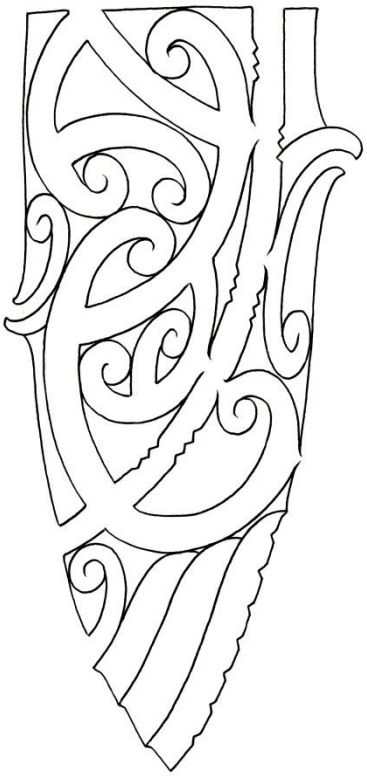
Nelson Marlborough District Health Board

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,

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University of Otago Wellington

Tiro whānui
– Nelson Marlborough at a glance

Nelson Marlborough population

- In 2013, 14,000 Māori lived in the Nelson Marlborough District Health Board (NMDHB) region, 10% of the District's total population.
- The Nelson Marlborough Māori population is youthful, but showing signs of ageing. In 2013, the median age was 24.8 years compared to 43.5 years for the total DHB population. Eighteen percent of the District's children aged 0–14 years and 16% of the youth aged 15–24 years were Māori. The population aged 65 years and over will increase by two-thirds between 2013 and 2020.

Whānau ora – Healthy families

- Te Kupenga data is presented for four DHBs combined: Nelson Marlborough, West Coast, Canterbury, and South Canterbury. In 2013, most Māori adults (84%) from these four DHBs reported that their whānau was doing well, but 5% felt their whānau was doing badly. A small proportion (8%) found it hard to access whānau support in times of need, but most found it easy (77%).
- Being involved in Māori culture was important to the majority of Māori adults (59%), as was spirituality (59%).
- Most Māori from these four DHBs had been to a marae at some time (89%). Forty-four percent had been to at least one of their ancestral marae, with over half (56%) stating they would like to go more often.
- One in twenty Māori from these four DHBs had taken part in traditional healing or massage in the last 12 months.
- Just over 15% of Nelson Marlborough Māori could have a conversation about a lot of everyday things in te reo Māori in 2013.

Wai ora – Healthy environments

Education

- In 2013, almost all Māori children (96%) who started school had participated in early childhood education.
- In 2013, 50% of Nelson Marlborough Māori adults aged 18 years and over had at least a Level 2 Certificate, a higher proportion than in 2006 (43%).The proportion of non-Māori with this level of qualification was 63%.

Work

- In 2013, 8% of Nelson Marlborough Māori adults aged 15 years and over were unemployed, three-quarters higher than the non-Māori rate (5%).
- Most Māori adults (90%) do voluntary work.
- In 2013, Māori were more likely than non-Māori to look after someone who was disabled or ill, within or outside of the home.

Income and standard of living

- In 2013, one in three children and just over one in four adults in Māori households (defined as households with at least one Māori resident) in Nelson Marlborough were in households with low equivalised household incomes (under $15,172), compared to just under one in five children and adults in other households.

- In 2013, 9% of Māori adults from Nelson Marlborough and three other South Island DHBs reported putting up with feeling the cold a lot to keep costs down during the previous 12 months, 5% had gone without fresh fruit and vegetables, and 9% had often postponed or put off visits to the doctor.
- Six percent of residents of Nelson Marlborough Māori households had no access to a motor vehicle, compared to 3% of other residents.
- Residents of Nelson Marlborough Māori households were less likely to have access to telecommunications than those living in other households: 24% had no internet, 22% no telephone, 12% no mobile phone, and 2.5% had no access to any telecommunications.

Housing

- The most common housing problems reported to be a big problem by Māori adults in Nelson Marlborough, Canterbury, South Canterbury and West Coast DHBs combined in 2013 included finding it hard to keep warm (15%), needing repairs (14%), and damp (9%).
- Fifty-two percent of children in Nelson Marlborough Māori households were living in rented accommodation, three-quarters higher than the proportion of children in other households (30%).
- Nelson Marlborough residents in Māori households were two-and-a-half times as likely as others to be in crowded homes (i.e. requiring at least one additional bedroom) (13% compared to 5%).

Area deprivation

- Using the NZDep2013 index of small area deprivation, 45% of Nelson Marlborough Māori lived in the four most deprived decile areas compared to 30% of non-Māori.

Mauri ora – Healthy individuals

Pepi, tamariki – Infants and children

- On average 343 Māori infants were born per year in Nelson Marlborough during 2009–2013, 21% of all live births in the DHB. Six percent of Māori and 5% of non-Māori babies had low birth weight.
- In 2013, two thirds of Māori babies in Nelson Marlborough were fully breastfed at 6 weeks.
- Around 60% of Māori infants were enrolled with a Primary Health Organisation by three months of age.
- In 2014, 89% of Māori children were fully immunised at 8 months of age, 90% at 24 months.
- In 2013, 69% of Nelson Marlborough Māori children and 41% of non-Māori children aged 5 years had caries. At Year 8 of school, 55% of Māori children and 45% of non-Māori children had caries. Māori children under 15 years were 50% more likely than non-Māori children to be hospitalised for tooth and gum disease.
- During 2011–2013, on average there were 31 hospital admissions per year for grommet insertions among Māori children (at a rate similar to non-Māori) and 10 admissions per year for serious skin infections (with the rate 63% higher than that of non-Māori children).
- Over 200 hospitalisations per year of Māori children were potentially avoidable through population-based health promotion and intersectoral actions, at a rate one third higher than that of non-Māori.
- Around 160 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 46% higher than for non-Māori children.

Rangatahi – Young adults

- There has been a significant increase in the proportion of Nelson Marlborough 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.
- By September 2014, human papilloma virus (HPV) immunisation rates were between 50% and 60% for Māori girls aged 14 to 17 years in 2014.
- Rates of hospitalisation for injury from self-harm were lower for Māori than for non-Māori among those aged 15–24 years during 2011–2013 but double for Māori males compared to non-Māori males at ages 25–44 years.

Pakeke – Adults

- Fifty-six percent of Māori adults in the four DHBs combined reported having excellent or very good health in 2013, and 28% reported having good health. One in six (17%) reported having fair or poor health.
- Smoking rates are decreasing, but remained twice as high for Māori as for non-Māori in Nelson Marlborough DHB in 2013 (32% compared to 16%).

Circulatory system diseases

- Māori adults aged 25 years and over were 34% more likely than non-Māori to be hospitalised for circulatory system diseases (including heart disease and stroke) during 2011–2013.
- Māori in Nelson Marlborough were 29% more likely than non-Māori to be hospitalised for ischaemic heart disease.
- Māori women were 86% more likely than non-Māori women to be admitted with acute coronary syndrome and twice as likely to have angiography. Rates of receipt of revascularisation procedures were higher but not statistically significant.
- Heart failure admission rates were 2.7 times as high for Māori as for non-Māori.
- Stroke admission rates were 59% higher for Māori than for non-Māori.
- Chronic rheumatic heart disease admissions were 3.7 times as common for Māori as for non-Māori, while rates of heart valve replacements were similar.
- Māori under 75 years were twice as likely as non-Māori to die from circulatory system diseases in 2007–2011.

Diabetes

- In 2013, 3% of Māori and 5% of non-Māori were estimated to have diabetes. Over half of Māori aged 25 years and over who had diabetes were regularly receiving metformin or insulin (54%), most (87%) were having their blood sugar monitored regularly, and two-thirds were being screened regularly for renal disease.

Cancer

- Breast, lung, and colorectal cancers were the most commonly registered among Nelson Marlborough Māori women during 200–2012. The rate of lung cancer was over 4.3 times the rate for non-Māori women.
- Breast screening coverage of Māori women aged 45–69 years was 80% compared to 83% of non-Māori women at December 2014.
- Cervical screening coverage of Māori women aged 25–69 years was 68% over 3 years and 81% over five years (compared to 81% and 94% of non-Māori respectively).
- Lung, colorectal, and prostate cancers were the most commonly registered among Nelson Marlborough Māori men. The rate of lung cancer was 2.5 times the rate for non-Māori, while the rate of prostate cancer was half as high.
- Cancers of the digestive organs, lung, and breast were the most common causes of death from cancer among Māori women during 2007–2011. Cancers of the lung and of the digestive organs were the most common causes of cancer death for Māori men. Mortality rates from lung cancer for Māori women and men were over two-and-a-half times as high as the rates for non-Māori.

Respiratory disease

- Māori aged 45 years and over were 3 times as likely as non-Māori to be admitted to hospital for chronic obstructive pulmonary disease (COPD) during 2011–2013.
- Asthma hospitalisation rates were twice as high for Māori as for non-Māori under 65 years.
- Māori under 75 years had 3.5 times the non-Māori rate of death from respiratory disease in 2007–2011.

Mental disorders

- Māori were 27% more likely than non-Māori to be admitted to hospital for a mental disorder during 2011–2013. Substance use was the most common type of disorder, followed by schizophrenia type disorders and mood disorders.

Gout

- In 2011 the prevalence of gout among Nelson Marlborough Māori was estimated to be 4%, nearly 60% higher than the prevalence in non-Māori (3%).

- Forty-one percent of Māori with gout regularly received allopurinol, a preventive therapy to lower urate levels. Of those who received allopurinol, only 22% had a lab test for serum urate levels in the following six months.
- In 2011–2013 the rate of hospitalisations for gout was 8 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 4% higher for Māori than for non-Māori during 2011–2013.
- On average, 626 Māori hospital admissions per year were potentially avoidable, with the rate 23% higher for Māori than for non-Māori. The ASH rate was 42% higher.

Mortality

- Life expectancy at birth for Māori females in the Tasman, Nelson, and Marlborough Regions during 2012–2014 ranged from 81.0 years in Marlborough, to 81.3 in Nelson, and 81.9 years in the Tasman Region, between 2.4 and 2.9 years lower than for non-Māori females. For Māori males, life expectancy at birth was between 77.1 years (Marlborough) and 78.0 years (Tasman) and between 2.7 and 3.0 years lower than for non-Māori males.
- The all-cause mortality rate for Nelson Marlborough Māori was 40% higher than the non-Māori rate during 2008–2012.
- In 2007–2011, the leading causes of death for Māori females were lung cancer, ischaemic heart disease (IHD), and stroke. For Māori males, the leading causes were IHD, lung cancer, and accidents.
- Potentially avoidable mortality was 74% higher for Māori than for non-Māori, and mortality from causes of death amenable to health care 81% higher.

Injuries

- Just under 300 Māori per year were hospitalised for injury, at a similar rate to non-Māori during 2011–2013.
- The most common causes of injury resulting in hospitalisation among Māori were falls, exposure to mechanical forces, and transport accidents.
- The rate of hospitalisation for assault for Maori was 2.45 times that of non-Māori.
- On average, five Māori per year died from injuries during 2007–2011, at a rate similar to non-Māori.

Contents

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Introduction

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

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

This document presents data for residents of **Te Wai Ora, the Nelson Marlborough 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 Nelson Marlborough DHB. Accompanying Excel tables also include data for the total Nelson Marlborough 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 2% (14,000) of the country's total Māori population lived in the Nelson Marlborough District Health Board. The total population of the DHB (142,100) made up 3% of the national population. In 2015, the NMDHB Māori population is estimated to be 14,600 and the total population 145,500.[2]

Table 1: Population by age group, Nelson Marlborough DHB, 2013

	Māori			Non-Māori		Total DHB
Age group (years)	Number	Age distribution	% of DHB	Number	Age distribution	Number
0–14	4,740	34%	18	22,240	17%	26,980
15–24	2,470	18%	16	12,580	10%	15,050
25–44	3,300	24%	10	28,760	23%	32,060
45–64	2,700	19%	6	39,180	31%	41,880
65+	770	6%	3	25,390	20%	26,160
Total	14,000	100%	10	128,100	100%	142,100

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

In 2013, Māori residents comprised 10% of the DHB population. The Māori population is relatively young, with a median age of 24.8 years, compared to 43.5 years for the total Nelson Marlborough DHB population. In 2013, Māori comprised 18% of the DHB's children aged 0–14 years and 16% of those aged 15–24 years.

