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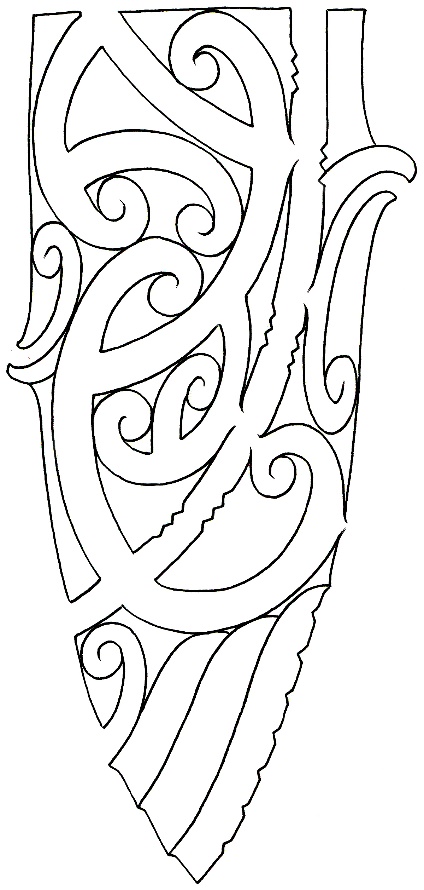
For the Ministry of Health

Southern

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

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Further information on Te Rōpū Rangahau Hauora a Eru Pōmare can be found [here.](http://www.otago.ac.nz/wellington/departments/publichealth/research/erupomare/)





# He Mihi

Tūi Tuia i Te Herenga Tangata

Te tangi a Te Rōpū Rangahau Hauora a Eru Pōmare.

Tui Tui Tui Tuia

E ngā maunga whakahii, ngā pū kōrero huri noa

Tēnā koutou, tēnā koutou, tēnā tātou katoa.

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

Haere atu rā, okioki ai.

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

Anei te mihi ki ngā kaimahi hauora

Whakapiki te kaha

Whakapiki te ora

Whakapiki te māramatanga

Kia eke tātou katoa ki Te Pae Ora.

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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

− Southern District at a glance

Southern District population

* In 2013, 29,200 Māori lived in the Southern District Health Board region, 10% of the DHB’s total population.
* The Southern Māori population is youthful, but showing signs of ageing. The median age in 2013 was 23.8 years. Eighteen percent of the DHB’s children under 15 years and 13% of the DHB’s youth aged 15 to 24 years are Māori. The Māori population aged 65 years and over will increase by 54% between 2013 and 2020.

Whānau ora – Healthy families

* In 2013, most Southern Māori adults (84%) reported that their whānau was doing well, but 6% felt their whānau was doing badly. One in ten found it hard to access whānau support in times of need, but most found it easy (80%). One in five found it hard to get help with Māori cultural practices.
* Being involved in Māori culture was important to three out of five Māori adults (61%) and spirituality was important just over one in two (53%).
* Most Southern Māori (92%) had been to a marae at some time. Two-fifths (42%) had been to their ancestral marae, with three-fifths (62%) stating they would like to go more often.
* Seven percent had taken part in traditional healing or massage during the previous 12 months.
* One in seven Māori could have a conversation about a lot of everyday things in te reo Māori in 2013.

Wai ora – Healthy environments

Education

* In 2013, 95% of Southern Māori children had participated in early childhood education.
* In 2013, 53% of Māori adults aged 18 years and over had at least a Level 2 Certificate, a higher proportion than in 2006 (45%). However the proportion was a fifth less than that of non-Māori.

Work

* In 2013, 7% of Māori adults aged 15 years and over were unemployed, compared to 5% of non-Māori.
* Most Māori adults (89%) do voluntary work.
* In 2013, Māori were more likely than non-Māori to look after someone who was disabled or ill, within or outside the home.

Income and standard of living

* In 2013, one in four children and adults in Māori households (defined as households with at least one Māori resident) were in households with low equivalised household incomes (under $15,172), compared to one in six children and one in five adults not in Māori households.
* In 2013, 10% of Māori adults in Southern reported having put up with feeling the cold a lot to keep costs down during the previous 12 months, 9% had gone without fresh fruit and vegetables, and 13% had often postponed or put off a visit to the doctor.
* Residents of Māori households were less likely than residents of other households to have access to a motor vehicle (7% compared to 4%(.
* People in Māori households were less likely to have access to telecommunications than those living in other households: 20% had no internet, 24% no telephone, 10% no mobile phone, and 2% had no access to any telecommunications.

Housing

* The most common housing problems reported to be a big problem by Māori adults in 2013 were finding it hard to keep warm (14%), needing repairs (9%), and damp (8%).
* Forty-four percent of children in Māori households were living in rented accommodation, compared to 27% of children in other households.
* Southern residents living in Māori households were twice as likely as others to be in crowded homes (i.e. requiring at least one additional bedroom) (9% compared to 5%).
* In 2013, 165 Māori households (1%) and 537 non-Māori households (less than 1%) in Southern had no form of heating.

Area deprivation

* Using the NZDep2013 index of small area deprivation, 44% of Māori in the Southern DHB lived in the four most deprived decile areas compared to 30% of non-Māori.

Mauri ora – Healthy individuals

Pepi, tamariki – Infants and children

* On average 731 Māori infants were born per year during 2009–2013, 20% of all live births in the DHB. Around 7% of Māori and 5% of non-Māori babies had low birth weight.
* In 2013, 69% of Māori babies in Southern were fully breastfed at 6 weeks.
* Three quarters of Māori infants were enrolled with a Primary Health Organisation by three months of age.
* In 2014, 92% of Māori children were fully immunised at 8 months of age, 95% at 24 months.
* In 2013, over half (55%) of Southern Māori children aged 5 years and a third of non-Māori children had caries. At Year 8 of school, half of Māori children and two out of five non-Māori children had caries. Māori and non-Māori children aged 0–14 years had similar rates of hospitalisations for tooth and gum disease.
* During 2011–2013, on average there were 94 hospital admissions per year for grommet insertions among Māori children (at a similar rate to non-Māori), and 24 admissions per year for serious skin infections (with a rate 43% higher than for non-Māori children).
* Just over 470 hospitalisations per year of Māori children were potentially avoidable through population-based health promotion and intersectoral actions, with a rate 12% higher than that of non-Māori children.
* Around 340 hospitalisations per year of Māori children were potentially avoidable through preventive or treatment intervention in primary care (ambulatory care sensitive hospitalisations, or ASH). The rate was similar to the rate for non-Māori children.

Rangatahi – Young adults

* There has been a significant increase in the proportion of Māori aged 14 and 15 years who have never smoked, and a decrease in the proportion of Māori aged 15–24 years who smoke regularly.
* By September 2013, the proportions of Māori girls aged 14 to 17 years in 2014 who had received all three doses of the human papilloma virus (HPV) vaccine ranged from 65% (17 year olds) to 75% (14 year olds). Coverage was higher for Māori than for non-Māori.
* Rates of hospitalisation for injury from self-harm were 48% higher for Māori women than for non-Māori women at ages 25–44 years, but similar at ages 15–24 years.

Pakeke – Adults

* Over half of Māori adults (57%) in Southern reported having excellent or very good health in 2013. One in six (16%) reported having fair or poor health.
* Smoking rates are decreasing, but remain nearly twice as high for Māori as for non-Māori.

Circulatory system diseases

* Māori adults aged 25 years and over were 14% more likely than non-Māori to be hospitalised for circulatory system diseases (including heart disease and stroke) in 2011–2013.
* In general Māori males in Southern were less likely than non-Māori males be admitted to hospital for ischaemic heart disease (IHD) or revascularisation procedures. Māori females were more likely than non-Māori females to be admitted for IHD and acute coronary syndrome.
* Heart failure admission rates were over twice as high for Māori as for non-Māori.
* Stroke admission rates were 45% higher for Māori than for non-Māori.
* Māori under 75 years were twice as likely as non-Māori to die from circulatory system diseases during 2007–2011.

Diabetes

* In 2013, 3% of Māori and 5% of non-Māori were estimated to have diabetes. Just over half of Māori aged 25 years and over who had diabetes were regularly receiving metformin or insulin, 81% were having their blood sugar monitored regularly, and 57% were being screened regularly for renal disease.
* In 2011–2013 Māori males with diabetes were 2.5 times as likely as non-Māori males to have a lower limb amputated.

Cancer

* Among females, overall cancer incidence was similar for Māori and non-Māori but cancer mortality was 54% higher for Māori. Breast, lung, and colorectal cancers were the most frequent among Māori women, with lung cancer rates 4.4 times as high as for non-Māori.
* Breast screening coverage of Māori women aged 45–69 years was 60% compared to 75% of non-Māori women at the end of 2014.
* Cervical screening coverage of Māori women aged 25–69 years was 60% over 3 years and 73% over five years (compared to 81% and 95% of non-Māori respectively).
* Among males, overall cancer incidence and mortality were similar for Māori and non-Māori. Lung, colorectal, prostate, and testicular cancer were the most common cancers among Māori men. Lung cancer rates were twice as high for Māori as for non-Māori, while prostate cancer registration rates were half as high.
* Lung and breast cancers were the most common causes of cancer death among Māori females (with lung cancer mortality 4.8 times the non-Māori rate).
* Lung, colorectal, and pancreatic cancers were the most common causes of death from cancer among Māori males (with pancreatic cancer mortality 2.9 times the non-Māori rate).

Respiratory disease

* Māori aged 45 years and over were 2.5 times as likely as non-Māori to be admitted to hospital for chronic obstructive pulmonary disease (COPD) during 2011–2013.
* Asthma hospitalisation rates were higher for Māori than non-Māori in each age group.
* Māori females under 75 years had twice the non-Māori rate of death from respiratory disease in 2007–2011.

Mental disorders

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

Gout

* In 2011 the prevalence of gout among Māori in Southern was estimated to be 5%, compared to 3% among non-Māori.
* Forty-three percent of Māori with gout regularly received allopurinol, a preventive therapy to lower urate levels. Of those who received allopurinol, only 28% had a lab test for serum urate levels in the following six months.
* In 2011–2013 the rate of hospitalisations for gout was 3.5 times as high for Māori as for non-Māori, indicating a higher rate of flare-ups.

All ages

Hospitalisations

* The all-cause rate of hospital admissions was 5% lower for Māori than for non-Māori during 2011–2013.
* On average 1,320 Māori hospital admissions per year were potentially avoidable, with the rate 11% higher for Māori than for non-Māori. The ASH rate was 18% higher.

Mortality

* Life expectancy at birth during 2012–2014 was higher for Māori in the Otago Region than in the Southland Region. For Otago residents, life expectancy at birth was 82.3 years for Māori females (one year lower than for non-Māori), and 78.4 years for Māori males (1.2 years lower than for non-Māori). For Southland residents, life expectancy at birth was 78.7 years for Māori females (4.1 years lower than for non-Māori) and 74.6 years for Māori males (4.4 years lower than for non-Māori).
* The all-cause mortality rate for Māori in Southern in 2008–2012 was 36% higher than the non-Māori rate.
* Leading causes of death for Māori females were lung cancer, IHD, COPD, stroke, suicide, and diabetes. Leading causes of death for Māori males were IHD, accidents, suicide, lung cancer, and COPD.
* Potentially avoidable mortality was 62% higher for Māori than for non-Māori in Southern during 2007–2011. Mortality amenable to health care was 54% higher.

Injuries

* The rate of hospitalisation due to injury was similar for Māori and non-Māori. Over 600 Māori per year were admitted for injury.
* The leading causes of injury resulting in hospitalisations among Māori were falls, exposure to mechanical forces, complications of medical and surgical care, transport accidents, assault, and intentional self-harm.
* Rates of hospital admission for injury caused by assault were 2.4 times as high for Māori as for non-Māori.
* Injury mortality was 33% higher for Māori than for non-Māori.

# Contents

[Tiro whānui – Southern District at a glance v](#_Toc419136907)

[Introduction 1](#_Toc419136921)

[Data sources and key methods 1](#_Toc419136922)

[Further sources of data 2](#_Toc419136923)

[Te Tatauranga o te Iwi – Key demographics 3](#_Toc419136925)

[Whānau ora – Healthy families 4](#_Toc419136926)

[Whānau well-being 4](#_Toc419136927)

[Whānau support 5](#_Toc419136928)

[Importance of participation in Māori culture 5](#_Toc419136929)

[Te Reo Māori 5](#_Toc419136930)

[Access to marae 6](#_Toc419136931)

[Traditional healing or massage 6](#_Toc419136932)

[Wai ora – Healthy environments 7](#_Toc419136933)

[Education 7](#_Toc419136934)

[Work 7](#_Toc419136935)

[Income and standard of living 9](#_Toc419136936)

[Housing 11](#_Toc419136937)

[Housing security 11](#_Toc419136938)

[Household crowding 11](#_Toc419136939)

[Fuel poverty 12](#_Toc419136940)

[Area deprivation 12](#_Toc419136941)

[Mauri ora: Pepi, tamariki - Infants and children 13](#_Toc419136942)

[Births 13](#_Toc419136943)

[Well child/Tamariki ora indicators 13](#_Toc419136944)

[Oral health 14](#_Toc419136945)

[Middle ear disease 15](#_Toc419136946)

[Healthy skin 15](#_Toc419136947)

[Acute rheumatic fever 15](#_Toc419136948)

[Potentially preventable hospitalisations 15](#_Toc419136949)

[Mauri ora: Rangatahi – Young adults 17](#_Toc419136950)

[Smoking 17](#_Toc419136951)

[Immunisations 18](#_Toc419136952)

[Mental health 18](#_Toc419136953)

[Mauri ora: Pakeke – Adults 19](#_Toc419136954)

[Self-assessed health 19](#_Toc419136955)

[Smoking status 19](#_Toc419136956)

[Heart disease and stroke 20](#_Toc419136957)

[Diabetes 22](#_Toc419136958)

[Cancer 23](#_Toc419136959)

[Breast and cervical cancer screening 23](#_Toc419136960)

[Respiratory disease 25](#_Toc419136961)

[Mental disorders 25](#_Toc419136962)

[Gout 26](#_Toc419136963)

[Hip fractures 27](#_Toc419136964)

[Elective surgery 28](#_Toc419136965)

[Mauri ora: All ages 29](#_Toc419136966)

[Hospitalisations 29](#_Toc419136967)

[Potentially avoidable hospitalisations 29](#_Toc419136968)

