 3.23)**	165.0
Mood (affective)	53	173.0	(147.5, 203.0)	213	119.1	(109.0, 130.2)	**1.45 (1.21, 1.74)**	53.9
—Bipolar	35	111.7	(91.7, 136.0)	69	38.8	(33.3, 45.2)	**2.88 (2.25, 3.70)**	72.9
—Depressive episode	12	42.0	(30.1, 58.5)	108	61.5	(54.2, 69.8)	**0.68 (0.48, 0.97)**	-19.6
Substance use	24	78.3	(61.9, 99.1)	97	63.7	(56.0, 72.4)	1.23 (0.94, 1.61)	14.7
—Alcohol	17	55.2	(41.7, 73.0)	78	50.0	(43.3, 57.8)	1.10 (0.81, 1.51)	5.2
Anxiety, stress-related	19	64.3	(49.5, 83.5)	124	78.2	(69.6, 87.8)	0.82 (0.62, 1.10)	-13.9

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 nearly 50% higher for Māori than for non-Māori. The most common cause of Māori admission was schizophrenia related disorders, with 80 admissions per year on average, at a rate 2.7 times that of non-Māori.

Mood disorders were the next most common cause of Māori admission with 53 admissions per year on average, at a rate 45% higher than that of non-Māori. Admission rates for bipolar disorders were higher for Māori than for non-Māori, while admissions for depression were lower.

Among females, admission rates for anxiety, stress-related disorders were lower for Māori than for non-Māori.

Gout

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

Indicator	Māori		Non-Māori		Māori/non-Māori ratio	Difference in percentage
	Count	%	Count	%		
Gout prevalence	916	5.5	3,374	3.6	1.56	2.0
People with gout who received allopurinol regularly	349	38.1	1,530	45.3	0.84	-7.2
Colchicine use by people with gout not dispensed allopurinol	82	9.0	220	6.5	1.37	2.4
NSAID use by people with gout	411	44.9	1,272	37.7	1.19	7.2
Serum urate test within six months following allopurinol dispensing	159	29.7	654	31.5	0.94	-1.8

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

In 2011, 916 Midland Māori adults were estimated to have gout, giving a prevalence of 6%, compared to 4% for non-Māori. Thirty-eight percent of Māori with gout regularly received allopurinol, a preventive therapy to lower urate levels. Of those who received allopurinol (for gout or other reasons), 30% had a lab test for serum urate levels within the following six months. Forty-five percent of Māori with gout were using non-steroidal anti-inflammatory medication.

Table 55: Hospitalisations for gout, 25 years and over, MidCentral 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	3	30.0	(15.6, 57.7)	7	3.5	(1.9, 6.5)	**8.57**	**(3.49,**	**21.03)**	26.5
Male	11	138.6	(97.0, 197.9)	25	35.2	(25.9, 47.8)	**3.94**	**(2.46,**	**6.31)**	103.4
Total	14	84.3	(61.5, 115.5)	32	19.3	(14.5, 25.7)	**4.36**	**(2.85,**	**6.67)**	64.9

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 Māori, mostly males. The Māori rate of admission was 4.4 times the non-Māori rate, or 65 more admissions per 100,000.

Hip fractures

Table 56: Hospitalisations for hip fractures, 65 years and over, MidCentral 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	3	314.9	(162.6, 609.9)	113	421.9	(370.2, 481.0)	0.75	(0.38,	1.46)	-107.0
Male	<1	43.5	(6.1, 309.1)	41	207.6	(170.8, 252.5)	0.21	(0.03,	1.50)	-164.1
Total	3	179.2	(95.7, 335.7)	154	314.8	(282.3, 351.0)	0.57	(0.30,	1.08)	-135.6

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

On average, three Māori aged 65 and over were admitted to hospital per year for hip fractures at rate of 179 per 100,000.

