



Tairāwhiti
District Health Board

Māori Health Profile 2015

Te Rei Puta

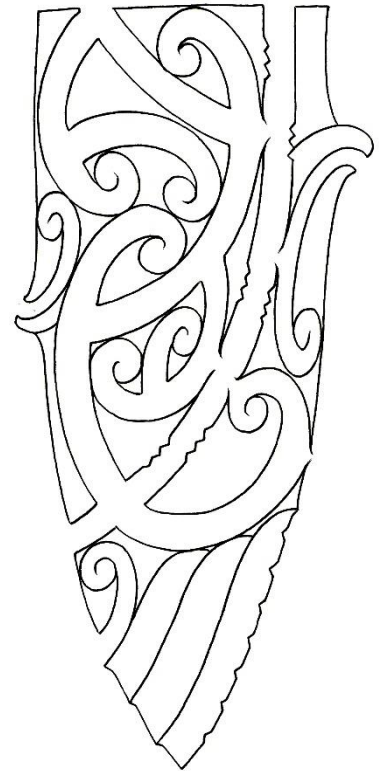
The cover design represents the journey of data from its production to its use by the health sector. The overall shape of the design is the prized rei puta. This signifies the importance of information and the acknowledgement that knowledge is a taonga.

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

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

Design by Graham Tipene
Ngāti Whatua, Ngāti Hine, Ngāti Kahu, Ngāti Manu, Ngāti Hāua

tewhekemoko@gmail.com
www.facebook.com/pages/Te-Wheke-Moko/371495646243927



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He Mihi

Tūi Tuia i Te Herenga Tangata

Te tangi a Te Rōpū Rangahau Hauora a Eru Pōmare.

Tui Tui Tui Tuia

E ngā maunga whakahii, ngā pū kōrero huri noa

Tēnā koutou, tēnā koutou, tēnā tātou katoa.

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

Haere atu rā, okioki ai.

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

Anei te mihi ki ngā kaimahi hauora

Whakapiki te kaha

Whakapiki te ora

Whakapiki te māramatanga

Kia eke tātou katoa ki Te Pae Ora.

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Ngā mihi nui ki a koutou katoa.

Nā,

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



Tiro whānui

– Tairāwhiti at a glance

Tairāwhiti population

- In 2013, an estimated 23,000 Māori lived in the Tairāwhiti District Health Board region, 49% of the District's total population.
- The Tairāwhiti Māori population is youthful, but showing signs of ageing. In 2013, the median age was 25.2 years. Sixty-five percent of the District's children aged 0–14 were Māori, as were 61% of 15–24 year olds. The Māori population aged 65 years and over will increase by 37% between 2013 and 2020.

Whānau ora – Healthy families

- In 2013, most Tairāwhiti Māori adults (81%) reported that their whānau was doing well, but 9% felt their whānau was doing badly. A small proportion (5%) found it hard to access whānau support in times of need, but most found it easy (77%).
- Being involved in Māori culture was important (very, quite, or somewhat) to the majority of Tairāwhiti Māori adults (78%), as was spirituality (also 78%).
- Practically all (99.5%) Tairāwhiti Māori adults had been to a marae at some time. Most (83%) had been to at least one of their ancestral marae, with 61% stating they would like to go more often.
- One in six had taken part in traditional healing or massage in the last 12 months.
- Thirty percent of Tairāwhiti Māori could have a conversation about a lot of everyday things in te reo Māori according to the 2013 Census.

Wai ora – Healthy environments

Education

- In 2013, 93% of Tairāwhiti Māori children had participated in early childhood education.
- In 2013, 46% of Māori adults aged 18 years and over had at least a Level 2 Certificate, a significant increase since 2006 (38%).

Work

- In 2013, 12% of Māori adults aged 15 years and over were unemployed, compared to 5% of non-Māori.
- Most Māori adults (89%) do voluntary work.
- In 2013, Māori were more likely than non-Māori to look after someone who was disabled or ill, within the home, or outside the home.

Income and standard of living

- In 2013, 47% of children and 41% of adults in Māori households (defined as households with at least one Māori resident) were in households with low equivalised household incomes (under \$15,172), over twice the proportion of children and adults in other households.
- In 2013, 21% of Tairāwhiti Māori adults reported putting up with feeling the cold a lot during the previous 12 months to keep costs down, 10% had gone without fresh fruit and vegetables, and 16% had often postponed or put off a visit to the doctor.

- Residents of Māori households were more likely than residents of other households to have no access to a motor vehicle (11% compared to 3%).
- People in Māori households were less likely to have access to telecommunications than those living in other households: 41% had no internet, 33% no telephone, 16% no mobile phone, and 4% had no access to any telecommunications.

Housing

- The most common housing problems reported to be a big problem by Māori adults in 2013 were finding it hard to keep warm (21%), needing repairs (19%), and damp (16%).
- More than half children in Tairāwhiti Māori households (59%) were living in rented accommodation, twice the proportion of children in other households (28%).
- Tairāwhiti residents living in Māori households were 4.2 times as likely as others to be in crowded homes (i.e. requiring at least one additional bedroom) (25% compared to 6%).

Area deprivation

- Using the NZDep2013 index of small area deprivation, 47% of Tairāwhiti Māori lived in the most deprived decile areas (decile 10) compared to 17% of non-Māori.

Mauri ora – Healthy individuals

Pepi, tamariki – Infants and children

- On average 526 Māori infants were born per year during 2009–2013, 70% of all live births in the DHB. Nine percent of Māori and 6% of non-Māori babies had low birth weight.
- In 2013, 73% of Māori babies in Tairāwhiti were fully breastfed at 6 weeks.
- Almost 80% of Māori infants were enrolled with a Primary Health Organisation by three months of age.
- In 2014, 90% of Māori children were fully immunised at 8 months of age, 92% at 24 months.
- In 2013, 65% of Tairāwhiti Māori children and 35% of non-Māori children aged 5 years had caries. At Year 8 of school, one in two Māori children and one in three non-Māori children had caries. Māori children under 15 years were 83% more likely than non-Māori to be hospitalised for tooth and gum disease.
- During 2011–2013, on average there were 42 hospital admissions per year for grommet insertions among Māori children (at a similar rate to non-Māori) and 49 admissions per year for serious skin infections (at a rate 2.4 times that of non-Māori children).
- Among Māori children under 15 years, an average of four per year were admitted at least once with acute rheumatic fever, and one per year in the 15 to 24 year age group.
- Around 540 hospitalisations per year of Māori children were potentially avoidable through population-based health promotion and intersectoral actions, at a rate 23% higher than that of non-Māori.
- Just over 350 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 31% higher than for non-Māori children.

Rangatahi – Young adults

- There has been a significant increase in the proportion of Tairāwhiti Māori aged 14 and 15 years who have never smoked, and a decrease in the proportion of Māori aged 15–24 years who smoke regularly. However, one in two Māori aged 20–24 years was smoking regularly in 2013 (compared to just over one in five non-Māori).
- By September 2014, 74% of Māori girls aged 17 years and 61% of those aged 14 years had received all three doses of the human papilloma virus vaccine. Coverage was higher for Māori than for non-Māori.
- During 2011–2013, on average, seven Māori aged 15–24 and three aged 25–44 years were admitted to hospital per year for injury from intentional self-harm.

Pakeke – Adults

- Half of Māori adults in Tairāwhiti reported having excellent or very good health in 2013, and a quarter reported having good health. A further quarter reported having fair or poor health.

- Smoking rates are decreasing, but remain more than twice as high for Māori as for non-Māori (38% compared to 17% in 2013).

Circulatory system diseases

- Tairāwhiti Māori adults aged 25 years and over were 82% more likely than non-Māori to be hospitalised for circulatory system diseases (including heart disease and stroke) in 2011–2013.
- Māori were 46% more likely than non-Māori to be admitted with acute coronary syndrome, 50% more likely to have angiography, and just as likely to have an angioplasty or a coronary artery bypass and graft.
- Heart failure admission rates were 5.8 times as high for Māori as for non-Māori.
- Rates of admission for stroke were 2.5 times as high for Māori as for non-Māori, and hypertensive disease admissions 9.4 times as high.
- Chronic rheumatic heart disease admissions were 7.5 times as common for Māori as for non-Māori and heart valve replacements 3 times as high.
- Māori under 75 years were nearly 4 times as likely as non-Māori to die from circulatory system diseases in 2007–2011.

Diabetes

- In 2013, 7.6% of Māori and 9.1% of non-Māori were estimated to have diabetes. Forty-four percent of Māori aged 25 years and over who had diabetes were regularly receiving metformin or insulin, 72% were having their blood sugar monitored regularly, and half were being screened regularly for renal disease.
- In 2011–2013 Māori with diabetes were 7 times as likely as non-Māori to have a lower limb amputated.

Cancer

- Compared to non-Māori, cancer incidence was 45% higher for Māori females, while cancer mortality was 2.4 times as high.
- Breast, lung, colorectal, stomach and uterine cancers were the most commonly registered among Tairāwhiti Māori women. The rate of lung cancer was 3.5 times the rate for non-Māori, and breast cancer 57% higher. Stomach cancer was notably 15 times as high as for non-Māori.
- Breast screening coverage of Māori women aged 45–69 years was 65% compared to 74% of non-Māori women during the two years to December 2014.
- Cervical screening coverage of Māori women aged 25–69 years was 66% over 3 years and 87% over five years (compared to 78% and 94% of non-Māori respectively) at December 2014.
- Among males in Tairāwhiti, cancer incidence was similar for Māori and non-Māori, but cancer mortality was over twice as high for Māori as for non-Māori.
- Prostate, lung, colorectal cancer and leukaemias were the most common cancers among Māori men. Lung cancer registration rates were 3.4 times as high as for non-Māori men, while colorectal cancer was less than half the non-Māori rate.
- Lung, breast, ovarian, and pancreatic cancers were the most common causes of death from cancer among Māori females. Lung, prostate, and colorectal cancer were the leading causes of cancer death for Māori males.

Respiratory disease

- Māori aged 45 years and over were almost three times as likely as non-Māori to be admitted to hospital for chronic obstructive pulmonary disease (COPD).
- Asthma hospitalisation rates were considerably higher for Māori than for non-Māori in each age group.
- Māori under 75 years had almost twice the non-Māori rate of death from respiratory disease in 2007–2011.

Mental disorders

- Māori were 66% more likely than non-Māori to be admitted to hospital for a mental disorder during 2011–2013. Schizophrenia type disorders were the most common disorders, followed by mood disorders.

Gout

- In 2011 the prevalence of gout among Tairāwhiti Māori was estimated to be 9.4%, more than twice the prevalence in non-Māori (4.4%).

- A third of Māori with gout regularly received allopurinol, a preventive therapy to lower urate levels. Of those who received allopurinol, only 33% had a lab test for serum urate levels in the following six months.
- During 2011–2013 the rate of hospitalisations for gout was more than 19 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 9% higher for Māori than for non-Māori during 2011–2013.
- Approximately 1,350 Māori hospital admissions per year were potentially avoidable, with the rate 36% higher for Māori than for non-Māori. The ASH rate was 59% higher.

Mortality

- During 2012–2014 life expectancy at birth was 74.8 years for Māori females in the Gisborne Region (8.4 years lower than for non-Māori females) and 70.4 years for Māori males (9 years lower than for non-Māori males).
- The all-cause mortality rate for Tairāwhiti Māori was 2.4 times the non-Māori rate.
- Leading causes of death for Māori females were ischaemic heart disease (IHD), lung cancer, stroke, diabetes, and COPD. Leading causes of death for Māori males were IHD, lung cancer, accidents, diabetes, and suicide.
- Potentially avoidable mortality and mortality amenable to health care were around 3 times as high for Māori as for non-Māori in Tairāwhiti during 2007–2011.

Injuries

- The rate of hospitalisation due to injury was 15% higher for Māori as for non-Māori. Males had higher rates of admission than females.
- The leading causes of injury resulting in hospitalisation among Māori were falls, exposure to mechanical forces, complications of medical and surgical care, transport accidents, and assault.
- Compared to non-Māori, rates of hospital admission for injury caused by assault were 4 times as high for Māori females and 57% higher for Māori males.
- Injury mortality was 90% higher for Māori than for non-Māori in Tairāwhiti.

Contents

Tiro whānui – Tairāwhiti at a glance	v
Introduction	1
Data sources and key methods	1
Further sources of data	2
Te Tatauranga o te Iwi – Key demographics	3
Whānau ora – Healthy families	4
Whānau well-being	4
Whānau support	5
Importance of participation in Māori culture.....	5
Te Reo Māori.....	5
Access to marae	6
Traditional healing or massage	6
Wai ora – Healthy environments	7
Education	7
Work.....	7
Income and standard of living.....	9
Housing	11
Housing security.....	11
Household crowding	11
Fuel poverty	12
Area deprivation.....	12
Mauri ora: Pepi, tamariki - Infants and children	13
Births.....	13
Well child/Tamariki ora indicators	13
Oral health	14
Middle ear disease	15
Healthy skin.....	15
Acute rheumatic fever.....	15
Potentially preventable hospitalisations	16
Mauri ora: Rangatahi – Young adults	17
Smoking.....	17
Immunisations.....	18
Mental health.....	18
Mauri ora: Pakeke – Adults	19
Self-assessed health	19

Smoking status	19
Heart disease and stroke.....	20
Diabetes	22
Cancer	23
Breast and cervical cancer screening	24
Respiratory disease	25
Mental disorders	26
Gout	27
Hip fractures.....	27
Elective surgery	28
Mauri ora: All ages	29
Hospitalisations.....	29
Potentially avoidable hospitalisations	29
Mortality	30
Potentially avoidable mortality	31
Injuries	32
References	33
Appendix 1: Population projections	34
Appendix 2: Technical notes	36
Data sources.....	36
Data from the Census of Population and Dwellings	36
Data from Te Kupenga 2013	36
Deaths, hospitalisations and cancer registrations.....	37
Ethnicity	37
Residence.....	37
Hospital transfers.....	37
Suppression of causes of death or hospitalisation	37
Ninety-five percent confidence intervals	37
Age standardisation	38
ICD-10 codes	38