[Mortality 30](#_Toc419136969)

[Potentially avoidable mortality 31](#_Toc419136970)

[Injuries 32](#_Toc419136971)

[References 33](#_Toc419136972)

[Appendix 1: Population projections 34](#_Toc419136973)

[Appendix 2: Technical notes 36](#_Toc419136974)

[Data sources 36](#_Toc419136975)

[Data from the Census of Population and Dwellings 36](#_Toc419136976)

[Data from Te Kupenga 2013 36](#_Toc419136977)

[Deaths, hospitalisations and cancer registrations 37](#_Toc419136978)

[Ethnicity 37](#_Toc419136979)

[Residence 37](#_Toc419136980)

[Hospital transfers 37](#_Toc419136981)

[Suppression of causes of death or hospitalisation 37](#_Toc419136982)

[Ninety-five percent confidence intervals 37](#_Toc419136983)

[Age standardisation 38](#_Toc419136984)

[ICD-10 codes 38](#_Toc419136985)

## List of Tables and Figures

[**Table 1:** Population by age group, Southern DHB, 2013 3](#_Toc427753965)

[**Table 2: P**opulation projections, Southern DHB, 2013 to 2033 3](#_Toc427753966)

[**Table 3:** Whānau well-being reported by Māori aged 15 years and over, Southern DHB, 2013 4](#_Toc427753967)

[**Table 4:** Whānau composition reported by Māori aged 15 years and over, Southern DHB, 2013 4](#_Toc427753968)

[**Table 5:** Access to whānau support, Māori aged 15 years and over, Southern DHB, 2013 5](#_Toc427753969)

[**Table 6:** Importance of Māori culture and spirituality, Māori aged 15 years and over, Southern DHB, 2013 5](#_Toc427753970)

[**Table 7:** People who can have a conversation about a lot of everyday things in te reo Māori, Southern DHB, 2013 5](#_Toc427753971)

[**Table 8:** Use of te reo Māori in the home, Māori aged 15 years and over, Southern DHB, 2013 6](#_Toc427753972)

[**Table 9:** Access to marae, Māori aged 15 years and over, Southern DHB, 2013 6](#_Toc427753973)

[**Table 10:** Māori aged 15 years and over who took part in traditional healing or massage in last 12 months, Southern DHB, 2013 6](#_Toc427753974)

[**Table 11:** Adults aged 18 years and over with a Level 2 Certificate or higher Southern DHB, 2006 and 2013 7](#_Toc427753975)

[**Table 12**: Labour force status, 15 years and over, Southern DHB, 2006 and 2013 7](#_Toc427753976)

[**Table 13:** Leading industries in which Māori were employed, Southern DHB, 2013 8](#_Toc427753977)

[**Table 14:** Leading occupations of employed Māori, Southern DHB, 2013 8](#_Toc427753978)

[**Table 15:** Unpaid work, 15 years and over, Southern DHB, 2013 9](#_Toc427753979)

[**Table 16:** Unmet need reported by Māori aged 15 years and over to keep costs down in the last 12 months, Southern DHB, 2013 9](#_Toc427753980)

[**Table 17:** Children aged 0-17 years living in families where the only income is means-tested benefits, Southern DHB, 2006 and 2013 9](#_Toc427753981)

[**Table 18:** Children and adults living in households with low incomes, Southern DHB, 2013 10](#_Toc427753982)

[**Table 19:** Households with no access to a motor vehicle, Southern DHB, 2006 and 2013 10](#_Toc427753983)

[**Table 20**: People in households with no access to telephone, mobile/cell phone, internet, or any telecommunications, Southern DHB, 2013 10](#_Toc427753984)

[**Table 21:** Housing problems reported by Māori aged 15 years and over, Southern DHB, 2013 11](#_Toc427753985)

[**Table 22**: Children and adults living in households where rent payment are made, Southern DHB, 2013 11](#_Toc427753986)

[**Table 23**: People living in crowded households (requiring at least one more bedroom), Southern DHB, 2013 11](#_Toc427753987)

[**Table 24:** People living in households where no heating fuels are used, Southern DHB, 2013 12](#_Toc427753988)

[**Table 25:** Birth-weight and gestation, Southern DHB, 2009–2013 13](#_Toc427753989)

[**Table 26:** Selected Well Child/Tamariki Ora indicators for Māori children, Southern DHB 13](#_Toc427753990)

[**Table 27:** Children fully immunised by the milestone age, Southern DHB, 1 Jan 2014 to 31 Dec 2014 14](#_Toc427753991)

[**Table 28:** Oral health status of children aged 5 or in Year 8 at school, Southern DHB, 2013 14](#_Toc427753992)

[**Table 29:** Hospitalisations for tooth and gum disease, children aged 0–14 years, Southern DHB, 2011–2013 14](#_Toc427753993)

[**Table 30:** Hospitalisations for grommet insertions, children aged 0–14 years, Southern DHB, 2011–2013 15](#_Toc427753994)

[**Table 31**: Hospitalisations for serious skin infections, children aged 0–14 years, Southern DHB, 2011–2013 15](#_Toc427753995)

[**Table 32**: Potentially avoidable hospitalisations for children aged 1 month to 14 years, Southern DHB, 2011–2013 16](#_Toc427753996)

[**Table 33:** Ambulatory care sensitive hospitalisations for children aged 1 month to 14 years, Southern DHB, 2011–2013 16](#_Toc427753997)

[**Table 34:** Human papilloma virus immunisations (HPV) by birth cohorts, Southern DHB, 1 September 2008 to 30 September 2014 18](#_Toc427753998)

[**Table 35:** Hospitalisations for injury from intentional self-harm, 15–24 and 25–44 years, Southern DHB, 2011–2013 18](#_Toc427753999)

[**Table 36**: Health status reported by Māori aged 15 years and over, Southern DHB, 2013 19](#_Toc427754000)

[**Table 37:** Cigarette smoking status, 15 years and over, Southern DHB, 2006 and 2013 19](#_Toc427754001)

[**Table 38:** Hospitalisations for circulatory system diseases, 25 years and over, Southern DHB, 2011–2013 20](#_Toc427754002)

[**Table 39:** Ischaemic heart disease indicators, 25 years and over, Southern DHB, 2011–2013 20](#_Toc427754003)

[**Table 40:** Hospitalisations for heart failure, stroke, and hypertensive disease, 25 years and over, Southern DHB, 2011–2013 21](#_Toc427754004)

[**Table 41:** Hospitalisations for chronic rheumatic heart disease and heart valve replacements, 25 years and over, Southern DHB, 2011–2013 21](#_Toc427754005)

[**Table 42:** Early deaths from circulatory system disease, Southern DHB, 2007–2011 22](#_Toc427754006)

[**Table 43:** Diabetes prevalence, medication use, monitoring of blood glucose levels, screening for renal disease, Southern DHB, 2013 22](#_Toc427754007)

[**Table 44:** Hospitalisations for lower limb amputations for people with concurrent diabetes, 15 years and over, Southern DHB, 2011–2013 22](#_Toc427754008)

[**Table 45:** Most common cancer registrations for Māori by site, all ages, Southern DHB, 2008–2012 23](#_Toc427754009)

[**Table 46**: Most common cancer deaths for Māori by site, all ages, Southern DHB, 2007–2011 23](#_Toc427754010)

[**Table 47:** BreastScreen Aotearoa breast screening coverage, women aged 45–69 years, Southern DHB, 24 months to 31 December 2014 24](#_Toc427754011)

[**Table 48:** Cervical screening coverage, women aged 25–69 years, Southern DHB, 3 years and 5 years to 31 December 2014 24](#_Toc427754012)

[**Table 49:** Hospitalisations for asthma, by age group, Southern DHB, 2011–2013 25](#_Toc427754013)

[**Table 50:** Hospitalisations for chronic obstructive pulmonary disease (COPD), 45 years and over, Southern DHB, 2011–2013 25](#_Toc427754014)

[**Table 51:** Early deaths from respiratory disease, Southern DHB, 2007–2011 25](#_Toc427754015)

[**Table 52:** Hospitalisations for mental disorders, all ages, Southern DHB, 2011–2013 26](#_Toc427754016)

[**Table 53:** Gout prevalence and treatment, 20-79 years, Southern DHB, 2011 27](#_Toc427754017)

[**Table 54:** Hospitalisations for gout, 25 years and over, Southern DHB, 2011–2013 27](#_Toc427754018)

[**Table 55:** Hospitalisations for hip fractures, 65 years and over, Southern DHB, 2011–2013 27](#_Toc427754019)

[**Table 56:** Hospitalisations for hip replacements, 50 years and over, Southern DHB, 2011–2013 28](#_Toc427754020)

[**Table 57:** Publicly funded hospitalisations for cataract surgery, 45 years and over, Southern DHB, 2011–2013 28](#_Toc427754021)

[**Table 58:** All-cause hospitalisations, all ages, Southern DHB, 2011–2013 29](#_Toc427754022)

[**Table 59**: Potentially avoidable hospitalisations, 0–74 years, Southern DHB, 2011–2013 29](#_Toc427754023)

[**Table 60**: Ambulatory care sensitive hospitalisations, 0–74 years, Southern DHB, 2011–2013 29](#_Toc427754024)

[**Table 61**: Life expectancy at birth, Otago and Southland Regions, 2012–2014 30](#_Toc427754025)

[**Table 62:** All-cause deaths, all ages, Southern DHB, 2008–2012 30](#_Toc427754026)

[**Table 63:** Leading causes of death for Māori, all ages, Southern DHB, 2007–2011 31](#_Toc427754027)

[**Table 64**: Potentially avoidable mortality, 0–74 years, Southern DHB, 2007–2011 31](#_Toc427754028)

[**Table 65:** Amenable mortality, 0–74 years, Southern DHB, 2007–2011 32](#_Toc427754029)

[**Table 66:** Hospitalisations for injuries, all ages, Southern DHB, 2011–2013 32](#_Toc427754030)

[**Table 67:** Hospitalisations for assault and homicide, all ages, Southern DHB, 2011–2013 32](#_Toc427754031)

[**Table 68:** Deaths from injury, all ages, Southern DHB, 2007–2011 32](#_Toc427754032)

[**Table 69:** Māori population projections, single year by age group, Southern DHB, 2013 to 2020 34](#_Toc427754033)

[**Table 70:** Total population projections, single year, by age group, Southern DHB, 2013 to 2020 35](#_Toc427754034)

[**Table 71:** Data sources 36](#_Toc427754035)

[**Table 72:** 2001 Census total Māori population 38](#_Toc427754036)

[**Table 73:** Potentially avoidable hospitalisation ICD-10 codes for children aged 1 month to 14 years 38](#_Toc427754037)

[**Table 74:** Ambulatory care sensitive hospitalisation ICD-10 codes for children aged 1 month to 14 years 39](#_Toc427754038)

[**Table 75:** Ambulatory care sensitive hospitalisation ICD-10 codes for people aged 1 month to 74 years 40](#_Toc427754039)

[**Table 76:** Avoidable mortality ICD-10 codes 40](#_Toc427754040)

[**Table 77:** Amenable mortality ICD-10 codes 42](#_Toc427754041)

[**Figure 1:** Distribution by NZDep 2013 decile, Southern DHB, 2013 12](#_Toc419129275)

[**Figure 2:** Trends in the proportion of students aged 14–15 years who have never smoked, by gender, Southern DHB, 1999–2013 17](#_Toc419129276)

[**Figure 3:** Regular smokers, ages 15–17, 18–19, 20–24 years, Southern DHB, 2013 17](#_Toc419129277)

# Introduction

T

he 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](http://www.health.govt.nz/our-work/populations/maori-health/dhb-maori-health-plans-and-health-needs-assessments#hna).

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](http://www.health.govt.nz/our-work/populations/maori-health/he-korowai-oranga/pae-ora-healthy-futures). 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 the **Southern 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 Southern DHB. Accompanying Excel tables also include data for the total Southern 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](http://www.stats.govt.nz/tekupenga). Data from Te Kupenga is presented for Māori only.

Hospitalisation, cancer registration, and mortality rates and Census data were age–sex-standardised to the 2001 Māori population[[1]](#footnote-1).

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

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

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](http://www.health.govt.nz/publication/new-zealand-health-survey-annual-update-key-findings-2012-13)).

Other useful data sources include the Ministry of Health’s [publications](http://www.health.govt.nz/our-work/populations/maori-health/maori-health-publications) on Māori health, the Health Quality and Safety Commission’s [Atlas of Healthcare Variation](http://www.hqsc.govt.nz/our-programmes/health-quality-evaluation/projects/atlas-of-healthcare-variation/), the [DHB](http://dnmeds.otago.ac.nz/departments/womens/paediatrics/research/nzcyes/dhb-2011-2013.html) reports and [Te Ohonga Ake](http://dnmeds.otago.ac.nz/departments/womens/paediatrics/research/nzcyes/maori.html) reports of the New Zealand Child and Youth Epidemiology Service, the [Trendly](http://www.trendly.co.nz/) health performance monitoring website, and the Māori Health Plan Indicator reports provided to DHBs.

# Te Tatauranga o te Iwi

− Key demographics

I

n 2013, approximately 4% (29,200) of the country’s Māori population lived in the Southern District Health Board region. The total population of the DHB (306,400) made up 7% of the national population. In 2015, the Māori population is estimated to be 30,400 and the total population 312,100. [[2]](#footnote-2)

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

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| **Age group (years)** | **Māori** | | | **Non-Māori** | | Total DHB  Number |
| Number | Age distribution | % of DHB | Number | Age distribution |
| 0–14 | 9,820 | 34% | 18% | 46,420 | 17% | 56,240 |
| 15–24 | 6,000 | 21% | 13% | 41,320 | 15% | 47,320 |
| 25–44 | 6,930 | 24% | 9% | 67,740 | 24% | 74,670 |
| 45–64 | 4,950 | 17% | 6% | 75,580 | 27% | 80,530 |
| 65+ | 1,470 | 5% | 3% | 46,200 | 17% | 47,670 |
| Total | 29,200 | 100% | 10% | 277,200 | 100% | 306,400 |

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

In 2013, Māori residents constituted 10% of the Southern DHB population. The Māori population is relatively young, with a median age in 2013 of 23.8 years, compared with 38.9 years for the total DHB population. Māori comprised 18% of the DHB’s children aged 0–14 years and 13% of those aged 15–24 years.