Elective surgery

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

	Māori			Non-Māori					
Gender	Ave. no. per year	Age-standardised rate per 100,000 (95% CI)		Ave. no. per year	Age-standardised rate per 100,000 (95% CI)		Māori/non-Māori ratio (95% CI)		Rate difference
Female	4	140.0	(77.4, 253.1)	90	245.5	(214.9, 280.6)	0.57	(0.31, 1.05)	-105.5
Male	4	183.5	(106.4, 316.3)	77	246.6	(214.3, 283.7)	0.74	(0.42, 1.31)	-63.1
Total	8	161.7	(108.3, 241.6)	167	246.1	(223.4, 271.1)	**0.66**	**(0.44, 0.99)**	-84.3

Source: NMDS

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

On average, eight Māori per year were admitted to hospital for a hip replacement, at a rate a third lower than the rate for non-Māori.

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

	Māori			Non-Māori					
Gender	Ave. no. per year	Age-standardised rate per 100,000 (95% CI)		Ave. no. per year	Age-standardised rate per 100,000 (95% CI)		Māori/non-Māori ratio (95% CI)		Rate difference
Female	20	500.6	(387.3, 647.0)	264	377.2	(346.3, 410.8)	**1.33**	**(1.01, 1.74)**	123.4
Male	22	640.5	(501.7, 817.7)	203	363.4	(331.0, 399.0)	**1.76**	**(1.36, 2.29)**	277.1
Total	42	570.5	(477.8, 681.3)	467	370.3	(347.7, 394.5)	**1.54**	**(1.28, 1.86)**	200.2

Source: NMDS

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

On average, 42 Māori aged 45 years and over were admitted to hospital per year for cataract surgery in the MidCentral DHB region. The rate for Māori was 54% higher than the rate for non-Māori, or 200 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 at birth is presented for the Manawatū-Whanganui Region, as the data was not available by DHB.

Hospitalisations

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

	Māori			Non-Māori				
Gender	Ave. no. per year	Age-standardised rate per 100,000 (95% CI)		Ave. no. per year	Age-standardised rate per 100,000 (95% CI)		Māori/non-Māori ratio (95% CI)	Rate difference
Female	3,329	19,764.4 (19,373.7,	20,162.9)	17,935	20,968.3 (20,733.7,	21,205.5)	**0.94 (0.92, 0.96)**	-1,203.9
Male	2,487	15,378.5 (15,027.6,	15,737.6)	14,628	16,477.4 (16,261.4,	16,696.4)	**0.93 (0.91, 0.96)**	-1,098.9
Total	5,816	17,571.4 (17,308.1,	17,838.8)	32,563	18,722.9 (18,563.1,	18,884.0)	**0.94 (0.92, 0.95)**	-1,151.4

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

On average, there were 5,816 Māori hospital admissions per year in the MidCentral region during 2011–2013. All-cause admission rates were lower for Māori than non-Māori, for both males and females.

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, MidCentral DHB, 2011–2013

	Māori			Non-Māori				
Gender	Ave. no. per year	Age-standardised rate per 100,000 (95% CI)		Ave. no. per year	Age-standardised rate per 100,000 (95% CI)		Māori/non-Māori ratio (95% CI)	Rate difference
Female	788	4,646.7 (4,459.8,	4,841.3)	3,094	4,218.2 (4,111.9,	4,327.2)	**1.10 (1.05, 1.16)**	428.5
Male	728	4,597.8 (4,405.8,	4,798.2)	3,226	4,456.5 (4,345.4,	4,570.5)	1.03 (0.98, 1.08)	141.3
Total	1,516	4,622.2 (4,487.5,	4,761.1)	6,320	4,337.3 (4,260.2,	4,415.9)	**1.07 (1.03, 1.10)**	284.9

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 1,500 Māori hospital admissions per year were potentially avoidable through population based prevention strategies. The rate of admission was 7% higher for Māori than for non-Māori, or 285 more admissions per 100,000.