List of Tables and Figures

Table 1: Population by age group, Tairāwhiti DHB, 2013	3
Table 2: Population projections, Tairāwhiti DHB, 2013 to 2033	3
Table 3: Whānau well-being reported by Māori aged 15 years and over, Tairāwhiti DHB, 2013	4
Table 4: Whānau composition reported by Māori aged 15 years and over, Tairāwhiti DHB, 2013	4
Table 5: Access to whānau support, Māori aged 15 years and over, Tairāwhiti DHB, 2013	5
Table 6: Importance of Māori culture and spirituality, Māori aged 15 years and over, Tairāwhiti DHB, 2013.....	5
Table 7: People who can have a conversation about a lot of everyday things in te reo Māori, Tairāwhiti DHB, 2013 ...	5
Table 8: Use of te reo Māori in the home, Māori aged 15 years and over, Tairāwhiti DHB, 2013	6
Table 9: Access to marae, Māori aged 15 years and over, Tairāwhiti DHB, 2013	6
Table 10: Māori aged 15 years and over who took part in traditional healing or massage in last 12 months, Tairāwhiti DHB, 2013	6
Table 11: Adults aged 18 years and over with a Level 2 Certificate or higher Tairāwhiti DHB, 2006 and 2013	7
Table 12: Labour force status, 15 years and over, Tairāwhiti DHB, 2006 and 2013	7
Table 13: Leading industries in which Māori were employed, Tairāwhiti DHB, 2013	8
Table 14: Leading occupations of employed Māori, Tairāwhiti DHB, 2013.....	8
Table 15: Unpaid work, 15 years and over, Tairāwhiti DHB, 2013.....	9
Table 16: Unmet need reported by Māori aged 15 years and over to keep costs down in the last 12 months, Tairāwhiti DHB, 2013.....	9
Table 17: Children aged 0–17 years living in families where the only income is means-tested benefits, Tairāwhiti DHB, 2006 and 2013	9
Table 18: Children and adults living in households with low incomes, Tairāwhiti DHB, 2013	10
Table 19: Households with no access to a motor vehicle, Tairāwhiti DHB, 2006 and 2013.....	10
Table 20: People in households with no access to telephone, mobile/cell phone, internet, or any telecommunications, Tairāwhiti DHB, 2013.....	10
Table 21: Housing problems reported by Māori aged 15 years and over, Tairāwhiti DHB, 2013	11
Table 22: Children and adults living in households where rent payment are made, Tairāwhiti DHB, 2013	11
Table 23: People living in crowded households (requiring at least one more bedroom), Tairāwhiti DHB, 2013	11
Table 24: People living in households where no heating fuels are used, Tairāwhiti DHB, 2013.....	12
Table 25: Birth-weight and gestation, Tairāwhiti DHB, 2009–2013.....	13
Table 26: Selected Well Child/Tamariki Ora indicators for Māori children, Tairāwhiti DHB	13
Table 27: Children fully immunised by the milestone age, Tairāwhiti DHB, 1 Jan 2014 to 31 Dec 2014	14
Table 28: Oral health status of children aged 5 or in Year 8 at school, Tairāwhiti DHB, 2013	14
Table 29: Hospitalisations for tooth and gum disease, children aged 0–14 years, Tairāwhiti DHB, 2011–2013	14
Table 30: Hospitalisations for grommet insertions, children aged 0–14 years, Tairāwhiti DHB, 2011–2013	15
Table 31: Hospitalisations for serious skin infections, children aged 0–14 years, Tairāwhiti DHB, 2011–2013	15
Table 32: Individuals admitted to hospital for acute rheumatic fever, ages 0–14 and 15–24 years, Tairāwhiti DHB, 2011–2013	15

Table 33: Potentially avoidable hospitalisations for children aged 1 month to 14 years, Tairāwhiti DHB, 2011–2013	16
Table 34: Ambulatory care sensitive hospitalisations for children aged 1 month to 14 years, Tairāwhiti DHB, 2011–2013	16
Table 35: Human papilloma virus immunisations (HPV) by birth cohorts, Tairāwhiti DHB, 1 September 2008 to 30 September 2014	18
Table 36: Hospitalisations for injury from intentional self-harm, 15–24 and 25–44 years, Tairāwhiti DHB, 2011–2013	18
Table 37: Health status reported by Māori aged 15 years and over, Tairāwhiti DHB, 2013	19
Table 38: Cigarette smoking status, 15 years and over, Tairāwhiti DHB, 2006 and 2013	19
Table 39: Hospitalisations for circulatory system diseases, 25 years and over, Tairāwhiti DHB, 2011–2013	20
Table 40: Ischaemic heart disease indicators, 25 years and over, Tairāwhiti DHB, 2011–2013	20
Table 41: Hospitalisations for heart failure, stroke, and hypertensive disease, 25 years and over, Tairāwhiti DHB, 2011–2013	21
Table 42: Hospitalisations for chronic rheumatic heart disease and heart valve replacements, 25 years and over, Tairāwhiti DHB, 2011–2013	21
Table 43: Early deaths from circulatory system disease, Tairāwhiti DHB, 2007–2011	22
Table 44: Diabetes prevalence, medication use, monitoring of blood glucose levels, screening for renal disease, Tairāwhiti DHB, 2013	22
Table 45: Hospitalisations for lower limb amputations for people with concurrent diabetes, 15 years and over, Tairāwhiti DHB, 2011–2013	22
Table 46: Most common cancer registrations for Māori by site, all ages, Tairāwhiti DHB, 2008–2012	23
Table 47: Most common cancer deaths for Māori by site, all ages, Tairāwhiti DHB, 2007–2011	23
Table 48: BreastScreen Aotearoa breast screening coverage, women aged 45–69 years, Tairāwhiti DHB, 24 months to 31 December 2014	24
Table 49: Cervical screening coverage, women aged 25–69 years, Tairāwhiti DHB, 3 years and 5 years to 31 December 2014	24
Table 50: Hospitalisations for asthma, by age group, Tairāwhiti DHB, 2011–2013	25
Table 51: Hospitalisations for chronic obstructive pulmonary disease (COPD), 45 years and over, Tairāwhiti DHB, 2011–2013	25
Table 52: Early deaths from respiratory disease, Tairāwhiti DHB, 2007–2011	25
Table 53: Hospitalisations for mental disorders, all ages, Tairāwhiti DHB, 2011–2013	26
Table 54: Gout prevalence and treatment, 20–79 years, Tairāwhiti DHB, 2011	27
Table 55: Hospitalisations for gout, 25 years and over, Tairāwhiti DHB, 2011–2013	27
Table 56: Hospitalisations for hip fractures, 65 years and over, Tairāwhiti DHB, 2011–2013	27
Table 57: Hospitalisations for hip replacements, 50 years and over, Tairāwhiti DHB, 2011–2013	28
Table 58: Publicly funded hospitalisations for cataract surgery, 45 years and over, Tairāwhiti DHB, 2011–2013	28
Table 59: All-cause hospitalisations, all ages, Tairāwhiti DHB, 2011–2013	29
Table 60: Potentially avoidable hospitalisations, 0–74 years, Tairāwhiti DHB, 2011–2013	29
Table 61: Ambulatory care sensitive hospitalisations, 0–74 years, Tairāwhiti DHB, 2011–2013	29

Table 62: Life expectancy at birth, Gisborne Region, 2012–2014	30
Table 63: All-cause deaths, all ages, Tairāwhiti DHB, 2008–2012.....	30
Table 64: Leading causes of death for Māori, all ages, Tairāwhiti DHB, 2007–2011	30
Table 65: Potentially avoidable mortality, 0–74 years, Tairāwhiti DHB, 2007–2011.....	31
Table 66: Amenable mortality, 0–74 years, Tairāwhiti DHB, 2007–2011.....	31
Table 67: Hospitalisations for injuries, all ages, Tairāwhiti DHB, 2011–2013	32
Table 68: Hospitalisations for assault, all ages, Tairāwhiti DHB, 2011–2013	32
Table 69: Deaths from injury, all ages, Tairāwhiti DHB, 2007–2011.....	32
Table 70: Māori population projections, single year by age group, Tairāwhiti DHB, 2013 to 2020	34
Table 71: Total population projections, single year, by age group, Tairāwhiti DHB, 2013 to 2020.....	35
Table 72: Data sources	36
Table 73: 2001 Census total Māori population.....	38
Table 74: Potentially avoidable hospitalisation ICD-10 codes for children aged 1 month to 14 years.....	38
Table 75: Ambulatory care sensitive hospitalisation ICD-10 codes for children aged 1 month to 14 years	39
Table 76: Ambulatory care sensitive hospitalisation ICD-10 codes for people aged 1 month to 74 years	40
Table 77: Avoidable mortality ICD-10 codes	41
Table 78: Amenable mortality ICD-10 codes.....	42
Figure 1: Distribution by NZDep 2013 decile, Tairāwhiti DHB, 2013	12
Figure 2: Trends in the proportion of students aged 14–15 years who have never smoked, by gender, Tairāwhiti DHB, 1999–2013	17
Figure 3: Regular smokers, ages 15–17, 18–19, 20–24 years, Tairāwhiti DHB, 2013	17



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 Mana Hauora o Te Tairāwhiti (Tairāwhiti 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 Tairāwhiti DHB. Accompanying Excel tables also include data for the total Tairāwhiti DHB population and the total New Zealand population for reo speakers, socioeconomic indicators, mortality, cancer registrations, and hospital discharges.

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

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

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

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

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

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

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

Further technical notes and methods are provided in Appendix 2.

Further sources of data

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

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



Te Tatauranga o te Iwi

– Key demographics

In 2013, 3% (23,000) of the country's total Māori population lived in the Tairāwhiti District Health Board. The total population of the DHB (47,000) made up 1% of the national population. In 2015, the Māori population is estimated to be 23,200 and the total population 47,500.²

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

Age group (years)	Māori			Non-Māori		Total DHB Number
	Number	Age distribution	% of DHB	Number	Age distribution	
0–14	7,590	33%	65	4,100	17%	11,690
15–24	3,860	17%	61	2,480	10%	6,340
25–44	5,300	23%	49	5,460	23%	10,760
45–64	4,640	20%	39	7,210	30%	11,850
65+	1,620	7%	26	4,730	20%	6,350
Total	23,000	100%	49	24,000	100%	47,000

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

In 2013, Māori residents comprised almost half of the Tairāwhiti DHB population (49%). The Māori population is relatively young, with a median age of 25.2 years in 2013, compared with 35.8 years for the total DHB population. Māori comprised 65% of the DHB's children aged 0–14 years and 61% of those aged 15–24 years.

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

Year	Māori							Total DHB			NZ	
	Residents	% of DHB	% of NZ Māori	% 0–14 years	% 15–64 years	% 65+ years	Median age	Residents	Median age	% of NZ pop	NZ Māori	Total NZ
2013	23,000	49	3	33	60	7	25.2	47,000	35.8	1	692,300	4,442,100
2018	23,400	49	3	31	61	9	26.7	47,900	36.2	1	734,500	4,726,200
2023	23,700	49	3	29	61	11	28.3	48,100	37.1	1	773,500	4,935,200
2028	23,800	49	3	27	60	13	29.8	48,200	38.4	1	811,700	5,139,700
2033	23,800	50	3	26	60	14	31.5	48,000	40.0	1	850,700	5,327,700

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

Note: Detailed population projections are provided in Appendix 1.

The proportion of Māori who were aged 65 years and over in 2013 was 7% but is projected to increase to 14% in 2033. Between 2013 and 2020 the number of Māori aged 65 and over will increase by 37% from 1,620 to 2,220 (see Appendix 1). In 2013 there were 570 Māori aged 75 years and over in Tairāwhiti, with 150 living alone (see accompanying Excel tables).

² Population projections are provided in Appendix 1.



Whānau ora

– Healthy families

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

Whānau well-being

Table 3: Whānau well-being reported by Māori aged 15 years and over, Tairāwhiti DHB, 2013

How the whānau is doing	Tairāwhiti DHB			New Zealand	
	Estimated number	%	(95% CI)	%	(95% CI)
Well / Extremely well	13,500	81.2	(75.6, 86.7)	83.4	(82.5, 84.4)
Neither well nor badly	1,500*	9.4*	(5.5, 13.3)	10.3	(9.4, 11.2)
Badly / Extremely badly	1,500**	9.4*	(4.6, 14.2)	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%.

** Sampling error is 50% or more but less than 100%.

Over 80% of Tairāwhiti Māori adults reported that their whānau was doing well or extremely well in 2013. However 9% felt their whānau was doing badly or extremely badly.

Table 4: Whānau composition reported by Māori aged 15 years and over, Tairāwhiti DHB, 2013

Whānau description	Tairāwhiti DHB			New Zealand	
	Estimated number	%	(95% CI)	%	(95% CI)
Size of whānau					
10 or less	9,000	53.8	(46.8, 60.8)	53.7	(52.1, 55.3)
11 to 20	3,500	19.7	(14.8, 24.5)	22.6	(21.3, 24.0)
More than 20	4,500	26.5	(20.2, 32.9)	23.6	(22.4, 24.8)
Groups included in whānau					
Parents, partner, children, brothers & sisters	16,500	96.7	(94.4, 98.9)	94.6	(94.0, 95.2)
Aunts & uncles, cousins, nephews & nieces, other in-laws	6,000	35.4	(29.4, 41.4)	41.3	(39.8, 42.8)
Grandparents, grandchildren	7,500	45.5	(38.6, 52.3)	41.9	(40.5, 43.4)
Friends, others	2,500*	15.8*	(10.8, 20.8)	12.4	(11.5, 13.3)

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

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

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

Whānau support

Table 5: Access to whānau support, Māori aged 15 years and over, Tairāwhiti DHB, 2013

How easy is it to get help	Tairāwhiti DHB			New Zealand		
	Estimated number	%	(95% CI)	%	(95% CI)	
Support in times of need						
Easy, very easy	13,000	77.2	(72.5, 82.0)	81.2	(80.1, 82.4)	
Sometimes easy, sometimes hard	3,000	17.7	(13.1, 22.3)	12.7	(11.7, 13.6)	
Hard / very hard	1,000**	5.0**	(2.3, 7.7)	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	11,500	66.9	(60.3, 73.5)	64.1	(62.7, 65.6)	
Sometimes easy, sometimes hard	4,000	24.8	(18.5, 31.1)	16.9	(15.9, 18.0)	
Hard / very hard	1,000**	6.4**	(2.9, 9.9)	14.7	(13.5, 15.9)	
Don't need help	S	S		4.2	(3.7, 4.7)	

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

Notes: ** Sampling error is 50% or more but less than 100%. S indicates data is suppressed.

In 2013, the majority of Māori adults in Tairāwhiti (77%) reported having easy access to whānau support in times of need. However, an estimated 1,000 (5%) had difficulty getting help.

A smaller proportion found it easy to get help with Māori cultural practices (67%), with 6% finding it hard or very hard.

Importance of participation in Māori culture

Table 6: Importance of Māori culture and spirituality, Māori aged 15 years and over, Tairāwhiti DHB, 2013

	Tairāwhiti DHB			New Zealand		
	Estimated number	%	(95% CI)	%	(95% CI)	
Importance of being involved in Māori culture						
Very / quite	10,000	60.4	(53.5, 67.2)	46.3	(44.9, 47.6)	
Somewhat	3,000*	17.9	(12.7, 23.1)	24.2	(22.9, 25.6)	
A little / not at all	3,500	21.7	(16.1, 27.3)	29.5	(28.3, 30.7)	
Importance of spirituality						
Very / quite	10,500	61.9	(54.9, 69.0)	48.7	(47.4, 49.9)	
Somewhat	2,500*	15.6*	(10.3, 21.0)	17.0	(16.0, 18.0)	
A little / not at all	3,500	22.4	(16.8, 28.1)	34.3	(33.1, 35.5)	

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

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

Being involved in Māori culture was very or quite important to the majority (60%) of Tairāwhiti Māori adults, and somewhat important to a further 18%. Spirituality was important (very, quite or somewhat) to 78%.