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

|  |  |  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| **Year** | **Māori** | | | | | | | **Total DHB** | | | NZ Māori | Total NZ |
| Residents | %  of DHB | %  of NZ Māori | %  0–14 years | %  15–64 years | %  65+ years | Median age | Residents | Median age | % of NZ pop |
| 2013 | 29,200 | 9.5 | 4 | 34 | 61 | 5 | 23.8 | 306,400 | 38.9 | 7 | 692,300 | 4,442,100 |
| 2018 | 31,900 | 10.1 | 4 | 33 | 61 | 7 | 24.7 | 316,600 | 39.2 | 7 | 734,500 | 4,726,200 |
| 2023 | 34,500 | 10.7 | 5 | 31 | 61 | 8 | 25.9 | 322,900 | 39.6 | 7 | 773,500 | 4,935,200 |
| 2028 | 37,200 | 11.3 | 5 | 30 | 60 | 10 | 26.8 | 328,700 | 40.1 | 6 | 811,700 | 5,139,700 |
| 2033 | 40,100 | 12 | 5 | 30 | 60 | 11 | 27.6 | 333,400 | 40.9 | 6 | 850,700 | 5,327,700 |

Source: Statistics NZ Population projections for the Ministry of Health (2013 Census base) 2014 update  
Note: Detailed population projections are provided in Appendix 1.

The proportion of Māori who are aged 65 years and over in 2013 was 5% but is projected to increase to 11% in 2033 (Table 2). Between 2013 and 2020 the number of Māori aged 65 and over will increase by 54% from 1,470 to 2,260 (see Appendix 1). In 2013, there were 460 Māori aged 75 years and over in the Southern District, with 153 living alone (see accompanying Excel tables).

# Whānau ora

− Healthy families

T

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

## Whānau well-being

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

|  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- |
| How the whānau is doing | Southern DHB | | | | New Zealand | | |
| Estimated number | % | (95% CI) | | % | (95% CI) | |
| Well / Extremely well | 24,500 | 83.8 | (78.7, | 88.8) | 83.4 | (82.5, | 84.4) |
| Neither well nor badly | 3,000\* | 10.1\* | (6.4, | 13.8) | 10.3 | (9.4, | 11.2) |
| Badly / Extremely badly | 2,000\*\* | 6.2\*\* | (2.8, | 9.5) | 6.3 | (5.6, | 7.0) |

Source: Te Kupenga 2013, Statistics New Zealand customised report.   
Notes: An asterisk (\*) shows the sampling error is 30% or more but less than 50%. \*\* sampling error is 50% or more but less than 100%.

The majority of Southern Māori adults (84%) reported that their whānau was doing well or extremely well in 2013. However 6% felt their whānau was doing badly or extremely badly.

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

|  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- |
| Whānau description | Southern DHB | | | | New Zealand | | |
| Estimated number | % | (95% CI) | | % | (95% CI) | |
| Size of whānau | | | | | | | |
| 10 or less | 19,500 | 67.4 | (60.9, | 73.9) | 53.7 | (52.1, | 55.3) |
| 11 to 20 | 5,000 | 17.4 | (12.5, | 22.4) | 22.6 | (21.3, | 24.0) |
| More than 20 | 4,500\* | 15.1\* | (10.2, | 20.0) | 23.6 | (22.4, | 24.8) |
| Groups included in whānau | | | | | | | |
| Parents, partner, children, brothers & sisters | 29,000 | 97.3 | (95.1, | 99.6) | 94.6 | (94.0, | 95.2) |
| Aunts & uncles, cousins, nephews & nieces, other in-laws | 10,500 | 36.0 | (28.8, | 43.1) | 41.3 | (39.8, | 42.8) |
| Grandparents, grandchildren | 9,500 | 32.6 | (25.8, | 39.3) | 41.9 | (40.5, | 43.4) |
| Friends, others | 4,000\* | 14.2\* | (9.9, | 18.5) | 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 15% reporting whānau sizes of more than 20 people. Fourteen percent included friends in their description of whānau.

## Whānau support

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

|  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- |
| How easy is it to get help | Southern DHB | | | | New Zealand | | |
| Estimated number | % | (95% CI) | | % | (95% CI) | |
| **Support in times of need** | | | | | |  |  |
| Easy, very easy | 23,500 | 79.9 | (74.2, | 85.7) | 81.2 | (80.1, | 82.4) |
| Sometimes easy, sometimes hard | 3,000\* | 10.3\* | (6.6, | 14.1) | 12.7 | (11.7, | 13.6) |
| Hard / very hard | 3,000\*\* | 9.8\*\* | (4.6, | 14.9) | 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 | 17,500 | 59.1 | (51.9, | 66.3) | 64.1 | (62.7, | 65.6) |
| Sometimes easy, sometimes hard | 6,000 | 19.8 | (14.2, | 25.4) | 16.9 | (15.9, | 18.0) |
| Hard / very hard | 6,000\* | 19.5\* | (13.3, | 25.6) | 14.7 | (13.5, | 15.9) |
| Don't need help | S | S | . | . | 4.2 | (3.7, | 4.7) |

Source: Te Kupenga 2013, Statistics New Zealand customised report.   
Note: \* Sampling error is 30% or more but less than 50%. \*\* Sampling error is 50% or more but less than 100%. S shows the data was suppressed.

In 2013, the majority of Māori adults in the Southern District (80%) reported having easy access to whānau support in times of need. However, an estimated 3,000 (10%) had difficulty getting help. A smaller proportion found it easy to get help with Māori cultural practices (59%), with 20% 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, Southern DHB, 2013

|  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- |
|  | **Southern DHB** | | | | **New Zealand** | | |
| Estimated number | % | (95% CI) | | % | (95% CI) | |
| **Importance of being involved in Māori culture** | | | | | |  |  |
| Very / quite | 11,500 | 38.6 | (31.9, | 45.2) | 46.3 | (44.9, | 47.6) |
| Somewhat | 7,000 | 22.8 | (17.3, | 28.4) | 24.2 | (22.9, | 25.6) |
| A little / not at all | 11,500 | 38.6 | (32.2, | 45.0) | 29.5 | (28.3, | 30.7) |
| **Importance of spirituality** | | | | | | | |
| Very / quite | 11,000 | 37.5 | (31.0, | 44.1) | 48.7 | (47.4, | 49.9) |
| Somewhat | 4,500 | 15.7 | (11.2, | 20.2) | 17.0 | (16.0, | 18.0) |
| A little / not at all | 14,000 | 46.8 | (39.8, | 53.8) | 34.3 | (33.1, | 35.5) |

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

Being involved in Māori culture was very or quite important to two-fifths (39%) of Southern Māori adults, and somewhat important to a further quarter (23%). Spirituality was very, quite, or somewhat important to just over half of Southern Māori (53%).

## Te Reo Māori

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

|  |  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| **Māori** | | | | **Non-Māori** | | | | Māori/non-Māori  ratio (95% CI) | | | Difference in percentage |
| Number | % | (95% CI) | | Number | % | (95% CI) | |
| 3,558 | 13.8 | (13.4, | 14.3) | 1,629 | 0.7% | (0.7 , | 0.7) | **19.52** | **(18.31,** | **20.81)** | 13.1 |

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, 14% of all Māori in the Southern DHB area (Southern) 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, Southern DHB, 2013

|  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- |
| **Language spoken at home** | **Southern DHB** | | | | **New Zealand** | | |
| Estimated number | % | (95% CI) | | % | (95% CI) | |
| Māori is main language | S | S |  |  | 2.6 | (2.2, | 3.0) |
| Māori is used regularly | 3,500\* | 13.8\* | (8.5, | 19.1) | 20.5 | (19.2, | 21.8) |

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

Fourteen percent of Māori adults reported that te reo Māori was used regularly in the home in 2013.

## Access to marae

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

|  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- |
| **Been to marae** | **Southern DHB** | | | | **New Zealand** | | |
| Estimated number | % | (95% CI) | | % | (95% CI) | |
| At some time | 27,000 | 91.9 | (88.5, | 95.4) | 96.0 | (95.5, | 96.6) |
| In previous 12 months(1) | 11,500 | 41.9 | (34.5, | 49.4) | 58.2 | (56.6, | 59.7) |
| Ancestral marae at some time(2) | 12,500 | 42.2 | (36.0, | 48.5) | 62.3 | (60.9, | 63.7) |
| Ancestral marae in previous 12 months(3) | 5,000\* | 17.0\* | (11.4, | 22.5) | 33.6 | (32.3, | 34.9) |
| Like to go to ancestral marae more often(2) | 10,500 | 61.9 | (52.9, | 71.0) | 58.7 | (56.7, | 60.7) |

Source: Te Kupenga 2013, Statistics New Zealand customised report.  
Notes: (1) Those who had been to a marae at some time.  
(2) Both those who knew and did not know their ancestral marae.  
(3) Those who had been to any of their ancestral marae in the last 12 months.  
\* Sampling error is 30% or more but less than 50%.

In 2013, 92% of Māori adults in Southern had been to a marae, with two out of five (42%) having been in the last 12 months. Just over 40% had been to at least one of their ancestral marae, with 17% having been in the previous 12 months. A high proportion (62%) reported 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, Southern DHB, 2013

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| **Southern DHB** | | | | **New Zealand** | | |
| Estimated number | % | (95% CI) | | % | (95% CI) | |
| 2,000\*\* | 7.1\*\* | (3.1, | 11.1) | 10.9 | (10.0, | 11.7) |

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

In 2013, an estimated 2,000 Māori adults (7%) in the Southern DHB had taken part in traditional healing or massage during the previous 12 months.

# Wai ora

− Healthy environments

T

his 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 Southern DHB, 2006 and 2013

|  |  |  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| **Year** | **Māori** | | | | **Non-Māori** | | | | Māori/non-Māori  ratio (95% CI) | | | Difference in percentage |
| Number | % | (95% CI) | | Number | % | (95% CI) | |
| 2006 | 6,114 | 45.3 | (44.5, | 46.1) | 104,934 | 60.1 | (59.9, | 60.4) | **0.75** | **(0.74,** | **0.77)** | -14.8 |
| 2013 | 8,049 | 52.6 | (51.8, | 53.4) | 116,061 | 65.0 | (64.7, | 65.2) | **0.81** | **(0.80,** | **0.82)** | -12.4 |

Source: 2006 and 2013 Censuses, Statistics New Zealand  
Notes: Percentages are age-standardised. Ratios in **bold** show a statistically significant difference between Māori and non-Māori.

The proportion of Māori adults aged 18 years and over with at least a Level 2 Certificate increased from 45% to 53% between 2006 and 2013, with the absolute difference between Māori and non-Māori decreasing by 2%. However Māori adults remained less likely than non-Māori adults to have a Level 2 Certificate or higher qualification.

## Work

Table 12: Labour force status, 15 years and over, Southern 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 | 7,673 | 52.4 | (51.7, | 53.1) | 104,394 | 54.8 | (54.6, | 55.1) | **0.96** | **(0.94,** | **0.97)** | -2.4 |
| Employed part-time | 2,428 | 15.7 | (15.2, | 16.3) | 33,408 | 17.4 | (17.2, | 17.6) | **0.91** | **(0.87,** | **0.94)** | -1.6 |
| Unemployed | 915 | 5.8 | (5.5, | 6.2) | 5,628 | 3.6 | (3.5, | 3.7) | **1.61** | **(1.51,** | **1.73)** | 2.2 |
| Not in the labour force | 4,059 | 26.0 | (25.4, | 26.7) | 66,084 | 24.2 | (24.0, | 24.4) | **1.08** | **(1.05,** | **1.11)** | 1.9 |
| **2013** | | | | | | | | | | | | |
| Employed full-time | 8,217 | 50.0 | (49.4, | 50.7) | 103,572 | 53.1 | (52.9, | 53.3) | **0.94** | **(0.93,,** | **0.96)** | -3.0 |
| Employed part-time | 2,709 | 15.4 | (14.9, | 16.0) | 33,882 | 16.8 | (16.6, | 17.0) | **0.92** | **(0.89,** | **0.95)** | -1.4 |
| Unemployed | 1,215 | 7.2 | (6.8, | 7.6) | 7,023 | 4.5 | (4.4, | 4.6) | **1.61** | **(1.52,** | **1.71)** | 2.7 |
| Not in the labour force | 5,049 | 27.3 | (26.7, | 27.9) | 69,687 | 25.7 | (25.5, | 25.9) | **1.06** | **(1.04,** | **1.09)** | 1.6 |

Source: 2006 and 2013 Censuses, Statistics New Zealand  
Notes Percentages are age-standardised. Ratios in **bold** show a statistically significant difference between Māori and non-Māori.  
Employed part-time includes people working 1 hour per week or more. Employed full-time includes people who usually work 30 or more hours per week. Unemployed people are without a paid job, available for work and actively seeking work. People not in the labour force includes people in the working age population who are neither employed nor unemployed.

Between 2006 and 2013 there was a decrease in the proportion of Māori adults employed full-time and an increase in the unemployment rate (from 6% to 7%). Māori remained 61% more likely than non-Māori to be unemployed, as the non-Māori unemployment rate also increased. The Māori and non-Māori populations who were not in the labour force increased between 2006 and 2013.

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

|  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- |
| **ANZSIC Industry** | **Southern DHB** | | | | | | **New Zealand** | |
| **Māori** | | | **Non-Māori** | | |
| Number | % | Rank | Number | % | Rank | % | Rank |
| **Females** | | | | | | | | |
| Health Care and Social Assistance | 756 | 15.5 | 1 | 11,052 | 17.4 | 1 | 17.1 | 1 |
| Retail Trade | 639 | 13.1 | 2 | 8,382 | 13.2 | 2 | 11.6 | 3 |
| Accommodation and Food Services | 624 | 12.8 | 3 | 6,552 | 10.3 | 4 | 7.3 | 5 |
| Education and Training | 600 | 12.3 | 4 | 8,199 | 12.9 | 3 | 12.9 | 2 |
| Agriculture, Forestry and Fishing | 474 | 9.7 | 5 | 5,376 | 8.5 | 5 | 4.6 | 8 |
| **Males** | | | | | | | | |
| Manufacturing | 1,053 | 20.4 | 1 | 9,033 | 13.1 | 3 | 13.4 | 1 |
| Agriculture, Forestry and Fishing | 888 | 17.2 | 2 | 11,286 | 16.3 | 1 | 8.7 | 4 |
| Construction | 762 | 14.8 | 3 | 9,183 | 13.3 | 2 | 13.2 | 2 |
| Retail Trade | 342 | 6.6 | 4 | 5,649 | 8.2 | 4 | 8.3 | 5 |
| Transport, Postal and Warehousing | 309 | 6.0 | 5 | 4,035 | 5.8 | 5 | 5.9 | 7 |

Source: 2013 Census, Statistics New Zealand  
Australian and New Zealand Standard Industrial Classification (ANZSIC)

Service industries were the main employers of Māori women in Southern, including health care and social assistance; retail; accommodation and food services; and education and training. For Māori men, leading industries were manufacturing; agriculture, forestry, and fishing; and construction.

