



Wairarapa
District Health Board

Māori Health Profile 2015



Te Rei Puta

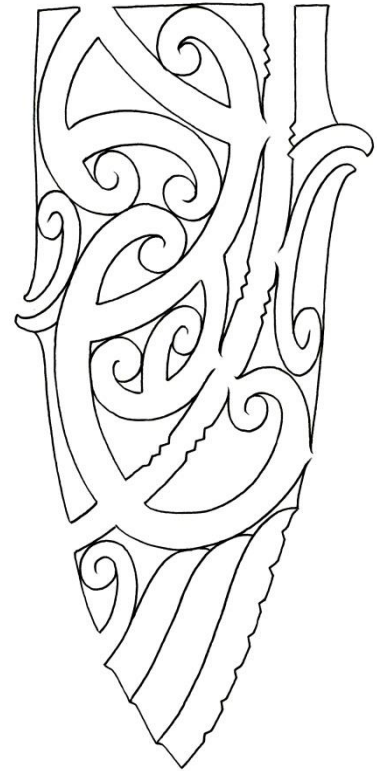
The cover design represents the journey of data from its production to its use by the health sector. The overall shape of the design is the prized rei puta. This signifies the importance of information and the acknowledgement that knowledge is a taonga.

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



Suggested citation: Robson B, Purdie G, Simmonds S, Waa A, Eddowes M, Rameka R. 2015. *Wairarapa District Health Board Māori Health Profile 2015*. Wellington: Te Rōpū Rangahau Hauora a Eru Pōmare.

ISBN 978-0-9941247-6-0 (electronic)

Published in October 2015 by Te Rōpū Rangahau Hauora a Eru Pōmare, University of Otago Wellington, PO Box 7343, Wellington South.

Further information on Te Rōpū Rangahau Hauora a Eru Pōmare can be found [here](#).



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.

Acknowledgements

Many people have contributed their time and expertise to the Māori Health Profiles. We would like to thank members of Te Tumu Whakarae, DHB Planning and Funding groups, Public Health Services, Māori providers, and Māori governance groups who contributed to our consultation discussions. We would also like to acknowledge those who participated in the workshop at the Tū Kaha conference in Hastings, October 2014.

Paula Searle, Peter Himona, Te Taiawatea Moko-Mead, Li-Chia Yeh, Roimata Timutimu, Natalie Talamaivao from Te Kete Hauora, Ministry of Health provided valuable advice.

The following people assisted us to obtain data: Roslyn Parker, Dale Robison, Catherine Gerard and Mishra Suriyaprakash from the Ministry of Health; Ester Goodwin and Andrew Maclaren, Statistics New Zealand; June Atkinson, University of Otago Wellington; Nikki Turner, Immunisation Advisory Centre; Ali Ajmal, Action on Smoking and Health New Zealand.

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

Doone Winnard and Sarah Sharpe from Counties Manukau DHB provided very useful peer review of early drafts.

We appreciated the discussions and input of the participants of the Māori Health Profiles Summer School in February 2015, and a special thanks to the guest presenters Paula Searle, Kirikowhai Mikaere, Ana Morrison, Sonia Hawkins, Gay Keating and Jean Gilmour.

We would like to particularly acknowledge Olga Rameka who provided cultural support and guidance throughout the project, ngā mihi aroha ki a koe.

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

– Wairarapa at a glance

Wairarapa population

- In 2013, 7,010 Māori lived in the Wairarapa District Health Board region, 17% of the District's total population. Twenty-nine percent of the District's children aged 0–14 years and 28% of the District's youth aged 15–24 years were Māori.
- The Wairarapa Māori population is youthful, but showing signs of ageing. The median age in 2013 was 24 years. The number of Māori aged 65 years and over will increase by 38% between 2013 and 2020.

Whānau ora – Healthy families

- Te Kupenga data is presented for Wairarapa and Hutt DHBs combined. In 2013, most Wairarapa and Hutt Māori adults (80%) reported that their whānau was doing well, but 7% felt their whānau was doing badly. A small proportion (7%) found it hard to access whānau support in times of need, but most found it easy (76%).
- Being involved in Māori culture was important to the majority of Māori adults (76%) and spirituality was important to 66%.
- Practically all Wairarapa and Hutt Māori (98%) had been to a marae at some time. Most (68%) had been to their ancestral marae, with 76% stating they would like to go more often.
- Eleven percent had taken part in traditional healing or massage in the last 12 months.
- One in six Wairarapa and Hutt Māori (17%) could have a conversation about a lot of everyday things in te reo Māori in 2013.

Wai ora – Healthy environments

Education

- In 2013, 96% of Wairarapa Māori children starting school had participated in early childhood education.
- In 2013, 45% of Māori adults aged 18 years and over had at least a Level 2 Certificate, a higher proportion than in 2006 (37%). The proportion of non-Māori with this level of qualification in 2013 was 63%.

Work

- In 2013, 11% of Māori adults aged 15 years and over were unemployed, compared to 6% of non-Māori.
- Most Wairarapa Māori adults (90%) do voluntary work.
- In 2013, Māori were 87% more likely than non-Māori to look after a household member who was disabled or ill, and 44% more likely to care for someone outside of the home, without pay.

Income and standard of living

- In 2013, just over one in three children and adults in Māori households (defined as households with at least one Māori resident) were in households with low equivalised household incomes (under \$15,172), compared to just under one in five children and one in six adults in other households in the Wairarapa District.
- In 2013 16% of Wairarapa and Hutt Māori adults reported putting up with feeling the cold a lot to keep costs down during the previous 12 months, 7% had gone without fresh fruit and vegetables, and 16% had postponed or put off a visit to the doctor.

- In 2013, 9% of residents of Māori households in Wairarapa DHB had no motor vehicle compared to 4% of residents in other households.
- Residents of Wairarapa Māori households were less likely to have access to telecommunications than those living in other households: 32% had no internet, 26% no telephone, 13% no mobile phone, and 3% had no access to any telecommunications.

Housing

- The most common housing problems reported to be a big problem by Wairarapa and Hutt Māori adults in 2013 were finding it hard to keep warm (23%), needing repairs (17%), and damp (16%).
- Just over half of children in Wairarapa Māori households were living in rented accommodation, almost twice the proportion of children in other households.
- Wairarapa residents living in Māori households were three times as likely as others to be in crowded homes (i.e. requiring at least one additional bedroom) (14% compared to 5%).

Area deprivation

- Using the NZDep2013 index of small area deprivation, 65% of Wairarapa Māori lived in the four most deprived decile areas compared to 44% of non-Māori. Conversely 8% of Māori lived in the two least deprived deciles compared to 17% of non-Māori.

Mauri ora – Healthy individuals

Pepi, tamariki – Infants and children

- On average, 186 Māori infants were born per year during 2009–2013, 53% of all live births in Wairarapa DHB. Six percent of Māori and 5% of non-Māori babies had low birth weight.
- In 2013, 67% of Māori babies in Wairarapa were fully breastfed at 6 weeks.
- Nine in ten Māori infants were enrolled with a Primary Health Organisation by three months of age.
- In 2014, 94% of Māori children were fully immunised at 8 months of age, and 97% at 24 months.
- In 2013 half of Wairarapa Māori children aged 5 years and a quarter of non-Māori children had caries. At Year 8 of school, three in five Māori children and two in five non-Māori children had caries. Māori children under 15 years were 65% more likely than non-Māori to be hospitalised for tooth and gum disease.
- During 2011–2013, on average there were 17 hospital admissions per year for grommet insertions among Māori children (at a rate 79% higher than non-Māori) and 10 admissions per year for serious skin infections (with the rate 2.4 times that of non-Māori children).
- On average, 142 hospitalisations per year of Māori children were potentially avoidable through population-based health promotion and intersectoral actions, at a rate 52% higher than that of non-Māori.
- Just over 100 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 54% higher than for non-Māori children.

Rangatahi – Young adults

- There has been a significant decrease in the proportion of Wairarapa Māori aged 15–17 years who smoke regularly, but no change in smoking rates among Māori aged 20–24 years. In 2013 48% in this age group were smoking cigarettes daily, compared to 27% of non-Māori.
- By September 2014, 57% of Māori girls aged 17 years and 77% of those aged 14 years had received all three doses of the human papilloma virus (HPV) vaccine. Māori aged 16 years had the highest coverage at 93%.
- Among Māori aged 15–24 years there was an average of nine hospitalisations per year for injury from self-harm during 2011–2013.

Pakeke – Adults

- Just under half of Māori adults in Wairarapa and Hutt DHBs reported having excellent or very good health in 2013, and just over a third reported having good health. One in six (17%) reported having fair or poor health.
- Smoking rates are decreasing, but remained twice as high for Māori (38%) as for non-Māori (19%) in 2013.

Circulatory system diseases

- Māori adults aged 25 years and over were 49% more likely than non-Māori to be hospitalised for circulatory system diseases (including heart disease and stroke) during 2011–2013, with 73 admissions per year.
- Wairarapa Māori were 57% more likely than non-Māori to be admitted with acute coronary syndrome, 48% more likely to have angiography, and just as likely to have angioplasty or a coronary artery bypass and graft.
- Heart failure admission rates were 3 times as high for Māori as for non-Māori.
- Stroke admission rates were similar for Māori and non-Māori, with seven Māori admitted per year.
- On average, one Māori per year was admitted to hospital with chronic rheumatic heart disease.
- Māori under 75 years were 3 times as likely as non-Māori to die from circulatory system diseases during 2007–2011, with an average of six Māori deaths per year.

Diabetes

- In 2013, 4% of Māori and 5% of non-Māori were estimated to have diabetes. Half of Māori aged 25 years and over who had diabetes were regularly receiving metformin or insulin, four-fifths were having their blood sugar monitored regularly, and two-thirds were being screened regularly for renal disease.
- In 2011–2013 Māori with diabetes were over 4 times as likely as non-Māori to have a lower limb amputated (with one person per year having an amputation).

Cancer

- Compared to non-Māori, cancer incidence was two-thirds higher for Māori females while cancer mortality was just over twice as high.
- Breast, lung, genital organs, and colorectal cancers were the most commonly registered cancers among Wairarapa Māori women in 2008–2012. The rate of lung cancer was fourfold the non-Māori rate, and cancers of the genital organs were 2.5 times the rate for non-Māori women.
- Breast screening coverage of Māori women aged 45–69 years was 66% compared to 69% of non-Māori women during the two years to December 2014.
- Cervical screening coverage of Māori women aged 25–69 years was 69% over 3 years and 86% over five years (compared to 76% and 90% of non-Māori respectively).
- Cancers of the digestive organs and of the breast were the most common causes of cancer death for Māori women in 2007–2011. Māori mortality rates for these cancers were 3 times the non-Māori rates.
- Among Wairarapa males, overall cancer incidence was 49% higher for Māori than for non-Māori, while the cancer mortality rate was similar.
- Colorectal, lung, and prostate cancers were the most frequent cancers among Wairarapa Māori males. The colorectal cancer rate was 2.5 times the rate for non-Māori men, and lung cancer was 3 times the non-Māori rate.
- Cancers of the digestive organs and of the lung were the most common causes of death from cancer among Māori males.

Respiratory disease

- Māori aged 45 years and over were 2.7 times as likely as non-Māori to be admitted to hospital for chronic obstructive pulmonary disease (COPD) during 2007–2011.
- Asthma hospitalisation rates were more than twice as high for Māori as for non-Māori in each age group, particularly for males. Among Māori aged 35–64 years the rate was notably 10.5 times the non-Māori rate.
- Māori under 75 years of age had 10 times the non-Māori rate of death from respiratory disease in 2007–2011.

Mental disorders

- Māori were 63% more likely than non-Māori to be admitted to hospital for a mental disorder during 2011–2013. Schizophrenia related disorders were the most common disorders, followed by substance use disorders. The rate of admission for schizophrenia disorders was 4.2 times the non-Māori rate.

Gout

- In 2011 the prevalence of gout among Wairarapa Māori was estimated to be 6%, higher than the prevalence among non-Māori (4%).

- Thirty-nine percent of Māori with gout regularly received allopurinol, a preventive therapy to lower urate levels. Of those who received allopurinol, only 25% had a lab test for serum urate levels in the following six months. Forty-eight percent of Māori with gout were using non-steroidal anti-inflammatory medication.
- In 2011–2013 the rate of hospitalisations for gout was 3.6 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 21% higher for Māori than for non-Māori during 2011–2013.
- On average, 418 Māori hospital admissions per year were potentially avoidable, with the rate 40% higher for Māori than for non-Māori. The ASH rate was 62% higher.

Mortality

- In 2012–2014, life expectancy at birth for Māori in the greater Wellington Region was 78.6 years for females (5.3 years lower than for non-Māori females) and 74.7 years for males (5.6 years lower than for non-Māori).
- The all-cause mortality rate for Wairarapa Māori in 2008–2012 was 87% higher than the rate for non-Māori.
- Leading causes of death for Māori females during 2004–2011 were COPD, diabetes, ischaemic heart disease (IHD), stroke, and lung cancer.
- Leading causes of death for Māori males were IHD, diabetes, accidents, COPD, and lung cancer.
- Potentially avoidable mortality and mortality amenable to health care were over twice as high for Māori as for non-Māori in Wairarapa during 2007–2011.