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

	Māori			Non-Māori				
Gender	Ave. no. per year	Age-standardised rate per 100,000 (95% CI)		Ave. no. per year	Age-standardised rate per 100,000 (95% CI)		Māori/non-Māori ratio (95% CI)	Rate differ-ence
Female	396	2,374.1 (2,240.6,	2,515.5)	1,371	2,028.5 (1,951.8,	2,108.1)	**1.17 (1.09, 1.25)**	345.6
Male	380	2,386.2 (2,249.8,	2,530.8)	1,479	2,146.9 (2,067.8,	2,229.0)	**1.11 (1.04, 1.19)**	239.3
Total	776	2,375.0 (2,279.0,	2,475.0)	2,850	2,083.2 (2,027.9,	2,139.9)	**1.14 (1.09, 1.20)**	291.8

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

On average, there were 776 ambulatory care sensitive hospitalisations per year among Māori, at a rate that was 14% higher than the non-Māori rate, or 292 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, MidCentral 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	53	293.4	(269.0,	320.0)	595	160.2	(153.1,	167.7)	**1.83**	**(1.66,**	**2.02)**	133.2
Male	62	407.9	(376.8,	441.6)	594	244.2	(234.8,	253.9)	**1.67**	**(1.53,**	**1.83)**	163.8
Total	115	350.7	(330.7,	371.9)	1,189	202.2	(196.3,	208.3)	**1.73**	**(1.62,**	**1.85)**	148.5

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 115 Māori deaths per year on average during 2008–2012. The MidCentral Māori mortality rate was 73% higher than the non-Māori rate, or 149 more deaths per 100,000.

Table 64: Leading causes of death for Māori, all ages, MidCentral 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												
Lung cancer	8	38.3	(27.9,	52.6)	27	9.1	(7.4,	11.2)	**4.19**	**(2.87,**	**6.11)**	29.2
IHD	8	36.6	(26.6,	50.4)	114	18.7	(16.7,	21.0)	**1.96**	**(1.40,**	**2.75)**	17.9
Accidents	4	28.6	(18.7,	43.6)	25	15.4	(11.6,	20.4)	**1.86**	**(1.12,**	**3.09)**	13.2
Stroke	3	12.1	(7.1,	20.7)	66	9.7	(8.2,	11.6)	1.24	(0.71,	2.19)	2.4
COPD	3	12.8	(7.5,	21.8)	29	6.5	(5.3,	8.0)	**1.96**	**(1.11,**	**3.47)**	6.3
Male												
IHD	14	82.4	(64.8,	104.7)	123	36.3	(32.8,	40.2)	2.27	(1.75,	2.94)	46.0
Accidents	8	52.7	(38.2,	72.8)	31	33.4	(27.3,	40.7)	**1.58**	**(1.08,**	**2.31)**	19.4
Lung cancer	6	36.6	(25.7,	52.2)	39	12.4	(10.6,	14.6)	**2.95**	**(2.00,**	**4.34)**	24.2
COPD	4	26.0	(17.0,	39.7)	33	8.0	(6.7,	9.5)	**3.26**	**(2.06,**	**5.15)**	18.0
Suicide	4	26.0	(16.5,	41.0)	15	18.1	(14.1,	23.3)	1.44	(0.86,	2.41)	7.9
Total												
IHD	21	59.5	(49.0,	72.2)	237	27.5	(25.5,	29.7)	**2.16**	**(1.76,**	**2.66)**	32.0
Lung cancer	14	37.5	(29.6,	47.5)	65	10.8	(9.5,	12.3)	**3.47**	**(2.65,**	**4.54)**	26.7
Accidents	12	40.6	(31.4,	52.5)	56	24.4	(20.7,	28.7)	**1.67**	**(1.23,**	**2.26)**	16.3
COPD	7	19.4	(13.9,	27.1)	62	7.3	(6.4,	8.3)	**2.67**	**(1.87,**	**3.83)**	12.1
Suicide	6	18.9	(13.0,	27.5)	20	11.8	(9.5,	14.6)	**1.60**	**(1.04,**	**2.47)**	7.1

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 lung cancer, ischaemic heart disease (IHD), accidents, stroke and chronic obstructive pulmonary disease (COPD). Lung cancer mortality rates were 4 times those of non-Māori women. Māori mortality rates for IHD, accidents and COPD were around twice those of non-Māori.