Table 2: Population projections, Nelson Marlborough 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	14,000	10	2	33	62	6	24.8	142,100	43.5	3	692,300	4,442,100
2018	15,250	10	2	32	61	8	26.0	148,600	45.3	3	734,500	4,726,200
2023	16,450	11	2	32	58	10	27.2	152,000	46.9	3	773,500	4,935,200
2028	17,700	11	2	31	56	14	28.2	154,600	48.1	3	811,700	5,139,700
2033	19,000	12	2	30	55	16	28.8	156,100	48.9	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 Māori who are aged 65 years and over is currently around 6% but is projected to increase to 16% in 2033. Between 2013 and 2020 the number of Māori aged 65 and over will increase by 64% from 770 to 1,260 (see Appendix 1). In 2013 there were 220 Māori aged 75 years and over in Nelson Marlborough, with 75 living alone.

[2] Population projections are provided in Appendix 1.

Whānau ora
– Healthy families

The refreshed Māori health strategy, He Korowai Oranga (Ministry of Health, 2014) defines whānau ora as Māori families supported to achieve their maximum health and wellbeing. It aims to support families to be self-managing, leading healthy lifestyles, confidently participating in te ao Māori and society. This section reports selected findings from Te Kupenga 2013 on whānau well-being and support and engagement with Māori culture and reo. Te Kupenga was a sample survey of Māori adults aged 15 years and above with insufficient numbers to report results for Nelson Marlborough alone. Therefore we present data for four DHBs combined: Nelson Marlborough, Canterbury, West Coast, and South Canterbury.

Whānau well-being

Table 3: Whānau well-being reported by Māori aged 15 years and over, Nelson Marlborough, Canterbury, West Coast, South Canterbury DHBs combined, 2013

	Nelson Marlborough and other South Island DHBs			New Zealand	
How the whānau is doing	Estimated number	%	(95% CI)	%	(95% CI)
Well / Extremely well	45,000	84.3	(80.6, 88.0)	83.4	(82.5, 84.4)
Neither well nor badly	5,500*	10.7*	(7.1, 14.3)	10.3	(9.4, 11.2)
Badly / Extremely badly	2,500*	5.0*	(3.2, 6.7)	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%.

Almost 85% of Māori adults in Nelson Marlborough, Canterbury, West Coast and South Canterbury DHBs combined reported that their whānau was doing well or extremely well in 2013. However 5% felt their whānau was doing badly or extremely badly. These were similar to the national findings of Te Kupenga.

Table 4: Whānau composition reported by Māori aged 15 years and over, Nelson Marlborough, Canterbury, West Coast, South Canterbury DHBs combined, 2013

	Nelson Marlborough and other South Island DHBs			New Zealand	
Whānau description	Estimated number	%	(95% CI)	%	(95% CI)
Size of whānau					
10 or less	29,000	54.0	(48.9, 59.1)	53.7	(52.1, 55.3)
11 to 20	13,500	25.2	(20.7, 29.7)	22.6	(21.3, 24.0)
More than 20	11,000	20.8	(16.7, 24.9)	23.6	(22.4, 24.8)
Groups included in whānau					
Parents, partner, children, brothers & sisters	52,000	95.9	(94.0, 97.7)	94.6	(94.0, 95.2)
Aunts & uncles, cousins, nephews & nieces, other in-laws	19,000	35.5	(30.7, 40.3)	41.3	(39.8, 42.8)
Grandparents, grandchildren	23,500	43.4	(38.4, 48.3)	41.9	(40.5, 43.4)
Friends, others	9,500	17.8	(14.3, 21.3	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 fifth reporting whānau sizes of more than 20 people. Just under a fifth included friends in their description of whānau.

Whānau support

Table 5: Access to whānau support, Māori aged 15 years and over, Nelson Marlborough, Canterbury, West Coast, South Canterbury DHBs combined, 2013

	Nelson Marlborough and other South Island DHBs			New Zealand	
How easy is it to get help	Estimated number	%	(95% CI)	%	(95% CI)
Support in times of need					
Easy, very easy	42,000	77.3	(73.4, 81.2)	81.2	(80.1, 82.4)
Sometimes easy, sometimes hard	8,000	14.4	(11.1, 17.7)	12.7	(11.7, 13.6)
Hard / very hard	4,500*	8.3*	(5.6, 11.0)	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	32,500	60.5	(55.9, 65.1)	64.1	(62.7, 65.6)
Sometimes easy, sometimes hard	8,500	15.7	(12.1, 19.3)	16.9	(15.9, 18.0)
Hard / very hard	12,000	22.6	(18.6, 26.6)	14.7	(13.5, 15.9)
Don't need help	500**	1.2**	(0.2, 2.1)	4.2	(3.7, 4.7)

Source: Te Kupenga 2013, Statistics New Zealand customised report.
Notes: * Sampling error is 30% or more but less than 50%. ** Sampling error is 50 percent or more, but less than 100 percent.

In 2013, the majority of Māori adults across the Nelson Marlborough and three other DHBs combined (77%) reported having easy access to whānau support in times of need. However, an estimated 4,500 (8%) had difficulty getting help. A smaller proportion found it easy to get help with Māori cultural practices (61%), with 23% finding it hard or very hard. Few (1%) reported not needing help.

Importance of participation in Māori culture

Table 6: Importance of Māori culture and spirituality, Māori aged 15 years and over, Nelson Marlborough, Canterbury, West Coast, South Canterbury DHBs combined, 2013

	Nelson Marlborough and other South Island DHBs			New Zealand	
	Estimated number	%	(95% CI)	%	(95% CI)
Importance of being involved in Māori culture					
Very / quite	18,000	33.6	(29.1, 38.1)	46.3	(44.9, 47.6)
Somewhat	13,500	25.2	(20.5, 29.9)	24.2	(22.9, 25.6)
A little / not at all	22,000	41.2	(36.1, 46.4)`	29.5	(28.3, 30.7)
Importance of spirituality					
Very / quite	22,500	42.4	(37.0, 47.9)	48.7	(47.4, 49.9)
Somewhat	8,500	16.2	(12.5, 20.0)	17.0	(16.0, 18.0)
A little / not at all	22,000	41.3	(35.9, 46.8)	34.3	(33.1, 35.5)

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

Being involved in Māori culture was important (very, quite, or somewhat) to the majority (59%) of Māori adults. Spirituality was important to a similar proportion (59%).

Te Reo Māori

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

Māori			Non-Māori			Māori/non-Māori ratio (95% CI)	Difference in proportion
Number	%	(95% CI)	Number	%	(95% CI)		
1,857	15.3	(14.6, 16.0)	687	0.6	(0.6, 0.7)	**24.50 (22.18, 27.08)**	14.7

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, 15% of Māori adults in Nelson Marlborough and nearly 1% of non-Māori adults 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, Nelson Marlborough, Canterbury, West Coast, South Canterbury DHBs, 2013

	Nelson Marlborough and other South Island DHBs			New Zealand	
Language spoken at home	Estimated number	%	(95% CI)	%	(95% CI)
Māori is main language	S	S		2.6	(2.2, 3.0)
Māori is used regularly	6,000*	13.2	(9.3, .7.2)	20.5	(19.2, 21.8)

Source: Te Kupenga 2013, Statistics New Zealand customised report.
Notes: * Sampling error is 30% or more but less than 50%. S shows the data was suppressed.

Just over one in eight Māori adults across the four DHBs (13%) reported that Māori language was used regularly in the home in 2013.

Access to marae

Table 9: Access to marae, Māori aged 15 years and over, Nelson Marlborough, Canterbury, West Coast, South Canterbury DHBs combined, 2013

	Nelson Marlborough and other South Island DHBs			New Zealand	
Been to marae	Estimated number	%	(95% CI)	%	(95% CI)
At some time	48,500	89.4	(86.2, 92.6)	96.0	(95.5, 96.6)
In previous 12 months[(1)]	17,500	35.8	(30.9, 40.7)	58.2	(56.6, 59.7)
Ancestral marae at some time[(2)]	23,000	43.9	(38.2, 49.6)	62.3	(60.9, 63.7)
Ancestral marae in previous 12 months[(3)]	6,500	12.1	(8.7, 15.5)	33.6	(32.3, 34.9)
Like to go to ancestral marae more often[(2)]	16,500	55.7	(48.9, 62.5)	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, most Māori in Nelson Marlborough and the three other DHBs (89%) had been to a marae, with just over a third (36%) having been in the last 12 months. Forty-four percent had been to at least one of their ancestral marae, 12% within the previous 12 months, but the majority (56%) 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, Nelson Marlborough, Canterbury, West Coast, South Canterbury DHBs combined, 2013

Nelson Marlborough and other South Island DHBs			New Zealand	
Estimated number	%	(95% CI)	%	(95% CI)
3,000*	5.4*	(3.1, 7.7)	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 3,000 Māori adults (5%) in Nelson Marlborough and the three other South Island DHBs had taken part in traditional healing or massage during 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 Nelson Marlborough DHB, 2006 and 2013

	Māori			Non-Māori			Māori/non-Māori ratio (95% CI)	Difference in percentage
Year	Number	%	(95% CI)	Number	%	(95% CI)		
2006	2,649	42.6	(41.4, 43.9)	45,705	57.7	(57.3, 58.1)	**0.74 (0.72, 0.76)**	-15.1
2013	3,537	50.2	(49.0, 51.4)	52,080	63.1	(62.7, 63.4)	**0.80 (0.78, 0.82)**	-12.8

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.

The proportion of Māori adults aged 18 years and over with at least a Level 2 Certificate increased from 43% to 50% between 2006 and 2013. The proportion of non-Māori with this level of qualification was 63% in 2013.

Work

Table 12: Labour force status, 15 years and over, Nelson Marlborough 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	3,783	54.2	(53.1, 55.3)	47,175	57.7	(57.3, 58.0)	**0.94 (0.92, 0.96)**	-3.5
Employed part-time	1,185	16.0	(15.2, 16.9)	15,423	17.8	(17.5, 18.1)	**0.90 (0.85, 0.95)**	-1.8
Unemployed	336	4.8	(4.3, 5.3)	1,776	2.8	(2.6, 2.9)	**1.73 (1.54, 1.95)**	2.0
Not in the labour force	1,827	24.9	(23.9, 25.8)	29,064	21.8	(21.5, 22.1)	**1.14 (1.10, 1.19)**	3.1
2013								
Employed full-time	3,766	47.7	(46.7, 48.7)	45,957	53.8	(53.5, 54.2)	**0.89 (0.87, 0.91)**	-6.1
Employed part-time	1,373	16.5	(15.7, 17.4)	16,506	18.1	(17.8, 18.4)	**0.91 (0.87, 0.96)**	-1.6
Unemployed	630	8.4	(7.8, 9.1)	2,769	4.5	(4.3, 4.7)	**1.88 (1.72, 2.04)**	3.9
Not in the labour force	2,346	27.2	(26.3, 28.2)	32,865	23.6	(23.3, 23.9)	**1.15 (1.11, 1.20)**	3.6

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. 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 the proportion of Māori adults employed full-time decreased, while the proportion employed part-time did not change. The unemployment rate increased from 5% to 8%.

There was also an increase in the proportion of the working age population who were not in the labour force (from 25% to 27%).

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

	Nelson Marlborough DHB						New Zealand	
	Māori			Non-Māori				
ANZSIC Industry	Number	%	Rank	Number	%	Rank	%	Rank
Females								
Health Care and Social Assistance	351	16.8	1	5,148	18.0	1	17.1	1
Accommodation and Food Services	297	14.2	2	2,580	9.0	4	7.3	5
Retail Trade	297	14.2	3	3,702	13.0	2	11.6	3
Manufacturing	243	11.6	4	2,169	7.6	6	6.0	6
Education and Training	240	11.5	5	3,150	11.0	3	12.9	2
Males								
Manufacturing	459	20.1	1	4,536	14.4	2	13.4	1
Agriculture, Forestry and Fishing	450	19.7	2	5,109	16.2	1	8.7	4
Construction	330	14.4	3	4,137	13.1	3	13.2	2
Retail Trade	186	8.1	4	2,796	8.9	4	8.3	5
Transport, Postal and Warehousing	186	8.1	5	2,079	6.6	5	5.9	7

Source: 2013 Census, Statistics New Zealand

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

Health care and social assistance was the leading industry employing Māori women in the Nelson Marlborough district, followed by accommodation and food services; retail trade, manufacturing; and education and training. Manufacturing, and the agriculture, forestry and fishing industries employed 40% of Māori men. Other leading industries included construction; retail trade; and transport, postal and warehousing.