Injuries

- The rate of hospitalisation due to injury was 25% higher for Māori than for non-Māori during 2011–2013.
- The most common causes of injury resulting in hospitalisations among Māori were falls, exposure to mechanical forces, complications of medical and surgical care, transport accidents, and assault.
- Māori rates of hospital admission for injury caused by assault were almost treble those of non-Māori.
- Injury mortality was similar for Māori and non-Māori in Wairarapa DHB, with four Māori per year dying from injuries during 2007–2011.

Contents

Tiro whānui – Wairarapa 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	15
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	21
Cancer	22
Breast and cervical cancer screening	23
Respiratory disease	24
Mental disorders	25
Gout	25
Hip fractures.....	26
Elective surgery	26
Mauri ora: All ages	28
Hospitalisations.....	28
Potentially avoidable hospitalisations	28
Mortality	28
Potentially avoidable mortality	30
Injuries	31
References	32
Appendix 1: Population projections	33
Appendix 2: Technical notes	35
Data sources.....	35
Data from the Census of Population and Dwellings	35
Data from Te Kupenga 2013	35
Deaths, hospitalisations and cancer registrations.....	36
Ethnicity	36
Residence.....	36
Hospital transfers.....	36
Suppression of causes of death or hospitalisation	36
Ninety-five percent confidence intervals	36
Age standardisation	37
ICD-10 codes	37

List of Tables and Figures

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

Table 31: Hospitalisations for serious skin infections, children aged 0–14 years, Wairarapa DHB, 2011–2013	15
Table 32: Potentially avoidable hospitalisations for children aged 1 month to 14 years, Wairarapa DHB, 2011–2013	16
Table 33: Ambulatory care sensitive hospitalisations for children aged 1 month to 14 years, Wairarapa DHB, 2011–2013	16
Table 34: Human papilloma virus immunisations (HPV) by birth cohorts, Wairarapa DHB, 1 September 2008 to 30 September 2014	18
Table 35: Hospitalisations for injury from intentional self-harm, 15–24 and 25–44 years, Wairarapa DHB, 2011–2013	18
Table 36: Health status reported by Māori aged 15 years and over, Wairarapa and Hutt DHBs combined, 2013	19
Table 37: Cigarette smoking status, 15 years and over, Wairarapa DHB, 2006 and 2013	19
Table 38: Hospitalisations for circulatory system diseases, 25 years and over, Wairarapa DHB, 2011–2013	20
Table 39: Ischaemic heart disease indicators, 25 years and over, Wairarapa DHB, 2011–2013	20
Table 40: Hospitalisations for heart failure, stroke, and hypertensive disease, 25 years and over, Wairarapa DHB, 2011–2013	21
Table 41: Hospitalisations for chronic rheumatic heart disease and heart valve replacements, 25 years and over, Wairarapa DHB, 2011–2013	21
Table 42: Early deaths from circulatory system disease, Wairarapa DHB, 2007–2011	21
Table 43: Diabetes prevalence, medication use, monitoring of blood glucose levels, screening for renal disease, Wairarapa DHB, 2013	22
Table 44: Hospitalisations for lower limb amputations for people with concurrent diabetes, 15 years and over, Wairarapa DHB, 2011–2013	22
Table 45: Most common cancer registrations for Māori by site, all ages, Wairarapa DHB, 2008–2012	22
Table 46: Most common cancer deaths for Māori by site, all ages, Wairarapa DHB, 2007–2011	23
Table 47: BreastScreen Aotearoa breast screening coverage, women aged 45–69 years, Wairarapa DHB, 24 months to 31 December 2014.....	23
Table 48: Cervical screening coverage, women aged 25–69 years, Wairarapa DHB, 3 years and 5 years to 31 December 2014	23
Table 49: Hospitalisations for asthma, by age group, Wairarapa DHB, 2011–2013	24
Table 50: Hospitalisations for chronic obstructive pulmonary disease (COPD), 45 years and over, Wairarapa DHB, 2011–2013	24
Table 51: Early deaths from respiratory disease, Wairarapa DHB, 2007–2011	24
Table 52: Hospitalisations for mental disorders, all ages, Wairarapa DHB, 2011–2013	25
Table 53: Gout prevalence and treatment, 20–79 years, Wairarapa DHB, 2011	26
Table 54: Hospitalisations for gout, 25 years and over, Wairarapa DHB, 2011–2013.....	26
Table 55: Hospitalisations for hip fractures, 65 years and over, Wairarapa DHB, 2011–2013	26
Table 56: Hospitalisations for hip replacements, 50 years and over, Wairarapa DHB, 2011–2013	27
Table 57: Publicly funded hospitalisations for cataract surgery, 45 years and over, Wairarapa DHB, 2011–2013	27
Table 58: All-cause hospitalisations, all ages, Wairarapa DHB, 2011–2013	28
Table 59: Potentially avoidable hospitalisations, 0–74 years, Wairarapa DHB, 2011–2013	28

Table 60: Ambulatory care sensitive hospitalisations, 0–74 years, Wairarapa DHB, 2011–2013.....	28
Table 61: Life expectancy at birth, Wellington Region 2012–2014	29
Table 62: All-cause deaths, all ages, Wairarapa DHB, 2008–2012.....	29
Table 63: Leading causes of death for Māori, all ages, Wairarapa DHB, 2004–2011	29
Table 64: Potentially avoidable mortality, 0–74 years, Wairarapa DHB, 2007–2011.....	30
Table 65: Amenable mortality, 0–74 years, Wairarapa DHB, 2007–2011.....	30
Table 66: Hospitalisations for injuries, all ages, Wairarapa DHB, 2011–2013.....	31
Table 67: Hospitalisations for assault, all ages, Wairarapa DHB, 2011–2013	31
Table 68: Deaths from injury, all ages, Wairarapa DHB, 2007–2011.....	31
Table 69: Māori population projections, single year by age group, Wairarapa DHB, 2013 to 2020	33
Table 70: Total population projections, single year, by age group, Wairarapa DHB, 2013 to 2020	34
Table 71: Data sources	35
Table 72: 2001 Census total Māori population	37
Table 73: Potentially avoidable hospitalisation ICD-10 codes for children aged 1 month to 14 years.....	37
Table 74: Ambulatory care sensitive hospitalisation ICD-10 codes for children aged 1 month to 14 years	38
Table 75: Ambulatory care sensitive hospitalisation ICD-10 codes for people aged 1 month to 74 years	39
Table 76: Avoidable mortality ICD-10 codes	39
Table 77: Amenable mortality ICD-10 codes.....	41
Figure 1: Distribution by NZDep 2013 decile, Wairarapa DHB, 2013	12
Figure 2: Regular smokers, ages 15–17, 18–19, 20–24 years, Wairarapa 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 Poari Hauora a Rohe o Wairarapa, Wairarapa 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 Wairarapa DHB. Accompanying Excel tables also include data for the total Wairarapa 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, and the Māori Health Plan Indicator reports provided to DHBs.



Te Tatauranga o te Iwi

– Key demographics

In 2013, approximately 1.2% (7,010) of the country’s Māori population lived in the Wairarapa District Health Board. The total population of the DHB (42,400) made up 1% of the national population. In 2015, the Māori population is estimated to be 7,270 and the total population 43,600.²

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

Age group (years)	Māori			Non-Māori		Total DHB Number
	Number	Age distribution	% of DHB	Number	Age distribution	
0–14	2,420	35%	29	6,010	17%	8,430
15–24	1,330	19%	28	3,470	10%	4,800
25–44	1,550	22%	18	7,310	21%	8,860
45–64	1,300	19%	11	10,890	31%	12,190
65+	420	6%	5	7,670	22%	8,090
Total	7,010	100%	17	35,390	100%	42,400

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

In 2013, Māori residents comprised 17% of the DHB population. The Māori population is relatively young, with a median age of 24.0 years in 2013, compared with 43.4 years for the total DHB population. Māori comprised 29% of the DHB’s children aged 0–14 years and 28% of those aged 15–24 years.

Table 2: Population projections, Wairarapa 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	Māori	Total NZ
2013	7,010	17	1	34	61	6	24.0	42,400	43.4	1	692,300	4,442,100
2018	7,560	17	1	32	60	7	25.0	44,700	44.7	1	734,500	4,726,200
2023	8,110	18	1	31	60	9	26.6	45,000	46.4	1	773,500	4,935,200
2028	8,680	19	1	30	58	12	27.8	45,000	47.9	1	811,700	5,139,700
2033	9,290	21	1	29	57	14	28.6	44,600	49.3	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 6% but is projected to increase to 14% in 2033. Between 2013 and 2020 the number of Māori aged 65 and over will increase by 38% from 420 to 580 (see Appendix 1). In 2013 there were 150 Māori aged 75 years and over in Wairarapa, with 45 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. Te Kupenga was a sample survey of Māori adults aged 15 years and above with insufficient numbers to report results for Wairarapa DHB alone. Therefore we present combined data for Wairarapa and Hutt DHBs.

Whānau well-being

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

How the whānau is doing	Wairarapa and Hutt DHBs			New Zealand	
	Estimated number	%	(95% CI)	%	(95% CI)
Well / Extremely well	23,000	80.2	(75.3, 85.1)	83.4	(82.5, 84.4)
Neither well nor badly	3,500*	12.7*	(7.9, 17.5)	10.3	(9.4, 11.2)
Badly / Extremely badly	2,000*	7.1*	(4.7, 9.4)	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%

Eighty percent of Wairarapa and Hutt Māori adults reported that their whānau was doing well or extremely well in 2013. However 7% felt their whānau was doing badly or extremely badly.

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

Whānau description	Wairarapa and Hutt DHBs			New Zealand	
	Estimated number	%	(95% CI)	%	(95% CI)
Size of whānau					
10 or less	14,500	51.8	(45.8, 57.8)	53.7	(52.1, 55.3)
11 to 20	7,000	24.6	(19.6, 29.5)	22.6	(21.3, 24.0)
More than 20	6,500	23.6	(19.7, 27.5)	23.6	(22.4, 24.8)
Groups included in whānau					
Parents, partner, children, brothers & sisters	28,000	97.3	(95.7, 99.0)	94.6	(94.0, 95.2)
Aunts & uncles, cousins, nephews & nieces, other in-laws	13,000	45.3	(39.0, 51.7)	41.3	(39.8, 42.8)
Grandparents, grandchildren	12,500	43.2	(37.6, 48.8)	41.9	(40.5, 43.4)
Friends, others	3,500*	12.4	(8.7, 16.0)	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 around a quarter reporting whānau sizes of more than 20 people. Twelve percent included friends in their description of whānau.

Whānau support

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

How easy is it to get help	Wairarapa and Hutt DHBs			New Zealand	
	Estimated number	%	(95% CI)	%	(95% CI)
Support in times of need					
Easy, very easy	21,500	75.8	(71.1, 80.6)	81.2	(80.1, 82.4)
Sometimes easy, sometimes hard	5,000	17.7	(13.2, 22.2)	12.7	(11.7, 13.6)
Hard / very hard	2,000*	6.5*	(3.8, 9.1)	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	15,500	55.4	(49.4, 61.4)	64.1	(62.7, 65.6)
Sometimes easy, sometimes hard	7,000	24.6	(19.3, 29.9)	16.9	(15.9, 18.0)
Hard / very hard	4,500	16.3	(12.5, 20.1)	14.7	(13.5, 15.9)
Don't need help	1,000**	3.7**	(1.4, 5.9)	4.2	(3.7, 4.7)

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

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

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

In 2013, the majority of Māori adults in Wairarapa and Hutt (76%) reported having easy access to support in times of need. However, an estimated 2,000 (6.5%) had difficulty getting help from whānau. A smaller proportion (55%) found it easy to get help with Māori cultural practices, with 16% 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, Wairarapa and Hutt DHBs combined, 2013

	Wairarapa and Hutt DHBs			New Zealand	
	Estimated number	%	(95% CI)	%	(95% CI)
Importance of being involved in Māori culture					
Very / quite	14,000	49.1	(42.9, 55.3)	46.3	(44.9, 47.6)
Somewhat	7,500	27.0	(21.8, 32.1)	24.2	(22.9, 25.6)
A little / not at all	7,000	23.9	(18.5, 29.4)	29.5	(28.3, 30.7)
Importance of spirituality					
Very / quite	15,000	53.0	(47.7, 58.4)	48.7	(47.4, 49.9)
Somewhat	3,500*	12.7*	(8.6, 16.8)	17.0	(16.0, 18.0)
A little / not at all	10,000	34.3	(29.0, 39.5)	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 important (very, quite, or somewhat) to the majority (76%) of Wairarapa and Hutt Māori adults. Spirituality was important to two-thirds (66%) of Māori.

Te Reo Māori

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

Māori			Non-Māori			Māori/non-Māori ratio (95% CI)	Difference in percentage
Number	%	(95% CI)	Number	%	(95% CI)		
1,041	16.8	(15.8, 17.7)	261	1.0	(0.8, 1.1)	17.06 (14.59, 19.94)	15.8

Source: 2013 Census, Statistics New Zealand

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

According to the 2013 Census, about one in six Māori in Wairarapa DHB (17%) and 1% of non-Māori could have a conversation about a lot of everyday things in te reo Māori.

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

Language spoken at home	Wairarapa and Hutt DHBs			New Zealand	
	Estimated number	%	(95% CI)	%	(95% CI)
Māori is main language	1,000**	4.1**	(1.8, 6.4)	2.6	(2.2, 3.0)
Māori is used regularly	6,500	24.4	(18.3, 30.5)	20.5	(19.2, 21.8)

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

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

A quarter of Māori adults from Wairarapa and Hutt DHBs reported that Māori language was used regularly in the home, and for 4% te reo Māori was the main language.