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

|  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- |
| **ANZSCO Occupation** | **Southern DHB** | | | | | | **New Zealand** | |
| **Māori** | | | **Non-Māori** | | |
| Number | % | Rank | Number | % | Rank | % | Rank |
| **Females** | | | | | | | | |
| Labourers | 975 | 19.4 | 1 | 7,101 | 11.3 | 6 | 8.3 | 6 |
| Professionals | 933 | 18.6 | 2 | 14,523 | 23.1 | 1 | 26.7 | 1 |
| Community and Personal Service Workers | 798 | 15.9 | 3 | 8,871 | 14.1 | 4 | 12.9 | 4 |
| Clerical and Administrative Workers | 666 | 13.3 | 4 | 11,124 | 17.7 | 2 | 19.5 | 2 |
| Managers | 612 | 12.2 | 5 | 9,465 | 15.0 | 3 | 14.4 | 3 |
| Sales Workers | 609 | 12.1 | 6 | 7,557 | 12.0 | 5 | 11.7 | 5 |
| Technicians and Trades Workers | 336 | 6.7 | 7 | 3,423 | 5.4 | 7 | 5.0 | 7 |
| Machinery Operators and Drivers | 90 | 1.8 | 8 | 900 | 1.4 | 8 | 1.5 | 8 |
| **Males** | | | | | | | | |
| Labourers | 1,536 | 29.0 | 1 | 11,754 | 17.1 | 3 | 13.6 | 4 |
| Technicians and Trades Workers | 1,074 | 20.3 | 2 | 13,107 | 19.1 | 2 | 18.5 | 3 |
| Managers | 759 | 14.3 | 3 | 16,677 | 24.3 | 1 | 22.7 | 1 |
| Machinery Operators and Drivers | 561 | 10.6 | 4 | 6,531 | 9.5 | 5 | 9.1 | 5 |
| Professionals | 558 | 10.5 | 5 | 10,050 | 14.7 | 4 | 18.6 | 2 |
| Community and Personal Service Workers | 372 | 7.0 | 6 | 3,546 | 5.2 | 7 | 5.4 | 7 |
| Sales Workers | 261 | 4.9 | 7 | 4,314 | 6.3 | 6 | 7.1 | 6 |
| Clerical and Administrative Workers | 174 | 3.3 | 8 | 2,616 | 3.8 | 8 | 5.1 | 8 |

Source: 2013 Census, Statistics New Zealand  
Australian and New Zealand Standard Classification of Occupations (ANZSCO), major grouping

Among employed Māori women, the leading occupational groupings were labourers (19%), professionals (19%), and community and personal service workers (16%). The next most common occupations were clerical and administrative workers; managers; and sales workers.

Māori men were most likely to be employed as labourers (29%), technicians and trade workers (20%), and managers (14%). The next most common occupations were machinery operators and drivers; professionals; and community and personal service workers.

Table 15: Unpaid work, 15 years and over, Southern 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 | 14,337 | 89.4 | (89.0, | 89.9) | 180,207 | 89.4 | (89.2, | 89.5) | 1.00 | (1.00, | 1.01) | 0.0 |
| Looking after disabled/ill household member | 1,528 | 9.8 | (9.3, | 10.2) | 12,819 | 6.0 | (5.9, | 6.1) | **1.62** | **(1.54,** | **1.70)** | 3.7 |
| Looking after disabled/ill non-household member | 1,756 | 10.7 | (10.2, | 11.2) | 17,937 | 7.4 | (7.3, | 7.5) | **1.45** | **(1.38,** | **1.52)** | 3.3 |

Source: 2013 Census, Statistics New Zealand  
Notes Percentages are age-standardised. Ratios in **bold** show a statistically significant difference between Māori and non-Māori.

Around 90% of Southern Māori adults worked without pay in 2013. Māori were more likely than non-Māori to look after someone who was disabled or ill without pay, both within the home and outside of the home.

## Income and standard of living

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

|  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- |
| **Actions taken a lot to keep costs down** | **Southern DHB** | | | | **New Zealand** | | |
| Estimated number | % | (95% CI) | | % | (95% CI) | |
| Put up with feeling the cold | 3,000\* | 9.9\* | (5.3, | 14.4) | 11.0 | (10.2, | 11.8) |
| Go without fresh fruit and vegetables | 2,500\* | 9.2\* | (4.8, | 13.7) | 5.4 | (4.8, | 6.0) |
| Postpone or put off visits to the doctor | 4,000\* | 12.9\* | (7.9, | 17.9) | 8.8 | (7.9, | 9.6) |

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

In 2013, an estimated 3,000 Māori adults (10%) reported putting up with feeling cold a lot to keep costs down during the previous 12 months, 2,500 (9%) had gone without fresh fruit and vegetables, and 4,000 (13%) had often postponed or put off visits to the doctor.

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

|  |  |  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| **Year** | **Māori families** | | | | **Non-Māori families** | | | | Māori/non-Māori  ratio (95% CI) | | | Difference in percentage |
| Number | % | (95% CI) | | Number | % | (95% CI) | |
| 2006 | 1,362 | 12.9 | (12.3, | 13.5) | 2,580 | 5.3 | (5.1, | 5.5) | **2.44** | **(2.29,** | **2.59)** | 7.6 |
| 2013 | 1,542 | 12.8 | (12.2, | 13.4) | 2,532 | 5.2 | (5.0, | 5.4) | **2.45** | **(2.31,** | **2.60)** | 7.6 |

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.

The proportion of children living in Māori families where the only income was means-tested benefits (13%) was similar in 2006 and 2013. Children in Māori families were around 2.5 times as likely as non-Māori children to be in this situation in both 2006 and 2013.

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

|  |  |  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| **Age group** | **Māori households** | | | | **Non-Māori households** | | | | Māori/non-Māori  ratio (95% CI) | | | Difference in percentage |
| Number | % | (95% CI) | | Number | % | (95% CI) | |
| Children 0-17 years | 2,703 | 25.7 | (24.9, | 26.6) | 7,866 | 17.2 | (16.9, | 17.5) | **1.50** | **(1.44,** | **1.55)** | 8.5 |
| Adults 18 years & over | 6,102 | 25.0 | (24.4, | 25.5) | 28,116 | 20.5 | (20.3, | 20.7) | **1.22** | **(1.19,** | **1.25)** | 4.5 |

Source: 2013 Census, Statistics New Zealand  
Notes: % is age-standardised. Ratios in **bold** show a statistically significant difference between Māori and non-Māori.  
A Māori household is a household with at least one Māori resident. Non-Māori households have no Māori residents.  
Household income is equivalised using the revised Jensen scale. Low income is defined as an equivalised household income under $15,172.

A quarter of the children in Māori households (2,703) were in households with low equivalised household incomes, 50% higher than the proportion of children in non-Māori households. A quarter again of adults in Māori households (over 6,000) lived in low income households, 22% higher than the percentage of adults in non-Māori households.

Table 19: Households with no access to a motor vehicle, Southern 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 | 972 | 8.7 | (8.2, | 9.2) | 8,145 | 8.6 | (8.4, | 8.8) | 1.01 | (0.95, | 1.08) | 0.1 |
| 2013 | 1,104 | 8.5 | (8.0, | 9.0) | 7,785 | 7.9 | (7.7, | 8.1) | **1.07** | **(1.01,** | **1.14)** | 0.6 |
| **People (% age-standardised)** | | | | | | | | | | | | |
| 2006 | 2,355 | 6.6 | (6.4, | 6.9) | 11,856 | 3.9 | (3.8, | 4.0) | **1.71** | **(1.63,** | **1.79)** | 2.8 |
| 2013 | 2,640 | 6.5 | (6.3, | 6.8) | 11,793 | 4.2 | (4.1, | 4.3) | **1.55** | **(1.48,** | **1.62)** | 2.3 |

Source: 2006 and 2013 Censuses, Statistics New Zealand  
Note: A Māori household is a household with at least one Māori resident. Non-Māori households have no Māori residents.   
Ratios in **bold** show a statistically significant difference between Māori and non-Māori.

In 2013, 8% of Māori households and 7% of individuals living in Māori households had no access to a motor vehicle. Residents of Māori households were 55% more likely to have no access to a motor vehicle than residents of non-Māori households.

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

|  |  |  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| **Mode of tele-communication** | **Māori households** | | | | **Non-Māori households** | | | | Māori/non-Māori  ratio (95% CI) | | | Difference in percentage |
| Number | % | (95% CI) | | Number | % | (95% CI) | |
| No mobile/cell phone | 4,374 | 9.9 | (9.6, | 10.2) | 29,472 | 9.3 | (9.2, | 9.4) | **1.07** | **(1.03,** | **1.10)** | 0.6 |
| No telephone | 9,633 | 23.5 | (23.1, | 23.9) | 28,809 | 15.2 | (15.1, | 15.4) | **1.54** | **(1.51,** | **1.57)** | 8.2 |
| No internet | 8,016 | 19.6 | (19.2, | 20.0) | 38,379 | 11.5 | (11.3, | 11.6) | **1.71** | **(1.67,** | **1.75)** | 8.1 |
| No telecommunications | 702 | 1.7 | (1.6, | 1.8) | 2,106 | 0.9 | (0.8, | 0.9) | **1.93** | (1.76, | **2.11)** | 0.8 |

Source: 2013 Census, Statistics New Zealand  
Note: A Māori household is a household with at least one Māori resident. Non-Māori households have no Māori residents.   
% is age-sex-standardised to the 2001 Māori population.  
Ratios in **bold** show a statistically significant difference between Māori and non-Māori.

In 2013, 20% of people in Māori households had no access to the internet, 10% did not have a cell phone, 24% had no landline, and 2% had no access to any telecommunications in the home. The largest absolute gaps between residents of Māori and non-Māori households were in access to a landline and having no internet connection (a difference of 8 percentage points for both).

## Housing

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

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

Source: Te Kupenga 2013, Statistics New Zealand customised report.   
Note: An asterisk (\*) shows the sampling error is 30% or more but less than 50%  
\*\* shows the sampling error is 50% or more but less than 100%.

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

### Housing security

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

|  |  |  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| Measure | **Māori households** | | | | **Non-Māori households** | | | | Māori/non-Māori  ratio (95% CI) | | | Difference in percentage |
| Number | % | (95% CI) | | Number | % | (95% CI) | |
| Households | 5,535 | 42.9 | (42.0, | 43.7) | 23,931 | 24.6 | (24.4, | 24.9) | **1.74** | **(1.70,** | **1.78)** | 18.3 |
| Children under 18 years (% age-standardised) | 5,409 | 44.3 | (43.5, | 45.2) | 13,356 | 27.0 | (26.6, | 27.4) | **1.64** | **(1.60,** | **1.68)** | 17.3 |
| Adults 18 years and over (% age-standardised) | 12,126 | 44.5 | (43.9, | 45.1) | 44,748 | 34.6 | (34.4, | 34.9) | **1.28** | **(1.27,** | **1.30)** | 9.8 |

Source: 2013 Census, Statistics New Zealand  
Note: A Māori household is a household with at least one Māori resident. Non-Māori households have no Māori residents.   
Ratios in **bold** show a statistically significant difference between Māori and non-Māori.

In 2013, 5,535 Māori households were rented, making up 43% of all Māori households, compared to 25% of non-Māori households.

Among children living in a Māori household, 44% (over 5,400 children) were living in rented homes, two-thirds higher than the proportion of children in non-Māori households (27%, 13,356 children).

Forty-four percent of adults living in Māori households were in rented accommodation (around 12,126), 28% higher than the proportion of adults living in non-Māori households (35%).

### Household crowding

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

|  |  |  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| Measure | **Māori households** | | | | **Non-Māori households** | | | | Māori/non-Māori  ratio (95% CI) | | | Difference in percentage |
| Number | % | (95% CI) | | Number | % | (95% CI) | |
| Households | 705 | 5.4 | (5.0, | 5.8) | 1,605 | 1.6 | (1.5, | 1.7) | **3.31** | **(3.04,** | **3.61)** | 3.8 |
| People (% age standardised) | 3,558 | 9.4 | (9.1, | 9.7) | 7,746 | 4.7 | (4.5, | 4.8) | **2.02** | **(1.94,** | **2.10)** | 4.7 |

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 more than 3 times as likely as non-Māori households to be classified as crowded using the Canadian National Occupancy Standard, with around 700 homes needing at least one additional bedroom, affecting approximately 3,560 people. Residents of Māori households were twice as likely as those living in non-Māori households to be living in crowded conditions.

### Fuel poverty

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

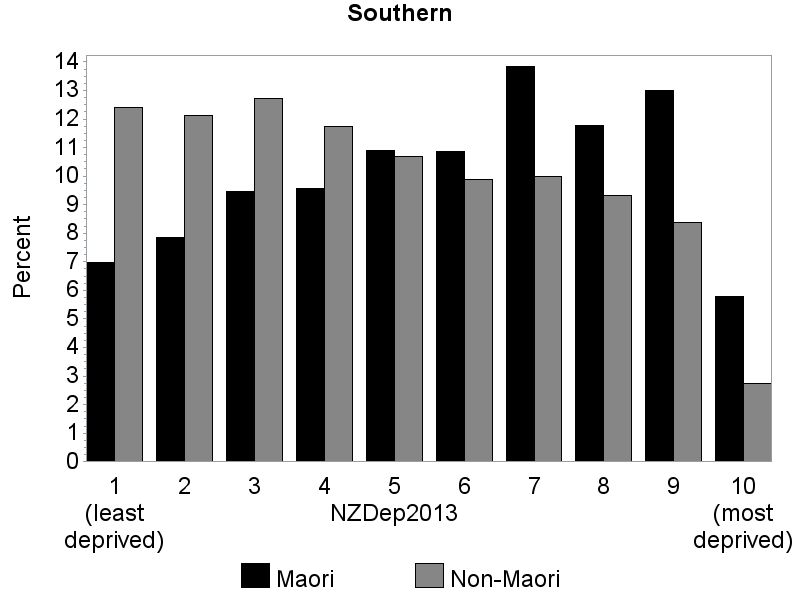
|  |  |  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| Measure | **Māori households** | | | | **Non-Māori households** | | | | Māori/non-Māori  ratio (95% CI) | | | Difference in percentage |
| Number | % | (95% CI) | | Number | % | (95% CI) | |
| Households | 165 | 1.3 | (1.1, | 1.5) | 537 | 0.5 | (0.5, | 0.6) | **2.32** | **(1.95,** | **2.77)** | 0.7 |
| People (% age standardised) | 492 | 1.1 | (1.0, | 1.2) | 1,254 | 0.7 | (0.6, | 0.7) | **1.61** | **(1.45,** | **1.79)** | 0.4 |

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, though only just over 1% of Māori households (165 homes) had no heating, this was still more than twice the proportion of non-Māori households (0.5%).