Table 14: Leading occupations of employed Māori, Nelson Marlborough DHB, 2013

	Nelson Marlborough DHB						New Zealand	
	Māori			Non-Māori				
ANZSCO Occupation	Number	%	Rank	Number	%	Rank	%	Rank
Females								
Labourers	501	22.2	1	3,582	12.6	5	8.3	6
Professionals	399	17.7	2	6,390	22.4	1	26.7	1
Community and Personal Service Workers	336	14.9	3	4,011	14.1	4	12.9	4
Managers	294	13.0	4	4,137	14.5	3	14.4	3
Sales Workers	282	12.5	5	3,261	11.4	6	11.7	5
Clerical and Administrative Workers	273	12.1	6	5,136	18.0	2	19.5	2
Technicians and Trades Workers	138	6.1	7	1,608	5.6	7	5.0	7
Machinery Operators and Drivers	30	1.3	8	399	1.4	8	1.5	8
Males								
Labourers	759	31.0	1	5,826	18.6	3	13.6	4
Technicians and Trades Workers	429	17.5	2	5,943	18.9	2	18.5	3
Managers	390	15.9	3	7,329	23.4	1	22.7	1
Machinery Operators and Drivers	273	11.1	4	2,919	9.3	5	9.1	5
Professionals	273	11.1	5	4,809	15.3	4	18.6	2
Community and Personal Service Workers	138	5.6	6	1,413	4.5	7	5.4	7
Sales Workers	114	4.7	7	2,013	6.4	6	7.1	6
Clerical and Administrative Workers	75	3.1	8	1,131	3.6	8	5.1	8

Source: 2013 Census, Statistics New Zealand

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

Among employed Nelson Marlborough Māori women, the leading occupational groupings were labourers (22%), professionals (18%), and community and personal service workers (15%). The next most common occupations were managers, sales workers, and clerical and administrative workers.

Māori men were most likely to be employed as labourers (31%), technicians and trade workers (18%), and managers (16%). Machinery operators and drivers, and professionals were the next most common occupations.

Table 15: Unpaid work, 15 years and over, Nelson Marlborough 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	6,774	89.5	(88.8, 90.2)	83,583	89.9	(89.7, 90.2)	0.99	(0.99, 1.00)	-0.5
Looking after disabled/ill household member	754	10.0	(9.4, 10.8)	6,315	6.3	(6.1, 6.5)	**1.60**	**(1.48, 1.73)**	3.8
Looking after disabled/ill non-household member	868	11.0	(10.3, 11.7)	9,222	7.8	(7.6, 8.0)	**1.41**	**(1.32, 1.51)**	3.2

Source: 2013 Census, Statistics New Zealand

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

Ninety percent of Māori adults worked without pay in 2013. Māori were 60% more likely than non-Māori to look after someone who was disabled or ill without pay within the home, and around 40% more likely to look after a non-household member who was disabled or ill.

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, Nelson Marlborough, Canterbury, West Coast and South Canterbury DHBs combined, 2013

	Nelson Marlborough and other South Island DHBs			New Zealand	
Actions taken a lot to keep costs down	Estimated number	%	(95% CI)	%	(95% CI)
Put up with feeling the cold	5,000*	9.0*	(6.2, 11.7)	11.0	(10.2, 11.8)
Go without fresh fruit and vegetables	3,000*	5.1*	(3.3, 6.9)	5.4	(4.8, 6.0)
Postpone or put off visits to the doctor	5,000*	9.0*	(6.3, 11.7)	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 5,000 Māori adults (9%) across the four DHBs reported putting up with feeling cold a lot during the previous 12 months to keep costs down, 3,000 (5%) had gone without fresh fruit and vegetables, and 5,000 (9%) had often postponed or put off visits to the doctor.

Table 17: Children aged 0–17 years living in families where the only income is means-tested benefits, Nelson Marlborough 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	699	13.8	(12.8, 14.7)	1,362	5.9	(5.6, 6.2)	**2.33**	**(2.14, 2.54)**	7.9
2013	1,038	17.9	(17.0, 19.0)	1,407	6.1	(5.8, 6.4)	**2.93**	**(2.72, 3.16)**	11.8

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.

There was an increase of 4% in the proportion of children living in Māori families where the only income was means-tested benefits between 2006 and 2013 (from 14% to 18%). Children in Māori families were 3 times as likely as non-Māori children to be in this situation in 2013.

Table 18: Children and adults living in households with low incomes, Nelson Marlborough 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	1,632	32.5	(31.3, 33.8)	3,975	18.1	(17.6, 18.6)	**1.80**	**(1.72, 1.89)**	14.5
Adults 18 years & over	2,745	28.2	(27.3, 29.1)	11,943	18.8	(18.4, 19.2)	**1.50**	**(1.44, 1.56)**	9.4

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.

A third of the children in Māori households (over 1,600) were in households with low equivalised household incomes in 2013, 1.8 times the proportion of other children. Over a quarter (28%) of adults in Māori households (over 2,700) lived in low income households, 1.5 times the proportion of other adults.

Table 19: Households with no access to a motor vehicle, Nelson Marlborough 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	378	7.3	(6.6, 8.0)	2,676	6.2	(6.0, 6.4)	**1.18**	**(1.06, 1.31)**	1.1
2013	444	7.4	(6.8, 8.1)	2,607	5.6	(5.4, 5.9)	**1.32**	**(1.19, 1.45)**	1.8
People (% age-standardised)									
2006	855	5.4	(5.0, 5.7)	3,615	2.3	(2.2, 2.4)	**2.31**	**(2.13, 2.50)**	3.0
2013	1,050	5.9	(5.6, 6.3)	3,741	2.8	(2.7, 2.9)	**2.11**	**(1.96, 2.28)**	3.1

Source: 2006 and 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.
Ratios in **bold** show a statistically significant difference between Māori and non-Māori.

In 2013, 7% of Māori households in Nelson Marlborough had no access to a motor vehicle, a third more than the proportion of non-Māori households. The proportion of people living Māori households without a vehicle was twice that of people living in non-Māori households.

Table 20: People in households with no access to telephone, mobile/cell phone, internet, or any telecommunications, Nelson Marlborough 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	2,316	11.8	(11.4, 12.3)	15,090	10.7	(10.5, 10.9)	**1.11**	**(1.06, 1.16)**	1.1
No telephone	3,729	21.8	(21.2, 22.5)	9,270	10.9	(10.7, 11.1)	**2.00**	**(1.93, 2.08)**	10.9
No internet	4,431	24.2	(23.6, 24.9)	17,607	12.1	(11.8, 12.3)	**2.01**	**(1.94, 2.07)**	12.2
No tele-communications	450	2.5	(2.2, 2.7)	957	1.0	(0.9, 1.1)	**2.50**	**(2.21, 2.82)**	1.5

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.
% is age–sex-standardised to the 2001 Māori population. Ratios in **bold** show a statistically significant difference between Māori and non-Māori.

In 2013, 24% of people in Māori households in Nelson Marlborough had no access to the internet, 12% did not have a cell phone, 22% had no telephone (landline), and 2.5% had no access to any telecommunications in the home. The largest absolute gaps between Nelson Marlborough Māori and non-Māori households were in access to the internet (12%) and telephone (11%).

Housing

Table 21: Housing problems reported by Māori aged 15 years and over, Nelson Marlborough, Canterbury, West Coast, South Canterbury DHBs combined, 2013

Housing problem (a big problem)	Nelson Marlborough and other South Island DHBs			New Zealand	
	Estimated number	%	(95% CI)	%	(95% CI)
Too small	2,500*	4.7*	(3.2, 6.3)	5.3	(4.7, 5.9)
Damp	5,000	9.1	(6.5, 11.7)	11.3	(10.5, 12.2)
Hard to keep warm	8,000	14.6	(11.2, 18.0)	16.5	(15.4, 17.7)
Needs repairs	7,500	13.8	(10.2, 17.5)	13.8	(12.7, 14.9)
Pests in the house	2,500*	4.3*	(2.4, 6.3)	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%.

Housing problems reported to be a big problem by Māori adults in Nelson Marlborough and three other South Island DHBs in 2013 included difficulty keeping the house warm (15%), needing repairs (14%), and damp (9%). Five percent felt their house was too small, and 4% stated that pests were a big problem in their house.

Housing security

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

Measure	Māori households			Non-Māori households			Māori/non-Māori ratio (95% CI)	Difference in percentage
	Number	%	(95% CI)	Number	%	(95% CI)		
Households	2,712	45.6	(44.3, 46.9)	10,161	22.3	(21.9, 22.6)	**2.05 (1.98, 2.12)**	23.3
Children under 18 years (% age-standardised)	3,105	52.0	(50.7, 53.3)	6,987	29.7	(29.1, 30.2)	**1.75 (1.70, 1.81)**	22.3
Adults 18 years and over (% age-standardised)	5,301	47.7	(46.8, 48.6)	17,484	31.6	(31.1, 32.0)	**1.51 (1.48, 1.55)**	16.1

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

In 2013, just over 2,700 Māori households in Nelson Marlborough were rented, close to half of all Māori households, and twice the proportion of non-Māori households.

Among children living in a Māori household, 52% (over 3,100) were living in rented homes, compared to 30% in non-Māori households.

Half of adults living in Māori households were living in rented accommodation (around 5,300), 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), Nelson Marlborough DHB, 2013

Measure	Māori households			Non-Māori households			Māori/non-Māori ratio (95% CI)	Difference in percentage
	Number	%	(95% CI)	Number	%	(95% CI)		
Households	438	7.3	(6.7, 8.0)	789	1.7	(1.6, 1.8)	**4.28 (3.82, 4.79)**	5.6
People (% age standardised)	2,214	13.2	(12.7, 13.8)	3,741	5.3	(5.2, 5.5)	**2.47 (2.35, 2.61)**	7.9

Source: 2013 Census, Statistics New Zealand

Notes: 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).
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, Māori households were over 4 times more likely than non-Māori households to be classified as crowded using the Canadian National Occupancy Standard, with 438 homes needing at least one additional bedroom, affecting over 2,200 people. People living in Māori households were two-and-a-half times as likely as people living in non-Māori households to be living in crowded conditions.

Fuel poverty

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

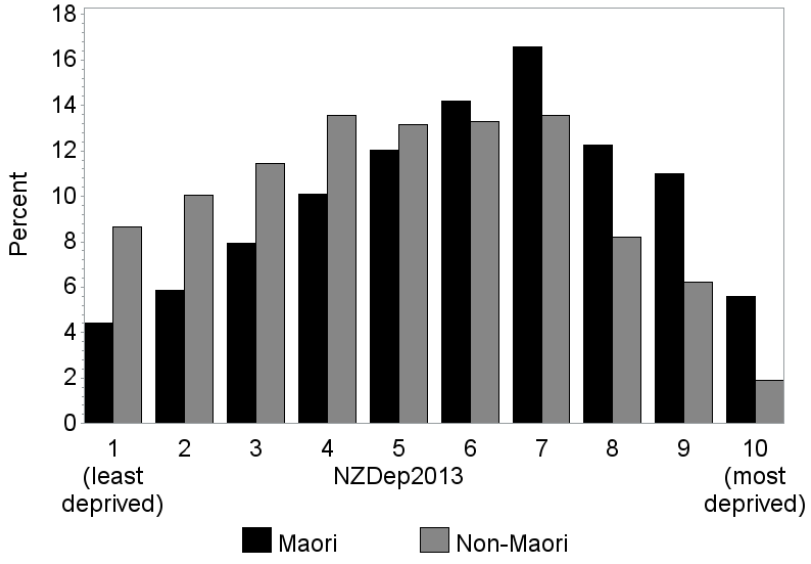
	Māori households			Non-Māori households			Māori/non-Māori ratio (95% CI)	Difference in percentage
Measure	Number	%	(95% CI)	Number	%	(95% CI)		
Households	96	1.6	(1.3, 2.0)	396	0.9	(0.8, 0.9)	**1.88 (1.50, 2.34)**	0.8
People (% age standardised)	222	1.3	(1.1, 1.5)	804	1.0	(0.9, 1.1)	**1.26 (1.07, 1.47)**	0.3

Source: 2013 Census, Statistics New Zealand
Notes: No form of heating used in the dwelling (including electricity, coal, mains or bottled gas, wood, solar heating equipment, other heating).
A Māori household is a household with at least one Māori resident. Non-Māori households have no Māori residents.
Ratios in **bold** show a statistically significant difference between Māori and non-Māori.