Access to marae

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

Been to marae	Wairarapa and Hutt DHBs			New Zealand	
	Estimated number	%	(95% CI)	%	(95% CI)
At some time	28,500	98.4	(97.0, 99.8)	96.0	(95.5, 96.6)
In previous 12 months ⁽¹⁾	17,000	60.6	(55.3, 66.0)	58.2	(56.6, 59.7)
Ancestral marae at some time ⁽²⁾	19,000	68.1	(62.5, 73.6)	62.3	(60.9, 63.7)
Ancestral marae in previous 12 months ⁽³⁾	9,000	31.4	(26.5, 36.4)	33.6	(32.3, 34.9)
Like to go to ancestral marae more often ⁽²⁾	15,000	75.5	(68.6, 82.5)	58.7	(56.7, 60.7)

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

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

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

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

In 2013, almost all Māori in Wairarapa and Hutt (99%) had been to a marae at some time, with a majority (61%) having been in the last 12 months. Sixty-eight percent had been to at least one of their ancestral marae, with 31% having been in the previous year, but 76% reported that they would like to go more often.

Traditional healing or massage

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

Wairarapa and Hutt DHBs			New Zealand	
Estimated number	%	(95% CI)	%	(95% CI)
3,000*	10.8*	(6.9, 14.7)	10.9	(10.0, 11.7)

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

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

In 2013, an estimated 3,000 Māori adults (11%) in Wairarapa and Hutt 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 Wairarapa DHB, 2006 and 2013

Year	Māori			Non-Māori			Māori/non-Māori ratio (95% CI)	Difference in percentage
	Number	%	(95% CI)	Number	%	(95% CI)		
2006	1,080	37.2	(35.5, 39.0)	12,183	56.8	(56.0, 57.6)	0.65 (0.62, 0.69)	-19.6
2013	1,566	44.7	(43.1, 46.4)	14,148	63.2	(62.5, 64.0)	0.71 (0.68, 0.74)	-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 37% to 45% between 2006 and 2013. The absolute gap between Māori and non-Māori closed by one percentage point, and Māori were 29 percent less likely than non-Māori to have at least this level of qualification in 2013.

Work

Table 12: Labour force status, 15 years and over, Wairarapa 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	1,610	49.5	(48.0, 51.0)	12,561	55.7	(55.0, 56.3)	0.89 (0.86, 0.92)	-6.2
Employed part-time	583	16.2	(15.0, 17.4)	4,221	17.8	(17.3, 18.4)	0.91 (0.84, 0.98)	-1.7
Unemployed	216	6.5	(5.7, 7.4)	588	3.6	(3.3, 4.0)	1.80 (1.54, 2.11)	2.9
Not in the labour force	1,038	27.9	(26.5, 29.4)	8,712	22.9	(22.3, 23.5)	1.22 (1.15, 1.29)	5.0
2013								
Employed full-time	1,732	43.6	(42.2, 45.1)	12,660	52.5	(51.9, 53.2)	0.83 (0.80, 0.86)	-8.9
Employed part-time	625	14.7	(13.7, 15.9)	4,533	17.9	(17.3, 18.5)	0.83 (0.76, 0.89)	-3.1
Unemployed	402	10.6	(9.6, 11.6)	951	5.7	(5.3, 6.1)	1.85 (1.65, 2.08)	4.9
Not in the labour force	1,368	30.7	(29.4, 32.1)	9,330	23.8	(23.2, 24.4)	1.29 (1.23, 1.36)	6.9

Source: 2006 and 2013 Censuses, Statistics New Zealand

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

Between 2006 and 2013 there was a decrease in the number and proportion of Māori adults employed full-time, and a corresponding increase in the unemployment rate (from 7% to 11%). There was also an increase in the population who were not in the labour force.

In 2013 Māori were 85% more likely than non-Māori to be unemployed than non-Māori, with an absolute gap of 5% in unemployment rates. The absolute gap in the proportions not in the labour force was 7%.

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

ANZSIC Industry	Wairarapa DHB						New Zealand	
	Māori			Non-Māori				
	Number	%	Rank	Number	%	Rank	%	Rank
Females								
Health Care and Social Assistance	228	28.1	1	1,458	18.8	1	17.1	1
Retail Trade	126	15.6	2	981	12.6	3	11.6	3
Accommodation and Food Services	123	15.2	3	633	8.2	5	7.3	5
Education and Training	120	14.8	4	1,020	13.2	2	12.9	2
Agriculture, Forestry and Fishing	84	10.4	5	753	9.7	4	4.6	8
Males								
Agriculture, Forestry and Fishing	288	35.8	1	1,887	22.3	1	8.7	4
Manufacturing	186	23.1	2	945	11.2	3	13.4	1
Construction	165	20.5	3	1,173	13.9	2	13.2	2
Retail Trade	72	9.0	4	726	8.6	4	8.3	5
Accommodation and Food Services	21	2.6	5	303	3.6	11	4.5	9

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 the Wairarapa District, with around 60% employed in health care and social assistance; retail trade; and accommodation and food services combined, 15% in education and training and 10% in agriculture, forestry and fishing. For Māori men, over a third were employed in agriculture, forestry and fishing, followed by almost a quarter in manufacturing, and a fifth in construction.

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

ANZSCO Occupation	Wairarapa DHB						New Zealand	
	Māori			Non-Māori				
	Number	%	Rank	Number	%	Rank	%	Rank
Females								
Professionals	216	22.0	1	1,896	24.2	1	26.7	1
Community and Personal Service Workers	213	21.7	2	1,131	14.5	4	12.9	4
Labourers	195	19.9	3	789	10.1	6	8.3	6
Clerical and Administrative Workers	135	13.8	4	1,416	18.1	2	19.5	2
Managers	99	10.1	5	1,221	15.6	3	14.4	3
Sales Workers	90	9.2	6	864	11.0	5	11.7	5
Technicians and Trades Workers	33	3.4	7	438	5.6	7	5.0	7
Males								
Labourers	363	36.2	1	1,449	17.0	3	13.6	4
Technicians and Trades Workers	219	21.9	2	1,521	17.8	2	18.5	3
Managers	150	15.0	3	2,379	27.9	1	22.7	1
Machinery Operators and Drivers	135	13.5	4	723	8.5	5	9.1	5
Professionals	87	8.7	5	1,227	14.4	4	18.6	2
Community and Personal Service Workers	21	2.1	6	357	4.2	7	5.4	7
Sales Workers	21	2.1	7	552	6.5	6	7.1	6
Clerical and Administrative Workers	6	0.6	8	315	3.7	8	5.1	8

Source: 2013 Census, Statistics New Zealand

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

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

Māori men were most likely to be employed as labourers (36%); technicians and trade workers (22%); managers (15%); and machinery operators and drivers (14%).

Table 15: Unpaid work, 15 years and over, Wairarapa 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	3,399	89.7	(88.7, 90.6)	23,178	90.0	(89.5, 90.5)	1.00 (0.98, 1.01)	-0.3
Looking after disabled/ill household member	462	12.2	(11.2, 13.3)	1,716	6.5	(6.2, 6.9)	1.87 (1.69, 2.08)	5.7
Looking after disabled/ill non-household member	478	12.2	(11.2, 13.4)	2,700	8.5	(8.1, 8.9)	1.44 (1.31, 1.60)	3.8

Source: 2013 Census, Statistics New Zealand

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

Close to 90% of Māori adults worked without pay in 2013. Māori were 87% more likely than non-Māori to look after a household member who was disabled or ill and 44% more likely to look after a disabled or ill non-household member.

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, Wairarapa and Hutt DHBs combined, 2013

Actions taken a lot to keep costs down	Wairarapa and Hutt DHBs			New Zealand	
	Estimated number	%	(95% CI)	%	(95% CI)
Put up with feeling the cold	4,500	15.7	(11.5, 19.9)	11.0	(10.2, 11.8)
Go without fresh fruit and vegetables	2,000*	7.4*	(4.4, 10.5)	5.4	(4.8, 6.0)
Postpone or put off visits to the doctor	4,500	15.5	(11.1, 19.8)	8.8	(7.9, 9.6)

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

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

In 2013, an estimated 4,500 Māori adults (16%) in Wairarapa and Hutt reported putting up with feeling cold a lot to keep costs down during the previous 12 months, and a similar number often postponed or put off visits to the doctor. Seven percent (2,000 people) had gone without fresh fruit and vegetables.

Table 17: Children aged 0–17 years living in families where the only income is means-tested benefits, Wairarapa 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	414	16.3	(15.0, 17.8)	405	6.5	(5.9, 7.1)	2.53 (2.23, 2.88)	9.9
2013	576	19.6	(18.3, 21.1)	432	7.1	(6.4, 7.7)	2.79 (2.48, 3.13)	12.6

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.

In 2013, 576 children in Māori families and 432 children were in non-Māori families were in families for whom the only income was means-tested benefits. Wairarapa children in Māori families were 2.8 times as likely as non-Māori children to be in this situation in 2013, with the absolute difference increasing three percentage points between 2006 and 2013 from 10% to 13%.

Table 18: Children and adults living in households with low incomes, Wairarapa 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	900	36.1	(34.3, 38.0)	1,086	18.8	(17.8, 19.8)	1.92 (1.78, 2.06)	17.3
Adults 18 years & over	1,335	30.6	(29.3, 32.0)	3,099	17.8	(17.0, 18.5)	1.72 (1.62, 1.83)	12.9

Source: 2013 Census, Statistics New Zealand

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

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

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

Just over a third of the children in Wairarapa Māori households (900) were in households with low equivalised household incomes in 2013, 92% higher than the proportion of other children. More than a 30% of adults in Māori households (1,335) lived in low income households, 72% higher than the proportion of adults in other households.

Table 19: Households with no access to a motor vehicle, Wairarapa 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	246	10.6	(9.4, 12.0)	999	8.0	(7.6, 8.5)	1.32 (1.16, 1.51)	2.6
2013	318	11.4	(10.3, 12.7)	984	7.4	(7.0, 7.9)	1.55 (1.37, 1.74)	4.0
People (% age-standardised)								
2006	522	7.2	(6.6, 7.8)	1,356	3.4	(3.2, 3.7)	2.10 (1.87, 2.35)	3.8
2013	780	9.1	(8.5, 9.8)	1,347	3.6	(3.3, 3.9)	2.55 (2.30, 2.82)	5.6

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, 11% of Māori households had no motor vehicle, 55% higher than the proportion of non-Māori households. The proportion of people in Māori households without a vehicle was 2.6 times the proportion of people in other households.

Table 20: People in households with no access to telephone, mobile/cell phone, internet, or any telecommunications, Wairarapa 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	1,212	26.2	(12.5, 14.0)	4,416	10.8	(10.4, 11.2)	1.22 (1.14, 1.31)	2.4
No telephone	2,127	13.2	(25.3, 27.2)	2,853	13.1	(12.6, 13.6)	2.00 (1.90, 2.11)	13.1
No internet	2,730	31.7	(30.7, 32.8)	5,865	14.9	(14.4, 15.4)	2.13 (2.04, 2.24)	16.9
No tele-communications	246	2.9	(2.5, 3.3)	294	1.1	(0.9, 1.2)	2.70 (2.23, 3.26)	1.8

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, 32% of people in Wairarapa Māori households had no access to the internet, 26% did not have a telephone, 13% had no mobile phone, and 3% had no access to any telecommunications in the home. The largest absolute gap between Wairarapa Māori and non-Māori households was in access to the internet (a difference of 17 percentage points).

Housing

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

Housing problem (a big problem)	Wairarapa and Hutt DHBs			New Zealand	
	Estimated number	%	(95% CI)	%	(95% CI)
Too small	2,000*	7.6*	(4.7, 10.4)	5.3	(4.7, 5.9)
Damp	4,500	16.2	(12.2, 20.3)	11.3	(10.5, 12.2)
Hard to keep warm	6,500	23.0	(18.0, 28.1)	16.5	(15.4, 17.7)
Needs repairs	5,000	16.6	(11.9, 21.4)	13.8	(12.7, 14.9)
Pests in the house	2,500*	9.1*	(5.5, 12.7)	5.8	(5.1, 6.5)

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

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

Housing problems reported as a big problem by Wairarapa and Hutt Māori adults in 2013 included difficulty keeping the house warm (23%), needing repairs (17%), and damp (16%). Eight percent felt their house was too small, and 9% stated that pests were a big problem in their house.

Housing security

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

Measure	Māori households			Non-Māori households			Māori/non-Māori ratio (95% CI)	Difference in percentage
	Number	%	(95% CI)	Number	%	(95% CI)		
Households	1,251	45.6	(43.7, 47.5)	2,655	20.4	(19.7, 21.1)	2.24 (2.12, 2.36)	25.2
Children under 18 years (% age- standardised)	1,593	52.7	(50.9, 54.5)	1,725	27.5	(26.4, 28.7)	1.91 (1.82, 2.02)	25.1
Adults 18 years and over (% age- standardised)	2,316	45.7	(44.4, 47.1)	4,239	28.6	(27.8, 29.4)	1.60 (1.53, 1.67)	17.1

Source: 2013 Census, Statistics New Zealand

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

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

In 2013, 1,251 Wairarapa Māori households were rented, 46% of all Māori households, compared to 20% of non-Māori households.

Among children living in a Māori household, 53% (1,593 children) were living in rented homes, compared to 28% (1,725 children) in non-Māori households.