## Area deprivation

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



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

Māori residents of the Southern District were more likely to live in the more deprived neighbourhoods than non-Māori residents. In 2013, 44% of Māori and 30% of non-Māori lived in the four most deprived decile areas (see accompanying Excel table). Conversely, 34% of Māori lived in the four least deprived deciles compared to 49% of non-Māori.

# Mauri ora: Pepi, tamariki

− Infants and children

T

his 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 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](http://www.hqsc.govt.nz/our-programmes/mrc/pmmrc/)) and the Child and Youth Mortality Review Committee ([CYMRC](http://www.hqsc.govt.nz/our-programmes/mrc/cymrc/publications-and-resources/publication/1311/)) 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*](http://dnmeds.otago.ac.nz/departments/womens/paediatrics/research/nzcyes/maori.html) 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, Southern 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 | 48 | 6.6 | (5.8, | 7.5) | 156 | 5.3 | (5.0, | 5.7) | **1.24** | **(1.07,** | **1.42)** | 1.3 |
| High birth-weight | 13 | 1.8 | (1.4, | 2.3) | 88 | 3.0 | (2.7, | 3.3) | 0.60 | (0.46, | 0.78) | -1.2 |
| Preterm | 62 | 8.5 | (7.6, | 9.5) | 229 | 7.8 | (7.4, | 8.3) | 1.09 | (0.97, | 1.23) | 0.7 |

Source: Birth registrations, Ministry of Health  
Notes: Low birth-weight less than 2500g, High birth-weight greater than or equal to 4500g, Preterm less than 37 weeks gestation

During 2009 to 2013 there were 731 Māori infants born per year on average, 20% of all live births in the DHB (3,663 per year). On average, 48 Māori babies per year were born with low birth-weight, at a rate of 7%, 24% higher than the rate for non-Māori babies. Thirteen per year (2%) were born with high birth-weight, and 62 per year (9%) were born preterm.

## Well child/Tamariki ora indicators

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

|  |  |  |  |
| --- | --- | --- | --- |
| Indicator | Period | **Māori** | |
| Count | % |
| 1. Babies enrolled with a Primary Health Organisation (PHO) by three months old | 20 Aug to 19 Nov 2013 | 76 | 75 |
| 11. Babies exclusively or fully breastfed at 2 weeks | January to June 2013 | 206 | 76 |
| 12. Babies exclusively or fully breastfed at 6 weeks | 185 | 69 |
| 19. Mothers smoke-free two weeks postnatal | 157 | 67 |
| 5. Children under 5 years enrolled with oral health services (PHO enrolled children) | 2012 | 1,982 | 54 |
| 7. Children starting school who have participated in ECE | 2013 | 80 | 95 |
| 15. Children with a healthy weight at 4 years, DHB of service | July to Dec 2013 | 213 | 68 |

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](http://www.health.govt.nz/publication/indicators-well-child-tamariki-ora-quality-improvement-framework-march-2015).  
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, 75% of Māori babies were enrolled with a PHO by three months of age. In the first half of 2013, 76% of Māori babies were fully breastfed at two weeks of age and 69% at six weeks. Two-thirds (67%) of Māori mothers were smoke-free two weeks after giving birth.

Among pre-school children enrolled with a PHO 54% of Māori were enrolled with oral health services in 2012. Ninety five percent of Māori children who started school in 2013 had participated in early childhood education. Two-thirds (68%) of Māori children who had their BMI recorded at their B4 School Check had a healthy weight.

Table 27: Children fully immunised by the milestone age, Southern 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 | 496 | 78% | 2,449 | 86% | 0.90 | -8% |
| 8 months | 581 | 92% | 2,692 | 94% | 0.98 | -2% |
| 12 months | 600 | 95% | 2,788 | 95% | 1.00 | 0% |
| 18 months | 573 | 87% | 2,762 | 90% | 0.97 | -3% |
| 24 months | 665 | 95% | 2,867 | 94% | 1.01 | 1% |
| 5 years | 622 | 90% | 2,906 | 88% | 1.02 | 1% |

Source: National Immunisation Register

In the 12 months to 31 December 2014, 78% of Māori infants aged six months were fully immunised, compared to 86% of non-Māori infants. However, 92% of Māori children aged eight months and 95% of those aged 24 months had completed their age appropriate immunisations. At five years of age 90% of Māori children were fully immunised.

## Oral health

Table 28: Oral health status of children aged 5 or in Year 8 at school, Southern 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 | 352 | 55 | (50, | 60) | 2.2 | 20,249 | 33 | (31, | 35) | 1.2 | **1.65** | **(1.48,** | **1.84)** | 22 |
| Year 8 | 307 | 51 | (46, | 57) | 1.3 | 2,625 | 41 | (39, | 42) | 0.9 | **1.27** | **(1.13,** | **1.43)** | 11 |

Source: Community Oral Health Service, Ministry of Health  
Notes: DMFT is Decayed, missing or filled teeth  
Ratios in **bold** show that Māori rates were significantly different from non-Māori rates in the DHB.

Over half (55%) of Māori children aged five years in 2013 had caries, compared to 33% of non-Māori children. The mean number of decayed, missing or filled teeth (DMFT) was 2.2 for Māori compared to 1.2 for non-Māori. Of Year 8 students, 51% of Māori and 41% of non-Māori children had caries, with mean DMFTs of 1.3 and 0.9 respectively.

Table 29: Hospitalisations for tooth and gum disease, children aged 0–14 years, Southern 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 | 45 | 959.1 | (8,10.1, | 1,135.6) | 235 | 1,058.0 | (982.6, | 1,139.1) | 0.91 | (0.75, | 1.09) | -98.8 |
| Male | 61 | 1,189.8 | (1,029.5, | 1,375.1) | 272 | 1,159.0 | (1,082.1, | 1,241.4) | 1.03 | (0.87, | 1.20) | 30.8 |
| Total | 106 | 1,074.5 | (962.5, | 1,199.4) | 507 | 1,108.5 | (1,054.1, | 1,165.7) | 0.97 | (0.86, | 1.09) | -34.0 |

Source: National Minimum Data Set (NMDS).

There were 106 hospital admissions per year on average for tooth and gum disease among Māori children which, at a rate of 1,074 per 100,000, was similar to non-Māori.

## Middle ear disease

Table 30: Hospitalisations for grommet insertions, children aged 0–14 years, Southern 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 | 37 | 788.2 | (654.8, | 948.8) | 172 | 785.7 | (720.7, | 856.5) | 1.00 | (0.82, | 1.23) | 2.5 |
| Male | 57 | 1077.6 | (927.0, | 1252.7) | 251 | 1078.7 | (1004.4, | 1158.6) | 1.00 | (0.85, | 1.18) | -1.2 |
| Total | 94 | 932.9 | (829.8, | 1048.7) | 423 | 932.2 | (882.3, | 985.0) | 1.00 | (0.88, | 1.14) | 0.7 |

Source: NMDS

On average, 94 Māori children per year were admitted for insertion of grommets for otitis media, at a rate of 933 per 100,000, similar to the non-Māori rate.

## Healthy skin

Table 31: Hospitalisations for serious skin infections, children aged 0–14 years, Southern 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 | 12 | 252.1 | (181.8, | 349.7) | 40 | 178.2 | (148.9, | 213.4) | 1.41 | (0.97, | 2.05) | 73.9 |
| Male | 12 | 236.8 | (171.5, | 327.1) | 39 | 163.7 | (136.5, | 196.4) | 1.45 | (1.00, | 2.10) | 73.1 |
| Total | 24 | 244.5 | (194.3, | 307.7) | 78 | 171.0 | (150.4, | 194.3) | **1.43** | **(1.10,** | **1.86)** | 73.5 |

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

There were 24 admissions per year on average for serious skin infections among Māori children. The rate was 43% higher than for non-Māori children, or 74 more admissions per 100,000 children per year.

## Acute rheumatic fever

No children in Southern DHB were admitted to hospital with acute rheumatic fever during 2011–2013.

## 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, Southern 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 | 192 | 4,010.8 | (3,695.7, | 4,352.7) | 794 | 3,630.3 | (3,487.4, | 3,779.2) | **1.10** | **(1.01,** | **1.21)** | 380.4 |
| Male | 281 | 5,329.9 | (4,981.2, | 5,702.9) | 1,090 | 4,674.2 | (4,516.6, | 4,837.2) | **1.14** | **(1.06,** | **1.23)** | 655.7 |
| Total | 472 | 4,670.3 | (4,432.8, | 4,920.6) | 1,883 | 4,152.3 | (4,045.3, | 4,262.0) | **1.12** | **(1.06,** | **1.19)** | 518.1 |

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

There were 472 potentially avoidable hospitalisations per year on average among Māori children aged 14 years and under, at a rate 12% higher than for non-Māori children, or 518 more admissions per 100,000 children.

Table 33: Ambulatory care sensitive hospitalisations for children aged 1 month to 14 years, Southern 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 | 142 | 3,002.8 | (2,730.8, | 3,301.9) | 635 | 2,900.0 | (2,772.6, | 3,033.3) | 1.04 | (0.93, | 1.15) | 102.8 |
| Male | 201 | 3,846.0 | (3,550.3, | 4,166.4) | 826 | 3,541.6 | (3,404.8, | 3,683.8) | 1.09 | (0.99, | 1.19) | 304.5 |
| Total | 343 | 3,424.4 | (3,220.9, | 3,640.8) | 1461 | 3,220.8 | (3,126.7, | 3,317.6) | 1.06 | (0.99, | 1.14) | 203.6 |

Source: NMDS

On average there were 343 admissions per year for ambulatory care sensitive conditions among Māori children in Southern DHB, at a rate of 3,424 per 100,000 (similar to the non-Māori rate).

# Mauri ora: Rangatahi

− Young adults

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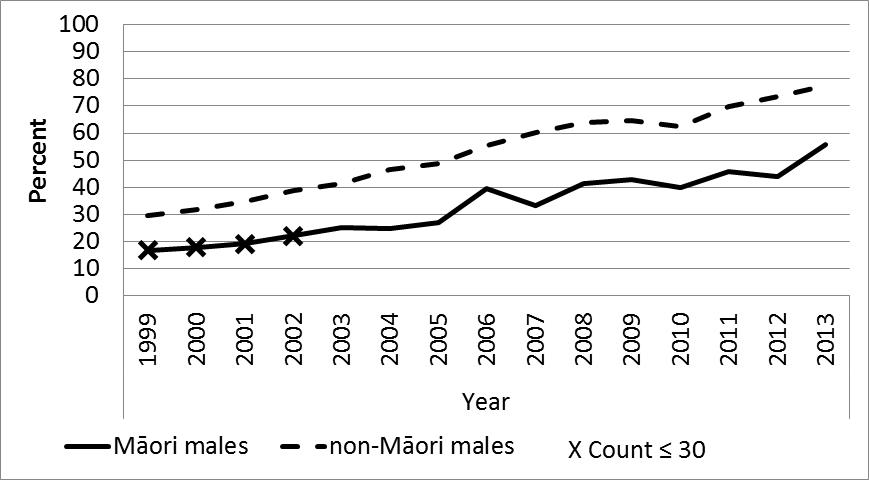
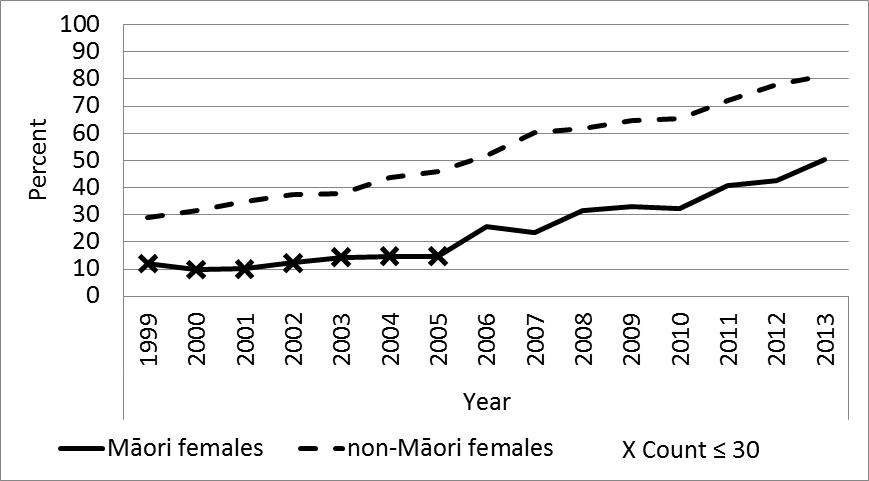
his section presents data on smoking, immunisations, and self-harm as an indicator of mental health. Nationally, leading causes of hospitalisation among Māori aged 15 to 24 years include pregnancy and childbirth, injury, digestive system diseases, symptoms and signs (unknown causes), and mental disorders.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

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](https://www.fmhs.auckland.ac.nz/en/faculty/adolescent-health-research-group/publications-and-reports/publications-by-year.html)). Other data related to youth can be found in the CYES reports on child and youth health. The [Child and Youth Health Compass](file:///C:\Users\brrobso\Downloads\http:\compass.hiirc.org.nz\section\31015\9-youth-health-services\) provides exemplars of youth specific services.

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## Smoking

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



Source: ASH Year 10 Snapshot Survey, 2013

Over the last 15 years the number of Māori aged 14 or 15 who have never smoked has increased (Figure 2). However, Māori remain consistently less likely to have never smoked than non-Māori students.

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

Source: 2013 Census, Statistics New Zealand  
Note: Regular smoker defined as smoking at least one cigarette daily.