In 2013, 2% of Māori households (96 homes) had no heating, compared to 1% of non-Māori households (396 homes).

Area deprivation

Figure 1: Distribution by NZDep 2013 decile, Nelson Marlborough DHB, 2013



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

Nelson Marlborough Māori and non-Māori have a less deprived small area profile than the national population, but Māori were more likely than non-Māori to live in the most deprived areas. In 2013, 45% of Māori and 30% of non-Māori lived in the four most deprived decile areas (see accompanying Excel tables).

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, Nelson Marlborough 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	19	5.5	(4.5, 6.7)	63	4.9	(4.4, 5.4)	1.13 (0.91, 1.42)	0.7
High birth-weight	8	2.4	(1.8, 3.3)	37	2.9	(2.5, 3.3)	0.85 (0.61, 1.19)	-0.4
Preterm	24	7.1	(5.9, 8.4)	79	6.1	(5.6, 6.8)	1.16 (0.95, 1.41)	1.0

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

From 2009 to 2013 there were 343 Māori infants born per year on average, 21% of all live births in the DHB (1,600 per year). On average, 19 Māori babies per year were born with low birth-weight, at a rate of 6% of live births; eight per year (2%) were born with high birth-weight, and 24 per year (7%) were born preterm.

Well child/Tamariki ora indicators

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

		Māori	
Indicator	Period	Count	%
1. Babies enrolled with a Primary Health Organisation (PHO) by three months old	20 Aug to 19 Nov 2013	39	61
11. Babies exclusively or fully breastfed at 2 weeks		105	76
12. Babies exclusively or fully breastfed at 6 weeks	January to June 2013	91	66
19. Mothers smoke-free two weeks postnatal		92	72
5. Children under 5 years enrolled with oral health services (PHO enrolled children)	2012	764	44
7. Children starting school who have participated in ECE	2013	294	96
15. Children with a healthy weight at 4 years, DHB of service	July to Dec 2013	97	70

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, 61% of Māori babies in the Nelson Marlborough DHB region were enrolled with a PHO by three months of age. In the first half of 2013, 76% of Māori babies were breastfed at two weeks of age and 66% at six weeks. About 72% 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 (96%) who started school in 2013 had participated in early childhood education. Of Māori children who had their BMI recorded at their B4 School Check, 70% had a healthy weight.

Table 27: Children fully immunised by the milestone age, Nelson Marlborough 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	214	69	972	81	0.86	-12
8 months	271	89	1,077	90	0.98	-1
12 months	299	93	1,134	91	1.02	2
18 months	267	83	1,094	88	0.95	-4
24 months	299	90	1,121	88	1.02	2
5 years	285	84	1,260	85	0.99	-1

Source: National Immunisation Register

In the 12 months to 31 December 2014, 69% of Māori infants aged six months were fully immunised, compared to 81% of non-Māori infants. However, 89% of Māori children aged eight months and 90% of those aged 24 months had completed their immunisations. At five years 84% of Māori children were fully immunised.

Oral health

Table 28: Oral health status of children aged 5 or in Year 8 at school, Nelson Marlborough 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	176	69 (61, 76)	3.9	1,042	41 (38, 44)	1.6	**1.68 (1.49, 1.90)**	28
Year 8	227	55 (48, 61)	1.6	1,511	45 (42, 47)	1.0	**1.22 (1.07, 1.39)**	10

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.

Over two thirds of Māori children aged five years in 2013 had caries, 68% higher than non-Māori children. The mean number of decayed, missing or filled teeth (DMFT) was 3.9 for Māori compared to 1.6 for non-Māori. Of those in Year 8, over half of Māori and almost half of non-Māori children had caries, with mean DMFTs of 1.6 and 1.0.

Table 29: Hospitalisations for tooth and gum disease, children aged 0–14 years, Nelson Marlborough 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	32	1,428.1 (1,168.9, 1,744.9)	101	936.1 (836.2, 1,048.0)	**1.53 (1.21, 1.92)**	492.0
Male	34	1,442.7 (1,189.1, 1,750.4)	109	977.3 (876.8, 1,089.3)	**1.48 (1.18, 1.84)**	465.4
Total	66	1,435.4 (1,248.9, 1,649.7)	210	956.7 (884.7, 1,034.6)	**1.50 (1.28, 1.76)**	478.7

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 66 admissions per year on average for tooth and gum disease among Māori children, at a rate that was 50% higher than for non-Māori, or about 480 more admissions per 100,000 children per year.

Middle ear disease

Table 30: Hospitalisations for grommet insertions, children aged 0–14 years, Nelson Marlborough 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	11	504.4	(360.2, 706.3)	53	505.0	(432.0, 590.4)	1.00	(0.69, 1.45)	-0.6
Male	20	812.2	(629.2, 1,048.6)	79	725.4	(638.8, 823.8)	1.12	(0.84, 1.49)	86.8
Total	31	658.3	(537.0, 807.0)	132	615.2	(557.4, 679.0)	1.07	(0.85, 1.34)	43.1

Source: NMDS

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

On average, 31 Māori children per year were admitted for insertion of grommets for otitis media.

Healthy skin

Table 31: Hospitalisations for serious skin infections, children aged 0–14 years, Nelson Marlborough 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	4	182.5	(105.9, 314.2)	14	131.3	(96.7, 178.4)	1.39	(0.74, 2.59)	51.1
Male	5	218.2	(133.6, 356.2)	13	114.4	(83.2, 157.3)	**1.91**	**(1.06, 3.42)**	103.8
Total	10	200.3	(139.2, 288.3)	26	122.8	(98.5, 153.2)	**1.63**	**(1.07, 2.50)**	77.5

Source: NMDS

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

There were about 10 hospital admissions per year on average for serious skin infections among Māori children, at a rate 63% higher than for non-Māori children, or 78 more admissions per 100,000 children per year.

Potentially preventable hospitalisations

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

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

Table 32: Potentially avoidable hospitalisations for children aged 1 month to 14 years, Nelson Marlborough 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	100	4,367.3 (3,899.5, 4,891.2)	305	2,934.6 (2,750.2, 3,131.5)	**1.49 (1.31, 1.70)**	1,432.7
Male	108	4,468.0 (4,006.7, 4,982.4)	384	3,549.7 (3,350.3, 3,761.0)	**1.26 (1.11, 1.42)**	918.3
Total	208	4,417.7 (4,083.9, 4,778.8)	689	3,242.2 (3,105.1, 3,385.2)	**1.36 (1.25, 1.49)**	1,175.5

Source: NMDS

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

There were just over 200 potentially avoidable hospitalisations per year on average among Māori children aged 14 years and under. The admission rate was a third higher for Māori than for non-Māori children, or 1,176 more admissions per 100,000 children.

Table 33: Ambulatory care sensitive hospitalisations for children aged 1 month to 14 years, Nelson Marlborough 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	78	3,426.8 (3,014.2, 3,895.9)	227	2,163.4 (2,006.6, 2,332.6)	**1.58 (1.37, 1.84)**	1,263.3
Male	80	3,328.0 (2,932.2, 3,777.3)	268	2,465.1 (2,300.3, 2,641.6)	**1.35 (1.17, 1.56)**	862.9
Total	158	3,377.4 (3,086.2, 3,696.0)	495	2,314.3 (2,199.3, 2,435.2)	**1.46 (1.32, 1.62)**	1,063.1

Source: NMDS

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

On average there were 158 admissions per year for ambulatory care sensitive conditions among Māori children between 2011 and 2013, at a rate 46% higher than among non-Māori children, or around 1,060 more admissions per 100,000 children.

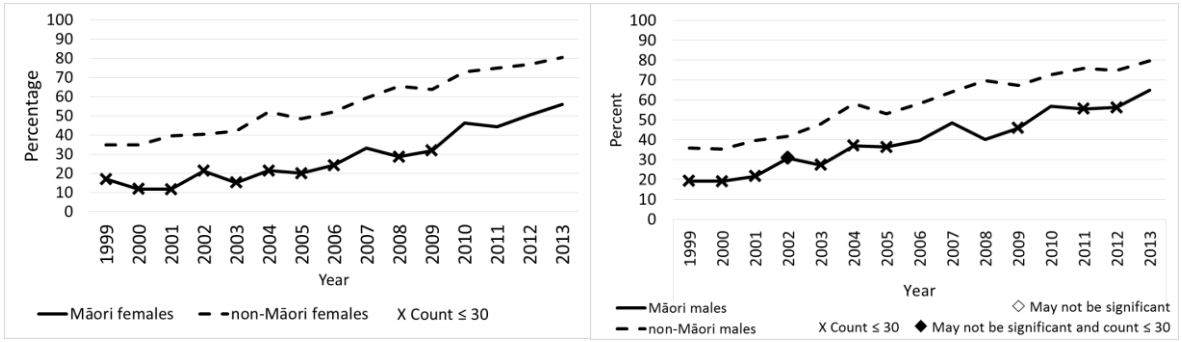
Mauri ora: Rangatahi – Young adults

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

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

Smoking

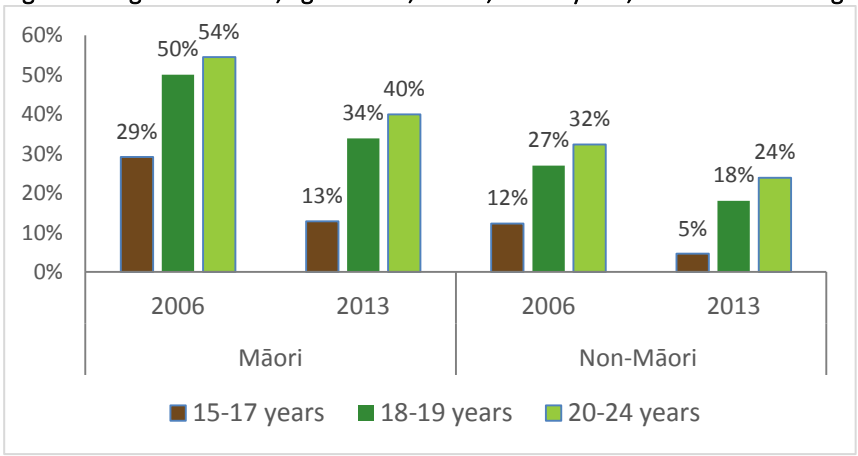
Figure 2: Trends in the proportion of students aged 14–15 years who have never smoked, by gender, Nelson Marlborough DHB, 1999–2013



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 or 15 who have never smoked (Figure 2). In 2013, nearly 55% of Māori year 10 students in the Nelson Marlborough District had never smoked.

Figure 3: Regular smokers, ages 15–17, 18–19, 20–24 years, Nelson Marlborough 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 Nelson Marlborough since 2006. However, smoking uptake remains relatively high among those aged 18–24 years, with a sizeable group smoking in this age group. At ages 20–24 years, 40% of Māori were smoking regularly in 2013. Non-Māori in each age group were around half as likely as Māori to smoke regularly.

Immunisations

Table 34: Human papilloma virus immunisations (HPV) by birth cohorts, Nelson Marlborough 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	74	56.9	342	46.8	1.22	10.1
1999	15	2012	68	56.7	361	51.6	1.10	5.1
1998	16	2011	71	50.7	350	45.5	1.12	5.3
1997	17	2010	72	51.4	342	50.3	1.02	1.1

Source: National Immunisation Register.
Note: 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 were between 50% and 57% for Māori girls in Nelson Marlborough in 2014. Around 51% of Māori girls aged 16 and 17 years in 2014 had received all three doses by September 2014. Māori girls aged 14 and 15 years had a slightly higher coverage at 57%.