The leading causes of death for Māori men were IHD, accidents, lung cancer, COPD and suicide. Mortality rates for COPD and lung cancer were 3 times those of non-Māori. Accidental deaths were 58% higher than for Māori as for non-Māori men.

Data on leading causes of death 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, MidCentral DHB, 2007–2011

	Māori			Non-Māori					
Gender	Ave. no. per year	Age-standardised rate per 100,000 (95% CI)		Ave. no. per year	Age-standardised rate per 100,000 (95% CI)		Māori/non-Māori ratio (95% CI)		Rate difference
Female	30	175.3	(149.1, 206.0)	120	84.1	(75.7, 93.5)	**2.08**	**(1.72, 2.53)**	91.1
Male	39	248.4	(215.5, 286.3)	164	130.0	(119.0, 142.0)	**1.91**	**(1.62, 2.26)**	118.4
Total	69	211.8	(190.4, 235.7)	284	107.1	(100.0, 114.6)	**1.98**	**(1.74, 2.25)**	104.8

Source: Mortality, Ministry of Health
Ratios in **bold** show that Māori rates were significantly different from non-Māori rates in the DHB.

There were 69 potentially avoidable Māori deaths per year on average, at a rate twice the non-Māori rate, or 105 more deaths per 100,000.

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

	Māori			Non-Māori					
Gender	Ave. no. per year	Age-standardised rate per 100,000 (95% CI)		Ave. no. per year	Age-standardised rate per 100,000 (95% CI)		Māori/non-Māori ratio (95% CI)		Rate difference
Female	21	125.1	(103.2, 151.6)	82	56.4	(49.9, 63.8)	**2.22**	**(1.77, 2.79)**	68.7
Male	28	178.4	(150.9, 210.8)	118	95.4	(86.0, 105.8)	**1.87**	**(1.54, 2.28)**	83.0
Total	49	151.7	(133.8, 172.1)	200	75.9	(70.1, 82.2)	**2.00**	**(1.72, 2.32)**	75.8

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 twice as high for Māori as for non-Māori, or 76 more deaths per 100,000. On average there were 49 Māori deaths per year from causes 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 MidCentral Māori were falls, exposure to mechanical forces, complications of medical and surgical care, assault, and transport accidents.

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

	Māori			Non-Māori					
Gender	Ave. no. per year	Age-standardised rate per 100,000 (95% CI)		Ave. no. per year	Age-standardised rate per 100,000 (95% CI)		Māori/non-Māori ratio (95% CI)		Rate difference
Female	248	1,498.5	(1,392.9, 1,612.2)	1,640	1,678.0	(1,613.6, 1,745.0)	**0.89**	**(0.82, 0.97)**	-179.5
Male	383	2,483.6	(2,341.6, 2,634.1)	1,770	2,390.2	(2,311.8, 2,471.1)	1.04	(0.97, 1.11)	93.4
Total	631	1,991.1	(1,901.8, 2,084.5)	3,411	2,034.1	(1,983.1, 2,086.4)	0.98	(0.93, 1.03)	-43.0

Source: NMDS

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

On average there were 631 hospitalisations for injury among MidCentral Māori, at a similar rate to that of non-Māori. Males had a higher rate of admission than females.