Smoking rates have decreased significantly among young Māori and non-Māori adults in Southern since 2006. However, smoking uptake remains relatively high among those aged 18–24 years, with a sizeable group starting smoking in this age group. At ages 20–24 years, 35% of Māori were smoking regularly in 2013. Māori in each age group were at least 85% more likely than non-Māori to smoke regularly.

## Immunisations

Table 34: Human papilloma virus immunisations (HPV) by birth cohorts, Southern 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 | 181 | 75.4 | 983 | 67.3 | 1.12 | 8.1 |
| 1999 | 15 | 2012 | 187 | 74.8 | 959 | 67.1 | 1.12 | 7.7 |
| 1998 | 16 | 2011 | 201 | 69.3 | 868 | 59.0 | 1.17 | 10.3 |
| 1997 | 17 | 2010 | 168 | 64.6 | 839 | 57.1 | 1.13 | 7.5 |

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

By September 2014, two-thirds of Māori girls aged 16 and 17 years in 2014 had received all three doses of the human papilloma virus vaccine. Three-quarters of Māori girls who were aged 14 and 15 years in 2014 were fully immunised, compared to two-thirds of non-Māori in these age groups.

## Mental health

Table 35: Hospitalisations for injury from intentional self-harm, 15–24 and 25–44 years, Southern 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 | 15 | 517.5 | (386.2, | 693.3) | 120 | 591.5 | (533.1, | 656.3) | 0.87 | (0.64, | 1.19) | -74.0 |
| Male | 7 | 247.1 | (162.7, | 375.3) | 36 | 175.7 | (145.2, | 212.7) | 1.41 | (0.89, | 2.23) | 71.4 |
| Total | 22 | 382.3 | (300.8, | 485.8) | 156 | 383.6 | (350.1, | 420.3) | 1.00 | (0.77, | 1.29) | -1.3 |
| **25–44 years** | | | | | | | | | | | | |
| Female | 13 | 364.2 | (266.9, | 497.0) | 87 | 246.6 | (218.1, | 278.8) | **1.48** | **(1.06,** | **2.06)** | 117.6 |
| Male | 5 | 158.5 | (95.5, | 263.0) | 46 | 138.9 | (117.4, | 164.4) | 1.14 | (0.67, | 1.95) | 19.6 |
| Total | 18 | 261.4 | (200.4, | 340.8) | 133 | 192.7 | (174.5, | 212.8) | **1.36** | **(1.02,** | **1.80)** | 68.6 |

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

During 2011 to 2013 there was an average of 22 hospital admissions for injury from intentional self-harm among Māori aged 15–24 years, with the rate similar to that of non-Māori.

Māori aged 25–44 years were 36% more likely than non-Māori to be admitted for injury caused by intentional self-harm. On average 18 Māori per year in this age group were admitted.

Women were more likely to be admitted than men in both age groups.

# Mauri ora: Pakeke

− Adults

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his 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 Southern can be found in the accompanying Excel© tables labelled ‘Death registrations’ and ‘Hospitalisations by principal diagnosis’. For example, the hospitalisations table shows disparities between Southern Māori and non-Māori in rates of admission for viral hepatitis, diabetes complications with renal failure, thyroid disorders, gallstones, and tubulo-interstitial nephritis.

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](http://www.health.govt.nz/publication/health-maori-adults-and-children-2011-2013)).

## Self-assessed health

Table 36: Health status reported by Māori aged 15 years and over, Southern DHB, 2013

|  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- |
| **Health status** | **Southern DHB** | | | | **New Zealand** | | |
| Estimated number | % | (95% CI) | | % | (95% CI) | |
| Excellent | 4,000\* | 13.5\* | (8.7, | 18.3) | 18.1 | (16.8, | 19.3) |
| Very good | 12,500 | 42.6 | (35.5, | 49.7) | 37.0 | (35.5, | 38.5) |
| Good | 8,000 | 27.8 | (22.1, | 33.6) | 28.5 | (27.3, | 29.7) |
| Fair / poor | 5,000 | 16.0 | (11.4, | 20.7) | 16.4 | (15.3, | 17.5) |

Source: Te Kupenga 2013, Statistics New Zealand customised report.  
Note: \* Sampling error was 30% or more but less than 50%.

Over half of Southern Māori adults (56%) reported having excellent or very good health and another 28% described their health as good. One in six (16%) reported having fair or poor health status.

## Smoking status

Table 37: Cigarette smoking status, 15 years and over, Southern 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 | 5,621 | 39.7 | (38.9, | 40.5) | 39,123 | 22.3 | (22.1, | 22.5) | **1.78** | **(1.74,** | **1.82)** | 17.4 |
| Ex-smoker | 2,888 | 20.6 | (20.0, | 21.3) | 46,992 | 19.4 | (19.2, | 19.6) | **1.06** | **(1.03,** | **1.10)** | 1.2 |
| Never smoked | 5,777 | 39.7 | (38.9, | 40.5) | 112,695 | 58.3 | (58.0, | 58.5) | **0.68** | **(0.67,** | **0.70)** | -18.6 |
| **2013** | | | | | | | | | | | | |
| Regular smoker | 4,896 | 31.1 | (30.4, | 31.9) | 29,520 | 16.4 | (16.2, | 16.6) | **1.90** | **(1.85,** | **1.95)** | 14.7 |
| Ex-smoker | 3,876 | 23.1 | (22.5, | 23.8) | 50,688 | 20.0 | (19.8, | 20.2) | **1.16** | **(1.12,** | **1.19)** | 3.1 |
| Never smoked | 7,626 | 45.7 | (44.9, | 46.4) | 124,560 | 63.6 | (63.4, | 63.8) | **0.72** | **(0.71,** | **0.73)** | -17.9 |

Source: 2006 and 2013 Census, Statistics New Zealand  
Notes: % is age-standardised to the 2001 Māori population  
Regular smokers smoke one or more cigarettes per day.

Between 2006 and 2013 the proportion of Māori adults who smoked cigarettes regularly decreased from 40% to 31% (approximately 4,900 smokers). The proportion who had never smoked increased from 40% to 46%. However, Māori remained 90% more likely than non-Māori to smoke regularly in 2013.

## Heart disease and stroke

Table 38: Hospitalisations for circulatory system diseases, 25 years and over, Southern 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 | 101 | 1,233.1 | (1,099.5, | 1,383.0) | 2,196 | 841.6 | (813.7, | 870.4) | **1.47** | **(1.30,** | **1.65)** | 391.5 |
| Male | 113 | 1,337.1 | (1,196.7, | 1,494.0) | 2,793 | 1,406.0 | (1,368.5, | 1,444.5) | 0.95 | (0.85, | 1.07) | -68.9 |
| Total | 214 | 1,285.1 | (1,186.6, | 1,391.8) | 4,989 | 1,123.8 | (1,100.3, | 1,147.7) | **1.14** | **(1.05,** | **1.24)** | 161.3 |

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

On average 214 Māori were admitted to hospital per year for diseases of the circulatory system (including heart disease and stroke) between 2011 and 2013, at a rate 14% higher than non-Māori, or 161 more admissions per 100,000.

Table 39: Ischaemic heart disease indicators, 25 years and over, Southern 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 | 25 | 308.2 | (245.2, | 387.6) | 565 | 208.7 | (196.3, | 221.8) | **1.48** | **(1.17,** | **1.87)** | 99.6 |
| Male | 29 | 336.2 | (271.7, | 416.0) | 996 | 510.9 | (489.6, | 533.2) | **0.66** | **(0.53,** | **0.82)** | -174.7 |
| Total | 54 | 322.2 | (275.7, | 376.6) | 1560 | 359.8 | (347.4, | 372.6) | 0.90 | (0.76, | 1.05) | -37.6 |
| **Angiography procedures** | | | | | | | | | | | | |
| Female | 19 | 240.6 | (185.2, | 312.4) | 389 | 184.9 | (172.8, | 197.8) | 1.30 | (0.99, | 1.70) | 55.7 |
| Male | 25 | 295.1 | (234.3, | 371.7) | 718 | 411.1 | (391.3, | 431.9) | **0.72** | **(0.57,** | **0.91)** | -116.0 |
| Total | 44 | 267.8 | (225.3, | 318.4) | 1107 | 298.0 | (286.3, | 310.2) | 0.90 | (0.75, | 1.07) | -30.1 |
| **Angioplasty procedures** | | | | | | | | | | | | |
| Female | 6 | 77.9 | (48.9, | 124.1) | 127 | 54.2 | (48.2, | 60.9) | 1.44 | (0.89, | 2.32) | 23.7 |
| Male | 9 | 112.9 | (77.4, | 164.8) | 317 | 185.7 | (172.5, | 199.9) | **0.61** | **(0.41,** | **0.89)** | -72.8 |
| Total | 15 | 95.4 | (71.1, | 127.9) | 444 | 120.0 | (112.7, | 127.7) | 0.80 | (0.59, | 1.07) | -24.5 |
| **Coronary Artery Bypass Graft (CABG)** | | | | | | | | | | | | |
| Female | 2 | 20.5 | (8.5, | 49.4) | 33 | 14.2 | (11.4, | 17.7) | 1.44 | (0.58, | 3.57) | 6.3 |
| Male | 2 | 25.2 | (11.9, | 53.1) | 123 | 62.1 | (55.4, | 69.7) | **0.41** | **(0.19,** | **0.86)** | -36.9 |
| Total | 4 | 22.8 | (12.9, | 40.4) | 156 | 38.2 | (34.5, | 42.3) | 0.60 | (0.34, | 1.07) | -15.3 |
| **Acute coronary syndrome admissions** | | | | | | | | | | | | |
| Female | 19 | 231.1 | (177.4, | 301.0) | 374 | 135.3 | (125.4, | 146.0) | **1.71** | **(1.30,** | **2.25)** | 95.7 |
| Male | 20 | 223.3 | (172.2, | 289.7) | 679 | 351.5 | (333.6, | 370.3) | **0.64** | **(0.49,** | **0.83)** | -128.2 |
| Total | 38 | 227.2 | (188.7, | 273.5) | 1053 | 243.4 | (233.1, | 254.2) | 0.93 | (0.77, | 1.13) | -16.2 |

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

On average, 54 Māori per year were admitted to hospital for ischaemic heart disease. Māori women were 48% more likely to be admitted than non-Māori, while Māori men were 34% less likely. Of the 54 Māori admitted to hospital for ischaemic heart disease, 38 were admitted with acute coronary syndrome (ACS). The ACS admission rate for Māori women was 71% higher than for non-Māori women, while the admission rate for men was 36% lower than for non-Māori men.

There were 44 angiography procedures conducted for Māori patients per year. Māori men had a 28% lower rate of receipt than non-Māori. On average, nine Māori men and six Māori women per year had angioplasty procedures, with the rate for Māori men 39% lower than for non-Māori. Among both Māori women and men there was an average of two coronary artery bypass grafts per year, with the rate for Māori men 59% lower than for non-Māori men.

Table 40: Hospitalisations for heart failure, stroke, and hypertensive disease, 25 years and over, Southern 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 | 13 | 150.8 | (109.9, | 206.8) | 281 | 64.1 | (58.1, | 70.7) | **2.35** | **(1.69,** | **3.27)** | 86.7 |
| Male | 19 | 202.7 | (154.4, | 266.2) | 309 | 95.7 | (88.1, | 104.0) | **2.12** | **(1.59,** | **2.82)** | 107.0 |
| Total | 32 | 176.7 | (143.8, | 217.2) | 589 | 79.9 | (75.0, | 85.1) | **2.21** | **(1.78,** | **2.74)** | 96.8 |
| **Stroke** | | | | | | | | | | | | |
| Female | 13 | 157.1 | (114.6, | 215.3) | 291 | 81.7 | (74.5, | 89.5) | **1.92** | **(1.38,** | **2.67)** | 75.4 |
| Male | 15 | 162.3 | (120.0, | 219.5) | 342 | 139.2 | (128.9, | 150.2) | 1.17 | (0.85, | 1.59) | 23.1 |
| Total | 28 | 159.7 | (128.4, | 198.6) | 633 | 110.4 | (104.1, | 117.1) | **1.45** | **(1.15,** | **1.81)** | 49.3 |
| **Hypertensive disease** | | | | | | | | | | | | |
| Female | 3 | 40.6 | (20.9, | 78.9) | 58 | 23.2 | (18.8, | 28.5) | 1.75 | (0.87, | 3.52) | 17.4 |
| Male | 1 | 15.6 | (4.9, | 49.6) | 30 | 18.3 | (14.1, | 23.8) | 0.85 | (0.26, | 2.79) | -2.7 |
| Total | 4 | 28.1 | (15.7, | 50.1) | 88 | 20.7 | (17.6, | 24.4) | 1.35 | (0.74, | 2.47) | 7.3 |

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

There were 32 hospital admissions per year on average for Māori with heart failure, over twice the rate for non-Māori, or 97 more admissions per 100,000.

On average, 28 Māori per year were admitted for stroke, at a rate 45% higher than the non-Māori rate, or 49 more admissions per 100,000. There were four Māori admissions per year on average for hypertensive disease.

Table 41: Hospitalisations for chronic rheumatic heart disease and heart valve replacements, 25 years and over, Southern 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 | 13.0 | (4.2, | 40.3) | 10 | 4.6 | (3.1, | 6.8) | 2.82 | (0.85, | 9.35) | 8.4 |
| Male | <1 | 2.9 | (0.4, | 20.7) | 3 | 1.1 | (0.5, | 2.3) | 2.69 | (0.33, | 21.97) | 1.8 |
| Total | 1 | 8.0 | (3.0, | 21.4) | 13 | 2.8 | (2.0, | 4.0) | 2.80 | (0.98, | 8.00) | 5.1 |
| **Heart valve replacements** | | | | | | | | | | | | |
| Female | 1 | 8.8 | (2.2, | 35.3) | 25 | 11.7 | (8.6, | 15.9) | 0.75 | (0.18, | 3.12) | -2.9 |
| Male | 1 | 14.9 | (5.5, | 40.3) | 48 | 22.4 | (18.3, | 27.5) | 0.67 | (0.24, | 1.83) | -7.5 |
| Total | 2 | 11.9 | (5.3, | 26.7) | 73 | 17.1 | (14.4, | 20.2) | 0.70 | (0.30, | 1.59) | -5.2 |

Source: NMDS.

On average, one Māori per year was admitted with chronic rheumatic heart disease, and two per year received heart valve replacements.