Te Reo Māori

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

Māori			Non-Māori			Māori/non-Māori ratio (95% CI)	Difference in proportion
Number	%	(95% CI)	Number	%	(95% CI)		
5,892	29.5	(28.8, 30.1)	288	1.5	(1.3, 1.7)	20.08 (17.35, 23.25)	28.0

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, 30% of all Māori in Tairāwhiti and 2% of non-Māori could have a conversation about a lot of everyday things in te reo Māori.

Table 8: Use of te reo Māori in the home, Māori aged 15 years and over, Tairāwhiti DHB, 2013

Language spoken at home	Tairāwhiti DHB			New Zealand	
	Estimated number	%	(95% CI)	%	(95% CI)
Māori is main language	S	S		2.6	(2.2, 3.0)
Māori is used regularly	5,500	33.8	(26.9, 40.8)	20.5	(19.2, 21.8)

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

Note: S shows the data is suppressed.

A third of Tairāwhiti Māori adults reported that te reo Māori was used regularly in the home in 2013.

Access to marae

Table 9: Access to marae, Māori aged 15 years and over, Tairāwhiti DHB, 2013

Been to marae	Tairāwhiti DHB			New Zealand	
	Estimated number	%	(95% CI)	%	(95% CI)
At some time	17,000	99.5	(98.4, 100.5)	96.0	(95.5, 96.6)
In previous 12 months ⁽¹⁾	12,500	75.8	(70.9, 80.6)	58.2	(56.6, 59.7)
Ancestral marae at some time ⁽²⁾	14,000	83.2	(78.1, 88.2)	62.3	(60.9, 63.7)
Ancestral marae in previous 12 months ⁽³⁾	9,000	54.2	(47.8, 60.6)	33.6	(32.3, 34.9)
Like to go to ancestral marae more often ⁽²⁾	9,000	60.6	(53.2, 67.9)	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, practically all Māori adults in Tairāwhiti (99.5%) had been to a marae, with three-quarters (76%) having been in the last 12 months. Eighty-three percent had been to at least one of their ancestral marae, and just over half (54%) had been in the last 12 months. Three-fifths (61%) reported they would like to go more often. Tairāwhiti Māori are more likely to have been to marae, including ancestral marae, than the national Māori population.

Traditional healing or massage

Table 10: Māori aged 15 years and over who took part in traditional healing or massage in last 12 months, Tairāwhiti DHB, 2013

Tairāwhiti DHB			New Zealand	
Estimated number	%	(95% CI)	%	(95% CI)
3,000*	16.5*	(11.4, 21.6)	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 (17%) in Tairāwhiti 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 Tairāwhiti DHB, 2006 and 2013

Year	Māori			Non-Māori			Māori/non-Māori ratio (95% CI)	Difference in percentage
	Number	%	(95% CI)	Number	%	(95% CI)		
2006	4,272	38.0	(37.1, 39.0)	8,640	59.2	(58.3, 60.1)	0.64 (0.63, 0.66)	-21.1
2013	5,208	45.8	(44.8, 46.7)	8,907	64.2	(63.3, 65.2)	0.71 (0.69, 0.73)	-18.5

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 38% to 46% between 2006 and 2013. However Māori remained less likely than non-Māori to have this level of qualification (29% less likely in 2013).

Work

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

Labour force status	Māori			Non-Māori			Māori/non-Māori ratio (95% CI)	Difference in percentage
	Number	%	(95% CI)	Number	%	(95% CI)		
2006								
Employed full-time	5,571	44.6	(43.8, 45.5)	8,913	56.3	(55.5, 57.1)	0.79 (0.77, 0.81)	-11.6
Employed part-time	1,743	13.0	(12.5, 13.6)	2,808	17.5	(16.9, 18.2)	0.74 (0.70, 0.79)	-4.5
Unemployed	1,038	8.7	(8.2, 9.2)	423	3.7	(3.4, 4.1)	2.33 (2.07, 2.62)	5.0
Not in the labour force	4,614	33.8	(33.0, 34.6)	5,697	22.4	(21.7, 23.2)	1.51 (1.45, 1.57)	11.4
2013								
Employed full-time	5,271	41.6	(40.8, 42.5)	8,304	54.2	(53.4, 55.0)	0.77 (0.75, 0.79)	-12.6
Employed part-time	1,713	12.4	(11.9, 13.0)	2,694	17.0	(16.3, 17.7)	0.73 (0.69, 0.78)	-4.6
Unemployed	1,353	11.5	(10.9, 12.1)	513	4.6	(4.2, 5.1)	2.47 (2.22, 2.76)	6.8
Not in the labour force	4,911	34.4	(33.6, 35.2)	5,655	24.3	(23.5, 25.1)	1.42 (1.36, 1.47)	10.1

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. Unemployed people who are without a paid job, available for work and actively seeking work. People not in the labour force includes people in the working age population who are neither employed nor unemployed.

Between 2006 and 2013 there was a decrease in the number and proportion of Māori adults employed full-time (from 44% to 42%), and a corresponding increase in the unemployment rate (from 9% to 12%).

The absolute gaps between Māori and non-Māori full-time employment and unemployment rates increased slightly during this time period. In 2013 Māori were 2.5 times as likely as non-Māori to be unemployed, with an absolute gap of 7% in unemployment rates. The absolute gap in labour force participation was 10% in 2013.

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

ANZSIC Industry	Tairāwhiti DHB						New Zealand	
	Māori			Non-Māori			%	Rank
	Number	%	Rank	Number	%	Rank		
Females								
Health Care and Social Assistance	675	21.9	1	1,098	22.5	1	17.1	1
Education and Training	663	21.5	2	723	14.8	2	12.9	2
Retail Trade	300	9.7	3	579	11.9	3	11.6	3
Manufacturing	288	9.3	4	252	5.2	7	6.0	6
Agriculture, Forestry and Fishing	273	8.9	5	531	10.9	4	4.6	8
Males								
Agriculture, Forestry and Fishing	909	31.2	1	1,386	25.8	1	8.7	4
Manufacturing	429	14.7	2	588	10.9	3	13.4	1
Construction	351	12.0	3	735	13.7	2	13.2	2
Transport, Postal and Warehousing	237	8.1	4	285	5.3	6	5.9	7
Retail Trade	192	6.6	5	429	8.0	4	8.3	5

Source: 2013 Census, Statistics New Zealand

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

Service industries were the main employers of Māori women in Tairāwhiti, including health care and social assistance (22%); education and training (22%); and retail (10%). For Māori men, leading industries were: agriculture, forestry, and fishing (32%); manufacturing (15%); and construction (12%).

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

ANZSCO Occupation	Tairāwhiti DHB						New Zealand	
	Māori			Non-Māori			%	Rank
	Number	%	Rank	Number	%	Rank		
Females								
Professionals	753	23.3	1	1,392	28.2	1	26.7	1
Labourers	657	20.4	2	483	9.8	6	8.3	6
Community and Personal Service Workers	498	15.4	3	564	11.4	4	12.9	4
Clerical and Administrative Workers	486	15.1	4	1,020	20.7	2	19.5	2
Managers	300	9.3	5	663	13.4	3	14.4	3
Sales Workers	297	9.2	6	510	10.3	5	11.7	5
Technicians and Trades Workers	150	4.7	7	252	5.1	7	5.0	7
Machinery Operators and Drivers	084	2.6	8	048	1.0	8	1.5	8
Males								
Labourers	1,155	36.8	1	1,011	18.5	2	13.6	4
Machinery Operators and Drivers	492	15.7	2	495	9.1	5	9.1	5
Technicians and Trades Workers	435	13.9	3	1,011	18.5	3	18.5	3
Managers	381	12.2	4	1,422	26.0	1	22.7	1
Professionals	282	9.0	5	780	14.3	4	18.6	2
Community and Personal Service Workers	192	6.1	6	222	4.1	7	5.4	7
Clerical and Administrative Workers	99	3.2	7	204	3.7	8	5.1	8
Sales Workers	99	3.2	8	324	5.9	6	7.1	6

Source: 2013 Census, Statistics New Zealand

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

Among employed Māori women, the leading occupational groupings were professionals (23%); labourers (20%); community and personal service workers (15%); and clerical and administrative workers (15%).

Māori men were most likely to be employed as labourers (37%); machinery operators and drivers (16%); technicians and trade workers (14%); and managers (12%).

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

Unpaid work	Māori			Non-Māori			Māori/non-Māori ratio (95% CI)	Difference in percentage	
	Number	%	(95% CI)	Number	%	(95% CI)			
Any unpaid work	10,683	88.7	(88.1, 89.3)	14,322	89.7	(89.1, 90.3)	0.99	(0.98, 1.00)	-1.0
Looking after disabled/ill household member	1,756	14.6	(14.0, 15.3)	1,131	6.8	(6.3, 7.3)	2.16	(1.99, 2.34)	7.9
Looking after disabled/ill non-household member	1,699	13.4	(12.8, 14.0)	1,568	8.0	(7.5, 8.5)	1.68	(1.55, 1.81)	5.4

Source: 2013 Census, Statistics New Zealand

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

Almost 90% of Māori adults worked without pay in 2013. Māori were more than twice as likely as non-Māori to look after someone who was disabled or ill without pay in the home, and 68% more likely outside of the home.

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, Tairāwhiti DHB, 2013

Actions taken a lot to keep costs down	Tairāwhiti DHB			New Zealand		
	Estimated number	%	(95% CI)	%	(95% CI)	
Put up with feeling the cold	3,500	21.1	(16.2, 25.9)	11.0	(10.2, 11.8)	
Go without fresh fruit and vegetables	1,500*	9.6*	(5.5, 13.6)	5.4	(4.8, 6.0)	
Postpone or put off visits to the doctor	2,500*	15.6*	(10.0, 21.3)	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 3,500 Māori adults (21%) reported putting up with feeling cold a lot to keep costs down during the previous 12 months, 1,500 (10%) had gone without fresh fruit and vegetables, and 2,500 (16%) had postponed or put off visits to the doctor.

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

Year	Māori families			Non-Māori families			Māori/non-Māori ratio (95% CI)	Difference in percentage	
	Number	%	(95% CI)	Number	%	(95% CI)			
2006	1,959	24.7	(23.8, 25.7)	234	5.6	(4.9, 6.3)	4.44	(3.90, 5.06)	19.2
2013	1,980	25.8	(24.9, 26.8)	177	4.8	(4.2, 5.6)	5.34	(4.60, 6.20)	21.0

Source: 2006 and 2013 Censuses, Statistics New Zealand

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.

The number of children living in Māori families where the only income was means-tested benefits remained relatively stable between 2006 and 2013. However, in 2013 children in Māori families were 5.3 times as likely as non-Māori children to be in this situation.

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

Age group	Māori households			Non-Māori households			Māori/non-Māori ratio (95% CI)	Difference in percentage
	Number	%	(95% CI)	Number	%	(95% CI)		
Children 0–17 years	2,919	46.5	(45.3, 47.7)	639	18.6	(17.4, 20.0)	2.49 (2.31, 2.68)	27.8
Adults 18 years & over	4,368	40.9	(40.0, 41.9)	2,007	19.6	(18.6, 20.6)	2.09 (1.98, 2.22)	21.4

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.

Almost half of the children in Māori households (over 2,900) lived in low income households, 2.5 times the proportion of other children. Forty-one percent of adults in Māori households (4,368) lived in low income households, twice the proportion of other adults.

Table 19: Households with no access to a motor vehicle, Tairāwhiti 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	849	12.9	(12.1, 13.8)	612	7.7	(7.2, 8.4)	1.67 (1.51, 1.84)	5.2
2013	963	13.6	(12.8, 14.4)	519	6.7	(6.2, 7.3)	2.02 (1.82, 2.24)	6.9
People (% age-standardised)								
2006	2,106	9.6	(9.2, 10.0)	783	2.5	(2.3, 2.8)	3.82 (3.41, 4.28)	7.1
2013	2,331	10.7	(10.2, 11.1)	696	2.7	(2.4, 3.0)	4.02 (3.58, 4.51)	8.0

Source: 2006 and 2013 Censuses, 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, 14% of Māori households had no access to a motor vehicle, twice the proportion of non-Māori households. Over 2,300 Māori individuals in the Tairāwhiti region had no access to a motor vehicle, four times the proportion of non-Māori.

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

Mode of tele-communication	Māori households			Non-Māori households			Māori/non-Māori ratio (95% CI)	Difference in percentage
	Number	%	(95% CI)	Number	%	(95% CI)		
No mobile/cell phone	4,008	16.4	(15.9, 16.9)	3,135	13.6	(13.0, 14.2)	1.21 (1.14, 1.28)	2.8
No telephone	6,771	32.7	(32.1, 33.4)	1,602	12.4	(11.8, 13.0)	2.65 (2.51, 2.79)	20.4
No internet	9,132	40.5	(39.9, 41.2)	3,429	14.0	(13.3, 14.6)	2.91 (2.77, 3.05)	26.6
No tele-communications	888	4.1	(3.8, 4.4)	159	0.9	(0.7, 1.1)	4.69 (3.81, 5.77)	3.2

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, 41% of people in Māori households had no access to the internet, 33% did not have a telephone, 16% had no mobile phone, and 4% had no access to any telecommunications in the home. The largest absolute gap between residents of Tairāwhiti Māori and non-Māori households was in access to the internet (a difference of 27 percentage points).

Housing

Table 21: Housing problems reported by Māori aged 15 years and over, Tairāwhiti DHB, 2013

Housing problem (a big problem)	Tairāwhiti DHB			New Zealand	
	Estimated number	%	(95% CI)	%	(95% CI)
Too small	500**	3.1**	(1.0, 5.3)	5.3	(4.7, 5.9)
Damp	2,500*	15.8*	(10.5, 21.2)	11.3	(10.5, 12.2)
Hard to keep warm	3,500	21.3	(15.4, 27.2)	16.5	(15.4, 17.7)
Needs repairs	3,000*	18.9*	(12.9, 24.8)	13.8	(12.7, 14.9)
Pests in the house	1,000**	6.0*	(2.6, 9.4)	5.8	(5.1, 6.5)

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

Note: * Sampling error is 30% or more but less than 50%. ** Sampling error is 50% or more but less than 100%.

Housing problems reported by Tairāwhiti Māori adults to be a big problem in 2013 included difficulty keeping the house warm (21%), needing repairs (19%), and damp (16%). Six percent stated that pests were a big problem, and 3% felt their house was too small.