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

	Māori			Non-Māori					
Gender	Ave. no. per year	Age-standardised rate per 100,000 (95% CI)		Ave. no. per year	Age-standardised rate per 100,000 (95% CI)		Māori/non-Māori ratio (95% CI)		Rate difference
Female	19	119.5	(91.7, 155.6)	27	42.2	(33.4, 53.2)	**2.83**	**(1.99, 4.03)**	77.3
Male	47	311.6	(263.3, 368.9)	91	155.5	(137.4, 175.9)	**2.00**	**(1.63, 2.47)**	156.1
Total	65	215.6	(187.0, 248.5)	118	98.8	(88.6, 110.2)	**2.18**	**(1.82, 2.61)**	116.7

Source: NMDS

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

On average there were 65 hospitalisations of Māori for assault in the MidCentral region per year from 2011 to 2013. This was more than twice the rate for non-Māori or 117 more hospitalisations per 100,000.

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

	Māori			Non-Māori					
Gender	Ave. no. per year	Age-standardised rate per 100,000 (95% CI)		Ave. no. per year	Age-standardised rate per 100,000 (95% CI)		Māori/non-Māori ratio (95% CI)		Rate difference
Female	7	44.3	(31.5, 62.2)	31	22.2	(17.6, 28.1)	**1.99**	**(1.32, 3.01)**	22.0
Male	11	78.7	(60.5, 102.5)	48	53.6	(46.0, 62.5)	**1.47**	**(1.08, 1.99)**	25.1
Total	18	61.5	(49.9, 75.7)	80	37.9	(33.4, 43.1)	**1.62**	**(1.27, 2.07)**	23.6

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 18 MidCentral Māori per year died from injuries, at a rate 62% higher than the rate for non-Māori, or 24 more deaths per 100,000.

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Appendix 1: Population projections

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

Projected Māori Ethnic Group 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	380	370	750	390	370	770	390	370	760	390	370	760
1-4	1,580	1,600	3,180	1,560	1,580	3,140	1,530	1,560	3,090	1,510	1,500	3,010
5-9	1,940	1,790	3,720	1,960	1,830	3,790	2,010	1,860	3,870	1,990	1,910	3,910
10-14	1,780	1,650	3,430	1,740	1,620	3,370	1,710	1,620	3,330	1,740	1,610	3,350
15-19	1,730	1,710	3,440	1,790	1,750	3,540	1,800	1,750	3,540	1,780	1,750	3,530
20-24	1,390	1,460	2,850	1,460	1,420	2,880	1,550	1,460	3,010	1,630	1,460	3,100
25-29	980	1,110	2,090	970	1,160	2,130	970	1,180	2,150	990	1,250	2,230
30-34	800	1,010	1,810	840	990	1,830	870	1,010	1,880	900	1,010	1,910