Forty-six percent of adult residents of Māori households were in rented accommodation (2,316), compared to 29% of adults living in non-Māori households.

Household crowding

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

Measure	Māori households			Non-Māori households			Māori/non-Māori ratio (95% CI)	Difference in percentage
	Number	%	(95% CI)	Number	%	(95% CI)		
Households	201	7.2	(6.3, 8.2)	168	1.3	(1.1, 1.5)	5.69 (4.65, 6.95)	5.9
People (% age standardised)	1,089	13.5	(12.8, 14.3)	813	4.5	(4.1, 4.8)	3.03 (2.77, 3.32)	9.1

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 5.7 times as likely as non-Māori households to be classified as crowded using the Canadian National Occupancy Standard, with 201 homes needing at least one additional bedroom, affecting 1,089 people. Residents of Māori households were 3 times as likely as residents of non-Māori households to be living in crowded conditions.

Fuel poverty

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

Measure	Māori households			Non-Māori households			Māori/non-Māori ratio (95% CI)	Difference in percentage
	Number	%	(95% CI)	Number	%	(95% CI)		
Households	33	1.2	(0.8, 1.7)	72	0.5	(0.4, 0.7)	2.19 (1.45, 3.30)	0.6
People (% age standardised)	81	0.9	(0.8, 1.2)	93	0.5	(0.4, 0.6)	2.02 (1.47, 2.77)	0.5

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).

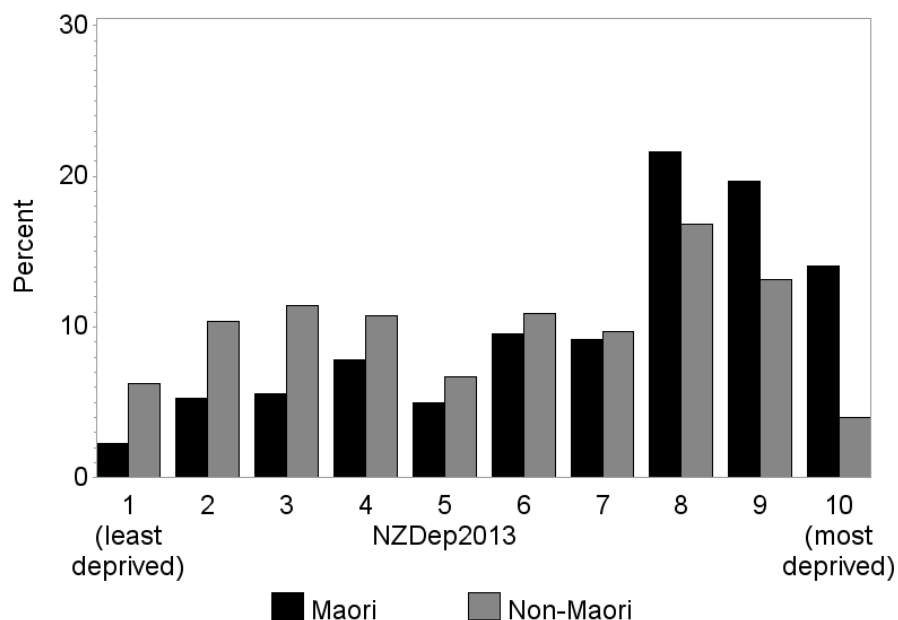
A Māori household is a household with at least one Māori resident. Non-Māori households have no Māori residents.

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

In 2013, 1% of Māori households in Wairarapa DHB (33 homes) had no heating, twice the proportion of non-Māori households (72 homes).

Area deprivation

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



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

Wairarapa Māori have a more deprived small area profile than Wairarapa non-Māori. In 2013, 65% of Māori lived in the four most deprived decile areas compared to 44% of non-Māori (see accompanying Excel table). Conversely, only 8% of Māori lived in the two least deprived decile areas, 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, Wairarapa 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	11	6.1 (4.7, 7.9)	18	5.2 (4.2, 6.3)	1.18 (0.86, 1.63)	0.9
High birth-weight	5	2.6 (1.7, 3.9)	9	2.5 (1.9, 3.4)	1.04 (0.63, 1.69)	0.1
Preterm	14	7.5 (5.8, 9.4)	22	6.2 (5.1, 7.5)	1.20 (0.89, 1.60)	1.2

Source: Birth registrations, Ministry of Health

Notes: Low birth-weight less than 2500g, High birth-weight greater than or equal to 4,500g, Preterm less than 37 weeks gestation.

During 2009 to 2013 there were 186 Māori infants born per year on average, 53% of all live births in the DHB (534 per year). On average, 11 Māori babies per year were born with low birth-weight, at a rate of 6% while five per year (3%) were born with high birth-weight. Fourteen Māori babies per year (7%) were born prematurely.

Well child/Tamariki ora indicators

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

Indicator	Period	Māori	
		Count	%
1. Babies enrolled with a Primary Health Organisation (PHO) by three months old	20 Aug to 19 Nov 2013	28	88
11. Babies exclusively or fully breastfed at 2 weeks	January to June 2013	36	74
12. Babies exclusively or fully breastfed at 6 weeks		34	67
19. Mothers smoke-free two weeks postnatal		37	66
5. Children under 5 years enrolled with oral health services (PHO enrolled children)	2012	365	43
7. Children starting school who have participated in ECE	2013	161	96
15. Children with a healthy weight at 4 years, DHB of service	July to Dec 2013	57	70

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

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

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

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

During late 2013, 88% of Māori babies were enrolled with a PHO by three months of age. In the first half of 2013, 74% of Māori babies were breastfed at two weeks of age and 67% at six weeks. Two-thirds of Māori mothers were smoke-free two weeks after giving birth.

Among pre-school children enrolled with a PHO 43% of Māori were enrolled with oral health services in 2012. Almost all Māori children who started school in 2013 had participated in early childhood education (96%). Seventy percent of Māori children with a BMI recorded at their B4 School Check had a healthy weight.

Table 27: Children fully immunised by the milestone age, Wairarapa 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	148	76	261	83	0.91	-7
8 months	178	94	283	91	1.04	3
12 months	170	96	301	92	1.04	4
18 months	161	93	292	92	1.01	1
24 months	194	97	295	92	1.06	5
5 years	174	95	355	90	1.06	5

Source: National Immunisation Register

In the 12 months to 31 December 2014, 76% of Māori infants aged six months were fully immunised, compared to 83% of non-Māori infants. However, 94% of Māori children aged eight months and 97% of those aged 24 months had completed their immunisations. At five years 95% of Māori children were fully immunised.

Oral health

Table 28: Oral health status of children aged 5 or in Year 8 at school, Wairarapa 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	124	48 (39, 58)	2.1		326	26 (21, 31)	0.9		1.88 (1.45, 2.43)	23
Year 8	119	58 (49, 67)	1.5		298	42 (36, 48)	0.9		1.38 (1.13, 1.69)	16

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.

In 2013 48% of Māori children aged five years had caries, almost 90% higher than the proportion of non-Māori children. The mean number of decayed, missing or filled teeth (DMFT) was 2.1 for Māori compared to 0.9 for non-Māori. Of those in Year 8 at school 58% of Māori and 42% of non-Māori children had caries. The mean DMFT was 1.5 for Māori and 0.9 for non-Māori.

Table 29: Hospitalisations for tooth and gum disease, children aged 0–14 years, Wairarapa 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	1,443.9	(1,097.4, 1,900.0)		22	754.7	(592.6, 961.0)		1.91 (1.33, 2.76)	689.3
Male	16	1,316.0	(988.4, 1,752.3)		28	918.4	(741.5, 1,137.5)		1.43 (1.00, 2.05)	397.6
Total	33	1,380.0	(1,132.0, 1,682.4)		50	836.5	(712.7, 981.9)		1.65 (1.28, 2.13)	543.4

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 33 admissions per year on average for tooth and gum disease among Māori children, at a rate that was 65% higher than for non-Māori, or 543 more admissions per 100,000 children per year.

Middle ear disease

Table 30: Hospitalisations for grommet insertions, children aged 0–14 years, Wairarapa 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	8	681.1	(456.5, 1,016.1)	9	304.5	(207.2, 447.5)	2.24	(1.28, 3.90)	376.5
Male	9	761.5	(525.5, 1,103.6)	15	503.2	(375.6, 674.0)	1.51	(0.94, 2.43)	258.4
Total	17	721.3	(549.5, 946.8)	24	403.9	(320.0, 509.7)	1.79	(1.25, 2.56)	317.4

Source: NMDS

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

On average, 17 Māori children per year were admitted for insertion of grommets for otitis media in the Wairarapa DHB region, at a rate 79% higher than the non-Māori rate, or 317 more procedures per 100,000 children.

Healthy skin

Table 31: Hospitalisations for serious skin infections, children aged 0–14 years, Wairarapa 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	4	338.8	(192.4, 596.5)	5	175.6	(107.5, 287.0)	1.93	(0.91, 4.08)	163.1
Male	6	508.0	(323.9, 796.8)	5	176.5	(108.1, 288.2)	2.88	(1.48, 5.60)	331.6
Total	10	423.4	(297.7, 602.2)	11	176.0	(124.4, 249.1)	2.40	(1.47, 3.94)	247.3

Source: NMDS

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

There were approximately 10 admissions per year on average for serious skin infections among Māori children. The rate was 2.4 times as high as for non-Māori children, or 247 more admissions per 100,000 children per year.

Acute rheumatic fever

There were no admissions for acute rheumatic fever for either Māori aged 0–24 years or non-Māori during this time period in the Wairarapa DHB region.

Potentially preventable hospitalisations

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

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

Table 32: Potentially avoidable hospitalisations for children aged 1 month to 14 years, Wairarapa 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	59	5,025.8	(4,337.4, 5,823.6)	103	3,657.5	(3,270.9, 4,089.8)	1.37 (1.14, 1.65)	1,368.3
Male	83	6,693.5	(5,910.7, 7,580.0)	120	4,038.5	(3,642.4, 4,477.6)	1.66 (1.41, 1.95)	2,655.0
Total	142	5,859.7	(5,328.3, 6,444.1)	223	3,848.0	(3,566.9, 4,151.2)	1.52 (1.35, 1.72)	2,011.7

Source: NMDS

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

Just over 140 hospitalisations of Māori children per year were potentially avoidable, at a rate 52% higher than the non-Māori rate, or 2,012 more admissions per 100,000.

Table 33: Ambulatory care sensitive hospitalisations for children aged 1 month to 14 years, Wairarapa 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	49	4,147.4	(3,526.4, 4,877.9)	78	2,759.0	(2,427.2, 3,136.2)	1.50 (1.22, 1.85)	1,388.4
Male	59	4,796.4	(4,138.5, 5,558.9)	91	3,052.0	(2,711.0, 3,436.0)	1.57 (1.30, 1.90)	1,744.3
Total	108	4,471.9	(4,009.4, 4,987.8)	170	2,905.5	(2,663.4, 3,169.7)	1.54 (1.34, 1.77)	1,566.4

Source: NMDS

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

On average there were 108 admissions per year for ambulatory care sensitive conditions among Māori children, at a rate 54% higher than among non-Māori children, or 1,566 more admissions per 100,000 children.



Mauri ora: Rangatahi

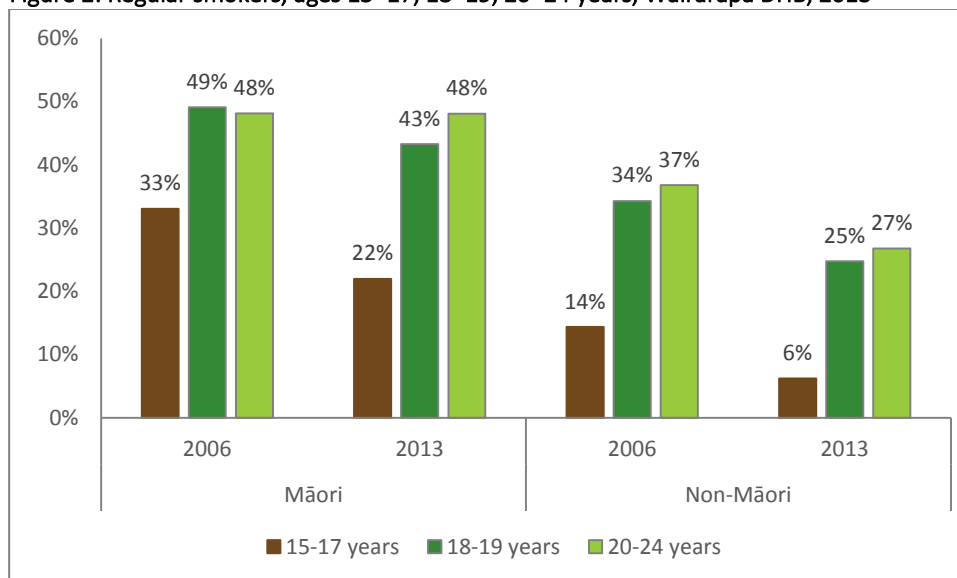
– Young adults

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

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

Smoking

Figure 2: Regular smokers, ages 15–17, 18–19, 20–24 years, Wairarapa 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 aged 15–17 years in Wairarapa since 2006, but the decrease among 18–19 year olds was not significant and there was no change among Māori aged 20–24 years, with 48% smoking regularly in 2006 and 2013. Among non-Māori youth, smoking rates decreased in each age group, and the gaps between Māori and non-Māori smoking rates widened.