Mental health

Table 35: Hospitalisations for njury from intentional self-harm, 15–24 and 25–44 years, Nelson Marlborough 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	5	422.2	(254.4, 700.4)	89	1,487.4	(1,319.2, 1,677.1)	**0.28 (0.17, 0.48)**	-1,065.3
Male	2	191.7	(91.3, 402.8)	16	239.7	(180.6, 318.2)	0.80 (0.36, 1.77)	-48.0
Total	7	306.9	(202.0, 466.4)	105	863.6	(773.2, 964.5)	**0.36 (0.23, 0.55)**	-556.6
25–44 years								
Female	6	360.0	(226.7, 571.8)	45	313.9	(263.6, 373.9)	1.15 (0.70, 1.88)	46.1
Male	4	242.3	(139.7, 420.2)	18	123.8	(93.8, 163.4)	**1.96 (1.06, 3.63)**	118.5
Total	10	301.2	(211.3, 429.2)	62	218.9	(188.8, 253.8)	1.38 (0.94, 2.02)	82.3

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

Overall Māori aged 15–24 years were less likely than non-Māori to be admitted to hospital for injury from intentional self-harm.

In the age-group 25–44 years Māori overall were as likely as non-Māori to be admitted. However Māori males in this age group were twice as likely as non-Māori males to be admitted.

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 Nelson Marlborough can be found in the accompanying Excel© tables labelled 'Death registrations' and 'Hospitalisations by principal diagnosis'. For example, the hospitalisations table shows higher rates for Māori than for non-Māori in admissions for pneumonia, bronchiectasis, epilepsy, gastric ulcers, pancreatitis, 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 36: Health status reported by Māori aged 15 years and over, Nelson Marlborough, Canterbury, West Coast, South Canterbury DHBs combined, 2013

	Nelson Marlborough and other South Island DHBs			New Zealand	
Health status	Estimated number	%	(95% CI)	%	(95% CI)
Excellent	9,000	16.4	(12.2, 20.5)	18.1	(16.8, 19.3)
Very good	21,000	39.4	(34.4, 44.4)	37.0	(35.5, 38.5)
Good	15,000	27.6	(23.4, 31.9)	28.5	(27.3, 29.7)
Fair / poor	9,000	16.6	(13.0, 20.3)	16.4	(15.3, 17.5)

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

In 2013, over half of Māori adults (56%) in Nelson Marlborough and three other South Island DHBs reported having excellent or very good health and another quarter (28%) described their health as good. One in six (17%) reported having fair or poor health status.

Smoking status

Table 37: Cigarette smoking status, 15 years and over, Nelson Marlborough 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	2,676	40.8	(39.6, 41.9)	15,810	22.1	(21.8, 22.5)	**1.84**	**(1.78,**	**1.90)**	18.6%
Ex-smoker	1,473	21.2	(20.3, 22.2)	23,676	21.3	(21.0, 21.6)	1.00	(0.95,	1.05)	-0.1%
Never smoked	2,559	37.8	(36.7, 39.0)	49,464	56.6	(56.2, 57.0)	**0.67**	**(0.65,**	**0.69)**	-18.8%
2013										
Regular smoker	2,346	32.2	(31.1, 33.3)	11,844	16.0	(15.7, 16.3)	**2.01**	**(1.93,**	**2.09)**	16.1
Ex-smoker	2,043	24.8	(23.9, 25.8)	26,175	21.3	(21.0, 21.6)	**1.17**	**(1.12,**	**1.22)**	3.6
Never smoked	3,339	43.3	(42.2, 44.4)	56,127	62.7	(62.3, 63.1)	**0.69**	**(0.67,**	**0.71)**	-19.4

Source: 2006 and 2013 Censuses, 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 41% to 32%. There were corresponding increases in the proportions who had never smoked, and who were ex-smokers. However, Māori remained twice as likely as non-Māori to smoke regularly.

Heart disease and stroke

Table 38: Hospitalisations for circulatory system diseases, 25 years and over, Nelson Marlborough 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	63	1,325.2 (1,143.5, 1,535.7)	987	718.2 (680.3, 758.2)	**1.85 (1.58, 2.16)**	607.0
Male	59	1,429.9 (1,229.9, 1,662.6)	1,419	1,336.2 (1,283.7, 1,390.8)	1.07 (0.92, 1.25)	93.8
Total	122	1,377.6 (1,239.5, 1,531.0)	2,406	1,027.2 (994.6, 1,060.8)	**1.34 (1.20, 1.50)**	350.4

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

Around 120 Māori were admitted to hospital per year on average for diseases of the circulatory system (including heart disease and stroke), at a rate 34% higher than non-Māori, or 350 more admissions per 100,000.

Table 39: Ischaemic heart disease indicators, 25 years and over, Nelson Marlborough 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	17	351.0	(265.7,	463.5)	294	184.0	(169.7,	199.5)	**1.91**	**(1.43,**	**2.55)**	166.9
Male	25	572.7	(455.3,	720.3)	601	532.5	(504.2,	562.5)	1.08	(0.85,	1.36)	40.1
Total	42	461.8	(386.8,	551.3)	896	358.3	(342.3,	375.0)	**1.29**	**(1.07,**	**1.55)**	103.5
Angiography procedures												
Female	18	398.6	(304.6,	521.4)	223	197.0	(180.9,	214.6)	**2.02**	**(1.53,**	**2.68)**	201.6
Male	17	418.3	(318.1,	550.0)	468	490.3	(460.6,	521.8)	0.85	(0.64,	1.13)	-72.0
Total	36	408.4	(337.1,	494.9)	691	343.6	(326.6,	361.5)	1.19	(0.97,	1.45)	64.8
Angioplasty procedures												
Female	4	77.6	(42.9,	140.3)	60	51.1	(43.1,	60.7)	1.52	(0.82,	2.81)	26.5
Male	7	158.0	(101.7,	245.3)	184	196.7	(178.4,	216.7)	0.80	(0.51,	1.26)	-38.7
Total	10	117.8	(82.7,	167.8)	244	123.9	(113.8,	134.9)	0.95	(0.66,	1.37)	-6.1
Coronary Artery Bypass Graft (CABG)												
Female	1	29.8	(11.0,	80.3)	13	11.0	(7.7,	15.5)	2.71	(0.95,	7.76)	18.8
Male	2	44.7	(20.0,	99.7)	61	54.7	(46.5,	64.3)	0.82	(0.36,	1.85)	-10.0
Total	3	37.2	(20.0,	69.5)	74	32.8	(28.3,	38.0)	1.13	(0.60,	2.15)	4.4
Acute coronary syndrome admissions												
Female	9	192.4	(131.4,	281.8)	178	103.4	(92.6,	115.5)	**1.86**	**(1.25,**	**2.77)**	89.0
Male	12	295.1	(213.3,	408.2)	346	301.6	(280.0,	324.9)	0.98	(0.70,	1.36)	-6.5
Total	21	243.7	(190.3,	312.2)	524	202.5	(190.3,	215.5)	1.20	(0.93,	1.55)	41.2

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

On average 42 Māori per year were admitted to hospital for ischaemic heart disease. Of these, 21 were admitted with acute coronary syndrome. Rates for both these conditions for Māori women were nearly twice the rates for non-Māori women while the male rates were similar. There were 36 angiography procedures conducted for Māori patients, and rates for Māori women were twice those of non-Māori women while the male rates were similar.

On average, 10 Māori per year had angioplasty procedures, and three had a coronary artery bypass graft at rates that were similar to non-Māori.

Table 40: Hospitalisations for heart failure, stroke, and hypertensive disease, 25 years and over, Nelson Marlborough 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	7	150.6	(97.0,	233.8)	121	46.6	(40.3,	53.8)	**3.23**	**(2.04,**	**5.14)**	104.1
Male	7	159.7	(102.8,	248.0)	114	70.2	(59.7,	82.5)	**2.27**	**(1.42,**	**3.64)**	89.5
Total	14	155.1	(113.6,	211.8)	235	58.4	(52.1,	65.4)	**2.66**	**(1.91,**	**3.70)**	96.8
Stroke												
Female	11	207.0	(146.6,	292.5)	154	88.1	(77.1,	100.7)	**2.35**	**(1.62,**	**3.40)**	118.9
Male	5	129.9	(78.6,	214.6)	159	123.4	(110.0,	138.5)	1.05	(0.63,	1.76)	6.5
Total	17	168.5	(126.4,	224.5)	313	105.8	(97.0,	115.4)	**1.59**	**(1.18,**	**2.15)**	62.7
Hypertensive disease												
Female	<1	13.5	(1.9,	95.9)	7	5.2	(2.4,	11.4)	2.59	(0.31,	21.44)	8.3
Male	0	0.0	.	.	7	6.3	(3.7, | 10.8)	0.00	.	.	-6.3
Total	<1	6.8	(1.0,	47.9)	14	5.8	(3.6,	9.1)	1.17	(0.16,	8.78)	1.0

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

There were 14 admissions per year for Māori with heart failure, at over two-and-a-half times the rate for non-Māori, or 97 more admissions per 100,000.

Seventeen Māori per year were admitted for stroke, with the rate 59% higher than the non-Māori rate, or 63 more admissions per 100,000.

On average there was one admission for hypertensive disease every three years among Māori.

Table 41: Hospitalisations for chronic rheumatic heart disease and heart valve replacements, 25 years and over, Nelson Marlborough 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	2	38.7	(15.6,	96.2)	7	9.8	(5.7,	16.7)	**3.97**	**(1.38,**	**11.42)**	29.0
Male	<1	8.2	(1.2,	58.4)	4	3.0	(1.7,	5.4)	2.71	(0.35,	20.92)	5.2
Total	2	23.5	(10.3,	53.6)	11	6.4	(4.2,	9.9)	**3.67**	**(1.45,**	**9.32)**	17.1
Heart valve replacements												
Female	1	33.8	(12.0,	95.3)	10	11.8	(7.3,	19.1)	2.85	(0.91,	8.94)	21.9
Male	0	0.0	.	.	24	21.0	(15.4, | 28.7)	0.00	.	.	-21.0
Total	1	16.9	(6.0,	47.7)	34	16.4	(12.6,	21.4)	1.03	(0.35,	3.00)	0.5

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

On average, there were two hospitalisations per year for Māori women with chronic rheumatic heart disease, and one in three years among Māori men. The rate for Māori women was 4 times the rate for non-Māori women, with 29 more hospitalisations per 100,000. The rates for Māori and non-Māori men were similar.

Heart valve replacements were conducted on one Māori woman per year on average.

Table 42: Early deaths from circulatory system disease, Nelson Marlborough 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	3	32.4	(18.7,	56.3)	20	12.3	(9.7,	15.6)	**2.64 (1.45, 4.82)**	20.1
Male	5	66.2	(44.5,	98.3)	54	32.8	(28.4,	37.9)	**2.02 (1.32, 3.08)**	33.4
Total	8	49.3	(35.7,	68.0)	75	22.5	(19.9,	25.5)	**2.19 (1.55, 3.09)**	26.7

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 eight Māori died early from circulatory system disease (including heart disease and stroke), with the rate for Māori over twice that of non-Māori, or 27 more deaths per 100,000 per year.

Diabetes

Table 43: Diabetes prevalence, medication use, monitoring of blood glucose levels, screening for renal disease, Nelson Marlborough DHB, 2013

	Māori		Non-Māori			
Indicator	Count	% (crude)	Count	% (crude)	Māori/non-Māori ratio	Difference in percentage
Prevalence of diabetes (all ages)	456	3.4	5,805	4.6	0.74	-1.2
People with diabetes regularly receiving metformin or insulin, 25+	244	53.5	2,969	51.1	1.05	2.4
People with diabetes having regular Hb1Ac monitoring, 25+	395	86.6	5,043	84.4	1.03	2.2
People with diabetes having regular screening for renal disease, 25+	304	66.7	3,918	67.5	0.99	-0.8

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.

Over 450 Māori in the Nelson Marlborough DHB region are estimated to have diabetes, giving a crude prevalence of 3.4%. Although this is lower than the prevalence among non-Māori, the prevalence has not been adjusted for age and may be higher for Māori in each age group. Over half (54%) of Māori with diabetes were regularly receiving metformin or insulin in 2013. Eighty-seven percent were having regular monitoring of blood glucose levels and 67% were being screened for renal disease.