35-39	810	960	1,770	770	970	1,740	750	930	1,680	740	920	1,660
40-44	840	1,010	1,850	820	1,020	1,840	830	1,010	1,840	800	1,030	1,830
45-49	830	920	1,750	830	900	1,720	800	920	1,720	800	920	1,720
50-54	810	860	1,670	810	910	1,720	820	910	1,730	810	930	1,740
55-59	580	650	1,220	610	690	1,290	650	710	1,360	690	690	1,380
60-64	440	470	910	460	490	960	480	530	1,000	490	590	1,080
65-69	290	350	640	310	380	690	330	390	720	360	420	770
70-74	200	260	460	220	260	490	220	290	510	230	280	510
75-79	120	160	280	120	170	300	140	180	320	150	190	340
80-84	50	90	140	60	90	160	70	100	170	80	100	190
85-89	20	30	60	30	40	70	30	40	70	30	50	80
90+	10	20	20	10	20	20	10	20	30	10	20	30
All Ages	**15,600**	**16,500**	**32,100**	**15,800**	**16,700**	**32,400**	**15,900**	**16,800**	**32,800**	**16,100**	**17,000**	**33,100**
		2017			2018			2019			2020	
0	390	370	750	390	370	750	390	370	750	390	370	750
1-4	1,510	1,450	2,960	1,520	1,440	2,960	1,510	1,440	2,950	1,510	1,430	2,940
5-9	1,970	1,970	3,950	1,870	1,910	3,780	1,860	1,880	3,750	1,830	1,860	3,690
10-14	1,760	1,600	3,360	1,850	1,700	3,560	1,870	1,740	3,610	1,920	1,770	3,690
15-19	1,720	1,700	3,420	1,690	1,600	3,300	1,650	1,580	3,230	1,610	1,570	3,190
20-24	1,680	1,480	3,170	1,730	1,560	3,280	1,770	1,590	3,370	1,780	1,580	3,360
25-29	1,050	1,280	2,330	1,120	1,280	2,400	1,190	1,240	2,420	1,280	1,280	2,560
30-34	890	1,020	1,920	880	1,050	1,930	870	1,100	1,960	870	1,110	1,980
35-39	760	940	1,700	750	960	1,710	790	950	1,730	820	970	1,790
40-44	760	970	1,730	760	920	1,680	720	930	1,650	690	890	1,580
45-49	800	970	1,770	780	970	1,750	770	980	1,750	770	970	1,740
50-54	800	910	1,700	780	880	1,660	780	850	1,630	750	880	1,630
55-59	710	750	1,460	750	830	1,580	760	870	1,630	760	870	1,630
60-64	510	600	1,120	530	610	1,140	560	640	1,210	600	670	1,270
65-69	380	420	800	400	440	840	420	460	880	430	490	920
70-74	240	300	540	260	310	560	270	340	610	290	340	630
75-79	160	210	370	170	220	380	190	220	410	190	250	430
80-84	80	110	190	90	120	220	90	130	220	100	140	240
85-89	30	60	90	30	60	90	40	60	100	50	70	110
90+	10	20	30	10	20	30	10	30	40	20	30	40
All Ages	**16,200**	**17,100**	**33,400**	**16,400**	**17,200**	**33,600**	**16,500**	**17,400**	**33,900**	**16,700**	**17,500**	**34,200**