Table 42: Early deaths from circulatory system disease, Southern 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 | 6 | 39.2 | (27.2, | 56.4) | 54 | 15.3 | (13.3, | 17.6) | **2.57** | **(1.74,** | **3.79)** | 23.9 |
| Male | 12 | 70.2 | (54.1, | 91.1) | 118 | 35.5 | (32.4, | 38.9) | **1.98** | **(1.50,** | **2.61)** | 34.7 |
| Total | 17 | 54.7 | (44.2, | 67.6) | 172 | 25.4 | (23.5, | 27.4) | **2.15** | **(1.72,** | **2.70)** | 29.3 |

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 17 Māori per year died early from circulatory system diseases, at a rate twice that of non-Māori, or 29 more deaths per 100,000.

## Diabetes

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

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| Indicator | **Māori** | | **Non-Māori** | | Māori/non-Māori ratio | Difference in percentage |
| Count | % (crude) | Count | % (crude) |
| Prevalence of diabetes (all ages) | 864 | 3.1 | 14,260 | 5.1 | 0.61 | -2.0 |
| People with diabetes regularly receiving metformin or insulin, 25+ | 462 | 53.5 | 7,622 | 53.4 | 1.00 | 0.0 |
| People with diabetes having regular Hb1Ac monitoring, 25+ | 696 | 80.6 | 11,835 | 81.5 | 0.99 | -0.9 |
| People with diabetes having regular screening for renal disease, 25+ | 492 | 56.9 | 8,516 | 59.7 | 0.95 | -2.8 |

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

Approximately 860 Māori in Southern were estimated to have diabetes in 2013, giving a crude prevalence of 3% (compared to 5% in non-Māori). Over half of Māori with diabetes were regularly receiving metformin or insulin; 81% had regular blood glucose monitoring and 57% were being screened for renal disease.

Table 44: Hospitalisations for lower limb amputations for people with concurrent diabetes, 15 years and over, Southern 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 | 2.4 | (0.3, | 17.0) | 18 | 6.2 | (4.5, | 8.5) | 0.39 | (0.05, | 2.83) | -3.8 |
| Male | 2 | 19.4 | (8.6, | 43.8) | 23 | 7.8 | (5.9, | 10.3) | **2.48** | **(1.05,** | **5.87)** | 11.6 |
| Total | 2 | 10.9 | (5.1, | 23.2) | 41 | 7.0 | (5.7, | 8.7) | 1.56 | (0.71, | 3.42) | 3.9 |

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

On average two Māori per year with diabetes had lower limbs amputated. Māori men with diabetes had lower limb amputations at a rate 2.5 times that of non-Māori men, or 12 more amputations per 100,000.

## Cancer

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

|  |  |  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| **Gender and site** | **Māori** | | | | **Non-Māori** | | | | Māori/non-Māori  ratio (95% CI) | | | Rate difference |
| Ave. no. per year | Age-standardised  rate per 100,000 (95% CI) | | | Ave. no. per year | Age-standardised  rate per 100,000 (95% CI) | | |
| **Female** | | | | | | | | | | | | |
| All cancers | 32 | 198.4 | (169.5, | 232.2) | 693 | 180.0 | (172.3, | 188.0) | 1.10 | (0.94, | 1.30) | 18.4 |
| Breast | 8 | 53.4 | (39.2, | 72.8) | 185 | 56.7 | (52.6, | 61.2) | 0.94 | (0.69, | 1.29) | -3.3 |
| Lung | 8 | 48.4 | (35.4, | 66.2) | 56 | 11.0 | (9.5, | 12.7) | **4.40** | **(3.12,** | **6.20)** | 37.4 |
| Colorectal | 3 | 15.9 | (9.2, | 27.5) | 132 | 24.5 | (22.3, | 26.9) | 0.65 | (0.37, | 1.13) | -8.6 |
| **Male** | | | | | | | | | | | | |
| All cancers | 28 | 163.6 | (138.2, | 193.7) | 755 | 184.5 | (177.4, | 192.0) | 0.89 | (0.75, | 1.05) | -20.9 |
| Lung | 6 | 33.4 | (23.3, | 48.0) | 75 | 14.9 | (13.3, | 16.7) | **2.24** | **(1.53,** | **3.27)** | 18.5 |
| Colorectal | 4 | 23.7 | (15.6, | 36.1) | 136 | 29.7 | (27.3, | 32.3) | 0.80 | (0.52, | 1.23) | -5.9 |
| Prostate | 4 | 21.4 | (13.8, | 33.2) | 202 | 43.9 | (41.1, | 46.9) | **0.49** | **(0.31,** | **0.76)** | -22.5 |
| Testis | 2 | 13.0 | (6.4, | 26.3) | 9 | 6.9 | (5.1, | 9.3) | 1.89 | (0.87, | 4.08) | 6.1 |

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 32 cancer registrations per year on average among Māori females in Southern DHB, at a similar rate to non-Māori. The most common cancers registered for Māori females were breast and lung cancers (each a quarter of all cancers) and colorectal cancer. Lung cancer incidence was 4.4 times as high for Māori as for non-Māori women.

Among Māori males there were 28 cancer registrations per year on average. Lung (21% of all cancers), colorectal, prostate, and testicular cancers were the most common cancers registered for Māori males. Lung cancer was over twice as common among Māori compared to non-Māori males, while prostate cancer was half as frequently registered.

Table 46: Most common cancer deaths for Māori by site, all ages, Southern DHB, 2007–2011

|  |  |  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| **Gender and site** | **Māori** | | | | **Non-Māori** | | | | Māori/non-Māori  ratio (95% CI) | | | Rate difference |
| Ave. no. per year | Age-standardised  rate per 100,000 (95% CI) | | | Ave. no. per year | Age-standardised  rate per 100,000 (95% CI) | | |
| **Female** | | | | | | | | | | | | |
| All cancers | 13 | 86.0 | (67.4, | 109.7) | 313 | 55.8 | (52.2, | 59.7) | **1.54** | **(1.20,** | **1.98)** | 30.1 |
| Lung | 6 | 39.4 | (27.5, | 56.5) | 44 | 8.2 | (7.0, | 9.6) | **4.80** | **(3.23,** | **7.12)** | 31.2 |
| Breast | 1 | 9.5 | (4.5, | 20.1) | 43 | 10.1 | (8.6, | 12.0) | 0.94 | (0.44, | 2.02) | -0.6 |
| **Male** | | | | | | | | | | | | |
| All cancers | 12 | 70.2 | (54.5, | 90.4) | 349 | 69.4 | (65.6, | 73.5) | 1.01 | (0.78, | 1.31) | 0.8 |
| Lung | 3 | 19.1 | (11.9, | 30.8) | 65 | 12.7 | (11.2, | 14.3) | 1.51 | (0.92, | 2.47) | 6.4 |
| Colorectal | 2 | 12.5 | (6.9, | 22.7) | 62 | 12.6 | (11.1, | 14.4) | 0.99 | (0.54, | 1.82) | -0.1 |
| Pancreas | 1 | 8.2 | (3.9, | 17.3) | 14 | 2.8 | (2.2, | 3.7) | **2.90** | **(1.32,** | **6.39)** | 5.4 |

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

For Māori females, deaths from cancer comprised nearly 40% of all deaths, with a rate 54% higher than the rate for non-Māori. Lung cancer was the most common cause of cancer death (45% of all cancer deaths), followed by breast cancer. The lung cancer mortality rate was 4.8 times the non-Māori rate, or 31 more deaths per 100,000.

For Māori males, cancer deaths accounted for 27% of all deaths, at a similar rate to non-Māori males. Lung, colorectal and pancreatic cancers were the most common causes of cancer death. The mortality rate from pancreatic cancer was 2.9 times that of non-Māori rate, or five more deaths per 100,000.

### Breast and cervical cancer screening

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

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| **Māori** | | | **Non-Māori** | | |
| Number screened | Eligible population | % screened | Number screened | Eligible population | % screened |
| 1,722 | 2,855 | 60.3 | 34,290 | 46,045 | 74.5 |

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, 60% of Māori women and 75% of non-Māori women in the Southern District had been screened.

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

|  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| **Māori** | | | | | | **Non-Māori** | | | | |
| Eligible population | Women screened in last 5 years | 5-year coverage % | Women screened in last 3 years | | 3-year coverage % | Eligible population | Women screened in last 5 years | 5-year coverage % | Women screened in last 3 years | 3-year coverage % |
| 6,074 | 4,436 | 73.0% | 3,624 | 59.7% | | 71,191 | 67,796 | 95.2% | 57,655 | 81.0% |

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

Among women aged 25 to 69 years, 73% of Māori and 95% of non-Māori had had a cervical smear test during the five years prior to December 2014. The three year coverage was 60% for Māori women and 81% for non-Māori women. The National Cervical Screening Programme has a three year screening coverage target of 80% of eligible women aged 25 to 69 years.

## Respiratory disease

Table 49: Hospitalisations for asthma, by age group, Southern DHB, 2011–2013

|  |  |  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| **Gender and age group** | **Māori** | | | | **Non-Māori** | | | | Māori/non-Māori  ratio (95% CI) | | | Rate difference |
| Ave. no. per year | Age-standardised  rate per 100,000 (95% CI) | | | Ave. no. per year | Age-standardised  rate per 100,000 (95% CI) | | |
| **0**–**14 years** | | | | | | | | | | | | |
| Female | 21 | 447.1 | (349.2, | 572.5) | 50 | 224.6 | (191.3, | 263.8) | **1.99** | **(1.48,** | **2.67)** | 222.5 |
| Male | 42 | 810.0 | (680.0, | 964.8) | 119 | 507.3 | (457.4, | 562.7) | **1.60** | **(1.30,** | **1.96)** | 302.7 |
| Total | 63 | 628.5 | (544.8, | 725.1) | 169 | 366.0 | (335.4, | 399.3) | **1.72** | **(1.45,** | **2.03)** | 262.6 |
| **15**–**34 years** | | | | | | | | | | | | |
| Female | 8 | 163.4 | (109.1, | 244.9) | 25 | 65.8 | (52.3, | 82.7) | **2.48** | **(1.56,** | **3.95)** | 97.6 |
| Male | 3 | 71.2 | (36.4, | 139.0) | 14 | 39.3 | (29.1, | 53.0) | 1.81 | (0.87, | 3.78) | 31.9 |
| Total | 11 | 117.3 | (82.9, | 166.0) | 39 | 52.5 | (43.8, | 63.0) | **2.23** | **(1.51,** | **3.31)** | 64.8 |
| **35**–**64 years** | | | | | | | | | | | | |
| Female | 8 | 174.3 | (115.1, | 264.0) | 41 | 71.6 | (59.1, | 86.7) | **2.44** | **(1.54,** | **3.85)** | 102.8 |
| Male | 3 | 76.2 | (38.9, | 149.2) | 15 | 29.0 | (21.1, | 40.0) | **2.63** | **(1.25,** | **5.53)** | 47.2 |
| Total | 11 | 125.3 | (88.0, | 178.5) | 56 | 50.3 | (42.6, | 59.3) | **2.49** | **(1.69,** | **3.68)** | 75.0 |
| **65 years and over** | | | | | | | | | | | | |
| Female | 1 | 178.0 | (57.4, | 552.4) | 25 | 80.7 | (61.9, | 105.2) | 2.21 | (0.69, | 7.06) | 97.3 |
| Male | 1 | 155.2 | (50.1, | 481.3) | 5 | 26.3 | (15.8, | 43.8) | **5.91** | **(1.71,** | **20.45)** | 129.0 |
| Total | 2 | 166.6 | (74.7, | 371.7) | 30 | 53.5 | (42.2, | 67.8) | **3.12** | **(1.35,** | **7.19)** | 113.1 |

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

On average there were 63 admissions for asthma per year among Māori children aged 0–14 years, at a rate 72% higher than non-Māori. Among Māori adults aged 15–34 and those aged 35–64 years, the rate was twice that of non-Māori. Among those aged 65 years and over, Māori were admitted at 3 times the rate of non-Māori.

Table 50: Hospitalisations for chronic obstructive pulmonary disease (COPD), 45 years and over, Southern 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 | 41 | 1,337.7 | (1,119.7, | 1,598.2) | 406 | 403.3 | (378.0, | 430.3) | **3.32** | **(2.74,** | **4.01)** | 934.4 |
| Male | 26 | 746.1 | (596.1, | 933.8) | 463 | 440.6 | (415.6, | 467.1) | **1.69** | **(1.34,** | **2.14)** | 305.5 |
| Total | 67 | 1,041.9 | (906.1, | 1,198.1) | 869 | 421.9 | (404.0, | 440.7) | **2.47** | **(2.13,** | **2.86)** | 620.0 |

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

There were 67 hospitalisations per year on average for Māori with COPD, at a rate 2.5 times that of non-Māori, or 620 more admissions per 100,000. Māori women had a higher rate of admission than Māori men.

Table 51: Early deaths from respiratory disease, Southern 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 | 13.8 | (7.4, | 25.7) | 26 | 6.5 | (5.4, | 7.8) | **2.12** | **(1.11,** | **4.06)** | 7.3 |
| Male | 1 | 7.3 | (3.2, | 16.3) | 29 | 9.4 | (7.5, | 11.7) | 0.77 | (0.33, | 1.78) | -2.1 |
| Total | 3 | 10.5 | (6.4, | 17.3) | 56 | 8.0 | (6.8, | 9.2) | 1.33 | (0.79, | 2.22) | 2.6 |

Source: Mortality data, Ministry of Health  
Notes: “Early deaths” defined as those occurring under 75 years of age.  
Ratios in **bold** show that Māori rates were significantly different from non-Māori rates in the DHB.

On average, three Māori per year died early from respiratory disease. The mortality rate for Māori females under 75 years was twice that of non-Māori females.