Immunisations

Table 34: Human papilloma virus immunisations (HPV) by birth cohorts, Wairarapa 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	54	77.1	131	62.4	1.24	14
1999	15	2012	43	61.4	116	64.4	0.95	15
1998	16	2011	56	93.3	104	49.5	1.88	16
1997	17	2010	57	57.0	117	58.5	0.97	17

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.

By 30 September 2014, 57% of Māori girls aged 17 years in 2014 had received all three doses of the human papilloma virus vaccine. The highest coverage was among Māori aged 16 years at 93%, nearly twice the coverage of non-Māori girls of the same age.

Mental health

Table 35: Hospitalisations for injury from intentional self-harm, 15–24 and 25–44 years, Wairarapa 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	6	987.9	(630.1, 1,548.8)	13	745.6	(544.7, 1,020.6)	1.32	(0.77, 2.29)	242.3
Male	2	339.3	(161.2, 714.0)	4	209.4	(115.7, 378.9)	1.62	(0.63, 4.20)	129.9
Total	9	663.6	(451.5, 975.2)	17	477.5	(361.8, 630.2)	1.39	(0.86, 2.23)	186.1
25–44 years									
Female	3	368.8	(191.2, 711.2)	12	306.4	(217.9, 430.8)	1.20	(0.57, 2.52)	62.4
Male	1	99.1	(24.8, 396.6)	3	115.2	(61.4, 216.2)	0.86	(0.19, 3.94)	-16.1
Total	4	233.9	(129.0, 424.2)	16	210.8	(155.9, 285.0)	1.11	(0.57, 2.16)	23.1

Source: NMDS.

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

Among Māori aged 15–24 years, on average there were nine admissions per year for injury from intentional self-harm.

Among Māori aged 25–44 years there were four admissions per year on average.

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 Wairarapa can be found in the accompanying Excel® tables labelled 'Death registrations' and 'Hospitalisations by principal diagnosis'. For example, the hospitalisations table shows rates of admission for Wairarapa Māori were higher than for non-Māori for thyroid disorders, acute bronchitis and bronchiolitis, pneumonia, gastric ulcers, acute pancreatitis, arthrosis, burns, and head injuries.

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

Self-assessed health

Table 36: Health status reported by Māori aged 15 years and over, Wairarapa and Hutt DHBs combined, 2013

Health status	Wairarapa and Hutt DHBs			New Zealand	
	Estimated number	%	(95% CI)	%	(95% CI)
Excellent	4,000*	13.1*	(8.8, 17.4)	18.1	(16.8, 19.3)
Very good	10,000	34.7	(28.8, 40.6)	37.0	(35.5, 38.5)
Good	10,000	35.1	(30.1, 40.2)	28.5	(27.3, 29.7)
Fair / poor	5,000	17.0	(12.7, 21.3)	16.4	(15.3, 17.5)

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

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

Just under half of Wairarapa and Hutt Māori adults (48%) reported having excellent or very good health in 2013 and another third (35%) described their health as good. One in six (17%) reported having fair or poor health status.

Smoking status

Table 37: Cigarette smoking status, 15 years and over, Wairarapa DHB, 2006 and 2013

Smoking status	Māori			Non-Māori			Māori/non-Māori ratio (95% CI)	Difference in percent	
	Number	%	(95% CI)	Number	%	(95% CI)			
2006									
Regular smoker	1,394	44.9	(43.2, 46.6)	5,199	26.2	(25.5, 27.0)	1.71	(1.63, 1.79)	18.6
Ex-smoker	694	20.4	(19.1, 21.8)	6,723	20.6	(20.1, 21.2)	0.99	(0.92, 1.06)	-0.2
Never smoked	1,122	34.5	(32.9, 36.2)	12,933	53.3	(52.5, 54.0)	0.65	(0.62, 0.68)	-18.7
2013									
Regular smoker	1,414	38.2	(36.6, 39.8)	4,098	19.3	(18.7, 19.9)	1.98	(1.88, 2.09)	18.9
Ex-smoker	978	22.7	(21.5, 24.1)	7,662	21.6	(21.0, 22.1)	1.06	(0.99, 1.12)	1.2
Never smoked	1,520	38.9	(37.4, 40.5)	14,688	59.1	(58.4, 59.9)	0.66	(0.63, 0.69)	-20.2

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 Wairarapa Māori adults who smoked cigarettes regularly decreased from 45% to 38%. However in 2013, Māori were twice as likely as non-Māori to smoke regularly.

Heart disease and stroke

Table 38: Hospitalisations for circulatory system diseases, 25 years and over, Wairarapa 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	34	1,324.2	(1,078.2, 1,626.5)	320	831.7	(756.1, 914.8)	1.59 (1.27, 2.00)	492.6
Male	40	1,896.5	(1,567.9, 2,294.0)	397	1,329.5	(1,225.9, 1,441.9)	1.43 (1.16, 1.75)	567.0
Total	73	1,610.4	(1,399.5, 1,853.0)	717	1,080.6	(1,015.7, 1,149.6)	1.49 (1.28, 1.74)	529.8

Source: NMDS

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

There were 73 Māori admissions to hospital per year on average for diseases of the circulatory system (including heart disease and stroke), at 1.5 times the rate of non-Māori, or 530 more admissions per 100,000.

Table 39: Ischaemic heart disease indicators, 25 years and over, Wairarapa 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	9	385.6	(264.4, 562.5)	86	212.0	(177.1, 253.9)	1.82 (1.20, 2.76)	173.6
Male	11	507.2	(355.8, 723.0)	139	426.9	(375.4, 485.3)	1.19 (0.81, 1.73)	80.3
Total	20	446.4	(344.5, 578.5)	225	319.5	(287.7, 354.7)	1.40 (1.06, 1.85)	127.0
Angiography procedures								
Female	7	303.4	(193.7, 475.3)	40	144.8	(114.3, 183.4)	2.10 (1.26, 3.48)	158.6
Male	7	342.0	(219.0, 534.2)	74	291.0	(246.2, 344.0)	1.18 (0.73, 1.89)	51.0
Total	14	322.7	(235.1, 443.0)	114	217.9	(190.1, 249.8)	1.48 (1.05, 2.09)	104.8
Angioplasty procedures								
Female	2	97.3	(46.3, 204.4)	13	52.0	(34.3, 78.7)	1.87 (0.80, 4.38)	45.3
Male	2	121.2	(52.9, 277.6)	35	147.3	(114.9, 188.8)	0.82 (0.35, 1.95)	-26.0
Total	4	109.3	(62.0, 192.4)	48	99.6	(80.5, 123.3)	1.10 (0.60, 2.01)	9.6
Coronary Artery Bypass Graft (CABG)								
Female	1	25.3	(6.3, 101.6)	3	8.2	(4.3, 15.4)	3.10 (0.67, 14.27)	17.2
Male	1	43.6	(14.0, 135.5)	15	44.6	(32.9, 60.6)	0.98 (0.30, 3.16)	-1.0
Total	2	34.5	(14.3, 83.1)	19	26.4	(20.0, 34.8)	1.31 (0.52, 3.28)	8.1
Acute coronary syndrome admissions								
Female	8	319.9	(210.9, 485.1)	66	153.9	(124.4, 190.4)	2.08 (1.30, 3.32)	165.9
Male	9	413.9	(277.4, 617.7)	103	314.7	(270.8, 365.8)	1.32 (0.86, 2.02)	99.2
Total	16	366.9	(274.6, 490.2)	170	234.3	(207.2, 264.9)	1.57 (1.14, 2.14)	132.6

Source: NMDS.

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

On average, 20 Māori per year were admitted to hospital for ischemic heart disease (IHD), at a rate 40% higher than non-Māori. Of those admitted for IHD, 16 Māori admissions per year were for acute coronary syndrome (ACS), with the rate 57% higher than the non-Māori rate or 133 more admissions per 100,000.

There were 14 angiography procedures conducted for Māori patients per year on average, at a rate 48% higher than the non-Māori rate. On average, four Māori per year had angioplasty procedures and two had a coronary artery bypass and graft.

Table 40: Hospitalisations for heart failure, stroke, and hypertensive disease, 25 years and over, Wairarapa 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	5	134.8	(78.5, 231.6)	50	74.7	(60.1, 92.9)	1.80	(1.01, 3.23)	60.1	
Male	8	405.1	(264.8, 619.8)	47	106.6	(85.4, 132.9)	3.80	(2.35, 6.14)	298.6	
Total	13	270.0	(190.9, 381.7)	97	90.6	(77.4, 106.1)	2.98	(2.04, 4.36)	179.3	
Stroke										
Female	3	112.0	(53.1, 236.5)	43	83.4	(65.0, 107.0)	1.34	(0.61, 2.95)	28.6	
Male	4	180.2	(103.2, 314.5)	47	123.8	(96.9, 158.1)	1.46	(0.79, 2.68)	56.4	
Total	7	146.1	(93.4, 228.5)	89	103.6	(86.7, 123.7)	1.41	(0.87, 2.28)	42.5	
Hypertensive disease										
Female	0	0.0	. .	3	11.6	(3.0, 45.6)	0.00	. .	-11.6	
Male	1	34.7	(8.6, 139.4)	2	7.4	(2.9, 18.7)	4.72	(0.88, 25.21)	27.3	
Total	1	17.3	(4.3, 69.7)	5	9.5	(3.8, 23.6)	1.83	(0.35, 9.66)	7.9	

Source: NMDS.

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

There were 13 admissions per year on average among Wairarapa Māori with heart failure, at 3 times the rate for non-Māori, or 179 more admissions per 100,000. Men were more likely to be admitted than women.

On average, seven Māori per year were admitted for stroke, and one per year for hypertensive disease.

Table 41: Hospitalisations for chronic rheumatic heart disease and heart valve replacements, 25 years and over, Wairarapa DHB, 2011–2013

Gender	Māori			Non-Māori			Māori/non-Māori ratio (95% CI)			Rate difference
	Ave. no. per year	Age-standardised rate per 100,000 (95% CI)		Ave. no. per year	Age-standardised rate per 100,000 (95% CI)					
Chronic rheumatic heart disease										
Female	1	27.1	(6.8, 108.5)	5	18.2	(10.2, 32.6)	1.49	(0.33, 6.69)	8.9	
Male	0	0.0	. .	1	2.4	(0.7, 8.1)	0.00	. .	-2.4	
Total	1	13.6	(3.4, 54.2)	6	10.3	(6.0, 17.6)	1.32	(0.30, 5.81)	3.3	
Heart valve replacements										
Female	<1	13.5	(1.9, 95.8)	5	14.8	(7.5, 29.3)	0.91	(0.11, 7.25)	-1.3	
Male	0	0.0	. .	6	23.5	(11.0, 50.3)	0.00	. .	-23.5	
Total	<1	6.8	(1.0, 47.9)	10	19.2	(11.2, 32.7)	0.35	(0.05, 2.69)	-12.4	

Source: NMDS.

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

On average, there was one hospital admission per year for Māori with chronic rheumatic heart disease, at a rate of 13.6 per 100,000, and approximately one per three years for a heart valve replacement.

Table 42: Early deaths from circulatory system disease, Wairarapa 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	64.8	(38.0, 110.5)	7	13.4	(8.9, 20.0)	4.85	(2.48, 9.49)	51.5	
Male	3	72.8	(43.2, 122.8)	17	32.4	(25.0, 41.9)	2.25	(1.25, 4.03)	40.4	
Total	6	68.8	(47.4, 100.0)	24	22.9	(18.4, 28.4)	3.01	(1.95, 4.64)	45.9	

Source: Mortality data, Ministry of Health

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

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

On average six Māori per year died early from diseases of the circulatory system (including heart disease and stroke), at 3 times the rate of non-Māori, or 46 more deaths per 100,000.

Diabetes

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

Indicator	Māori		Non-Māori		Māori/non-Māori ratio	Difference in percentage
	Count	% (crude)	Count	% (crude)		
Prevalence of diabetes (all ages)	2,064	3.8	26,782	5.3	0.72	-1.5
People with diabetes regularly receiving metformin or insulin, 25+	1,025	49.7	13,213	49.3	1.01	0.3
People with diabetes having regular Hb1Ac monitoring, 25+	1,691	81.9	23,521	86.7	0.95	-4.7
People with diabetes having regular screening for renal disease, 25+	1,311	63.5	17,270	64.5	0.99	-1.0

Source: NZ Atlas of Healthcare Variation

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

An estimated 2,064 Māori Wairarapa residents were estimated to have diabetes, giving a crude prevalence of 4%. Although this is lower than the prevalence among non-Māori, the prevalence has not been adjusted for age and may be higher for Māori in each age group. Half of Māori with diabetes were regularly receiving metformin or insulin in 2013. Eighty-two percent were having regular monitoring of blood glucose levels and 64% were being screened for renal disease.

Table 44: Hospitalisations for lower limb amputations for people with concurrent diabetes, 15 years and over, Wairarapa DHB, 2011–2013

Gender	Māori			Non-Māori			Māori/non-Māori ratio (95% CI)	Rate difference	
	Ave. no. per year	Age-standardised rate per 100,000 (95% CI)		Ave. no. per year	Age-standardised rate per 100,000 (95% CI)				
Female	0	0.0	. .	1	1.4	(0.4, 5.3)	0.00	-1.4	
Male	1	46.6	(14.7, 147.9)	5	9.4	(5.6, 15.7)	4.97	(1.40, 17.63)	37.2
Total	1	23.3	(7.3, 73.9)	6	5.4	(3.3, 8.7)	4.34	(1.24, 15.17)	17.9

Source: NMDS

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

On average one Māori male per year with diabetes had a lower limb amputated, at a rate 5 times that of non-Māori. There were no lower limb amputations for Māori females over the 2011 to 2013 period.