Housing security

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

Measure	Māori households			Non-Māori households			Māori/non-Māori ratio (95% CI)	Difference in percentage
	Number	%	(95% CI)	Number	%	(95% CI)		
Households	3,474	49.6	(48.5, 50.8)	1,590	20.9	(20.0, 21.8)	2.37 (2.26, 2.49)	28.7
Children under 18 years (% age- standardised)	4,671	58.6	(57.5, 59.7)	1,026	27.5	(26.1, 29.0)	2.13 (2.02, 2.25)	31.1
Adults 18 years and over (% age- standardised)	6,597	51.0	(50.2, 51.9)	2,622	29.4	(28.4, 30.5)	1.74 (1.67, 1.81)	21.6

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, 3,474 Māori households were rented, making up half of all Māori households, compared to 21% of non-Māori households.

Among children living in a Māori household, 59% (4,671) were living in rented homes, compared to 28% (1,026 children) in non-Māori households.

Just over half of adults living in Māori households were living in rented accommodation (around 6,597), three-quarters higher than the proportion of adults living in non-Māori households.

Household crowding

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

Measure	Māori households			Non-Māori households			Māori/non-Māori ratio (95% CI)	Difference in percentage
	Number	%	(95% CI)	Number	%	(95% CI)		
Households	954	13.5	(12.7, 14.3)	120	1.6	(1.3, 1.9)	8.64 (7.17, 10.42)	11.9
People (% age standardised)	5,193	25.3	(24.7, 25.9)	654	6.0	(5.6, 6.5)	4.20 (3.87, 4.56)	19.3

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 8.6 times as likely as non-Māori households to be classified as crowded using the Canadian National Occupancy Standard, with over 950 homes needing at least one additional bedroom, affecting almost 5,200 people. People living in Māori households were 4 times as likely as people living in non-Māori households to be living in crowded conditions (25% compared to 6%).

Fuel poverty

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

Measure	Māori households			Non-Māori households			Māori/non-Māori ratio (95% CI)	Difference in percentage
	Number	%	(95% CI)	Number	%	(95% CI)		
Households	213	3.0	(2.6, 3.4)	96	1.2	(1.0, 1.5)	2.42 (1.91, 3.07)	1.8
People (% age standardised)	516	2.3	(2.1, 2.5)	177	1.2	(1.0, 1.4)	1.97 (1.62, 2.40)	1.1

Source: 2013 Census, Statistics New Zealand

Notes: No form of heating used in the dwelling (including electricity, coal, mains or bottled gas, wood, solar heating equipment, other heating).

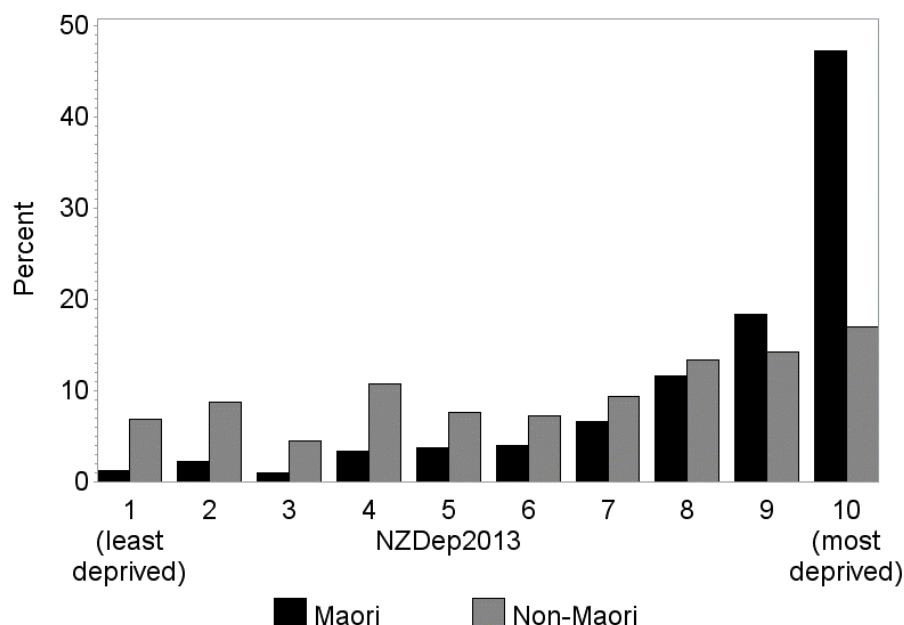
A Māori household is a household with at least one Māori resident. Non-Māori households have no Māori residents.

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

In 2013, 3% of Māori households in Tairāwhiti (213 homes) had no heating, 2.4 times the proportion of non-Māori households (96 homes).

Area deprivation

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



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

Tairāwhiti Māori and non-Māori have a more deprived small area profile than the national population. In 2013, 84% of Māori lived in the four most deprived decile areas, as did 54% of non-Māori (see accompanying Excel table). Notably, almost half (47%) of Māori lived in the most deprived decile areas (decile 10) compared to 17% of non-Māori.



Mauri ora: Pepi, tamariki

– Infants and children

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

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

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

Births

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

Indicator	Māori		Non-Māori		Māori/non-Māori ratio (95% CI)	Rate difference
	Ave. no. per year	% of live births (95% CI)	Ave. no. per year	% of live births (95% CI)		
Low birth-weight	45	8.5 (7.5, 9.6)	12	5.6 (4.3, 7.1)	1.52 (1.16, 2.00)	2.9
High birth-weight	8	1.6 (1.2, 2.2)	9	4.2 (3.1, 5.6)	0.38 (0.25, 0.57)	-2.6
Preterm	42	7.9 (6.9, 9.0)	16	7.4 (5.9, 9.1)	1.08 (0.84, 1.37)	0.6

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

During 2009 to 2013, 526 Māori infants were born per year on average, 70% of all live births in the DHB (748 per year). On average, 45 Māori babies per year were born with low birth-weight, at a rate of 9%, 50% higher than non-Māori babies. Eight per year on average (2%) were born with high birth-weight, over 60% lower than the non-Māori rate. Forty-two Māori babies per year (8%) were born prematurely.

Well child/Tamariki ora indicators

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

Indicator	Period	Māori	
		Count	%
1. Babies enrolled with a Primary Health Organisation (PHO) by three months old	20 Aug to 19 Nov 2013	73	79
11. Babies exclusively or fully breastfed at 2 weeks	January to June 2013	161	80
12. Babies exclusively or fully breastfed at 6 weeks		148	73
19. Mothers smoke-free two weeks postnatal	2012	92	49
5. Children under 5 years enrolled with oral health services (PHO enrolled children)		2,064	77
7. Children starting school who have participated in ECE	2013	482	93
15. Children with a healthy weight at 4 years, DHB of service	July to Dec 2013	183	67

Source: Well Child/Tamariki Ora Quality 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, 79% of Māori babies were enrolled with a PHO by three months of age. In the first half of 2013, 80% of Māori babies were breastfed at two weeks of age and 73% at six weeks. Just under half (49%) of Māori mothers were smoke-free two weeks after giving birth.

Among pre-school children enrolled with a PHO 77% of Māori were enrolled with oral health services in 2012. In 2013, 93% of Māori children who started school had participated in early childhood education. Two-thirds of Māori children who had their BMI recorded at their B4 School Check had a healthy weight.

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

Milestone age	Māori		Non-Māori		Māori/non-Māori ratio	Difference in percentage
	No. fully immunised for age	% fully immunised	No. fully immunised for age	% fully immunised		
6 months	286	61	203	82	0.75	-21
8 months	416	90	233	92	0.98	-2
12 months	438	95	237	94	1.01	1
18 months	360	75	213	87	0.87	-11
24 months	467	92	243	91	1.01	1
5 years	476	86	216	89	0.96	-3

Source: National Immunisation Register

In the 12 months to 31 December 2014, 61% of infants aged six months were fully immunised, compared to 82% of non-Māori infants. However, 90% of Māori children aged eight months and 92% of those aged 24 months had completed their appropriate immunisations. At five years of age 86% of Māori children were fully immunised.

Oral health

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

Age group	Māori				Non-Māori				Māori/non-Māori ratio % with caries (95% CI)	Difference in percentage
	Total	% with caries (95% CI)	Mean DMFT		Total	% with caries (95% CI)	Mean DMFT			
Age 5	477	65 (60, 69)	3.0		225	35 (28, 41)	0.9		1.86 (1.54, 2.26)	30
Year 8	413	51 (46, 56)	1.2		268	34 (28, 40)	0.8		1.51 (1.25, 1.83)	17

Source: Community Oral Health Service, Ministry of Health

Notes: DMFT is Decayed, missing or filled teeth

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

Two-thirds (65%) of Māori children aged five years in 2013 had caries, 86% higher than the proportion of non-Māori children (35%). The mean number of decayed, missing or filled teeth was 3.0 for Māori and 0.9 for non-Māori. Of Year 8 students, 51% of Māori and 34% of non-Māori children had caries, with mean DMFTs of 1.2 and 0.8 respectively.

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

Gender	Māori			Non-Māori			Māori/non-Māori ratio (95% CI)	Rate difference
	Ave. no. per year	Rate per 100,000 (95% CI)		Ave. no. per year	Rate per 100,000 (95% CI)			
Female	36	986.2 (817.4, 1,189.9)		14	729.8 (541.1, 984.1)		1.35 (0.95, 1.92)	256.5
Male	47	1,205.7 (1,021.7, 1,423.0)		10	468.4 (324.9, 675.3)		2.57 (1.72, 3.85)	737.3
Total	83	1,096.0 (967.9, 1241.0)		24	599.1 (475.2, 755.2)		1.83 (1.41, 2.38)	496.9

Source: National Minimum Data Set (NMDS).

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

There were 83 hospital admissions per year on average for tooth and gum disease among Māori children, at a rate 83% higher than non-Māori, or just under 500 more admissions per 100,000 children per year.

Middle ear disease

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

Gender	Māori			Non-Māori			Māori/non-Māori ratio (95% CI)	Rate difference
	Ave. no. per year	Rate per 100,000 (95% CI)		Ave. no. per year	Rate per 100,000 (95% CI)			
Female	17	470.5	(358.5, 617.5)	11	546.8	(386.5, 773.4)	0.86 (0.55, 1.34)	-76.2
Male	24	627.1	(498.5, 788.8)	12	604.2	(435.1, 839.0)	1.04 (0.70, 1.55)	22.9
Total	42	548.8	(460.5, 654.0)	23	575.5	(453.4, 730.4)	0.95 (0.71, 1.28)	-26.7

Source: NMDS

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

On average, there were 42 admissions per year for grommet insertions among Māori children per year, at a rate similar to the non-Māori rate.

Healthy skin

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

Gender	Māori			Non-Māori			Māori/non-Māori ratio (95% CI)	Rate difference
	Ave. no. per year	Rate per 100,000 (95% CI)		Ave. no. per year	Rate per 100,000 (95% CI)			
Female	22	586.0	(459., 747.4)	4	202.1	(114.7, 356.0)	2.90 (1.57, 5.37)	384.0
Male	27	693.3	(557.6, 861.9)	7	331.1	(213.0, 514.6)	2.09 (1.28, 3.42)	362.2
Total	49	639.6	(543.8, 752.3)	11	266.6	(188.2, 377.5)	2.40 (1.63, 3.52)	373.1

Source: NMDS

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

On average there were 49 admissions per year for serious skin infections among Māori children. The rate was 2.4 times as high as for non-Māori children, or 373 more admissions per 100,000 children per year.

Acute rheumatic fever

Table 32: Individuals admitted to hospital for acute rheumatic fever, ages 0–14 and 15–24 years, Tairāwhiti DHB, 2011–2013

Age group and Gender	Māori			Non-Māori			Māori/non-Māori ratio (95% CI)	Rate difference
	Ave. no. per year	Rate per 100,000 (95% CI)		Ave. no. per year	Rate per 100,000 (95% CI)			
0–14 years								
Female	1	27.6	(8.9, 85.6)	0	0.0	. .	. . .	27.6
Male	3	77.0	(40.0, 147.9)	<1	14.0	(2.0, 99.1)	5.51 (0.70, 43.52)	63.0
Total	4	52.3	(29.7, 92.1)	<1	7.0	(1.0, 49.5)	7.49 (0.97, 57.62)	45.3
15–24 years								
Female	<1	17.2	(2.4, 121.8)	0	0.0	. .	. . .	17.2
Male	<1	19.1	(2.7, 135.3)	0	0.0	. .	. . .	19.1
Total	1	18.1	(4.5, 72.6)	0	0.0	. .	. . .	18.1

Source: NMDS

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

Among Tairāwhiti Māori children aged 14 years and under, four per year on average were hospitalised for acute rheumatic fever, 45 more children per 100,000 than non-Māori. Among Māori aged 15 to 24 years, an average of one per year were admitted, at a rate of 18 per 100,000. There were no admissions between 2011 and 2013 among non-Māori in this age group.

Potentially preventable hospitalisations

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

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

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

Gender	Māori		Non-Māori		Māori/non-Māori ratio (95% CI)	Rate difference
	Ave. no. per year	Rate per 100,000 (95% CI)	Ave. no. per year	Rate per 100,000 (95% CI)		
Female	231	6,264.5 (5,815.0, 6,748.9)	107	5,532.3 (4,958.5, 6,172.5)	1.13 (0.99, 1.29)	732.3
Male	308	7,956.0 (7,459.2, 8,485.9)	117	6,029.1 (5,427.6, 6,697.3)	1.32 (1.17, 1.49)	1,926.9
Total	539	7,110.3 (6,771.9, 7,465.6)	224	5,780.7 (5,358.6, 6,236.1)	1.23 (1.12, 1.35)	1,329.6

Source: NMDS

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

There were 539 potentially avoidable hospitalisations per year on average among Māori children aged 14 years and under, at a rate nearly a quarter higher than the non-Māori rate, or 1,330 more admissions per 100,000.

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

Gender	Māori		Non-Māori		Māori/non-Māori ratio (95% CI)	Rate difference
	Ave. no. per year	Rate per 100,000 (95% CI)	Ave. no. per year	Rate per 100,000 (95% CI)		
Female	167	4,533.9 (4,153.3, 4,949.3)	68	3,531.6 (3,079.4, 4,050.1)	1.28 (1.09, 1.51)	1,002.3
Male	185	4,794.6 (4,412.2, 5,210.2)	71	3,609.4 (3,154.5, 4,130.0)	1.33 (1.13, 1.56)	1,185.2
Total	352	4,664.2 (4,391.1, 4,954.3)	140	3,570.5 (3,243.5, 3,930.5)	1.31 (1.17, 1.46)	1,093.7

Source: NMDS

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

On average there were 352 admissions per year for ambulatory care sensitive conditions among Māori children, at a rate 31% higher again than the rate for non-Māori children, or 1,094 more admissions per 100,000 children.