Table 44: Hospitalisations for lower limb amputations for people with concurrent diabetes, 15 years and over, Nelson Marlborough 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	0	0.0	.	.	5	2.8	(1.1,	7.0)	0.00 . .	-2.8
Male	0	0.0	.	.	12	6.4	(4.4,	9.3)	0.00 . .	-6.4
Total	0	0.0	.	.	16	4.6	(3.1,	6.7)	0.00 . .	-4.6

Source: NMDS

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

During 2011 to 2013, no Nelson Marlborough Māori with diabetes were admitted for a lower limb amputation, while 16 non-Māori with concurrent diabetes had amputations.

Cancer

Table 45: Most common cancer registrations for Māori by site, all ages, Nelson Marlborough 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	18	208.8	(169.4, 257.3)	337	174.5	(163.5, 186.3)	1.20	(0.96, 1.49)		34.2
Breast	5	51.6	(34.6, 77.1)	86	51.0	(45.6, 57.1)	1.01	(0.67, 1.53)		0.6
Lung	3	37.3	(23.0, 60.5)	24	8.8	(7.1, 10.9)	**4.25**	**(2.50,**	**7.22)**	28.5
Colorectal	2	24.2	(12.7, 46.1)	62	22.0	(19.1, 25.4)	1.10	(0.57, 2.13)		2.2
Male										
All cancers	13	164.9	(129.3, 210.3)	405	196.6	(185.8, 208.1)	0.84	(0.65, 1.08)		-31.7
Lung	3	29.9	(17.3, 51.7)	32	12.1	(10.2, 14.4)	**2.48**	**(1.40,**	**4.39)**	17.9
Colorectal	2	28.1	(15.9, 49.7)	59	26.0	(22.5, 30.0)	1.08	(0.60, 1.95)		2.1
Prostate	2	27.4	(15.6, 48.4)	127	53.7	(49.4, 58.4)	**0.51**	**(0.29,**	**0.91)**	-26.3

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 18 cancer registrations per year on average among Māori females, at a rate similar to non-Māori. The most common cancers registered for Māori females were breast, lung, and colorectal cancers. Lung cancer registration rates were 4 times as high for Māori as for non-Māori women.

Among Māori males there were 13 cancer registrations per year on average, at a rate similar to non-Māori. Lung, colorectal and prostate cancers were the most common cancers registered for Māori males. The Māori lung cancer registration was two and a half times the non-Māori rate, the colorectal cancer rate similar, and the prostate cancer rate was half the non-Māori rate.

Table 46: Most common cancer deaths for Māori by site, all ages, Nelson Marlborough 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	7	74.6	(52.8, 105.5)	141	52.2	(47.2, 57.7)	1.43	(1.00,	2.05)	22.4
Digestive organs	2	23.1	(12.7, 41.9)	45	14.7	(12.3, 17.5)	1.57	(0.84,	2.92)	8.4
Lung	2	21.9	(11.7, 41.0)	22	8.2	(6.5, 10.3)	**2.67**	**(1.37,**	**5.21)**	13.7
Breast	1	12.0	(5.3, 27.0)	21	9.2	(7.2, 11.7)	1.30	(0.56,	3.04)	2.8
Male										
All cancers	6	74.4	(52.2, 106.1)	156	61.2	(56.1, 66.8)	1.22	(0.84,	1.75)	13.2
Lung	2	27.5	(15.6, 48.6)	26	9.9	(8.2, 12.1)	**2.77**	**(1.52,**	**5.06)**	17.6
Digestive organs	2	19.1	(9.6, 38.3)	50	20.0	(17.3, 23.1)	0.96	(0.47,	1.94)	-0.9

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 40% of all deaths (see accompanying Excel tables). Deaths from cancers of the digestive organs were the most common (32% of all cancer deaths), followed by lung cancer (29%) and breast cancer (18%). The mortality rate for lung cancer was 2.7 times the non-Māori rate, or 14 more deaths per 100,000.

For Māori males, cancer deaths accounted for a third of all deaths. Lung cancer was the most common cause of cancer death for Māori males, comprising 39% of all cancer deaths, at a rate 2.8 times the non-Māori rate. Cancers of the digestive organs made up a quarter of all cancer deaths, at a rate similar to non-Māori males.

Breast and cervical cancer screening

Table 47: BreastScreen Aotearoa breast screening coverage, women aged 45–69 years, Nelson Marlborough DHB, 24 months to 31 December 2014

Māori			Non-Māori		
Number screened	Eligible population	% screened	Number screened	Eligible population	% screened
1,301	1,635	79.6	20,497	24,675	83.1

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 prior to 31 December 2014, 80% of Māori women and 83% of non-Māori women in Nelson Marlborough had been screened.

Table 48: Cervical screening coverage, women aged 25–69 years, Nelson Marlborough 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 %
3,115	2,532	81.3	2,115	67.9	34,539	32,278	93.5	28,075	81.3

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 94% 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 68% for Māori women and 81% 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 49: Hospitalisations for asthma, by age group, Nelson Marlborough 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	15	640.5	(476.5,	861.0)	22	204.9	(160.6,	261.4)	**3.13**	**(2.13,**	**4.59)**	435.6
Male	15	603.0	(448.6,	810.4)	42	386.0	(324.1,	459.7)	**1.56**	**(1.11,**	**2.20)**	217.0
Total	29	621.7	(504.4,	766.4)	64	295.4	(256.3,	340.5)	**2.10**	**(1.63,**	**2.71)**	326.3
15–34 years												
Female	4	189.4	(104.5,	343.0)	10	84.8	(59.5,	120.8)	**2.23**	**(1.12,**	**4.46)**	104.6
Male	1	65.7	(21.2,	203.9)	6	45.1	(28.0,	72.5)	1.46	(0.43,	4.98)	20.7
Total	5	127.6	(75.2,	216.4)	16	64.9	(48.9,	86.3)	**1.96**	**(1.08,**	**3.58)**	62.6
35–64 years												
Female	3	116.2	(60.4,	223.7)	14	50.9	(36.5,	71.1)	**2.28**	**(1.09,**	**4.76)**	65.3
Male	2	88.8	(42.3,	186.4)	8	35.4	(22.9,	54.6)	**2.51**	**(1.06,**	**5.93)**	53.4
Total	5	102.5	(62.7,	167.4)	22	43.2	(33.1,	56.3)	**2.37**	**(1.36,**	**4.15)**	59.3
65 years and over												
Female	1	174.2	(43.6,	696.5)	7	56.6	(35.5,	90.3)	3.08	(0.71,	13.29)	117.6
Male	0	92.7	(13.1,	658.2)	4	32.9	(18.0,	59.8)	2.82	(0.36,	21.91)	59.9
Total	1	133.5	(43.0,	414.0)	11	44.7	(30.9,	64.6)	2.98	(0.91,	9.82)	88.7

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

There were 29 admissions for asthma per year among Māori children aged 0–14 years. Among Māori adults aged 15–34 and 35–64 years, there were five per year on average in each group. For each of these age groups admission rates were at least twice those of non-Māori.

One older Māori aged 65 years and over was admitted for asthma per year on average.

Table 50: Hospitalisations for chronic obstructive pulmonary disease (COPD), 45 years and over, Nelson Marlborough 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	9	480.8	(326.4,	708.2)	121	214.1	(189.9,	241.4)	**2.25**	**(1.50,**	**3.37)**	266.7
Male	16	963.4	(725.5,	1279.2)	143	253.4	(227.8,	281.9)	**3.80**	**(2.81,**	**5.15)**	710.0
Total	25	722.1	(574.4,	907.8)	264	233.7	(215.8,	253.1)	**3.09**	**(2.42,**	**3.94)**	488.4

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

There were 25 hospitalisations for COPD per year on average for Māori aged 45 years and over, at a rate 3 times that of non-Māori, or 488 more admissions per 100,000.

Table 51: Early deaths from respiratory disease, Nelson Marlborough 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	2	19.2	(9.6,	38.5)	9	4.4	(3.1,	6.3)	**4.34**	**(1.98,**	**9.50)**	14.8
Male	1	14.1	(5.8,	34.5)	9	5.0	(3.7,	6.8)	**2.81**	**(1.09,**	**7.23)**	9.1
Total	3	16.6	(9.6,	28.9)	18	4.7	(3.7,	6.0)	**3.53**	**(1.94,**	**6.42)**	11.9

Source: Mortality data, Ministry of Health
Notes: "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, three Māori per year died early from respiratory disease, a rate that was three and a half times the non-Māori rate, or 12 more deaths per 100,000.

Mental disorders

Table 52: Hospitalisations for mental disorders, all ages, Nelson Marlborough 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	29	408.5	(329.5, 506.5)	216	300.1	(272.3, 330.8)	**1.36 (1.07, 1.72)**	108.4
Schizophrenia	5	64.0	(38.5, 106.4)	31	35.8	(27.7, 46.3)	**1.79 (1.01, 3.16)**	28.2
Mood (affective)	10	141.2	(97.5, 204.5)	51	68.8	(56.6, 83.7)	**2.05 (1.35, 3.12)**	72.4
—Bipolar	6	84.8	(52.9, 136.0)	22	24.5	(18.3, 33.0)	**3.46 (1.98, 6.03)**	60.3
—Depressive episode	3	47.6	(24.6, 91.9)	23	35.7	(26.8, 47.5)	1.33 (0.65, 2.73)	11.9
Substance use	6	83.1	(52.0, 132.9)	42	70.6	(57.5, 86.8)	1.18 (0.71, 1.97)	12.5
—Alcohol	5	67.3	(39.6, 114.2)	36	61.4	(49.2, 76.6)	1.10 (0.62, 1.94)	5.9
Anxiety, stress-related	4	61.0	(34.4, 107.9)	42	58.3	(47.2, 72.1)	1.05 (0.57, 1.92)	2.6
Male								
All disorders	23	352.8	(276.0, 451.1)	206	297.4	(270.0, 327.6)	1.19 (0.91, 1.54)	55.4
Schizophrenia	8	130.4	(85.8, 198.2)	47	79.6	(65.8, 96.3)	**1.64 (1.03, 2.59)**	50.8
Mood (affective)	3	49.0	(25.9, 92.7)	46	68.0	(55.7, 82.8)	0.72 (0.37, 1.41)	-19.0
—Bipolar	1	17.7	(5.4, 57.5)	23	32.3	(24.3, 42.9)	0.55 (0.16, 1.84)	-14.6
—Depressive episode	2	26.9	(12.0, 60.0)	16	23.2	(16.5, 32.6)	1.16 (0.48, 2.77)	3.7
Substance use	9	123.7	(83.2, 184.0)	55	88.3	(74.0, 105.2)	1.40 (0.91, 2.16)	35.5
—Alcohol	7	93.7	(59.6, 147.3)	47	73.1	(60.4, 88.5)	1.28 (0.78, 2.09)	20.6
Anxiety, stress-related	1	25.2	(9.4, 67.8)	18	26.7	(19.3, 37.0)	0.94 (0.33, 2.67)	-1.5
Total								
All disorders	52	380.7	(323.7, 447.7)	422	298.8	(279.0, 320.0)	**1.27 (1.07, 1.52)**	81.9
Schizophrenia	13	97.2	(70.1, 134.8)	78	57.7	(49.5, 67.3)	**1.68 (1.17, 2.42)**	39.5
Mood (affective)	13	95.1	(69.0, 131.0)	97	68.4	(59.5, 78.6)	1.39 (0.98, 1.97)	26.7
—Bipolar	7	51.3	(33.0, 79.6)	46	28.4	(23.1, 34.9)	**1.80 (1.11, 2.93)**	22.8
—Depressive episode	5	37.2	(22.3, 62.1)	39	29.5	(23.7, 36.7)	1.26 (0.72, 2.20)	7.8
Substance use	15	103.4	(76.4, 140.1)	97	79.4	(69.5, 90.8)	1.30 (0.93, 1.81)	24.0
—Alcohol	11	80.5	(57.1, 113.5)	83	67.2	(58.2, 77.7)	1.20 (0.82, 1.74)	13.2
Anxiety, stress-related	5	43.1	(26.2, 70.8)	60	42.5	(35.6, 50.8)	1.01 (0.60, 1.72)	0.6

Source: NMDS

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

Rates of hospitalisation for mental disorders were 27% higher for Māori than non-Māori. The most common cause of Māori admission was substance abuse, with 15 admissions per year on average.