Cancer

Table 45: Most common cancer registrations for Māori by site, all ages, Wairarapa DHB, 2008–2012

Gender and site	Māori			Non-Māori			Māori/nonMāori ratio (95% CI)	Rate difference	
	Ave. no. per year	Age-standardised rate per 100,000 (95% CI)		Ave. no. per year	Age-standardised rate per 100,000 (95% CI)				
Female									
All cancers	13	283.8	(221.6, 363.4)	103	169.9	(150.2, 192.1)	1.67	(1.27, 2.20)	113.9
Breast	4	87.8	(55.7, 138.2)	29	56.0	(45.8, 68.5)	1.57	(0.95, 2.57)	31.7
Lung	2	38.3	(19.8, 74.3)	8	9.1	(6.2, 13.3)	4.21	(1.96, 9.04)	29.2
Genital	2	40.4	(19.5, 83.9)	11	16.3	(11.6, 22.8)	2.49	(1.11, 5.56)	24.2
Colorectal	1	26.9	(12.4, 58.5)	18	18.4	(14.1, 24.0)	1.46	(0.64, 3.33)	8.5
Male									
All cancers	12	279.2	(214.4, 363.6)	121	187.9	(168.2, 209.9)	1.49	(1.12, 1.98)	91.3
Colorectal	2	56.7	(31.9, 100.8)	17	22.5	(16.9, 29.9)	2.52	(1.33, 4.79)	34.2
Lung	2	41.3	(22.1, 77.5)	12	13.4	(10.1, 17.7)	3.09	(1.55, 6.14)	27.9
Prostate	2	31.5	(15.7, 63.4)	40	52.3	(45.1, 60.6)	0.60	(0.30, 1.23)	-20.8

Source: Cancer Registry, Ministry of Health

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

There were 13 cancer registrations per year on average among Māori females, with a rate 67% higher than non-Māori. The most common cancers registered for Māori females were cancers of the breast (31% of all cancers), lung, genital organs, and colorectal cancer. Registration rates were higher for Māori than non-Māori women for cancers of the lung (4.2 times as high) and genital organs (2.5 times high).

Among Māori males there were 12 new cancers registered per year on average, at a rate 49% higher than non-Māori. Colorectal, lung, and prostate cancers were the most commonly registered for Māori males. Rates were 2.5 times as high for Māori as for non-Māori males for colorectal and 3 times as high for lung cancer.

Table 46: Most common cancer deaths for Māori by site, all ages, Wairarapa 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	6	120.3	(82.1, 176.4)	46	56.0	(46.6, 67.3)	2.15 (1.41, 3.28)	64.3
Digestive organs	2	43.5	(23.8, 79.3)	13	14.0	(10.0, 19.6)	3.11 (1.56, 6.20)	29.5
Breast	1	25.5	(11.4, 56.9)	6	8.5	(5.1, 14.0)	3.01 (1.17, 7.77)	17.0
Male								
All cancers	4	86.6	(55.5, 135.1)	56	74.8	(63.2, 88.7)	1.16 (0.72, 1.86)	11.7
Digestive organs	2	36.1	(17.8, 73.0)	18	22.8	(17.9, 29.1)	1.58 (0.75, 3.34)	13.3
Lung	1	24.8	(11.1, 55.6)	9	10.5	(7.7, 14.5)	2.35 (0.99, 5.61)	14.3

Source: Death registrations, Ministry of Health

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

For Māori females, deaths from cancer accounted for 30% of all deaths during 2007–2011, with a rate twice as high as the rate for non-Māori. Cancers of the digestive organs and the breast were the most common causes of cancer death, both at rates around 3 times the mortality rates of non-Māori females.

For Māori males, cancer deaths accounted for 26% of all deaths, with a rate similar that of non-Māori males. Cancers of the digestive organs and lung cancer were the leading causes of cancer death for Māori males.

Breast and cervical cancer screening

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

Māori			Non-Māori		
Number screened	Eligible population	% screened	Number screened	Eligible population	% screened
532	805	66.1	4,919	6,838	69.4

Source: National Screening Unit, Ministry of Health

BreastScreen Aotearoa provides free mammography screening for breast cancer to women aged 45 to 69 years, with a target of at least 70% of eligible women screened every two years. During the two years to the end of 2014, 66% of Māori women and 69% of non-Māori women in Wairarapa had been screened.

Table 48: Cervical screening coverage, women aged 25–69 years, Wairarapa DHB, 3 years and 5 years to 31 December 2014

Māori					Non-Māori				
Eligible population	Women screened in last 5 years	5-year coverage %	Women screened in last 3 years	3-year coverage %	Eligible population	Women screened in last 5 years	5-year coverage %	Women screened in last 3 years	3-year coverage %
1,519	1,299	85.5	1,054	69.4	9,325	8,364	89.7	7,083	76.0

Source: National Screening Unit, Ministry of Health

Note: Population is adjusted for hysterectomy.

Among women aged 25 to 69 years, 86% of Wairarapa Māori women and 90% of non-Māori women had had a cervical smear test during the five years prior to December 2014. The three year screening coverage was 69% for Māori and 76% for non-Māori women. The National Cervical Screening Programme has a three year screening coverage target of 80%.

Respiratory disease

Table 49: Hospitalisations for asthma, by age group, Wairarapa 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	7	566.0	(365.1, 877.3)	10	373.2	(262.3, 530.8)	1.52	(0.86, 2.66)	192.8
Male	11	884.5	(628.5, 1,244.7)	7	231.2	(150.7, 354.7)	3.83	(2.21, 6.62)	653.3
Total	18	725.2	(553.9, 949.6)	17	302.2	(230.1, 396.8)	2.40	(1.64, 3.52)	423.1
15–34 years									
Female	2	219.5	(103.8, 464.2)	5	142.0	(83.9, 240.4)	1.55	(0.62, 3.86)	77.4
Male	3	291.6	(156.2, 544.4)	2	70.6	(33.6, 148.5)	4.13	(1.56, 10.89)	221.0
Total	6	255.6	(158.2, 412.9)	7	106.3	(69.2, 163.4)	2.40	(1.26, 4.58)	149.2
35–64 years									
Female	6	502.9	(312.6, 808.8)	9	81.1	(53.7, 122.7)	6.20	(3.30, 11.63)	421.7
Male	4	633.3	(366.0, 1095.9)	3	26.8	(13.3, 53.9)	23.65	(9.72, 57.56)	606.5
Total	10	568.1	(392.0, 823.3)	12	54.0	(37.8, 77.0)	10.53	(6.30, 17.60)	514.1
65 years and over									
Female	1	356.5	(111.2, 1142.3)	4	104.3	(57.0, 190.8)	3.42	(0.92, 12.69)	252.2
Male	<1	214.4	(30.2, 1521.9)	1	15.5	(3.4, 69.3)	13.87	(1.18, 163.75)	198.9
Total	1	285.4	(101.4, 803.2)	4	59.9	(34.2, 104.9)	4.77	(1.47, 15.47)	225.5

Source: NMDS.

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

There were 18 admissions for asthma per year among Māori children aged 0–14 years, at a rate 2.4 times that of non-Māori children. Māori adults aged 15–34 years had six admissions per year at a rate 2.4 times that of non-Māori. Māori aged 35–64 years had 10 admissions per year, at over 10 times the rate for non-Māori. Among Māori aged 65 years and over, one per year was admitted, at a rate 4.8 times that of non-Māori.

Table 50: Hospitalisations for chronic obstructive pulmonary disease (COPD), 45 years and over, Wairarapa 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	1,723.9	(1,316.0, 2,258.3)	72	425.2	(362.8, 498.5)	4.05	(2.96, 5.55)	1,298.7
Male	9	976.5	(660.3, 1,444.0)	89	571.2	(500.0, 652.5)	1.71	(1.13, 2.58)	405.3
Total	27	1,350.2	(1,080.3, 1,687.5)	162	498.2	(449.9, 551.7)	2.71	(2.12, 3.46)	852.0

Source: NMDS.

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

There were 27 hospitalisations per year on average for Māori with COPD, at 2.7 times the rate of non-Māori.

Table 51: Early deaths from respiratory disease, Wairarapa DHB, 2007–2011

Gender	Māori			Non-Māori			Māori/non-Māori ratio (95% CI)		Rate difference
	Ave. no. per year	Age-standardised rate per 100,000 (95% CI)		Ave. no. per year	Age-standardised rate per 100,000 (95% CI)				
Female	2	48.6	(25.8, 91.6)	3	4.8	(2.9, 7.9)	10.17	(4.54, 22.75)	43.8
Male	2	38.8	(19.8, 76.0)	3	4.0	(2.3, 6.7)	9.78	(4.16, 23.02)	34.8
Total	4	43.7	(27.5, 69.3)	6	4.4	(3.0, 6.3)	9.99	(5.56, 17.97)	39.3

Source: Mortality data, Ministry of Health

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

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

On average, four Māori per year died early from respiratory disease, at a rate 10 times that of non-Māori, or 39 more deaths per 100,000.

Mental disorders

Table 52: Hospitalisations for mental disorders, all ages, Wairarapa 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	16	477.6 (357.6, 637.8)		53	267.3 (218.5, 327.0)		1.79 (1.26, 2.54)	210.2
Schizophrenia	4	103.7 (57.6, 186.5)		4	23.8 (12.1, 46.7)		4.37 (1.78, 10.68)	79.9
Mood (affective)	3	90.0 (45.6, 177.7)		12	42.4 (26.8, 67.2)		2.12 (0.93, 4.83)	47.6
—Bipolar	2	72.1 (33.2, 156.7)		8	20.5 (12.0, 35.1)		3.51 (1.37, 9.03)	51.6
—Depressive episode	0	0.0 . .		3	15.4 (6.3, 37.3)		0.00 . .	-15.4
Substance use	5	143.6 (84.8, 243.3)		14	84.4 (58.9, 120.8)		1.70 (0.90, 3.22)	59.2
—Alcohol	4	134.6 (77.9, 232.6)		12	68.8 (46.2, 102.3)		1.96 (1.00, 3.85)	65.8
Anxiety, stress-related	4	117.5 (64.7, 213.4)		10	42.4 (25.9, 69.6)		2.77 (1.28 6.02)	75.1
Male								
All disorders	10	334.2 (233.1, 479.2)		48	230.6 (186.8, 284.7)		1.45 (0.95, 2.20)	103.6
Schizophrenia	6	202.3 (126.4, 323.8)		8	49.2 (31.0, 78.2)		4.11 (2.12, 7.95)	153.1
Mood (affective)	1	43.2 (15.4, 120.7)		8	37.3 (22.7, 61.4)		1.16 (0.37, 3.62)	5.8
—Bipolar	1	43.2 (15.4, 120.7)		5	26.5 (14.7, 47.7)		1.63 (0.50, 5.33)	16.7
—Depressive episode	0	0.0 . .		1	2.9 (0.8, 10.7)		0.00 . .	-2.9
Substance use	2	66.8 (31.3, 142.3)		14	77.1 (53.9, 110.3)		0.87 (0.38, 2.00)	-10.3
—Alcohol	2	53.0 (23.7, 118.7)		13	69.9 (48.3, 101.1)		0.76 (0.31, 1.84)	-16.8
Anxiety, stress-related	0	11.1 (1.6, 79.2)		7	38.7 (22.4, 66.9)		0.29 (0.04, 2.20)	-27.6
Total								
All disorders	26	405.9 (323.9, 508.7)		101	249.0 (215.2, 288.0)		1.63 (1.25, 2.13)	156.9
Schizophrenia	10	153.0 (105.8, 221.3)		11	36.5 (24.9, 53.4)		4.19 (2.47, 7.13)	116.5
Mood (affective)	4	66.6 (37.7, 117.5)		20	39.9 (28.4, 55.9)		1.67 (0.86, 3.23)	26.7
—Bipolar	4	57.6 (31.0, 107.1)		14	23.5 (15.6, 35.3)		2.45 (1.17, 5.15)	34.1
—Depressive episode	0	0.0 . .		4	9.1 (4.2, 19.8)		0.00 . .	-9.1
Substance use	7	105.2 (68.2, 162.1)		28	80.7 (62.6, 104.1)		1.30 (0.79, 2.15)	24.5
—Alcohol	6	93.8 (59.6, 147.7)		25	69.3 (52.9, 90.9)		1.35 (0.80, 2.30)	24.5
Anxiety, stress-related	4	64.3 (36.4, 113.8)		17	40.6 (28.1 58.6)		1.59 (0.80, 3.13)	23.8

Source: NMDS

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

The age-sex-standardised rate of admission for mental disorders for Māori was 63% higher than that of non-Māori.

For Māori the most common cause of admission was schizophrenia related disorders, followed by substance use disorders. The Māori admission rate for schizophrenia was 4.2 times the non-Māori rate. Māori had 2.5 times the

rate of admissions for bipolar disorders, and while there was no significant difference in the rates for males, Māori females had 3.5 times the rate of admissions for bipolar disorders as non-Māori females.