Mauri ora: Rangatahi

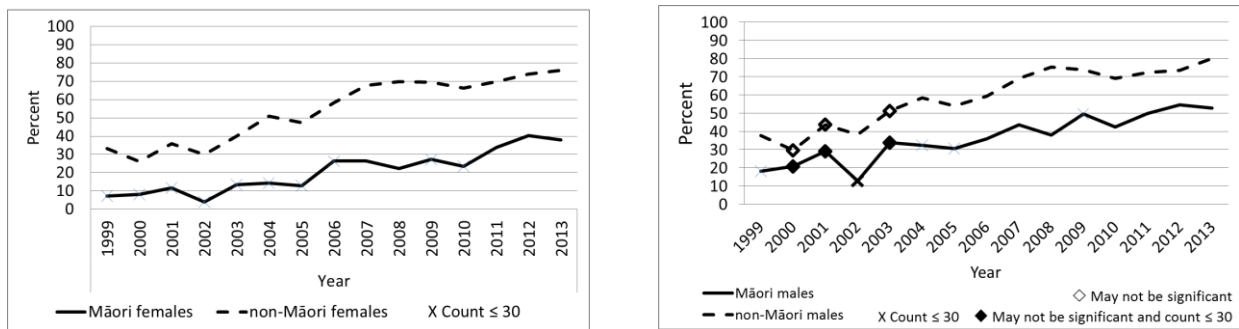
– Young adults

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

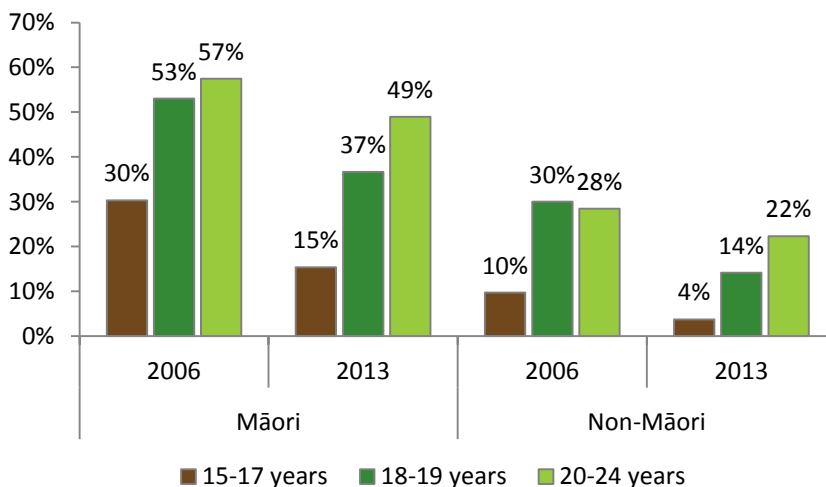
Figure 2: Trends in the proportion of students aged 14–15 years who have never smoked, by gender, Tairāwhiti DHB, 1999–2013



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 cigarettes (Figure 2). In 2013, 49% had never smoked.

Figure 3: Regular smokers, ages 15–17, 18–19, 20–24 years, Tairāwhiti DHB, 2013



Source: 2013 Census, Statistics New Zealand

Note: Regular smokers smoke one or more cigarettes per day.

Smoking rates have decreased significantly among Māori and non-Māori youth in Tairāwhiti since 2006. However, the rates among those aged 18–24 years indicate a high level of uptake in young adulthood. At ages 20–24 years, 49% 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 35: Human papilloma virus immunisations (HPV) by birth cohorts, Tairāwhiti DHB, 1 September 2008 to 30 September 2014

Birth cohort	Age in 2014	Offered HPV vaccine in (year)	Māori		Non-Māori		Māori/non-Māori ratio	Māori % minus non-Māori %
			Fully immunised	% fully immunised	Fully immunised	% fully immunised		
2000	14	2013	141	61.3	70	53.8	1.14	7.5
1999	15	2012	162	77.1	65	40.6	1.90	36.5
1998	16	2011	178	84.8	79	52.7	1.61	32.1
1997	17	2010	177	73.8	63	35.0	2.11	38.8

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 in Tairāwhiti are higher for Māori than for non-Māori girls. Sixty-one percent of Māori girls aged 14 years in 2014 had received all three doses by September 2014, and 74% of Māori aged 17 years. The highest coverage was among Māori girls aged 16 years, at 85%.

Mental health

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

Age group and gender	Māori				Non-Māori				Māori/non-Māori ratio (95% CI)		Rate difference
	Ave. no. per year	Age-standardised rate per 100,000 (95% CI)			Ave. no. per year	Age-standardised rate per 100,000 (95% CI)					
15–24 years											
Female	4	201.8	(114.6, 355.3)	5	420.9	(253.8, 698.2)	0.48	(0.22, 1.02)	-219.2		
Male	3	164.3	(85.4, 316.1)	3	203.8	(101.9, 407.6)	0.81	(0.31, 2.09)	-39.5		
Total	7	183.0	(119.2, 280.9)	8	312.4	(207.5, 470.3)	0.59	(0.32, 1.06)	-129.4		
25–44 years											
Female	1	48.2	(18.1, 128.6)	2	79.1	(37.5, 167.1)	0.61	(0.18, 2.09)	-30.9		
Male	2	88.3	(39.5, 197.3)	2	97.5	(46.0, 206.5)	0.91	(0.30, 2.72)	-9.1		
Total	3	68.3	(36.6, 127.5)	5	88.3	(51.8, 150.4)	0.77	(0.34, 1.76)	-20.0		

Source: NMDS.

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

On average seven Māori aged 15–24 years were admitted to hospital per year for injury caused by intentional self-harm, and three per year in the 25–44 year age group.

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 Tairāwhiti can be found in the accompanying Excel® tables labelled 'Death registrations' and 'Hospitalisations by principal diagnosis'. For example, the hospitalisations table shows disparities between Tairāwhiti Māori and non-Māori in rates of admission for epilepsy, perforated tympanic membrane, gastric ulcers, gallstones, glomerular diseases, and renal failure.

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

Self-assessed health

Table 37: Health status reported by Māori aged 15 years and over, Tairāwhiti DHB, 2013

Health status	Tairāwhiti DHB			New Zealand		
	Estimated number	%	(95% CI)	%	(95% CI)	
Excellent	2,500	16.2	(11.2, 21.1)	18.1	(16.8, 19.3)	
Very good	6,000	34.2	(27.9, 40.4)	37.0	(35.5, 38.5)	
Good	4,500	25.7	(20.2, 31.2)	28.5	(27.3, 29.7)	
Fair / poor	4,000	24.0	(18.3, 29.6)	16.4	(15.3, 17.5)	

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

On average, half of Tairāwhiti Māori adults reported having excellent or very good health in 2013 and another quarter (26%) described their health as good. A quarter (24%) reported having fair or poor health status.

Smoking status

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

Smoking status	Māori			Non-Māori			Māori/non-Māori ratio (95% CI)	Difference in proportion	
	Number	%	(95% CI)	Number	%	(95% CI)			
2006									
Regular smoker	5,265	45.2	(44.3, 46.1)	3,363	23.3	(22.5, 24.1)	1.94	(1.87, 2.02)	21.9
Ex-smoker	2,256	17.0	(16.4, 17.7)	4,242	19.4	(18.7, 20.1)	0.88	(0.83, 0.92)	-2.4
Never smoked	4,554	37.7	(36.8, 38.6)	9,414	57.2	(56.3, 58.1)	0.66	(0.64, 0.68)	-19.5
2013									
Regular smoker	4,482	38.4	(37.5, 39.3)	2,373	16.5	(15.8, 17.2)	2.33	(2.22, 2.45)	21.9
Ex-smoker	2,832	19.7	(19.0, 20.4)	4,344	19.7	(19.1, 20.4)	1.00	(0.95, 1.05)	0.0
Never smoked	5,127	41.9	(41.0, 42.8)	9,711	63.6	(62.7, 64.5)	0.66	(0.64, 0.68)	-21.7

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 45% to 38%. There were increases in the proportions of Māori who had never smoked and who were ex-smokers. However, there remained a 22 percentage point difference between Māori and non-Māori smoking rates in Tairāwhiti in 2013.

Heart disease and stroke

Table 39: Hospitalisations for circulatory system diseases, 25 years and over, Tairāwhiti 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	173	1,837.8	(1,674.2, 2,017.3)	216	857.6	(761.3, 966.1)	2.14	(1.84, 2.49)	980.2	
Male	165	2,180.6	(1,986.7, 2,393.5)	261	1,354.7	(1,235.6, 1485.2)	1.61	(1.41, 1.83)	826.0	
Total	338	2,009.2	(1,880.7, 2,146.5)	477	1,106.1	(1,028.4, 1,189.7)	1.82	(1.65, 2.00)	903.1	

Source: NMDS

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

On average, 338 Tairāwhiti Māori were admitted to hospital per year for diseases of the circulatory system (including heart disease and stroke), at a rate 82% higher than non-Māori, or around 900 more admissions per 100,000.

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

Gender	Māori				Non-Māori				Māori/non-Māori ratio (95% CI)	Rate difference
	Ave. no. per year	Age-standardised rate per 100,000 (95% CI)			Ave. no. per year	Age-standardised rate per 100,000 (95% CI)				
Ischaemic heart disease admissions										
Female	53	515.4	(437.9, 606.7)	65	220.3	(182.7, 265.5)	2.34	(1.83, 3.00)	295.2	
Male	46	615.5	(515.7, 734.7)	102	535.1	(464.8, 616.0)	1.15	(0.92, 1.44)	80.5	
Total	98	565.5	(500.7, 638.6)	167	377.7	(337.1, 423.1)	1.50	(1.27, 1.77)	187.8	
Angiography procedures										
Female	31	334.1	(269.5, 414.1)	26	129.9	(100.1, 168.6)	2.57	(1.83, 3.60)	204.1	
Male	32	435.3	(352.5, 537.5)	68	383.6	(324.0, 454.1)	1.13	(0.87, 1.49)	51.7	
Total	62	384.7	(330.6, 447.6)	94	256.7	(222.7, 296.0)	1.50	(1.22, 1.84)	127.9	
Angioplasty procedures										
Female	7	80.7	(52.1, 124.9)	10	59.2	(38.9, 90.1)	1.36	(0.74, 2.50)	21.5	
Male	8	119.1	(78.3, 181.2)	29	185.2	(141.7, 242.2)	0.64	(0.39, 1.06)	-66.1	
Total	15	99.9	(73.6, 135.7)	39	122.2	(97.4, 153.4)	0.82	(0.56, 1.20)	-22.3	
Coronary Artery Bypass Graft (CABG)										
Female	3	26.7	(13.3, 53.8)	3	14.0	(5.8, 34.0)	1.90	(0.62, 5.88)	12.7	
Male	6	79.0	(49.4, 126.3)	13	62.8	(45.4, 86.9)	1.26	(0.71, 2.22)	16.2	
Total	9	52.9	(35.7, 78.3)	16	38.4	(28.2, 52.4)	1.38	(0.83, 2.27)	14.4	
Acute coronary syndrome admissions										
Female	45	438.4	(367.3, 523.2)	57	200.2	(163.9, 244.6)	2.19	(1.68, 2.86)	238.1	
Male	37	499.3	(409.7, 608.6)	83	440.4	(375.6, 516.5)	1.13	(0.88, 1.46)	58.9	
Total	82	468.8	(410.1, 536.0)	139	320.3	(282.4, 363.4)	1.46	(1.22, 1.76)	148.5	

Source: NMDS.

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

On average, 98 Tairāwhiti Māori per year were admitted to hospital for ischaemic heart disease, at a rate 50% higher than non-Māori. Of these, 82 were admitted with acute coronary syndrome (at a rate 46% higher than non-Māori).

There were 62 angiography procedures conducted for Māori patients per year, at a rate 50% higher than for non-Māori. The rate for Māori women for angiography was 2.6 times as high as for non-Māori women. On average, 15 Māori per year had angioplasty procedures and nine per year had a coronary artery bypass graft.

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

Gender	Māori				Non-Māori				Māori/non-Māori ratio (95% CI)		Rate difference
	Ave. no. per year	Age-standardised rate per 100,000 (95% CI)			Ave. no. per year	Age-standardised rate per 100,000 (95% CI)					
Heart failure											
Female	30	272.1	(217.6, 340.3)	23	38.2	(27.8, 52.4)	7.12	(4.84, 10.49)		233.9	
Male	40	488.2	(405.0, 588.4)	30	93.9	(73.6, 119.7)	5.20	(3.83, 7.07)		394.3	
Total	70	380.1	(329.1, 439.1)	53	66.0	(54.3, 80.3)	5.76	(4.52, 7.34)		314.1	
Stroke											
Female	25	260.3	(204.4, 331.5)	30	82.0	(59.6, 112.8)	3.18	(2.13, 4.74)		178.4	
Male	17	214.8	(161.6, 285.4)	25	109.1	(80.9, 147.2)	1.97	(1.30, 2.97)		105.7	
Total	42	237.6	(197.5, 285.7)	55	95.5	(76.7, 118.9)	2.49	(1.87, 3.31)		142.0	
Hypertensive disease											
Female	3	34.0	(18.1, 63.9)	3	8.0	(3.8, 16.9)	4.24	(1.60, 11.25)		26.0	
Male	3	47.2	(24.7, 90.2)	<1	0.6	(0.1, 4.1)	80.90	(10.27, 637.47)		46.6	
Total	7	40.6	(25.6, 64.3)	4	4.3	(2.1, 8.7)	9.44	(4.07, 21.91)		36.3	

Source: NMDS.

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

There were 70 admissions per year on average for Māori with heart failure, at 5.8 times the rate for non-Māori, or 314 more admissions per 100,000.

On average, 42 Māori per year were admitted for stroke, 2.5 times the non-Māori rate, or 142 more admissions per 100,000.

There were seven Māori admissions per year on average for hypertensive disease, at 9.4 times the rate of non-Māori, or 36 more admissions per 100,000.

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

Gender	Māori				Non-Māori				Māori/non-Māori ratio (95% CI)		Rate difference
	Ave. no. per year	Age-standardised rate per 100,000 (95% CI)			Ave. no. per year	Age-standardised rate per 100,000 (95% CI)					
Chronic rheumatic heart disease											
Female	10	132.2	(91.2, 191.4)	4	21.8	(11.0, 43.2)	6.07	(2.79, 13.21)		110.4	
Male	5	73.7	(42.8, 126.8)	1	5.7	(2.1, 15.5)	12.98	(4.15, 40.64)		68.0	
Total	15	102.9	(75.7, 139.9)	6	13.7	(7.7, 24.5)	7.50	(3.89, 14.47)		89.2	
Heart valve replacements											
Female	4	52.5	(29.8, 92.3)	3	9.2	(4.5, 18.8)	5.71	(2.29, 14.20)		43.3	
Male	3	41.7	(19.4, 89.7)	5	22.1	(11.3, 43.3)	1.88	(0.68, 5.22)		19.6	
Total	7	47.1	(29.7, 74.8)	8	15.7	(9.3, 26.3)	3.01	(1.50, 6.02)		31.4	

Source: NMDS.