Admissions for schizophrenia related disorders and mood disorders were the next most common cause of Māori admission, with 13 admissions per year each.

Māori had overall similar rates of admission for of depression and anxiety disorders as non-Māori.

Gout

Table 53: Gout prevalence and treatment, 20–79 years, Nelson Marlborough DHB, 2011

Indicator	Māori		Non-Māori		Māori/non-Māori ratio	Difference in percentage
	Count	%	Count	%		
Gout prevalence	303	4.1	2,367	2.6	1.58	1.5
People with gout who received allopurinol regularly	124	40.9	1,136	48.0	0.85	-7.1
Colchicine use by people with gout not dispensed allopurinol	13	4.3	156	6.6	0.65	-2.3
NSAID use by people with gout	143	47.2	990	41.8	1.13	5.4
Serum urate test within six months following allopurinol dispensing	43	21.7	321	22.2	0.98	-0.4

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

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

Around 303 NMDHB Māori were estimated to have gout in 2011, a prevalence of 4%, compared to 3% prevalence for non-Māori. Forty-one percent of Māori with gout regularly received allopurinol, a preventive therapy to lower urate levels. Of those who received allopurinol, only 22% had a lab test for serum urate levels within the following six months.

Table 54: Hospitalisations for gout, 25 years and over, Nelson Marlborough 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	18.9	(4.5,	79.5)	5	1.5	(0.8,	2.8)	**12.48**	**(2.62,**	**59.54)**	17.4
Male	6	193.5	(120.8,	309.8)	20	24.4	(17.6,	33.9)	**7.91**	**(4.46,**	**14.04)**	169.0
Total	7	106.2	(67.9,	166.1)	25	13.0	(9.5,	17.7)	**8.18**	**(4.75,**	**14.10)**	93.2

Source: NMDS

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

There were seven hospital admissions for gout per year on average among Māori, more frequent among males than females.

The rate of admission for Māori females was over 12 times the non-Māori rate. Māori males had an admission rate almost 8 times the rate for non-Māori males.

Hip fractures

Table 55: Hospitalisations for hip fractures, 65 years and over, Nelson Marlborough 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	198.1	(60.5,	648.4)	102	414.6	(361.9,	475.0)	0.48	(0.14,	1.58)	-216.5
Male	0	0.0	.	.	41	231.7	(191.3,	280.8)	0.00	.	.	-231.7
Total	1	99.1	(30.3,	324.2)	143	323.2	(289.2,	361.1)	0.31	(0.09,	1.01)	-224.1

Source: NMDS

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

On average, one Māori per year aged 65 and over (a woman) was admitted to hospital for hip fracture.

Elective surgery

Table 56: Hospitalisations for hip replacements, 50 years and over, Nelson Marlborough 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	299.7	(169.4, 530.3)	116	327.0	(291.2, 367.3)	0.92 (0.51, 1.64)	-27.3
Male	5	439.6	(264.7, 730.1)	90	295.9	(260.2, 336.5)	1.49 (0.88, 2.51)	143.7
Total	9	369.7	(252.8, 540.6)	206	311.5	(285.7, 339.5)	1.19 (0.80, 1.75)	58.2

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

On average, nine Māori per year were admitted to hospital for a hip replacement, at a rate similar to non-Māori.

Table 57: Publicly funded hospitalisations for cataract surgery, 45 years and over, Nelson Marlborough 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	9	487.2	(333.3, 712.3)	275	390.6	(360.9, 422.7)	1.25 (0.85, 1.84)	96.6
Male	5	335.0	(204.7, 548.2)	203	361.1	(329.6, 395.5)	0.93 (0.56, 1.53)	-26.1
Total	14	411.1	(304.1, 555.8)	478	375.8	(353.9, 399.1)	1.09 (0.80, 1.49)	35.3

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

On average, 14 Māori per year aged 45 years and over were admitted to hospital for cataract surgery. The rate for Māori was similar to that for non-Māori.

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 three regions in Nelson Marlborough DHB: Tasman, Nelson, and Marlborough.

Hospitalisations

Table 58: All-cause hospitalisations, all ages, Nelson Marlborough 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	1,461	20,684.5 (20,064.3, 21,323.8)	14,546	19,542.7 (19,294.7, 19,793.8)	**1.06 (1.02, 1.09)**	1,141.8
Male	1,038	14,544.2 (14,030.4, 15,076.7)	12,515	14,487.2 (14,277.6, 14,699.9)	1.00 (0.97, 1.04)	56.9
Total	2,499	17,614.3 (17,209.7, 18,028.4)	27,061	17,014.9 (16,852.3, 17,179.2)	**1.04 (1.01, 1.06)**	599.4

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

On average, there were around 2,500 Māori hospital admissions per year in the Nelson Marlborough District and over 27,000 non-Māori admissions. All-cause admission rates were 4% higher for Māori than non-Māori, or approximately 600 more admissions per 100,000.

A table of admissions by principal diagnosis is provided in the accompanying Excel tables.

Potentially avoidable hospitalisations

Table 59: Potentially avoidable hospitalisations, 0–74 years, Nelson Marlborough 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	328	4,577.3 (4,292.1, 4,881.4)	2,262	3,515.3 (3,409.1, 3,624.9)	**1.30 (1.21, 1.40)**	1,061.9
Male	298	4,166.4 (3,895.9, 4,455.7)	2,465	3,580.1 (3,475.3, 3,688.1)	**1.16 (1.08, 1.25)**	586.3
Total	626	4,371.8 (4,173.4, 4,579.7)	4,727	3,547.7 (3,472.8, 3,624.3)	**1.23 (1.17, 1.30)**	824.1

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

Over 600 Māori hospital admissions per year were potentially avoidable through population based prevention strategies. The rate of admission was 23% higher for Māori than for non-Māori, or around 820 more admissions per 100,000.

Table 60: Ambulatory care sensitive hospitalisations, 0–74 years, Nelson Marlborough 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	158	2,229.3 (2,032.1, 2,433.6)	899	1,456.9 (1,387.0, 1,530.3)	**1.53 (1.38, 1.70)**	772.4
Male	150	2,094.0 (1,905.5, 2,301.3)	1,089	1,585.2 (1,514.4, 1,659.3)	**1.32 (1.19, 1.47)**	508.8
Total	308	2,157.0 (2,019.0, 2,304.4)	1,988	1,517.8 (1,467.8, 1,569.4)	**1.42 (1.32, 1.53)**	639.2

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

On average, there were just over 300 ambulatory care sensitive hospitalisations per year among Māori, at a rate that was 42% higher than the non-Māori rate, or nearly 640 more admissions per 100,000.

Mortality

Table 61: Life expectancy at birth, Tasman, Nelson, Marlborough Regions, 2012–2014

Region and Gender	Māori Years (95% credible interval)			Non-Māori Years (95% credible interval)			Difference in years
Tasman Region							
Female	81.9	(79.0,	85.6)	84.3	(83.8,	84.8)	-2.4
Male	78.0	(75.0,	81.8)	80.7	(80.1,	81.2)	-2.7
Nelson Region							
Female	81.3	(78.6,	84.7)	83.6	(83.1,	84.1)	-2.3
Male	77.3	(74.5,	80.9)	80.0	(79.5,	80.5)	-2.7
Marlborough Region							
Female	81.0	(78.7,	83.8)	83.9	(83.4,	84.3)	-2.9
Male	77.1	(74.7,	80.0)	80.1	(79.6,	80.6)	-3.0

Source: Statistics New Zealand Subnational Period Life Tables: 2012–14.
Notes: This data is for the three regions in Nelson Marlborough DHB. A map of Regional Council boundaries can be found here. The credible interval is the 2.5th percentile and the 97.5th percentile, the years of expected 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 any changes in mortality rates after that period.

During 2012 to 2014, life expectancy at birth for Māori females was 81.9 years in the Tasman Region, 81.3 years in the Nelson Region, and 81.0 years in the Marlborough Region. Compared to non-Māori females, Māori life expectancy was between 2.3 and 2.9 years lower.

For Māori males, life expectancy at birth was around 4 years lower than for Māori females in each region, and between 2.7 and 3 years lower than for non-Māori males.

Life expectancy at birth for Māori males was 78.0 years in the Tasman Region, 77.3 years in the Nelson Region, and 77.1 years in the Marlborough Region.

Table 62: All-cause deaths, all ages, Nelson Marlborough DHB, 2008–2012

Gender	Māori Ave. no. per year	Māori Age-standardised rate per 100,000 (95% CI)			Non-Māori Ave. no. per year	Non-Māori Age-standardised rate per 100,000 (95% CI)			Māori/non-Māori ratio (95% CI)			Rate difference
Female	18	216.6	(186.2,	252.0)	514	144.0	(136.9,	151.5)	**1.50**	**(1.28,**	**1.76)**	72.6
Male	19	288.7	(249.3,	334.3)	515	216.1	(207.2,	225.4)	**1.34**	**(1.15,**	**1.56)**	72.5
Total	37	252.6	(227.2,	280.9)	1,029	180.1	(174.3,	186.0)	**1.40**	**(1.26,**	**1.57)**	72.6

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

There were 37 Māori deaths per year on average during 2008 to 2012. The Māori mortality rate was 40% higher again than the non-Māori rate, or 73 more deaths per 100,000.

Table 63: Leading causes of death for Māori, all ages, Nelson Marlborough 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	2	22.3	(11.9,	41.6)	22	8.1	(6.5,	10.2)	**2.75**	**(1.41,**	**5.34)**	14.2
IHD	2	22.9	(12.3,	42.6)	92	13.2	(11.7,	15.0)	1.73	(0.92,	3.26)	9.6
Stroke	2	22.4	(11.8,	42.6)	65	11.0	(9.1,	13.5)	**2.03**	**(1.04,**	**3.97)**	11.4
Male												
IHD	5	67.6	(46.1,	99.1)	113	33.9	(30.5,	37.8)	**1.99**	**(1.34,**	**2.97)**	33.7
Lung cancer	2	28.4	(16.1,	50.3)	26	9.8	(8.1,	12.0)	**2.90**	**(1.59,**	**5.29)**	18.6
Accidents	2	27.9	(14.9,	52.3)	28	33.6	(27.1,	41.6)	0.83	(0.43,	1.61)	-5.7
Total												
IHD	7	45.2	(32.6,	62.7)	205	23.6	(21.7,	25.7)	**1.92**	**(1.37,**	**2.69)**	21.6
Lung cancer	4	25.4	(16.6,	38.6)	48	9.0	(7.7,	10.4)	**2.83**	**(1.81,**	**4.42)**	16.4
Accidents	3	23.1	(14.1,	37.9)	40	20.2	(16.6,	24.6)	1.14	(0.67,	1.95)	2.9
Stroke	2	13.3	(7.4,	23.9)	101	10.6	(9.2,	12.1)	1.26	(0.69,	2.30)	2.8
COPD	2	11.6	(5.9,	22.8)	53	6.3	(5.5,	7.3)	1.82	(0.91,	3.65)	5.2
Suicide	2	14.1	(7.2,	27.5)	15	10.0	(7.6,	13.1)	1.41	(0.68,	2.89)	4.1

Source: Mortality dataset, Ministry of Health.
Notes: 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 were ischaemic heart disease (IHD) and lung cancer. The mortality rate for IHD was twice that of non-Māori and for lung cancer nearly 3 times the non-Māori rate.

For Māori women, after lung cancer and IHD, stroke was the next most common cause of death (at twice the rate of non-Māori women). For Māori men, accidents were the next most common cause of death.

Data on leading causes of death by ICD chapter are provided 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 64: Potentially avoidable mortality, 0–74 years, Nelson Marlborough 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	10	128.9	(97.6,	170.3)	89	67.2	(59.2,	76.2)	**1.92**	**(1.41,**	**2.60)**	61.7
Male	14	185.6	(145.9,	236.3)	144	114.0	(103.3,	125.8)	**1.63**	**(1.26,**	**2.11)**	71.7
Total	24	157.3	(131.0,	188.7)	233	90.6	(83.8,	97.9)	**1.74**	**(1.42,**	**2.12)**	66.7

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

There were 24 potentially avoidable Māori deaths per year on average, at a rate three-quarters higher than the non-Māori rate, or 67 more deaths per 100,000.