Gout

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

Indicator	Māori		Non-Māori		Māori/non-Māori ratio	Difference in percentage
	Count	%	Count	%		
Gout prevalence	231	6.1	969	3.8	1.59	2.3
People with gout who received allopurinol regularly	91	39.4	437	45.1	0.87	-5.7
Colchicine use by people with gout not dispensed allopurinol	11	4.8	66	6.8	0.70	-2.0
NSAID use by people with gout	111	48.1	390	40.2	1.19	7.8
Serum urate test within six months following allopurinol dispensing	36	25.0	134	23.0	1.09	2.0

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 2011, 231 Māori in the Wairarapa District were estimated to have gout in the 20 to 79 year age group. This is a prevalence of 6%, higher than the prevalence of non-Māori (4%). Almost forty percent of Māori with gout regularly received allopurinol, a preventive therapy to lower urate levels. Of those Māori who received allopurinol, (for gout or other reasons) 25% had a lab test for serum urate levels within the following six months. Forty-eight percent of Māori with gout used non-steroidal anti-inflammatory medication.

Table 54: Hospitalisations for gout, 25 years and over, Wairarapa DHB, 2011–2013

Gender	Māori			Non-Māori			Māori/non-Māori ratio (95% CI)			Rate difference
	Ave. no. per year	Age-standardised rate per 100,000 (95% CI)		Ave. no. per year	Age-standardised rate per 100,000 (95% CI)					
Female	<1	13.6	(1.9, 96.7)	2	2.2	(0.7, 6.7)	6.13	(0.65, 58.12)		11.4
Male	2	112.1	(50.5, 248.8)	9	32.3	(20.1, 51.8)	3.47	(1.37, 8.77)		79.8
Total	3	62.9	(29.9, 132.0)	11	17.3	(11.0, 27.0)	3.64	(1.53, 8.66)		45.6

Source: NMDS

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

Hospital admissions for gout were more frequent among males than females. There were 3 hospital admissions for gout per year on average among Māori, at a rate 3.6 times that of non-Māori, or 46 more admissions per 100,000.

Hip fractures

Table 55: Hospitalisations for hip fractures, 65 years and over, Wairarapa DHB, 2011–2013

Gender	Māori			Non-Māori			Māori/non-Māori ratio (95% CI)			Rate difference
	Ave. no. per year	Age-standardised rate per 100,000 (95% CI)		Ave. no. per year	Age-standardised rate per 100,000 (95% CI)					
Female	<1	98.4	(13.9, 698.5)	27	392.9	(302.4, 510.5)	0.25	(0.03, 1.81)		-294.5
Male	1	264.2	(66.0, 1057.4)	13	224.5	(161.5, 312.1)	1.18	(0.28, 4.89)		39.7
Total	1	181.3	(57.9, 568.0)	40	308.7	(251.5, 379.1)	0.59	(0.18, 1.87)		-127.4

Source: NMDS

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

On average, one Māori aged 65 and over was admitted to hospital each year for hip fractures.

Elective surgery

Table 56: Hospitalisations for hip replacements, 50 years and over, Wairarapa 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	552.6	(310.6, 983.1)	37	360.2	(291.8, 444.5)	1.53	(0.83, 2.83)	192.5
Male	4	608.7	(333.6, 1,110.6)	22	253.6	(194.4, 330.9)	2.40	(1.24, 4.63)	355.1
Total	8	580.7	(382.4, 881.7)	59	306.9	(260.1, 362.0)	1.89	(1.21, 2.97)	273.8

Source: NMDS

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

On average, eight Wairarapa Māori per year were admitted to hospital for a hip replacement, with the rate for Māori almost 90% higher than the rate for non-Māori.

Table 57: Publicly funded hospitalisations for cataract surgery, 45 years and over, Wairarapa 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	11	1,000.0	(701.9, 1,424.7)	108	492.5	(430.6, 563.3)	2.03	(1.39, 2.96)	507.5
Male	5	517.3	(308.0, 868.9)	69	386.1	(329.3, 452.5)	1.34	(0.78, 2.30)	131.2
Total	16	758.6	(566.1, 1,016.6)	177	439.3	(396.4, 486.8)	1.73	(1.27, 2.36)	319.4

Source: NMDS

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

Each year on average 16 Māori aged 45 years and over were admitted to hospital for cataract surgery. The rate for Māori was three-quarters higher than the rate for non-Māori, or 319 more admissions per 100,000 per year.

Mauri ora: All ages

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

Hospitalisations

Table 58: All-cause hospitalisations, all ages, Wairarapa 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	988	27,243.9 (26,245.4, 28,280.3)	4,541	22,483.1 (21,970.1, 23,008.1)	1.21 (1.16, 1.27)	4,760.7
Male	724	20,063.8 (19,207.8, 20,957.9)	3,936	16,618.5 (16,189.5, 17,059.0)	1.21 (1.15, 1.27)	3,445.2
Total	1,712	23,653.8 (22,992.5, 24,334.2)	8,477	19,550.8 (19,215.3, 19,892.3)	1.21 (1.17, 1.25)	4,103.0

Source: NMDS

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

On average, there were 1,712 Māori hospital admissions per year and 8,477 non-Māori admissions. All-cause admission rates were 21% higher for Māori than non-Māori, or 4,103 per 100,000 for Māori compared to non-Māori.

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

Potentially avoidable hospitalisations

Table 59: Potentially avoidable hospitalisations, 0–74 years, Wairarapa 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	218	5,912.6 (5,463.7, 6,398.3)	729	4,132.6 (3,914.2, 4,363.3)	1.43 (1.30, 1.57)	1,779.9
Male	199	5,745.7 (5,292.0, 6,238.3)	807	4,167.2 (3,950.6, 4,395.7)	1.38 (1.25, 1.52)	1,578.5
Total	418	5,829.1 (5,506.3, 6,170.9)	1,536	4,149.9 (3,994.9, 4,311.0)	1.40 (1.31, 1.50)	1,679.2

Source: NMDS

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

On average 418 Māori hospital admissions per year were potentially avoidable through population based prevention strategies, at a rate 40% higher than for non-Māori, or around 1,680 more admissions per 100,000.

Table 60: Ambulatory care sensitive hospitalisations, 0–74 years, Wairarapa 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	120	3,205.2 (2,881.4, 3,565.4)	362	2,038.8 (1,885.0, 2,205.2)	1.57 (1.38, 1.79)	1,166.4
Male	110	3,204.2 (2,869.3, 3,578.3)	396	1,913.1 (1,768.0, 2,070.0)	1.67 (1.46, 1.92)	1,291.2
Total	230	3,197.8 (2,961.7, 3,452.7)	759	1,971.7 (1,865.0, 2,084.5)	1.62 (1.48, 1.78)	1,226.1

Source: NMDS

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

On average, there were 230 ambulatory care sensitive hospitalisations per year among Wairarapa Māori, at a rate 62% higher than the non-Māori rate, or 1,226 more admissions per 100,000.

Mortality

Table 61: Life expectancy at birth, Wellington Region 2012–2014

Gender	Māori		Non-Māori		Difference in years
	Years (95% credible interval)		Years (95% credible interval)		
Female	78.6	(77.7, 79.6)	83.9	(83.7, 84.1)	-5.3
Male	74.7	(73.8, 75.6)	80.3	(80.0, 80.5)	-5.6

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

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

Life expectancy at birth is a summary measure of age-specific mortality rates during a specific period, and takes no account of changes in death rates after that period. During 2012–2014, life expectancy at birth for residents of the greater Wellington Region was 78.6 years for Māori females, 5.3 years lower than that of non-Māori females (83.9 years). For Māori males, life expectancy was 74.7 years, 5.6 years lower than for non-Māori males (80.3 years).

Table 62: All-cause deaths, all ages, Wairarapa 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	15	345.1	(292.9, 406.7)	173	166.8	(151.3, 183.9)	2.07 (1.71, 2.50)	178.4
Male	16	425.9	(363.4, 499.1)	164	245.6	(226.4, 266.4)	1.73 (1.45, 2.07)	180.3
Total	32	385.5	(343.8, 432.2)	337	206.2	(193.7, 219.5)	1.87 (1.64, 2.13)	179.3

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 32 Māori deaths per year on average during 2008 to 2012. The Māori mortality rate was 87% higher than the non-Māori rate, or 179 more deaths per 100,000.

Table 63: Leading causes of death for Māori, all ages, Wairarapa DHB, 2004–2011

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								
COPD	2	31.5	(18.1, 54.8)	12	7.9	(6.1, 10.2)	3.98 (2.16, 7.32)	23.6
Diabetes	1	29.3	(16.1, 53.3)	5	3.4	(2.3, 4.9)	8.74 (4.29, 17.78)	25.9
IHD	1	28.8	(15.8, 52.4)	36	16.9	(14.5, 19.7)	1.70 (0.92, 3.16)	11.9
Stroke	1	23.5	(12.4, 44.6)	18	9.6	(7.5, 12.2)	2.45 (1.24, 4.86)	13.9
Lung cancer	1	22.7	(11.6, 44.5)	7	8.3	(6.1, 11.3)	2.73 (1.30, 5.71)	14.4
Male								
IHD	3	73.8	(49.1, 110.9)	37	41.0	(35.5, 47.4)	1.80 (1.17, 2.77)	32.8
Diabetes	2	46.1	(26.8, 79.3)	6	6.0	(4.3, 8.3)	7.72 (4.08, 14.58)	40.1
Accidents	2	54.9	(31.5, 95.6)	7	35.3	(24.9, 50.0)	1.56 (0.81, 3.00)	19.6
COPD	2	32.5	(18.2, 58.0)	10	8.3	(6.5, 10.5)	3.94 (2.10, 7.38)	24.2
Lung cancer	1	24.3	(12.6, 47.0)	8	10.3	(7.9, 13.3)	2.36 (1.16, 4.80)	14.0
Total								
IHD	4	51.3	(36.6, 71.9)	72	29.0	(25.9, 32.4)	1.77 (1.24, 2.53)	22.3
Diabetes	3	37.7	(25.1, 56.5)	11	4.7	(3.6, 6.0)	8.08 (5.01, 13.04)	33.0
COPD	3	32.0	(21.4, 47.8)	21	8.1	(6.8, 9.6)	3.96 (2.55, 6.13)	23.9
Lung cancer	2	23.5	(14.7, 37.6)	15	9.3	(7.6, 11.3)	2.53 (1.52, 4.21)	14.2
Accidents	2	30.4	(18.1, 51.1)	12	23.6	(17.5, 31.7)	1.29 (0.71, 2.34)	6.8

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.

This table presents data for an 8-year period due to the small numbers of Māori deaths by causes. A table of leading causes of death by ICD chapter for the period 2007–2011 is available in the accompanying Excel tables.

During the eight-year period 2004 to 2011, the leading causes of death for Māori women were COPD, diabetes, ischemic heart disease (IHD), stroke and lung cancer. The Māori women’s mortality rate for COPD was four times as high as for non-Māori women and the rate for diabetes was notably 8.7 times as high. Māori mortality rates for stroke and lung cancer were 2.5 and 2.7 times as high respectively as the rates for non-Māori women.

For Māori men, the leading causes of death were IHD, diabetes, accidents, COPD, and lung cancer. The Māori male mortality rate for IHD was 80% higher than non-Māori. The Māori mortality rate for diabetes was higher than that of non-Māori by nearly eightfold, and for COPD it was fourfold higher than the rate for non-Māori men. Lung cancer mortality was 2.4 times the rate for non-Māori men.

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

Potentially avoidable mortality

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

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

Table 64: Potentially avoidable mortality, 0–74 years, Wairarapa DHB, 2007–2011

Gender	Māori			Non-Māori			Māori/non-Māori ratio (95% CI)			Rate difference
	Ave. no. per year	Age-standardised rate per 100,000 (95% CI)		Ave. no. per year	Age-standardised rate per 100,000 (95% CI)					
Female	10	232.6	(174.2, 310.5)	32	90.0	(71.7, 113.0)	2.58	(1.79, 3.73)		142.6
Male	11	280.6	(212.3, 371.1)	48	127.5	(105.9, 153.4)	2.20	(1.57, 3.08)		153.2
Total	20	256.6	(209.8, 313.8)	79	108.7	(94.2, 125.5)	2.36	(1.84, 3.02)		147.9

Source: Mortality, Ministry of Health

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

There were 20 potentially avoidable deaths per year among Wairarapa Māori, at 2.4 times the non-Māori rate, or 148 more deaths per 100,000.

Table 65: Amenable mortality, 0–74 years, Wairarapa DHB, 2007–2011

Gender	Māori			Non-Māori			Māori/non-Māori ratio (95% CI)			Rate difference
	Ave. no. per year	Age-standardised rate per 100,000 (95% CI)		Ave. no. per year	Age-standardised rate per 100,000 (95% CI)					
Female	8	184.0	(132.9, 254.7)	18	56.5	(42.0, 76.0)	3.26	(2.10, 5.06)		127.5
Male	8	205.9	(148.7, 285.0)	34	95.9	(77.0, 119.4)	2.15	(1.45, 3.18)		110.0
Total	16	194.9	(154.8, 245.4)	53	76.2	(63.8, 90.9)	2.56	(1.91, 3.42)		118.8

Source: Mortality, Ministry of Health

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

Amenable mortality rates were 2.6 times as high for Māori as for non-Māori in Wairarapa DHB, or 119 more deaths per 100,000. On average, 16 Māori per year died from causes amenable to health care.