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

On average, there were 15 hospital admissions per year for Māori with chronic rheumatic heart disease, at a rate 7.5 times that of non-Māori, or 89 more admissions per 100,000.

Heart valve replacements were conducted on seven Māori per year on average, at a rate 3 times the non-Māori rate, or 31 more replacements per 100,000.

Table 43: Early deaths from circulatory system disease, Tairāwhiti 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	12	76.1	(58.7, 98.6)	5	12.4	(8.0, 19.1)	6.14	(3.70, 10.17)	63.7
Male	18	116.3	(93.8, 144.1)	13	36.4	(27.4, 48.4)	3.19	(2.24, 4.56)	79.9
Total	30	96.2	(81.5, 113.5)	18	24.4	(19.2, 31.0)	3.94	(2.95, 5.27)	71.8

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 30 Māori per year died early from circulatory system disease, at a rate almost 4 times as high as for non-Māori, or 72 more deaths per 100,000.

Diabetes

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

Indicator	Māori		Non-Māori		Māori/non-Māori ratio	Difference in percentage
	Count	% (crude)	Count	% (crude)		
Prevalence of diabetes (all ages)	1,711	7.6	2,185	9.1	0.83	-1.5
People with diabetes regularly receiving metformin or insulin, 25+	752	44.0	613	28.1	1.57	15.9
People with diabetes having regular Hb1Ac monitoring, 25+	1,239	72.4	1,336	57.1	1.27	15.3
People with diabetes having regular screening for renal disease, 25+	878	51.3	687	31.4	1.63	19.9

Source: NZ Atlas of Healthcare Variation

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

Over 1,700 Tairāwhiti Māori were estimated to have diabetes in 2013, giving a crude prevalence of 8% (not adjusted for age). Forty-four percent of Māori with diabetes (aged 25 years and over) were regularly receiving metformin or insulin; 72% were having regular monitoring of blood glucose levels and 51% were being screened regularly for renal disease.

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

Gender	Māori			Non-Māori			Māori/non-Māori ratio (95% CI)		Rate difference
	Ave. no. per year	Age-standardised rate per 100,000 (95% CI)		Ave. no. per year	Age-standardised rate per 100,000 (95% CI)				
Female	2	16.5	(6.4, 42.1)	2	2.6	(1.1, 6.7)	6.21	(1.67, 23.15)	13.8
Male	5	41.1	(24.1, 69.9)	2	5.6	(2.5, 12.6)	7.29	(2.78, 19.12)	35.4
Total	6	28.8	(18.0, 45.8)	4	4.1	(2.2, 7.7)	6.95	(3.20, 15.10)	24.6

Source: NMDS

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

On average six Māori individuals per year with diabetes had lower limbs amputated, at a rate 7 times that of non-Māori.

Cancer

Table 46: Most common cancer registrations for Māori by site, all ages, Tairāwhiti 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	43	231.2	(200.7, 266.3)	59	158.9	(135.4, 186.5)	1.45 (1.18, 1.80)	72.3
Breast	11	63.1	(48.0, 82.8)	15	40.3	(30.6, 53.1)	1.57 (1.06, 2.31)	22.8
Lung	9	41.9	(31.0, 56.7)	6	11.9	(7.7, 18.5)	3.51 (2.07, 5.97)	30.0
Colorectal	4	19.1	(11.9, 30.7)	8	15.0	(10.0, 22.6)	1.27 (0.68, 2.38)	4.1
Stomach	2	12.7	(6.8, 23.5)	1	0.8	(0.3, 2.9)	14.96 (3.81, 58.74)	11.8
Uterus	2	11.6	(6.5, 20.7)	3	8.5	(4.6, 15.4)	1.37 (0.59, 3.15)	3.1
Male								
All cancers	37	222.4	(191.2, 258.7)	86	219.8	(195.0, 247.8)	1.01 (0.83, 1.23)	2.6
Prostate	12	66.0	(50.9, 85.6)	30	64.7	(54.5, 76.8)	1.02 (0.75, 1.39)	1.3
Lung	9	50.5	(37.4, 68.2)	8	14.8	(10.4, 21.0)	3.42 (2.15, 5.42)	35.7
Colorectal	2	9.9	(4.9, 19.8)	11	23.0	(16.9, 31.3)	0.43 (0.20, 0.92)	-13.1
Leukaemias	2	9.5	(4.7, 19.4)	2	5.5	(2.1, 14.6)	1.72 (0.52, 5.73)	4.0

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 43 cancer registrations per year on average among Tairāwhiti Māori females, at a rate 45% higher than non-Māori. The most common cancers registered for Māori females were breast, lung, colorectal, stomach and uterine cancers. Registration rates were higher for Māori than for non-Māori women for cancers of the lung (3.5 times as high), breast (57% higher), and stomach cancer (notably 15 times as high).

Among Tairāwhiti Māori males there were 37 cancer registrations per year on average at a rate similar to that of non-Māori. Prostate, lung, colorectal, and leukaemias were the most common cancers registered for Māori males. Māori registration rates were higher than those of non-Māori for lung cancer (3.4 times) but lower for colorectal cancer (57% lower).

Table 47: Most common cancer deaths for Māori by site, all ages, Tairāwhiti 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	22	112.0	(91.5, 137.0)	28	47.2	(37.2, 59.9)	2.37 (1.74, 3.24)	64.8
Lung	7	32.0	(22.4, 45.6)	5	8.5	(5.5, 13.2)	3.76 (2.14, 6.60)	23.5
Breast	3	17.3	(10.3, 29.2)	3	4.5	(2.3, 8.8)	3.87 (1.65, 9.07)	12.9
Ovary	1	7.6	(3.2, 18.2)	1	1.5	(0.5, 4.6)	5.24 (1.24, 22.17)	6.2
Pancreas	1	7.0	(3.2, 15.3)	2	3.1	(1.4, 6.6)	2.29 (0.76, 6.86)	3.9
Male								
All cancers	21	127.8	(105.0, 155.7)	33	58.1	(48.6, 69.5)	2.20 (1.69, 2.87)	69.7
Lung	8	47.8	(34.6, 66.0)	8	10.6	(7.4, 15.2)	4.51 (2.78, 7.30)	37.2
Prostate	2	13.4	(7.4, 24.3)	5	7.0	(4.5, 11.0)	1.91 (0.91, 4.02)	6.4
Colorectal	2	9.7	(4.8, 19.6)	3	5.5	(3.1, 9.8)	1.75 (0.71, 4.33)	4.2

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 accounted for 31% of all deaths, with a rate 2.4 times that of non-Māori. Lung cancer was the most common cause of cancer death, followed by cancers of the breast, ovary, and pancreas. Māori mortality rates were higher than non-Māori rates for cancers of the lung (3.8 times as high), breast (3.9 times as high), and ovary (5.2 times as high).

For Māori males, cancer deaths accounted for 27% of all deaths, with a rate 2.2 times that of non-Māori males. Lung cancer was the most common cause of cancer death at a rate 4.5 times the non-Māori rate. Prostate and colorectal cancers were the next leading causes of cancer death.

Breast and cervical cancer screening

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

Māori			Non-Māori		
Number screened	Eligible population	% screened	Number screened	Eligible population	% screened
1,864	2,865	65.1%	3,243	4,388	73.9%

Source: National Screening Unit, Ministry of Health

BreastScreen Aotearoa provides free mammography screening for breast cancer to women aged 45 to 69 years, with a target of at least 70% of eligible women screened every two years. During the two years up to the end of 2014, 65% of Māori women and 74% of non-Māori women in Tairāwhiti had been screened.

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

Māori					Non-Māori				
Eligible population	Women screened in	5-year coverage %	Women screened in	3-year coverage %	Eligible population	Women screened in	5-year coverage %	Women screened in	3-year coverage %
	last 5 years		last 3 years			last 5 years		last 3 years	
5,279	4,574	86.6	3,466	65.7	6,339	5,944	93.8	4,961	78.3

Source: National Screening Unit, Ministry of Health

Note: Population is adjusted for hysterectomy.

Among women aged 25 to 69 years, 87% 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 66% for Māori women and 78% for non-Māori women. The National Cervical Screening Programme has a three-year coverage target of 80%.

Respiratory disease

Table 50: Hospitalisations for asthma, by age group, Tairāwhiti 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	29	782.6	(633.5, 966.9)		8	424.6	(286.8, 628.6)		1.84	(1.18, 2.88)		358.0
Male	23	601.3	(475.7, 760.1)		9	457.4	(313.1, 668.2)		1.31	(0.84, 2.05)		144.0
Total	52	692.0	(591.4, 809.6)		17	441.0	(335.8, 579.2)		1.57	(1.15, 2.15)		251.0
15–34 years												
Female	7	207.2	(135.0, 318.2)		2	98.8	(47.0, 207.8)		2.10	(0.89, 4.95)		108.4
Male	3	102.3	(52.7, 198.4)		0	13.1	(1.8, 93.2)		7.79	(0.98, 61.69)		89.2
Total	10	154.8	(107.9, 222.1)		3	56.0	(27.9, 112.2)		2.77	(1.26, 6.06)		98.8
35–64 years												
Female	11	313.5	(220.0, 446.9)		2	32.1	(14.5, 71.3)		9.76	(4.08, 23.36)		281.4
Male	1	24.1	(7.6, 76.0)		1	29.3	(10.1, 84.8)		0.82	(0.17, 3.94)		-5.2
Total	12	168.8	(120.3, 237.0)		4	30.7	(15.9, 59.2)		5.50	(2.63, 11.52)		138.1
65 years and over												
Female	2	253.7	(113.2, 569.0)		2	52.5	(21.1, 130.7)		4.83	(1.43, 16.32)		201.2
Male	<1	53.2	(7.5, 377.9)		1	34.4	(9.1, 129.4)		1.55	(0.15, 16.48)		18.8
Total	2	153.5	(72.6, 324.6)		3	43.5	(20.3, 93.0)		3.53	(1.21, 10.27)		110.0

Source: NMDS.

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

There were 52 admissions for asthma per year among Māori children aged 0–14 years, at a rate 1.6 times that of non-Māori. Young Māori adults were admitted at a rate of 2.8 times that of non-Māori, with an average of 10 admissions per year. Among Māori adults aged 35–64 years, there were 12 admissions per year on average, at 5.5 times the rate of non-Māori. Māori aged 65 years and over were admitted at a rate 3.5 times the non-Māori rate, with two admissions per year on average.

Table 51: Hospitalisations for chronic obstructive pulmonary disease (COPD), 45 years and over, Tairāwhiti 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	35	891.6	(732.9, 1084.6)		32	319.7	(253.0, 404.0)		2.79	(2.06, 3.78)		571.9
Male	37	1,080.0	(892.5, 1306.8)		31	365.5	(288.3, 463.3)		2.95	(2.18, 4.01)		714.5
Total	73	985.8	(859.6, 1130.5)		63	342.6	(289.9, 404.9)		2.88	(2.32, 3.57)		643.2

Source: NMDS.

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

There were 73 hospitalisations per year on average for Māori with COPD, at a rate 2.9 times that of non-Māori, or 643 more admissions per 100,000.

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

Gender	Māori				Non-Māori				Māori/non-Māori ratio (95% CI)			Rate difference
	Ave. no. per year	Age-standardised rate per 100,000 (95% CI)			Ave. no. per year	Age-standardised rate per 100,000 (95% CI)						
Female	3	20.0	(12.2, 32.8)		1	6.5	(2.1, 19.8)		3.08	(0.91, 10.45)		13.5
Male	3	16.9	(9.7, 29.4)		5	12.8	(8.4, 19.6)		1.32	(0.66, 2.66)		4.1
Total	6	18.5	(12.8, 26.7)		6	9.7	(6.0, 15.5)		1.92	(1.05, 3.48)		8.8

Source: Mortality data, Ministry of Health

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

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

On average, six Māori per year died early from respiratory disease, at a rate almost twice the non-Māori rate, or nine more deaths per 100,000.

Mental disorders

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

Disorder	Māori			Non-Māori			Māori/non-Māori ratio (95% CI)	Rate difference
	Ave. no. per year	Age-standardised rate (95% CI)		Ave. no. per year	Age-standardised rate (95% CI)			
Female								
All disorders	82	679.8 (598.0, 773.0)		63	421.0 (351.3, 504.4)		1.61 (1.29, 2.02)	258.9
Schizophrenia	36	298.3 (245.4, 362.6)		6	39.9 (23.5, 67.8)		7.47 (4.25, 13.14)	258.4
Mood	24	188.3 (148.8, 238.5)		35	224.0 (176.0, 285.2)		0.84 (0.60, 1.18)	-35.7
—Bipolar	9	65.9 (45.1, 96.3)		8	55.5 (34.3, 89.8)		1.19 (0.64, 2.19)	10.4
—Depressive episode	7	60.8 (39.4, 93.8)		20	111.9 (79.9, 156.6)		0.54 (0.31, 0.94)	-51.1
Substance use	10	89.1 (61.7, 128.5)		6	61.1 (36.7, 101.7)		1.46 (0.78, 2.73)	27.9
—Alcohol	6	51.7 (32.0, 83.5)		5	51.2 (29.3, 89.4)		1.01 (0.48, 2.11)	0.5
Anxiety, stress-related	8	70.6 (46.9, 106.2)		7	64.4 (39.1, 106.3)		1.10 (0.57, 2.09)	6.2
Male								
All disorders	121	1,136.9 (1,021.4, 1,265.4)		75	676.7 (584.0, 784.2)		1.68 (1.40, 2.02)	460.1
Schizophrenia	83	781.1 (686.1, 889.2)		22	250.7 (194.7, 322.8)		3.12 (2.35, 4.14)	530.4
Mood	19	168.1 (127.7, 221.4)		27	243.6 (192.1, 308.8)		0.69 (0.48, 0.99)	-75.4
—Bipolar	10	85.7 (58.7, 125.1)		14	127.2 (92.4, 175.1)		0.67 (0.41, 1.11)	-41.5
—Depressive episode	7	65.9 (42.1, 103.2)		6	57.9 (34.5, 97.0)		1.14 (0.57, 2.26)	8.0
Substance use	12	113.8 (81.1, 159.9)		13	106.9 (74.5, 153.4)		1.06 (0.65, 1.75)	6.9
—Alcohol	7	65.8 (42.2, 102.4)		9	66.8 (42.8, 104.2)		0.99 (0.53, 1.85)	-1.0
Anxiety, stress-related	3	26.9 (13.3, 54.2)		4	26.3 (12.7, 54.5)		1.02 (0.37, 2.81)	0.6
Total								
All disorders	203	908.4 (836.5, 986.4)		137	548.9 (489.6, 615.3)		1.66 (1.44, 1.91)	359.5
Schizophrenia	118	539.7 (484.3, 601.4)		29	145.3 (115.4, 182.8)		3.71 (2.88, 4.79)	394.4
Mood	43	178.2 (148.9, 213.4)		62	233.8 (197.4, 276.9)		0.76 (0.60, 0.98)	-55.5
—Bipolar	20	75.8 (57.8, 99.3)		22	91.3 (70.0, 119.2)		0.83 (0.57, 1.21)	-15.5
—Depressive episode	14	63.4 (46.4, 86.6)		25	84.9 (64.0, 112.6)		0.75 (0.49, 1.14)	-21.5
Substance use	21	101.4 (79.0, 130.2)		19	84.0 (62.6, 112.9)		1.21 (0.82, 1.78)	17.4
—Alcohol	13	58.7 (42.4, 81.3)		14	59.0 (41.6, 83.6)		1.00 (0.62, 1.60)	-0.3
Anxiety, stress-related	11	48.7 (34.2, 69.4)		11	45.4 (30.0, 68.6)		1.07 (0.62, 1.85)	3.4

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 66% higher for Māori than for non-Māori, with 203 admissions per year on average.