These projections were derived in October 2014.

Source: Statistics New Zealand

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

Projected Total Population by Age and Sex at 30 June 2014–43 (2013-Base)

*** Medium Projection : Assuming Medium Fertility, Medium Mortality, and Medium Migration ***

Age	Male	Female	Total	Male	Female	Total	Male	Female	Total	Male	Female	Total
		2013(Base)			2014			2015			2016	
0	1,060	1,050	2,110	1,110	1,050	2,160	1,110	1,060	2,170	1,110	1,060	2,170
1-4	4,740	4,670	9,410	4,620	4,540	9,160	4,520	4,450	8,980	4,490	4,330	8,820
5-9	5,810	5,560	11,370	5,890	5,710	11,600	6,040	5,780	11,830	6,030	5,850	11,880
10-14	5,800	5,580	11,380	5,690	5,510	11,200	5,570	5,430	11,000	5,590	5,380	10,960
15-19	6,280	6,250	12,530	6,340	6,200	12,540	6,340	6,170	12,520	6,280	6,220	12,500
20-24	6,330	6,350	12,680	6,450	6,300	12,750	6,550	6,260	12,820	6,610	6,170	12,780
25-29	4,740	5,120	9,870	4,770	5,260	10,030	4,930	5,460	10,390	5,040	5,630	10,670
30-34	4,230	4,810	9,040	4,340	4,830	9,180	4,380	4,940	9,320	4,480	4,950	9,430
35-39	4,420	4,930	9,360	4,310	4,830	9,140	4,210	4,720	8,930	4,230	4,720	8,950
40-44	5,100	5,720	10,820	4,990	5,640	10,630	4,880	5,510	10,400	4,690	5,330	10,020
45-49	5,270	5,760	11,030	5,130	5,730	10,860	5,080	5,680	10,760	5,110	5,720	10,820
50-54	5,750	6,180	11,930	5,740	6,200	11,940	5,610	6,190	11,810	5,460	6,040	11,500
55-59	4,980	5,390	10,370	5,090	5,550	10,640	5,270	5,660	10,940	5,500	5,770	11,280
60-64	4,550	4,960	9,520	4,640	4,990	9,620	4,750	5,100	9,850	4,730	5,210	9,940
65-69	4,200	4,350	8,540	4,380	4,560	8,950	4,440	4,710	9,150	4,540	4,930	9,480
70-74	3,200	3,550	6,760	3,340	3,630	6,970	3,460	3,710	7,170	3,520	3,750	7,280
75-79	2,370	2,650	5,020	2,450	2,760	5,210	2,570	2,860	5,440	2,760	3,010	5,770
80-84	1,650	2,130	3,790	1,660	2,140	3,800	1,680	2,180	3,860	1,670	2,210	3,870
85-89	890	1,400	2,280	890	1,370	2,260	910	1,340	2,260	970	1,370	2,340
90+	360	750	1,120	390	800	1,190	410	840	1,250	420	850	1,270
All Ages	**81,700**	**87,200**	**168,900**	**82,200**	**87,600**	**169,800**	**82,800**	**88,100**	**170,800**	**83,200**	**88,500**	**171,700**
		2017			**2018**			**2019**			**2020**	
0	1,110	1,060	2,170	1,110	1,060	2,170	1,110	1,060	2,170	1,120	1,060	2,180
1-4	4,450	4,270	8,710	4,500	4,280	8,770	4,500	4,280	8,780	4,500	4,280	8,780
5-9	6,020	5,880	11,900	5,820	5,730	11,540	5,750	5,590	11,340	5,640	5,500	11,140
10-14	5,620	5,390	11,010	5,780	5,540	11,320	5,860	5,680	11,550	6,010	5,750	11,760
15-19	6,180	6,040	12,220	6,070	5,940	12,010	5,950	5,870	11,820	5,830	5,780	11,610
20-24	6,610	6,210	12,820	6,550	6,170	12,720	6,600	6,110	12,710	6,590	6,080	12,670
25-29	5,220	5,680	10,900	5,380	5,630	11,010	5,470	5,550	11,030	5,550	5,480	11,030
30-34	4,540	5,060	9,600	4,610	5,220	9,830	4,620	5,340	9,960	4,760	5,530	10,290
35-39	4,200	4,770	8,960	4,200	4,820	9,020	4,310	4,840	9,150	4,340	4,930	9,270
40-44	4,500	5,050	9,550	4,380	4,910	9,290	4,270	4,800	9,070	4,160	4,690	8,850
45-49	5,130	5,760	10,890	5,040	5,640	10,680	4,930	5,560	10,490	4,820	5,420	10,240
50-54	5,310	5,850	11,160	5,190	5,710	10,900	5,050	5,680	10,730	4,990	5,620	10,620
55-59	5,600	5,970	11,570	5,680	6,150	11,830	5,670	6,170	11,840	5,540	6,170	11,700
60-64	4,800	5,300	10,100	4,950	5,420	10,370	5,060	5,570	10,630	5,240	5,680	10,910
65-69	4,560	4,910	9,470	4,550	4,940	9,490	4,630	4,960	9,590	4,740	5,080	9,820
70-74	3,730	3,970	7,700	4,000	4,190	8,180	4,190	4,410	8,590	4,240	4,550	8,790
75-79	2,850	3,180	6,030	2,830	3,270	6,100	2,940	3,350	6,290	3,050	3,430	6,480
80-84	1,760	2,200	3,960	1,840	2,210	4,050	1,910	2,300	4,210	2,030	2,390	4,420
85-89	990	1,390	2,380	1,020	1,430	2,440	1,030	1,440	2,470	1,030	1,500	2,530
90+	420	880	1,310	450	890	1,340	460	890	1,350	480	890	1,360
All Ages	**83,600**	**88,800**	**172,400**	**83,900**	**89,100**	**173,100**	**84,300**	**89,500**	**173,800**	**84,700**	**89,800**	**174,500**

These projections were derived in October 2014.

Source: Statistics New Zealand

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

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 others 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.

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