Table 65: Amenable mortality, 0–74 years, Nelson Marlborough 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	7	89.6	(64.4, 124.8)	55	43.2	(36.7, 50.8)	**2.07**	**(1.43, 3.00)**		46.4
Male	10	138.0	(103.8, 183.4)	105	82.6	(73.7, 92.5)	**1.67**	**(1.23, 2.27)**		55.4
Total	17	113.8	(91.7, 141.3)	159	62.9	(57.3, 69.0)	**1.81**	**(1.43, 2.29)**		50.9

Source: Mortality, Ministry of Health

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

Amenable mortality was 81% higher for Māori than for non-Māori, or 51 more deaths per 100,000. On average, there were 17 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 Nelson Marlborough Māori were falls, exposure to mechanical forces, transport accidents, complications of medical and surgical care, assault, and intentional self-harm.

Table 66: Hospitalisations for injuries, all ages, Nelson Marlborough 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	123	1,724.1	(1,552.6, 1,914.6)	1,491	1,861.3	(1,786.4, 1,939.4)	0.93	(0.83, 1.04)		-137.2
Male	174	2,613.2	(2,394.0, 2,852.4)	1,661	2,516.7	(2,431.1, 2,605.3)	1.04	(0.94, 1.14)		96.5
Total	297	2,168.6	(2,027.6, 2,319.5)	3,152	2,189.0	(2,131.8, 2,247.7)	0.99	(0.92, 1.06)		-20.4

Source: NMDS

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

On average, 297 Māori per year were hospitalised for injuries, at a similar rate to non-Māori.

Table 67: Hospitalisations for assault, all ages, Nelson Marlborough 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	12	177.2	(126.7, 247.9)	18	34.8	(25.8, 46.9)	**5.10**	**(3.25, 7.99)**		142.4
Male	19	298.6	(229.3, 389.0)	77	167.9	(146.5, 192.5)	**1.78**	**(1.32, 2.39)**		130.7
Total	31	237.9	(193.3, 292.8)	95	101.3	(89.5, 114.7)	**2.35**	**(1.84, 2.99)**		136.6

Source: NMDS

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

There was an average of 31 hospitalisations per year for injuries from assault or homicide among Māori in the Nelson Marlborough DHB region. This was over twice the rate for non-Māori, or 137 more hospitalisations per 100,000. The rate for Māori women was 5 times the rate for non-Māori women.

Table 68: Deaths from injury, all ages, Nelson Marlborough 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	2	25.8	(13.3, 50.1)	16	12.9	(9.1, 18.4)	2.00	(0.94, 4.24)		12.9
Male	3	52.0	(32.0, 84.3)	40	50.5	(42.4, 60.1)	1.03	(0.62, 1.72)		1.5
Total	5	38.9	(26.3, 57.5)	57	31.7	(27.1, 37.1)	1.23	(0.80, 1.87)		7.2

Source: Mortality dataset, Ministry of Health.

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

On average five Māori per year died from injuries, at a rate similar to non-Māori.

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Appendix 1: Population projections

Table 69: Māori population projections, single year by age group, Nelson Marlborough DHB, 2013 to 2020

Projected Māori Ethnic Group Population by Age and Sex at 30 June 2014-20 (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	160	150	320	170	160	330	170	160	330	170	160	330
1-4	690	660	1,340	680	660	1,340	690	650	1,340	710	650	1,360
5-9	810	750	1,560	810	760	1,570	840	810	1,640	830	830	1,670
10–14	800	720	1,520	800	730	1,530	760	710	1,470	770	710	1,480
15-19	720	690	1,410	760	700	1,460	790	740	1,530	760	720	1,480
20-24	550	500	1,060	580	520	1,100	620	510	1,130	660	550	1,200
25-29	350	440	780	380	440	820	410	460	860	440	460	900
30-34	340	410	750	330	420	750	330	430	770	340	440	770
35-39	390	440	830	360	430	790	360	410	770	350	420	770
40-44	450	490	940	450	480	920	420	480	900	420	460	880
45-49	410	450	860	430	470	900	450	480	930	430	500	940
50-54	380	440	820	400	440	840	400	450	850	420	430	850
55-59	280	290	570	300	310	610	330	340	670	340	380	720
60-64	210	240	450	220	270	480	230	270	500	240	270	510
65-69	140	180	320	160	180	340	160	200	360	180	220	390
70–74	110	120	230	100	130	240	110	140	260	120	150	260
75-79	50	60	110	70	70	130	70	80	160	80	100	180
80-84	20	50	70	30	50	70	30	40	70	40	40	80
85-89	10	20	30	20	10	30	20	20	30	20	20	40
90+	0	10	10	0	10	20	10	10	20	10	10	20
All Ages	**6,900**	**7,100**	**14,000**	**7,050**	**7,250**	**14,300**	**7,200**	**7,400**	**14,600**	**7,300**	**7,500**	**14,850**
		2017			2018			2019			2020	
0	170	160	330	170	160	340	170	160	340	170	160	340
1-4	690	650	1,340	690	660	1,350	690	660	1,350	690	660	1,350
5-9	880	840	1,720	860	820	1,680	860	830	1,690	870	820	1,690
10–14	780	720	1,500	810	750	1,560	810	760	1,570	830	800	1,640
15-19	760	710	1,470	740	680	1,420	740	690	1,420	690	670	1,360
20-24	650	570	1,220	660	610	1,280	700	620	1,320	720	660	1,380
25-29	470	470	940	520	480	1,000	540	490	1,040	580	480	1,060
30-34	340	430	770	340	440	780	370	440	810	390	450	850
35-39	340	420	760	340	420	760	340	430	760	340	440	780
40-44	400	450	850	380	430	820	350	420	770	350	400	750
45-49	430	490	920	450	490	940	440	470	910	410	480	890
50-54	430	450	880	410	440	850	420	460	890	440	470	910
55-59	360	400	760	370	440	810	390	440	830	390	440	830
60-64	250	280	530	270	280	560	290	300	590	320	330	650
65-69	180	230	420	200	230	430	210	250	460	220	260	480
70–74	130	150	280	130	170	300	150	170	320	150	190	330
75-79	90	110	190	100	110	210	90	130	220	100	130	240
80-84	40	40	90	50	50	100	60	60	110	60	70	130
85-89	20	30	50	10	40	50	20	40	50	20	30	50
90+	0	20	20	10	20	30	10	20	30	10	20	30
All Ages	**7,400**	**7,650**	**15,050**	**7,500**	**7,700**	**15,250**	**7,650**	**7,850**	**15,500**	**7,750**	**7,950**	**15,700**

These projections were derived in October 2014.

Source: Statistics New Zealand
Population Projections

Table 70: Total population projections, single year, by age group, Nelson Marlborough DHB, 2013 to 2020

Projected Total Population by Age and Sex at 30 June 2014-20 (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	760	810	1,570	790	750	1,550	800	760	1,550	800	760	1,550
1-4	3,650	3,440	7,090	3,500	3,430	6,930	3,400	3,300	6,710	3,350	3,260	6,620
5-9	4,680	4,470	9,150	4,700	4,470	9,170	4,800	4,600	9,400	4,800	4,620	9,420
10–14	4,720	4,440	9,170	4,750	4,500	9,250	4,650	4,490	9,140	4,640	4,460	9,100
15-19	4,510	4,060	8,570	4,570	4,040	8,610	4,680	4,030	8,710	4,660	4,020	8,680
20-24	3,370	3,110	6,480	3,520	3,210	6,730	3,640	3,250	6,890	3,740	3,290	7,030
25-29	3,230	3,420	6,640	3,390	3,520	6,920	3,570	3,660	7,240	3,830	3,700	7,530
30-34	3,240	3,730	6,970	3,300	3,740	7,050	3,390	3,790	7,180	3,420	3,870	7,290
35-39	3,910	4,310	8,220	3,730	4,200	7,930	3,650	4,050	7,700	3,520	4,060	7,580
40-44	4,860	5,380	10,230	4,780	5,300	10,080	4,590	5,220	9,820	4,530	5,020	9,550
45-49	5,010	5,460	10,470	4,960	5,420	10,380	5,050	5,480	10,530	5,020	5,520	10,550
50-54	5,370	5,890	11,260	5,420	5,910	11,320	5,360	5,870	11,230	5,300	5,740	11,040
55-59	5,060	5,230	10,290	5,210	5,400	10,600	5,330	5,540	10,870	5,380	5,730	11,110
60-64	4,790	5,070	9,860	4,760	5,080	9,840	4,820	5,170	9,990	4,930	5,260	10,190
65-69	4,410	4,450	8,860	4,590	4,710	9,300	4,790	4,960	9,760	4,940	5,140	10,080
70–74	3,210	3,220	6,420	3,380	3,410	6,790	3,490	3,570	7,060	3,620	3,740	7,350
75-79	2,130	2,340	4,470	2,230	2,390	4,620	2,400	2,530	4,930	2,560	2,720	5,280
80-84	1,470	1,800	3,260	1,510	1,830	3,340	1,570	1,860	3,430	1,620	1,890	3,510
85-89	860	1,270	2,130	860	1,310	2,170	880	1,300	2,180	930	1,320	2,250
90+	330	680	1,020	380	720	1,100	410	790	1,200	430	850	1,280
All Ages	**69,600**	**72,600**	**142,100**	**70,300**	**73,300**	**143,700**	**71,300**	**74,200**	**145,500**	**72,000**	**75,000**	**147,000**
		2017			2018			2019			2020	
0	790	750	1,540	790	750	1,540	790	750	1,530	790	750	1,530
1-4	3,270	3,200	6,470	3,290	3,130	6,420	3,270	3,110	6,390	3,260	3,100	6,360
5-9	4,850	4,580	9,430	4,650	4,480	9,130	4,510	4,400	8,910	4,380	4,250	8,630
10–14	4,650	4,530	9,180	4,800	4,600	9,400	4,800	4,580	9,380	4,870	4,690	9,560
15-19	4,590	4,000	8,600	4,460	3,930	8,380	4,460	3,960	8,420	4,330	3,930	8,250
20-24	3,820	3,270	7,090	3,900	3,310	7,220	3,930	3,250	7,180	3,980	3,190	7,170
25-29	3,870	3,720	7,590	3,980	3,720	7,700	4,060	3,740	7,790	4,100	3,700	7,800
30-34	3,550	3,910	7,460	3,650	3,960	7,610	3,760	4,010	7,770	3,890	4,100	7,990
35-39	3,500	4,050	7,550	3,470	4,070	7,540	3,500	4,060	7,550	3,540	4,070	7,620
40-44	4,250	4,800	9,050	4,100	4,570	8,670	3,890	4,430	8,330	3,780	4,250	8,030
45-49	5,100	5,520	10,620	5,020	5,490	10,510	4,930	5,390	10,320	4,710	5,290	10,000
50-54	5,200	5,670	10,870	5,060	5,510	10,570	5,000	5,450	10,450	5,060	5,490	10,550
55-59	5,410	5,850	11,260	5,460	6,010	11,470	5,500	6,020	11,520	5,420	5,960	11,380
60-64	5,010	5,320	10,320	5,170	5,400	10,570	5,310	5,550	10,860	5,410	5,670	11,080
65-69	4,890	5,210	10,100	4,800	5,170	9,960	4,760	5,170	9,930	4,800	5,250	10,050
70–74	3,900	3,950	7,850	4,230	4,370	8,600	4,420	4,630	9,040	4,600	4,860	9,470
75-79	2,770	2,940	5,710	2,850	3,020	5,860	3,000	3,190	6,200	3,080	3,330	6,410
80-84	1,650	1,980	3,630	1,710	2,040	3,740	1,790	2,070	3,860	1,930	2,200	4,130
85-89	960	1,300	2,260	960	1,330	2,280	1,000	1,360	2,350	1,040	1,380	2,420
90+	450	890	1,340	500	930	1,430	520	970	1,500	550	990	1,540
All Ages	**72,500**	**75,400**	**147,900**	**72,800**	**75,800**	**148,600**	**73,200**	**76,100**	**149,300**	**73,500**	**76,400**	**149,900**

These projections were derived in October 2014.

Source: Statistics New Zealand

Population Projections

Appendix 2: Technical notes

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

Data sources

Table 71: 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 72: 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 73: 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 74: 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 75: 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 76: 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*

*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 77: 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.

TE RŌPŪ RANGAHAU HAUORA A ERU PŌMARE

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MINISTRY OF HEALTH