The most common cause of admission was schizophrenia related disorders, with 118 admissions per year on average, at a rate 3.7 times that of non-Māori.

Admission rates for mood disorders were lower for Māori than for non-Māori.

Gout

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

Indicator	Māori		Non-Māori		Māori/non-Māori ratio	Difference in percentage
	Count	%	Count	%		
Gout prevalence	1,315	9.4	738	4.4	2.12	5.0
People with gout who received allopurinol regularly	451	34.3	287	38.9	0.88	-4.6
Colchicine use by people with gout not dispensed allopurinol	114	8.7	61	8.3	1.05	0.4
NSAID use by people with gout	608	46.2	316	42.8	1.08	3.4
Serum urate test within six months following allopurinol dispensing	249	33.4	104	27.4	1.22	6.1

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

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

In 2013, 1,315 Tairāwhiti Māori were estimated to have gout, a prevalence of 9%, twice the prevalence in non-Māori. Thirty-four percent of Māori with gout regularly received allopurinol, a preventive therapy to lower urate levels. Of those who received allopurinol, 33% had a lab test for serum urate levels within the following six months.

Table 55: Hospitalisations for gout, 25 years and over, Tairāwhiti 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	4	41.7	(22.6, 77.1)	2	2.9	(0.9, 9.5)	14.59	(3.79, 56.18)		38.8
Male	13	230.3	(164.7, 321.9)	3	11.2	(5.0, 25.2)	20.59	(8.54, 49.63)		219.1
Total	17	136.0	(100.8, 183.4)	5	7.0	(3.5, 14.0)	19.37	(9.11, 41.18)		129.0

Source: NMDS

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

There were 17 hospital admissions for gout per year on average among Tairāwhiti Māori, more frequent among males than females. The rate of admission for Māori was 19 times the rate for non-Māori males, or 129 more admissions per 100,000.

Hip fractures

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

Gender	Māori			Non-Māori			Māori/non-Māori ratio (95% CI)			Rate difference
	Ave. no. per year	Age-standardised rate per 100,000 (95% CI)		Ave. no. per year	Age-standardised rate per 100,000 (95% CI)					
Female	2	138.8	(57.0, 338.1)	21	400.1	(296.0, 540.9)	0.35	(0.14, 0.89)		-261.3
Male	<1	58.8	(8.3, 417.4)	9	275.5	(181.6, 417.9)	0.21	(0.03, 1.58)		-216.7
Total	2	98.8	(42.0, 232.3)	30	337.8	(264.0, 432.2)	0.29	(0.12, 0.71)		-239.0

Source: NMDS

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

On average, two Māori per year aged 65 and over were admitted to hospital for hip fractures, at a rate of just under 100 per 100,000. The rate was less than a third that of non-Māori.

Elective surgery

Table 57: Hospitalisations for hip replacements, 50 years and over, Tairāwhiti 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	420.4	(301.3, 586.5)	21	322.5	(247.3, 420.6)	1.30	(0.85, 2.00)	97.9
Male	11	500.3	(355.4, 704.5)	16	265.7	(196.3, 359.7)	1.88	(1.19, 2.97)	234.6
Total	23	460.4	(362.1, 585.3)	37	294.1	(240.9, 359.2)	1.57	(1.15, 2.14)	166.2

Source: NMDS

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

On average, 23 Māori aged 50 years and over were admitted to hospital per year for a hip replacement, at a rate 57% higher than the rate for non-Māori.

Table 58: Publicly funded hospitalisations for cataract surgery, 45 years and over, Tairāwhiti 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	37	869.7	(717.6, 1,053.9)	58	403.2	(335.1, 485.1)	2.16	(1.65, 2.82)	466.5
Male	31	948.6	(770.7, 1,167.7)	47	404.8	(336.3, 487.2)	2.34	(1.77, 3.10)	543.9
Total	69	909.2	(788.7, 1,048.0)	105	404.0	(354.4, 460.5)	2.25	(1.86, 2.73)	505.2

Source: NMDS

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

An average of 69 Tairāwhiti Māori aged 45 years and over were admitted to hospital per year for cataract surgery. The rate for Māori was 2.3 times that for non-Māori, or 505 more admissions per 100,000.

Mauri ora: All ages

This section presents information on overall hospitalisations, potentially avoidable and ambulatory sensitive hospitalisations, overall mortality rates, potentially avoidable mortality and mortality amenable to health care, and injuries. ICD codes for these classifications are provided in Appendix 2. Life expectancy at birth is provided for the Gisborne Region.

Hospitalisations

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

Gender	Māori		Non-Māori		Māori/non-Māori ratio (95% CI)	Rate difference
	Ave. no. per year	Age-standardised rate per 100,000 (95% CI)	Ave. no. per year	Age-standardised rate per 100,000 (95% CI)		
Female	3,050	23,848.9 (23,339.8, 24,369.2)	3,052	1,049.3 (20,462.9, 21,652.5)	1.13 (1.09, 1.17)	2,799.6
Male	2,405	19,780.1 (19,307.4, 20,264.3)	2,864	8,814.8 (18251.5, 19,395.5)	1.05 (1.01, 1.09)	965.2
Total	5,455	21,814.5 (21,466.0, 22,168.7)	5,916	9,932.1 (19523.7, 20,348.9)	1.09 (1.07, 1.12)	1,882.4

Source: NMDS

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

On average, there were 5,455 Māori hospital admissions per year and over 19,900 non-Māori admissions. All-cause admission rates were 9% higher for Māori than non-Māori.

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

Potentially avoidable hospitalisations

Table 60: Potentially avoidable hospitalisations, 0–74 years, Tairāwhiti 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	705	5,551.2 (5,308.8, 5,804.6)	460	3,864.8 (3,609.3, 4,138.5)	1.44 (1.32, 1.56)	1,686.3
Male	643	5,505.8 (5,257.2, 5,766.2)	538	4,278.8 (4,013.4, 4,561.7)	1.29 (1.19, 1.39)	1,227.0
Total	1,348	5,528.5 (5,353.8, 5,709.0)	997	4,071.8 (3,885.8, 4,266.7)	1.36 (1.28, 1.44)	1,456.7

Source: NMDS

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

Almost 1,350 Māori hospital admissions per year were potentially avoidable through population based prevention strategies, at a rate 36% higher for Māori than for non-Māori, or 1,444 more admissions per 100,000.

Table 61: Ambulatory care sensitive hospitalisations, 0–74 years, Tairāwhiti 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	456	3,620.7 (3,425.2, 3,827.4)	216	2,116.7 (1,921.6, 2,331.5)	1.71 (1.53, 1.91)	1,504.0
Male	414	3,497.9 (3,302.0, 3,705.5)	278	2,352.8 (2,153.0, 2,571.3)	1.49 (1.34, 1.65)	1,145.1
Total	870	3,551.6 (3,412.4, 3,696.6)	494	2,229.9 (2,088.7, 2,380.7)	1.59 (1.48, 1.72)	1,321.7

Source: NMDS

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

On average, there were 870 ambulatory care sensitive hospitalisations per year among Māori, at a rate that was 59% higher than the non-Māori rate, or 1,322 more admissions per 100,000.

Mortality

Table 62: Life expectancy at birth, Gisborne Region, 2012–2014

Gender	Māori		Non-Māori		Difference in years
	Years (95% credible interval)		Years (95% credible interval)		
Female	74.8	(73.9, 75.8)	83.2	(82.7, 83.7)	-8.4
Male	70.4	(69.4, 71.5)	79.4	(78.8, 80.0)	-9.0

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

Notes: This data is for the Gisborne Region. A map of Regional Council boundaries can be found [here](#). The credible interval is the 2.5th percentile and the 97.5th percentile, the 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. It does not take account of any changes in mortality rates after that period. During 2012–2014, among residents of the Gisborne Region, life expectancy at birth was 74.8 years for Māori females, 8.4 years lower than for non-Māori females (83. years). For Māori males, life expectancy was 70.4 years, 9 years lower than that of non-Māori males (79.4 years).

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

Gender	Māori			Non-Māori			Māori/non-Māori ratio (95% CI)	Rate difference
	Ave. no. per year	Age-standardised rate per 100,000 (95% CI)		Ave. no. per year	Age-standardised rate per 100,000 (95% CI)			
Female	71	368.5 (340.2, 399.1)		121	147.6 (132.0, 165.1)		2.50 (2.18, 2.86)	220.8
Male	78	555.0 (515.7, 597.2)		119	238.4 (217.9, 260.9)		2.33 (2.07, 2.61)	316.5
Total	148	461.7 (437.3, 487.5)		240	193.0 (179.9, 207.1)		2.39 (2.19, 2.61)	268.7

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 148 Māori deaths per year on average in Tairāwhiti from 2008 to 2012. The Māori mortality rate was 2.4 times as high as the non-Māori rate, or 269 more deaths per 100,000.

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

Gender and cause	Māori			Non-Māori			Māori/non-Māori ratio (95% CI)	Rate difference
	Ave. no. per year	Age-standardised rate per 100,000 (95% CI)		Ave. no. per year	Age-standardised rate per 100,000 (95% CI)			
Female								
IHD	14	53.5 (41.5, 68.9)		19	13.6 (10.4, 17.8)		3.94 (2.72, 5.71)	39.9
Lung cancer	7	32.0 (22.4, 45.6)		5	8.5 (5.5, 13.2)		3.76 (2.14, 6.60)	23.5
Stroke	5	25.9 (16.8, 39.8)		15	11.5 (8.0, 16.6)		2.24 (1.27, 3.95)	14.3
Diabetes	5	21.3 (14.1, 32.2)		2	1.9 (0.9, 4.3)		10.92 (4.51, 26.46)	19.3
COPD	4	17.1 (10.8, 27.0)		5	3.5 (2.2, 5.7)		4.84 (2.49, 9.40)	13.6
Male								
IHD	15	95.5 (75.8, 120.3)		24	36.2 (29.2, 44.8)		2.64 (1.93, 3.62)	59.3
Lung cancer	8	47.8 (34.6, 66.0)		8	10.6 (7.4, 15.2)		4.51 (2.78, 7.30)	37.2
Accidents	5	45.9 (30.7, 68.6)		4	22.8 (11.7, 44.5)		2.01 (0.92, 4.39)	23.1
Diabetes	5	28.8 (19.3, 42.8)		3	3.2 (1.8, 5.7)		9.00 (4.48, 18.07)	25.6
Suicide	4	38.7 (24.7, 60.5)		3	26.1 (14.7, 46.2)		1.48 (0.72, 3.07)	12.6
Total								
IHD	29	74.5 (62.6, 88.6)		43	24.9 (20.9, 29.6)		2.99 (2.34, 3.83)	49.6
Lung cancer	14	39.9 (31.4, 50.7)		13	9.6 (7.2, 12.6)		4.17 (2.89, 6.03)	30.3
Diabetes	10	25.0 (18.7, 33.4)		5	2.6 (1.6, 4.1)		9.73 (5.64, 16.78)	22.4
Accidents	8	32.2 (23.1, 44.9)		9	15.5 (9.0, 26.5)		2.08 (1.11, 3.91)	16.7
Stroke	8	23.2 (16.6, 32.3)		23	10.0 (7.7, 13.0)		2.31 (1.52, 3.52)	13.1

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.

During 2007 to 2011 the leading causes of death for Tairāwhiti Māori women were ischaemic heart disease (IHD), lung cancer, stroke, diabetes and COPD. Mortality rates for these conditions were 2 to 11 times as higher for Māori women as for non-Māori women.

For Māori men in Tairāwhiti, the leading causes of death were IHD, lung cancer, accidents, diabetes, and suicide. Mortality rates were higher for Māori than for non-Māori men for IHD (2.6 times as high), lung cancer (4.5 times as high), and diabetes (9 times as high).

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

Potentially avoidable mortality

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

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

Table 65: Potentially avoidable mortality, 0–74 years, Tairāwhiti 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	32	196.2	(166.8, 230.6)	18	60.2	(44.7, 81.0)	3.26 (2.32, 4.58)	136.0
Male	45	333.2	(291.1, 381.5)	31	121.7	(98.2, 150.7)	2.74 (2.13, 3.53)	211.6
Total	77	264.7	(238.5, 293.7)	49	90.9	(76.4, 108.2)	2.91 (2.38, 3.57)	173.8

Source: Mortality, Ministry of Health

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

On average there were 77 potentially avoidable Māori deaths per year in Tairāwhiti, at a rate 2.9 times the non-Māori rate, or 174 more deaths per 100,000.

Table 66: Amenable mortality, 0–74 years, Tairāwhiti 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	24	153.4	(127.3, 184.7)	10	38.3	(25.0, 58.6)	4.01 (2.52, 6.37)	115.1
Male	32	233.9	(199.2, 274.7)	23	92.0	(71.9, 117.6)	2.54 (1.90, 3.41)	142.0
Total	56	193.6	(171.4, 218.7)	33	65.1	(52.6, 80.7)	2.97 (2.32, 3.80)	128.5

Source: Mortality, Ministry of Health

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

Mortality rates for causes of death amenable to health care were 3 times as high for Māori as for non-Māori, or 129 more deaths per 100,000. There were 56 Māori deaths per year on average in Tairāwhiti.

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 Tairāwhiti Māori were falls, exposure to mechanical forces, complications of medical and surgical care, transport accidents, and assault.

Table 67: Hospitalisations for injuries, all ages, Tairāwhiti 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	215	1,686.6	(1,554.8, 1,829.6)	273	1,690.6	(1,531.1, 1,866.8)	1.00 (0.88, 1.13)	-4.1
Male	377	3,470.5	(3,267.2, 3,686.4)	339	2,795.2	(2,589.0, 3,017.9)	1.24 (1.13, 1.37)	675.3
Total	593	2,578.5	(2,456.3, 2,706.8)	612	2,242.9	(2,111.0, 2,383.1)	1.15 (1.06, 1.24)	335.6

Source: NMDS

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

On average there were 593 hospitalisations for injury among Māori at a rate 15% higher than among non-Māori, or 336 more admissions than non-Māori per 100,000. Admission rates were higher for males than for females.