Injuries

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

Table 66: Hospitalisations for injuries, all ages, Wairarapa 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	92	2,577.4	(2,282.6, 2,910.3)	457	1,967.2	(1,821.2, 2,124.8)	1.31 (1.13, 1.51)	610.2
Male	144	4,350.0	(3,946.0, 4,795.3)	597	3,572.4	(3,374.1, 3,782.3)	1.22 (1.09, 1.36)	777.6
Total	236	3,463.7	(3,210.0, 3,737.5)	1,054	2,769.8	(2,645.6, 2,899.8)	1.25 (1.14, 1.37)	693.9

Source: NMDS

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

On average there were 236 hospitalisations for injury among Wairarapa Māori, at a rate 25% higher than non-Māori or 694 more admissions per 100,000.

Table 67: Hospitalisations for assault, all ages, Wairarapa 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	6	188.3	(117.5, 301.7)	8	68.5	(44.9, 104.4)	2.75 (1.46, 5.17)	119.8
Male	17	559.5	(421.9, 741.9)	21	187.5	(145.3, 242.0)	2.98 (2.04, 4.36)	371.9
Total	23	373.9	(293.4, 476.4)	30	128.0	(102.9, 159.2)	2.92 (2.11, 4.05)	245.9

Source: NMDS

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

On average, there were 23 admissions per year for injuries from assault among Māori in the Wairarapa DHB. The rate was nearly 3 times the rate for non-Māori or 246 more Māori hospitalisations per 100,000 per year. Males had higher rates of admission than females.

Table 68: Deaths from injury, all ages, Wairarapa DHB, 2007–2011

Gender	Māori			Non-Māori			Māori/non-Māori ratio (95% CI)	Rate difference
	Ave. no. per year	Age-standardised rate per 100,000 (95% CI)		Ave. no. per year	Age-standardised rate per 100,000 (95% CI)			
Female	2	51.5	(25.6, 103.7)	8	21.4	(12.5, 36.5)	2.41 (1.00, 5.80)	30.1
Male	2	69.8	(37.1, 131.1)	11	60.2	(42.7, 84.9)	1.16 (0.56, 2.38)	9.5
Total	4	60.6	(37.9, 96.9)	19	40.8	(30.6, 54.5)	1.49 (0.86, 2.58)	19.8

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 four Māori per year died from injuries in the Wairarapa DHB region.



References

Anderson P, Craig E, Jackson G, Jackson C. 2012. Developing a tool to monitor potentially avoidable and ambulatory care sensitive hospitalisations in New Zealand children. *New Zealand Medical Journal* 125(1366): 25–37.

Clayton D, Hills M. 1993. *Statistical Methods in Epidemiology*. Oxford: Oxford University Press.

Crengle S, Clark T C., Robinson E, Bullen P, Dyson B, Denny S, Fleming T, Fortune S, Peiris-John R, Utter J, Rossen F, Sheridan J, Teevale T, & The Adolescent Health Research Group (2013). *The health and wellbeing of Māori New Zealand secondary school students in 2012. Te Ara Whakapiki Taitamariki: Youth'12*. Auckland: The University of Auckland.

Ministry of Health. 2010. *Saving Lives: Amenable mortality in New Zealand, 1996–2006*. Wellington: Ministry of Health.

Ministry of Health. 2013. *New Zealand Health Survey: Annual update of key findings 2012/13*. Wellington: Ministry of Health.

Ministry of Health. 2014. *The Health of Māori Adults and Children, 2011–2013*. Wellington: Ministry of Health.

Robson B, Harris R. 2007. *Hauora: Māori Standards of Health IV. A study of the years 2000–2005*. Wellington: Te Rōpū Rangahau Hauora a Eru Pōmare.

Robson B, Purdie G, Cram F, Simmonds S. 2007. Age standardisation: an indigenous standard? *Emerging Themes in Epidemiology* 4:3.



Appendix 1: Population projections

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

Projected Māori Ethnic Group Population by Age and Sex at 30 June 2014,20 (2013,Base)

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

Age	Male	Female	Total	Male	Female	Total	Male	Female	Total	Male	Female	Total
	2013(Base)			2014			2015			2016		
0	90	70	160	90	80	170	90	80	170	90	80	170
1-4	350	320	680	340	300	640	360	310	670	350	320	670
5-9	400	410	820	430	430	860	430	420	860	440	410	860
10-14	380	380	760	380	380	760	380	390	770	390	390	780
15-19	410	360	770	410	380	800	410	390	800	380	390	780
20-24	260	300	560	270	280	550	300	280	570	330	280	610
25-29	180	190	370	180	230	410	200	250	440	210	260	470
30-34	160	200	360	170	190	360	170	190	360	160	200	360
35-39	180	220	400	180	210	390	170	210	380	180	210	390
40-44	200	220	420	170	220	400	170	230	400	170	230	400
45-49	190	210	390	200	210	410	190	210	400	190	210	390
50-54	160	220	380	160	230	390	180	230	410	190	230	420
55-59	160	150	310	170	160	330	160	170	330	150	180	340
60-64	110	120	220	100	120	220	120	120	240	120	130	250
65-69	70	90	160	70	100	180	70	120	190	80	120	200
70-74	50	60	110	60	60	120	60	60	120	60	60	130
75-79	40	40	80	30	40	80	30	40	80	40	50	80
80-84	10	30	40	20	20	40	20	20	40	20	20	40
85-89	10	10	20	10	10	30	10	20	30	10	20	30
90+	0	0	10	0	0	10	0	0	10	0	10	10
All Ages	3,410	3,600	7,010	3,470	3,670	7,140	3,540	3,730	7,270	3,590	3,790	7,380
	2017			2018			2019			2020		
0	90	80	170	90	80	170	90	80	170	90	90	170
1-4	350	320	670	350	330	680	350	340	690	350	340	690
5-9	440	410	850	450	390	840	440	390	820	450	400	850
10-14	400	410	810	400	420	820	430	430	860	430	420	850
15-19	390	370	750	370	360	720	360	360	720	360	370	730
20-24	340	320	650	360	320	680	370	340	700	350	350	700
25-29	230	260	490	240	280	520	250	260	510	280	260	540
30-34	160	200	360	170	190	370	180	230	400	190	240	440
35-39	170	200	370	160	200	360	170	190	360	170	190	360
40-44	180	220	400	180	220	400	180	210	390	170	210	370
45-49	190	220	410	190	220	410	170	220	390	170	230	400
50-54	180	230	410	180	200	390	200	210	400	190	200	390
55-59	160	190	350	160	210	370	150	220	370	170	220	390
60-64	140	140	280	150	140	290	160	150	310	150	160	310
65-69	90	110	200	100	110	210	90	110	200	110	110	220
70-74	60	80	140	60	80	140	60	90	160	60	100	170
75-79	30	50	80	40	50	90	50	50	100	50	50	100
80-84	30	20	50	30	30	60	20	30	50	20	30	50
85-89	10	20	30	10	20	30	10	10	20	10	10	20
90+	0	10	10	0	10	10	10	10	20	10	10	20
All Ages	3,640	3,830	7,470	3,680	3,880	7,560	3,730	3,930	7,670	3,790	3,990	7,780

These projections were derived in October 2014.

Source: Statistics New Zealand
Population Projections

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

Projected Total Population by Age and Sex at 30 June 2014,20 (2013,Base)
***** Medium Projection : Assuming Medium Fertility, Medium Mortality, and Medium Migration *****

Age	Male	Female	Total	Male	Female	Total	Male	Female	Total	Male	Female	Total
	2013(Base)			2014			2015			2016		
0	270	200	470	250	240	490	260	240	500	260	250	510
1-4	1,180	1,090	2,270	1,170	1,030	2,210	1,140	1,010	2,150	1,120	990	2,120
5-9	1,440	1,420	2,860	1,470	1,430	2,900	1,530	1,430	2,960	1,540	1,430	2,970
10-14	1,440	1,390	2,830	1,410	1,380	2,790	1,400	1,380	2,780	1,430	1,390	2,810
15-19	1,420	1,300	2,720	1,430	1,310	2,730	1,410	1,290	2,700	1,350	1,270	2,620
20-24	1,020	1,050	2,080	1,110	1,080	2,190	1,150	1,120	2,270	1,210	1,140	2,350
25-29	860	900	1,760	950	990	1,950	1,050	1,080	2,130	1,140	1,150	2,290
30-34	920	1,060	1,980	980	1,080	2,060	1,030	1,080	2,120	1,040	1,070	2,110
35-39	1,060	1,190	2,250	1,030	1,160	2,180	1,000	1,160	2,160	1,020	1,210	2,230
40-44	1,330	1,540	2,870	1,270	1,500	2,780	1,260	1,470	2,730	1,210	1,400	2,610
45-49	1,420	1,480	2,900	1,410	1,520	2,930	1,390	1,560	2,950	1,420	1,600	3,010
50-54	1,500	1,710	3,210	1,460	1,720	3,180	1,520	1,650	3,170	1,500	1,600	3,110
55-59	1,580	1,550	3,130	1,630	1,550	3,180	1,570	1,650	3,210	1,570	1,700	3,280
60-64	1,460	1,490	2,950	1,440	1,520	2,960	1,520	1,530	3,050	1,550	1,570	3,120
65-69	1,330	1,350	2,680	1,400	1,400	2,810	1,440	1,480	2,920	1,480	1,530	3,010
70-74	960	1,030	1,990	1,000	1,100	2,100	1,070	1,110	2,180	1,120	1,120	2,240
75-79	670	750	1,420	700	750	1,450	720	820	1,540	770	910	1,680
80-84	450	600	1,040	460	590	1,050	470	590	1,050	480	560	1,040
85-89	260	400	660	260	420	690	270	430	700	280	440	720
90+	70	220	300	80	220	300	90	230	320	110	260	360
All Ages	20,600	21,700	42,400	20,900	22,000	42,900	21,300	22,300	43,600	21,600	22,600	44,200
	2017			2018			2019			2020		
0	260	250	510	260	250	500	260	250	510	260	250	510
1-4	1,090	970	2,050	1,060	1,000	2,070	1,060	1,000	2,060	1,060	1,000	2,060
5-9	1,560	1,410	2,980	1,550	1,340	2,890	1,500	1,310	2,810	1,450	1,270	2,720
10-14	1,440	1,430	2,870	1,450	1,440	2,890	1,460	1,440	2,900	1,510	1,420	2,940
15-19	1,340	1,220	2,550	1,320	1,170	2,490	1,280	1,150	2,420	1,240	1,130	2,380
20-24	1,220	1,180	2,400	1,210	1,140	2,340	1,190	1,110	2,300	1,130	1,060	2,190
25-29	1,210	1,210	2,410	1,240	1,270	2,510	1,280	1,240	2,520	1,260	1,240	2,500
30-34	1,060	1,100	2,160	1,090	1,100	2,190	1,140	1,160	2,290	1,200	1,200	2,400
35-39	1,000	1,190	2,180	1,030	1,180	2,210	1,070	1,180	2,250	1,100	1,160	2,260
40-44	1,220	1,350	2,570	1,150	1,300	2,440	1,100	1,240	2,340	1,050	1,220	2,270
45-49	1,410	1,630	3,040	1,380	1,600	2,990	1,320	1,560	2,870	1,290	1,510	2,800
50-54	1,460	1,600	3,060	1,460	1,540	3,000	1,440	1,570	3,010	1,400	1,600	3,000
55-59	1,590	1,730	3,310	1,560	1,770	3,320	1,510	1,770	3,280	1,560	1,690	3,250
60-64	1,580	1,610	3,190	1,620	1,610	3,230	1,670	1,600	3,270	1,600	1,690	3,280
65-69	1,490	1,540	3,040	1,470	1,530	3,000	1,460	1,550	3,010	1,520	1,560	3,080
70-74	1,180	1,210	2,380	1,270	1,310	2,580	1,340	1,370	2,710	1,370	1,440	2,810
75-79	840	940	1,780	850	970	1,810	880	1,040	1,910	940	1,030	1,970
80-84	510	600	1,110	520	640	1,170	550	650	1,190	570	700	1,270
85-89	280	430	720	280	430	710	290	420	720	290	420	710
90+	110	270	380	130	280	410	130	290	420	140	300	440
All Ages	21,800	22,800	44,700	21,900	22,900	44,700	21,900	22,900	44,800	21,900	22,900	44,800

These projections were derived in October 2014.

Source: Statistics New Zealand

Population Projections



Appendix 2: Technical notes

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

Data sources

Table 71: Data sources

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

Note: *no causes for 2012

This report includes customised Statistics New Zealand’s data which are licensed by Statistics New Zealand for re-use under the Creative Commons Attribution 3.0 New Zealand licence.

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 72: 2001 Census total Māori population

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

ICD-10 codes

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

Table 73: Potentially avoidable hospitalisation ICD-10 codes for children aged 1 month to 14 years

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

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

Source: Anderson et al (2012)

Notes:

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

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

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

Table 74: Ambulatory care sensitive hospitalisation ICD-10 codes for children aged 1 month to 14 years

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

Source: Anderson et al (2012)

Notes:

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

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

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

Table 75: Ambulatory care sensitive hospitalisation ICD-10 codes for people aged 1 month to 74 years

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

Source: Ministry of Health

Notes:

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

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

* Aged 15 months to 14 years.

† Each admission counts as a half.

‡ Aged six months to 14 years.

§ Aged 15 years and over.

|| Aged more than 15 years.

¶ Aged 5 years and over.

Table 76: Avoidable mortality ICD-10 codes

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

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

Table 77: Amenable mortality ICD-10 codes

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

Source: Ministry of Health 2010

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