Table 68: Hospitalisations for assault, all ages, Tairāwhiti 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	18	161.1	(123.2, 210.7)	3	40.4	(20.8, 78.5)	3.98 (1.95, 8.15)	120.7
Male	39	404.7	(336.6, 486.5)	24	258.1	(201.9, 329.9)	1.57 (1.15, 2.13)	146.5
Total	58	282.9	(242.9, 329.4)	27	149.3	(118.5, 188.0)	1.90 (1.44, 2.50)	133.6

Source: NMDS

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

On average 58 Māori per year were admitted to hospital for injury caused by assault, at a rate 90% higher than the non-Māori rate, or 134 more admissions per 100,000. Males were more likely to be admitted than females.

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

Gender	Māori			Non-Māori			Māori/non-Māori ratio (95% CI)	Rate difference
	Ave. no. per year	Age-standardised rate per 100,000 (95% CI)		Ave. no. per year	Age-standardised rate per 100,000 (95% CI)			
Female	3	25.4	(15.3, 42.3)	5	9.6	(4.5, 20.3)	2.66 (1.07, 6.58)	15.9
Male	10	90.9	(68.0, 121.4)	7	51.7	(33.7, 79.1)	1.76 (1.05, 2.95)	39.2
Total	13	58.2	(45.2, 74.8)	12	30.6	(21.0, 44.7)	1.90 (1.21, 2.99)	27.5

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 13 Tairāwhiti Māori died from injuries per year, at a rate 90% higher than non-Māori, or 28 more deaths per 100,000. Injury mortality rates were higher for males than for females.



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Appendix 1: Population projections

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

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

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

Age	Male	Female	Total	Male	Female	Total	Male	Female	Total	Male	Female	Total
	2013(Base)			2014			2015			2016		
0	230	240	470	240	230	470	240	230	470	240	220	460
1-4	1,080	1,040	2,120	1,030	1,010	2,040	990	970	1,970	980	930	1,910
5-9	1,310	1,240	2,550	1,320	1,260	2,580	1,330	1,290	2,620	1,320	1,290	2,620
10-14	1,290	1,150	2,450	1,300	1,160	2,460	1,290	1,130	2,420	1,250	1,140	2,380
15-19	1,080	1,040	2,120	1,110	1,060	2,170	1,120	1,100	2,220	1,140	1,110	2,260
20-24	810	930	1,740	830	860	1,690	840	840	1,680	880	830	1,700
25-29	580	800	1,380	580	830	1,410	610	840	1,450	640	860	1,500
30-34	550	710	1,260	540	700	1,240	530	710	1,240	540	710	1,250
35-39	590	670	1,260	580	680	1,250	580	660	1,240	560	670	1,230
40-44	630	780	1,400	630	790	1,420	630	770	1,400	590	730	1,330
45-49	580	720	1,300	580	730	1,310	570	740	1,310	590	740	1,330
50-54	610	710	1,320	580	700	1,280	580	710	1,290	580	700	1,280
55-59	530	600	1,130	550	610	1,170	540	610	1,160	560	640	1,200
60-64	450	450	890	450	480	930	480	510	990	480	530	1,020
65-69	280	350	630	300	380	680	300	390	690	330	400	730
70-74	180	240	420	200	230	430	220	230	450	220	250	470
75-79	120	160	280	120	170	280	110	200	310	120	200	320
80-84	80	110	190	80	120	200	80	110	190	70	110	180
85-89	30	50	80	20	50	70	30	50	80	40	60	100
90+	0	20	20	10	20	20	10	20	30	10	20	30
All Ages	11,000	12,000	23,000	11,100	12,100	23,100	11,100	12,100	23,200	11,200	12,100	23,300
	2017			2018			2019			2020		
0	230	220	460	230	220	450	230	220	450	230	220	440
1-4	950	920	1,870	960	910	1,860	940	900	1,840	940	890	1,820
5-9	1,320	1,270	2,600	1,270	1,240	2,510	1,230	1,200	2,430	1,190	1,160	2,350
10-14	1,240	1,160	2,390	1,240	1,180	2,410	1,240	1,190	2,440	1,260	1,220	2,470
15-19	1,170	1,080	2,250	1,190	1,040	2,230	1,190	1,040	2,240	1,180	1,020	2,200
20-24	870	830	1,700	880	830	1,710	900	850	1,760	920	890	1,800
25-29	680	840	1,520	730	860	1,580	750	790	1,540	760	770	1,530
30-34	530	760	1,290	550	780	1,330	550	810	1,350	580	820	1,400
35-39	560	670	1,230	530	690	1,220	520	680	1,200	500	690	1,200
40-44	570	690	1,260	570	640	1,210	550	650	1,210	560	630	1,190
45-49	600	760	1,350	600	750	1,350	600	770	1,370	610	740	1,350
50-54	570	690	1,260	550	690	1,240	550	700	1,250	540	710	1,250
55-59	560	650	1,220	570	680	1,250	550	670	1,210	550	680	1,230
60-64	480	560	1,040	490	570	1,050	510	580	1,080	500	580	1,070
65-69	370	410	780	400	410	800	400	440	840	430	470	900
70-74	210	280	490	240	310	550	250	340	590	250	340	590
75-79	150	190	340	150	190	340	160	180	340	180	180	360
80-84	80	120	200	80	120	200	70	120	200	70	150	220
85-89	40	50	90	40	70	110	50	80	120	50	70	120
90+	10	30	40	10	30	30	10	20	30	10	20	30
All Ages	11,200	12,200	23,400	11,200	12,200	23,400	11,300	12,200	23,500	11,300	12,300	23,500

These projections were derived in October 2014 Source: Statistics New Zealand

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

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

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

Age	Male	Female	Total	Male	Female	Total	Male	Female	Total	Male	Female	Total
	2013(Base)			2014			2015			2016		
0	360	340	700	350	330	690	360	340	700	360	340	700
1-4	1,600	1,580	3,180	1,550	1,520	3,070	1,520	1,450	2,960	1,500	1,390	2,890
5-9	2,050	1,890	3,950	2,060	1,920	3,970	2,030	1,980	4,010	2,020	2,000	4,020
10-14	2,040	1,820	3,860	2,040	1,820	3,860	2,040	1,790	3,830	1,980	1,770	3,750
15-19	1,770	1,680	3,450	1,780	1,700	3,480	1,780	1,680	3,460	1,780	1,660	3,430
20-24	1,450	1,450	2,890	1,470	1,390	2,860	1,510	1,410	2,920	1,560	1,420	2,970
25-29	1,160	1,380	2,540	1,240	1,440	2,680	1,310	1,520	2,840	1,380	1,600	2,980
30-34	1,120	1,370	2,480	1,130	1,360	2,490	1,130	1,390	2,510	1,170	1,400	2,570
35-39	1,270	1,410	2,680	1,230	1,410	2,640	1,230	1,370	2,590	1,200	1,360	2,560
40-44	1,420	1,640	3,060	1,420	1,620	3,040	1,430	1,590	3,020	1,370	1,540	2,920
45-49	1,410	1,600	3,010	1,390	1,600	2,990	1,360	1,610	2,970	1,370	1,610	2,990
50-54	1,530	1,690	3,220	1,500	1,660	3,160	1,480	1,670	3,140	1,430	1,600	3,030
55-59	1,460	1,510	2,970	1,470	1,550	3,020	1,480	1,570	3,050	1,500	1,650	3,140
60-64	1,330	1,320	2,650	1,340	1,390	2,730	1,400	1,400	2,800	1,400	1,430	2,840
65-69	1,030	1,080	2,110	1,090	1,120	2,210	1,120	1,200	2,320	1,210	1,260	2,470
70-74	740	840	1,580	780	850	1,630	820	850	1,670	810	870	1,680
75-79	500	610	1,110	510	610	1,120	510	650	1,170	570	700	1,270
80-84	380	480	860	370	490	860	380	490	870	370	450	820
85-89	170	300	470	160	300	460	170	280	450	190	300	490
90+	60	160	220	70	160	230	80	170	240	80	160	240
All Ages	22,800	24,100	47,000	23,000	24,200	47,200	23,100	24,400	47,500	23,200	24,500	47,700
	2017			2018			2019			2020		
0	360	340	700	360	340	700	360	340	710	370	340	710
1-4	1,460	1,370	2,820	1,450	1,370	2,820	1,460	1,370	2,830	1,460	1,380	2,840
5-9	2,020	1,970	3,980	1,940	1,920	3,860	1,890	1,850	3,740	1,850	1,770	3,620
10-14	1,980	1,810	3,790	1,970	1,810	3,770	1,970	1,830	3,790	1,930	1,880	3,820
15-19	1,770	1,560	3,340	1,760	1,520	3,280	1,760	1,500	3,270	1,750	1,460	3,220
20-24	1,520	1,430	2,950	1,510	1,430	2,940	1,510	1,430	2,940	1,490	1,400	2,890
25-29	1,460	1,580	3,040	1,550	1,610	3,150	1,550	1,540	3,090	1,580	1,530	3,100
30-34	1,220	1,480	2,700	1,270	1,530	2,800	1,320	1,570	2,900	1,380	1,640	3,020
35-39	1,160	1,370	2,530	1,130	1,400	2,530	1,140	1,380	2,520	1,130	1,400	2,530
40-44	1,340	1,450	2,800	1,260	1,380	2,640	1,210	1,380	2,590	1,200	1,330	2,520
45-49	1,350	1,620	2,980	1,370	1,600	2,970	1,370	1,580	2,950	1,370	1,540	2,910
50-54	1,410	1,550	2,970	1,370	1,550	2,920	1,350	1,550	2,890	1,310	1,550	2,860
55-59	1,470	1,670	3,140	1,480	1,680	3,160	1,450	1,650	3,100	1,430	1,640	3,070
60-64	1,420	1,470	2,890	1,430	1,490	2,920	1,440	1,520	2,970	1,440	1,540	2,980
65-69	1,260	1,290	2,550	1,270	1,290	2,560	1,290	1,360	2,640	1,340	1,370	2,710
70-74	830	920	1,750	920	1,010	1,930	980	1,050	2,030	1,000	1,130	2,130
75-79	610	710	1,320	610	740	1,350	660	740	1,400	680	740	1,420
80-84	370	470	840	360	470	840	370	470	840	370	510	880
85-89	190	290	490	210	300	510	210	310	520	220	310	540
90+	80	170	250	70	150	220	60	150	220	70	140	210
All Ages	23,300	24,500	47,800	23,300	24,600	47,900	23,300	24,600	47,900	23,400	24,600	48,000

NOTE: Owing to rounding, individual figures do not always sum to the totals shown.

These projections were derived in October 2014

Source: Statistics New Zealand



Appendix 2: Technical notes

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

Data sources

Table 72: Data sources

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

Note: *no causes for 2012

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Data from the Census of Population and Dwellings

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

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

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

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

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

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

Data from Te Kupenga 2013

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

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

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

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

Deaths, hospitalisations and cancer registrations

Ethnicity

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

Residence

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

Hospital transfers

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

Suppression of causes of death or hospitalisation

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

Ninety-five percent confidence intervals

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

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

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

Age standardisation

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

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

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

Table 73: 2001 Census total Māori population

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

ICD-10 codes

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

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

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

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

Source: Anderson et al (2012)

Notes:

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

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

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

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

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

Source: Anderson et al (2012)

Notes:

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

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

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

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

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

Source: Ministry of Health

Notes:

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

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

* Aged 15 months to 14 years.

† Each admission counts as a half.

‡ Aged six months to 14 years.

§ Aged 15 years and over.

|| Aged more than 15 years.

¶ Aged 5 years and over.

Table 77: Avoidable mortality ICD-10 codes

Condition	ICD-10-AM
Tuberculosis	A15–A19, B90
Selected invasive bacterial and protozoal infection	A38–A41, A46, A48.1, B50–B54, G00, G03, J02.0, J13–J15, J18, L03
Hepatitis	B15–B19
HIV/AIDS	B20–B24
Viral pneumonia and influenza	J10, J12, J17.1, J21
Lip, oral cavity and pharynx cancers	C00–C14
Oesophageal cancer	C15
Stomach cancer	C16
Colorectal cancer	C18–C21
Liver cancer	C22
Lung cancer	C33–C34
Bone and cartilage cancer	C40–C41*
Melanoma of skin	C43
Non-melanotic skin cancer	C44
Breast cancer (female only)	C50
Uterine cancer	C54–C55
Cervical cancer	C53
Prostate cancer	C61*
Testicular cancer	C62*
Bladder cancer	C67
Thyroid cancer	C73
Hodgkin’s disease	C81
Lymphoid leukaemia, acute/chronic	C91.0, C91.1
Benign tumours	D10–D36
Thyroid disorders	E00–E07
Diabetes	E10–E14**
Alcohol-related diseases	F10, I42.6, K29.2, K70
Illicit drug use disorders	F11–F16, F18–F19
Epilepsy	G40–G41
Rheumatic and other valvular heart diseases	I01–I09, I33–I37*
Hypertensive heart disease	I10*, I11
Ischaemic heart disease	I20–I25
Heart failure	I50*
Cerebrovascular diseases	I60–I69
Aortic aneurysm	I71
Nephritis and nephrosis	I12–I13, N00–N09, N17–N19
Obstructive uropathy and prostatic hyperplasia	N13, N20–N21, N35, N40, N99.1
DVT with pulmonary embolism	I26, I80.2
COPD	J40–J44***
Asthma	J45–J46***
Peptic ulcer disease	K25–K28
Acute abdomen, appendicitis, intestinal obstruction, cholecystitis/lithiasis, pancreatitis, hernia	K35–K38, K40–K46, K80–K83, K85–K86, K91.5
Chronic liver disease (excluding alcohol related disease)	K73, K74
Complications of pregnancy	O00–O96*, O98–O99*
Birth defects	H31.1, P00, P04, Q00–Q99
Complications of perinatal period	P01–P02*, P03, P05–P95
Road traffic injuries	V01–V04, V06, V09–V80, V82–V86*, V87, V88.0–V88.5*, V88.7–V88.9*, V89, V98*, V99
Accidental poisonings	X40–X49
Falls	W00–W19
Fires	X00–X09
Drownings	W65–W74
Suicide and self-inflicted injuries	X60–X84, Y87.0
Violence	X85–Y09, Y87.1
Event of undetermined intent	Y10–Y34, Y87.2****
Treatment injury	Y60–Y82*

Notes:

*Added from amenable mortality

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

***All ages added from amenable mortality

****V87.2 added by authors for completeness

Table 78: Amenable mortality ICD-10 codes

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

Source: Ministry of Health 2010

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



TE RŌPŪ RANGAHAU HAUORA A ERU PŌMARE



UNIVERSITY
of
OTAGO
Te Whare Wānanga o Ōtago
NEW ZEALAND



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MINISTRY OF HEALTH