## Mental disorders

Table : Hospitalisations for mental disorders, all ages, Southern 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 | 83 | 558.5 | (492.4, | 633.4) | 935 | 539.6 | (516.9, | 563.2) | 1.03 | (0.91, | 1.18) | 18.9 |
| Schizophrenia | 15 | 99.4 | (74.0, | 133.5) | 120 | 62.2 | (55.4, | 70.0) | **1.60** | **(1.16,** | **2.19)** | 37.2 |
| Mood (affective) | 28 | 181.0 | (145.5, | 225.1) | 278 | 150.0 | (138.6, | 162.3) | 1.21 | (0.96, | 1.52) | 31.0 |
| —Bipolar | 16 | 100.6 | (75.5, | 133.9) | 73 | 37.5 | (32.3, | 43.5) | **2.68** | **(1.94,** | **3.71)** | 63.1 |
| —Depressive   episode | 7 | 46.6 | (29.9, | 72.5) | 107 | 64.0 | (56.5, | 72.6) | 0.73 | (0.46, | 1.15) | -17.5 |
| Substance use | 16 | 112.6 | (84.5, | 150.0) | 134 | 99.2 | (89.4, | 110.0) | 1.14 | (0.84, | 1.54) | 13.4 |
| —Alcohol | 11 | 72.0 | (50.7, | 102.3) | 111 | 80.9 | (72.1, | 90.6) | 0.89 | (0.62, | 1.29) | -8.9 |
| Anxiety,  stress-related | 15 | 98.0 | (72.7, | 132.3) | 144 | 84.3 | (75.6, | 94.1) | 1.16 | (0.85, | 1.60) | 13.7 |
| **Male** | | | | | | | | | | | | |
| All disorders | 111 | 819.3 | (733.8, | 914.8) | 837 | 496.2 | (474.3, | 519.0) | **1.65** | **(1.47,** | **1.86)** | 323.1 |
| Schizophrenia | 47 | 376.8 | (318.5, | 445.7) | 217 | 138.7 | (127.6, | 150.8) | **2.72** | **(2.25,** | **3.28)** | 238.0 |
| Mood (affective) | 19 | 133.9 | (102.8, | 174.5) | 181 | 94.5 | (85.8, | 104.2) | **1.42** | **(1.07,** | **1.88)** | 39.4 |
| —Bipolar | 8 | 60.9 | (40.7, | 91.0) | 64 | 31.4 | (26.7, | 36.9) | **1.94** | **(1.26,** | **2.99)** | 29.5 |
| —Depressive episode | 9 | 61.0 | (41.7, | 89.3) | 66 | 37.8 | (32.2, | 44.5) | **1.61** | **(1.07,** | **2.44)** | 23.2 |
| Substance use | 25 | 169.6 | (134.5, | 213.8) | 174 | 123.8 | (112.8, | 135.8) | **1.37** | **(1.07,** | **1.76)** | 45.8 |
| —Alcohol | 16 | 105.7 | (78.8, | 141.7) | 141 | 98.4 | (88.7, | 109.2) | 1.07 | (0.79, | 1.47) | 7.3 |
| Anxiety,  stress-related | 10 | 69.8 | (48.3, | 100.8) | 115 | 70.7 | (62.7, | 79.8) | 0.99 | (0.67, | 1.45) | -1.0 |
| **Total** | | | | | | | | | | | | |
| All disorders | 194 | 688.9 | (634.0, | 748.6) | 1772 | 517.9 | (502.0, | 534.2) | **1.33** | **(1.22,** | **1.45)** | 171.0 |
| Schizophrenia | 62 | 238.1 | (205.7, | 275.7) | 336 | 100.5 | (93.9, | 107.6) | **2.37** | **(2.02,** | **2.79)** | 137.6 |
| Mood (affective) | 47 | 157.5 | (133.1, | 186.3) | 459 | 122.3 | (115.0, | 130.0) | **1.29** | **(1.08,** | **1.54)** | 35.2 |
| —Bipolar | 24 | 80.7 | (63.9, | 102.0) | 137 | 34.4 | (30.9, | 38.4) | **2.34** | **(1.81,** | **3.04)** | 46.3 |
| —Depressive episode | 16 | 53.8 | (40.3, | 71.8) | 173 | 50.9 | (46.1, | 56.2) | 1.06 | (0.78, | 1.43) | 2.9 |
| Substance use | 41 | 141.1 | (117.8, | 169.0) | 308 | 111.5 | (104.0, | 119.5) | **1.27** | **(1.04,** | **1.54)** | 29.6 |
| —Alcohol | 26 | 88.9 | (70.9, | 111.3) | 252 | 89.6 | (83.0, | 96.8) | 0.99 | (0.78, | 1.26) | -0.8 |
| Anxiety,  stress-related | 25 | 83.9 | (66.5, | 105.9) | 259 | 77.5 | (71.5, | 84.1) | 1.08 | (0.85, | 1.38) | 6.4 |

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

Rates of hospitalisation for mental disorders were 33% higher for Māori than for non-Māori.

The most common cause of Māori admission was schizophrenia related disorders, with 62 admissions per year on average, at 2.4 times the rate of non-Māori.

Admissions for mood disorders and substance use were the next most common causes of Māori admission with 47 and 41 admissions per year respectively.

Māori admissions rates for mood and substance use disorders were around a quarter higher for Māori than for non-Māori.

## Gout

Table 53: Gout prevalence and treatment, 20-79 years, Southern DHB, 2011

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| Indicator | **Māori** | | **Non-Māori** | | Māori/non-Māori ratio | Difference in percentage |
| Count | % | Count | % |
| Gout prevalence | 689 | 4.8 | 6,100 | 3.2 | 1.51 | 1.6 |
| People with gout who received allopurinol regularly | 293 | 42.5 | 2,787 | 45.7 | 0.93 | -3.2 |
| Colchicine use by people with gout not dispensed allopurinol | 59 | 8.6 | 498 | 8.2 | 1.05 | 0.4 |
| NSAID use by people with gout | 320 | 46.4 | 2,385 | 39.1 | 1.19 | 7.3 |
| Serum urate test within six months following allopurinol dispensing | 119 | 27.9 | 957 | 26.8 | 1.04 | 1.1 |

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

Around 690 Māori were estimated to have gout in 2011, giving a prevalence of 5%, higher than the prevalence among non-Māori (3%). Forty-three percent of Māori with gout regularly received allopurinol, a preventive therapy to lower urate levels. Of those who received allopurinol (for gout or other reasons), 28% had a lab test for serum urate levels within the following six months. Just under half of Māori with gout used non-steroidal anti-inflammatory medication.

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

|  |  |  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| **Gender** | **Māori** | | | | **Non-Māori** | | | | Māori/non-Māori  ratio (95% CI) | | | Rate difference |
| Ave. no. per year | Age-standardised  rate per 100,000 (95% CI) | | | Ave. no. per year | Age-standardised  rate per 100,000 (95% CI) | | |
| Female | 3 | 33.8 | (16.7, | 68.6) | 13 | 3.4 | (2.1, | 5.5) | **10.04** | **(4.23,** | **23.80)** | 30.4 |
| Male | 7 | 80.6 | (51.7, | 125.7) | 54 | 29.5 | (24.1, | 36.0) | **2.73** | **(1.68,** | **4.45)** | 51.1 |
| Total | 10 | 57.2 | (39.2, | 83.3) | 67 | 16.4 | (13.6, | 19.8) | **3.48** | **(2.29,** | **5.30)** | 40.8 |

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

There were 10 hospital admissions for gout per year on average among Māori. The rate of admission for Māori was 3.5 times as high as for non-Māori, or 41 more admissions per 100,000.

## Hip fractures

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

|  |  |  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| **Gender** | **Māori** | | | | **Non-Māori** | | | | Māori/non-Māori  ratio (95% CI) | | | Rate difference |
| Ave. no. per year | Age-standardised  rate per 100,000 (95% CI) | | | Ave. no. per year | Age-standardised  rate per 100,000 (95% CI) | | |
| Female | 2 | 306.0 | (143.9, | 650.7) | 188 | 398.8 | (360.5, | 441.2) | 0.77 | (0.36, | 1.64) | -92.8 |
| Male | 1 | 134.1 | (43.0, | 418.7) | 76 | 235.0 | (203.5, | 271.4) | 0.57 | (0.18, | 1.80) | -100.9 |
| Total | 3 | 220.1 | (117.3, | 412.7) | 265 | 316.9 | (291.7, | 344.3) | 0.69 | (0.37, | 1.31) | -96.8 |

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

On average, three Māori per year aged 65 and over were admitted to hospital for hip fractures, at a rate of 220 per 100,000.

## Elective surgery

Table 56: Hospitalisations for hip replacements, 50 years and over, Southern 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 | 278.7 | (175.2, | 443.4) | 192 | 290.1 | (264.9, | 317.7) | 0.96 | (0.60, | 1.54) | -11.4 |
| Male | 8 | 317.9 | (210.8, | 479.6) | 147 | 248.9 | (224.9, | 275.4) | 1.28 | (0.84, | 1.95) | 69.1 |
| Total | 14 | 298.3 | (219.2, | 406.0) | 339 | 269.5 | (251.9, | 288.4) | 1.11 | (0.81, | 1.52) | 28.8 |

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

On average, 14 Māori per year were admitted to hospital for a hip replacement, at a rate similar to that of non-Māori.

Table 57: Publicly funded hospitalisations for cataract surgery, 45 years and over, Southern DHB, 2011–2013

|  |  |  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| **Gender** | **Māori** | | | | **Non-Māori** | | | | Māori/non-Māori  ratio (95% CI) | | | Rate difference |
| Ave. no. per year | Age-standardised  rate per 100,000 (95% CI) | | | Ave. no. per year | Age-standardised  rate per 100,000 (95% CI) | | |
| Female | 12 | 383.6 | (276.5, | 532.2) | 453 | 344.8 | (323.2, | 367.8) | 1.11 | (0.80, | 1.55) | 38.8 |
| Male | 14 | 373.6 | (275.4, | 506.9) | 315 | 292.8 | (272.3, | 314.8) | 1.28 | (0.93, | 1.75) | 80.9 |
| Total | 26 | 378.6 | (302.6, | 473.7) | 768 | 318.8 | (303.8, | 334.6) | 1.19 | (0.94, | 1.49) | 59.8 |

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

Twenty-six Māori per year aged 45 years and over were admitted to hospital for cataract surgery, at a rate similar to that of non-Māori.

# Mauri ora: All ages

T

his 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 Otago and Southland Regions.

## Hospitalisations

Table 58: All-cause hospitalisations, all ages, Southern DHB, 2011–2013

|  |  |  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| **Gender** | **Māori** | | | | **Non-Māori** | | | | Māori/non-Māori  ratio (95% CI) | | | Rate difference |
| Ave. no. per year | Age-standardised  rate per 100,000 (95% CI) | | | Ave. no. per year | Age-standardised  rate per 100,000 (95% CI) | | |
| Female | 2,827 | 19,131.4 | (18,721.9, | 19,549.8) | 33,813 | 19,852.1 | (19,690.3, | 20,015.2) | **0.96** | **(0.94,** | **0.99)** | -720.7 |
| Male | 2,314 | 15,143.5 | (14,782.8, | 15,513.1) | 28,604 | 16,350.6 | (16,201.6, | 16,501.1) | **0.93** | **(0.90,** | **0.95)** | -1,207.1 |
| Total | 5,141 | 17,137.5 | (16,863.7, | 17,415.7) | 62,417 | 18,101.4 | (17,991.2, | 18,212.2) | **0.95** | **(0.93,** | **0.96)** | -963.9 |

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

On average, there were 5,141 Māori hospital admissions per year and 62,417 non-Māori admissions. All-cause admission rates were 5% lower for Māori than for non-Māori, or 964 fewer admissions per 100,000.

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, Southern 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 | 666 | 4,576.8 | (4,377.7, | 4,784.9) | 5,453 | 3,835.1 | (3,762.4, | 3,909.1) | **1.19** | **(1.14,** | **1.25)** | 741.7 |
| Male | 654 | 4,381.9 | (4,188.4, | 4,584.2) | 5,916 | 4,226.8 | (4,150.1, | 4,305.0) | 1.04 | (0.99, | 1.09) | 155.0 |
| Total | 1,320 | 4,479.3 | (4,339.6, | 4,623.5) | 11,369 | 4,030.9 | (3,978.0, | 4,084.6) | **1.11** | **(1.07,** | **1.15)** | 448.4 |

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

More than 1,300 Māori hospital admissions per year were potentially avoidable through population based prevention strategies. The rate of avoidable admissions was 11% higher for Māori than for non-Māori, or 448 more admissions per 100,000.

Table 60: Ambulatory care sensitive hospitalisations, 0–74 years, Southern 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 | 336 | 2,350.0 | (2,207.6, | 2,501.5) | 2,607 | 1,945.4 | (1,891.4, | 2,000.9) | **1.21** | **(1.13,** | **1.29)** | 404.6 |
| Male | 381 | 2,544.2 | (2,398.3, | 2,699.1) | 3,028 | 2,218.9 | (2,161.9, | 2,277.3) | **1.15** | **(1.07,** | **1.22)** | 325.4 |
| Total | 718 | 2,441.8 | (2,339.2, | 2,549.0) | 5,635 | 2,077.6 | (2,038.3, | 2,117.7) | **1.18** | **(1.12,** | **1.23)** | 364.2 |

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

On average, there were 718 ambulatory care sensitive hospitalisations per year among Māori, at a rate that was 18% higher than the non-Māori rate, or 364 more admissions per 100,000.

## Mortality

Table : Life expectancy at birth, Otago and Southland Regions, 2012–2014

|  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- |
| **Region and Gender** | **Māori** | | | **Non-Māori** | | | Difference in years |
| Years (95% credible interval) | | | Years (95% credible interval) | | |
| **Otago Region** | | | | | | | |
| Female | 82.3 | (80.5, | 84.3) | 83.3 | (83.0, | 83.6) | -1.0 |
| Male | 78.4 | (76.4, | 80.4) | 79.6 | (79.3, | 79.9) | -1.2 |
| **Southland** **Region** | | | | | | | |
| Female | 78.7 | (77.2, | 80.2) | 82.8 | (82.4, | 83.2) | -4.1 |
| Male | 74.6 | (73.2, | 76.3) | 79.0 | (78.6, | 79.4) | -4.4 |

Source: Statistics New Zealand Subnational Period Life Tables: 2012–14.  
Notes: This data is for the two regions in Southern DHB: Otago and Southland. A map of Regional Council boundaries can be found [here](http://www.lgnz.co.nz/home/nzs-local-government/new-zealands-councils/). 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](http://www.stats.govt.nz/browse_for_stats/health/life_expectancy/SubnationalPeriodLifeTables_HOTP12-14/Commentary.aspx).

Life expectancy at birth is a summary measure of age-specific mortality rates during a specific period, and takes no account of any changes in mortality rates after that period.

During the period 2012 to 2014, life expectancy at birth for Māori females in the Otago Region was 82.3 years, only one year lower than that of non-Māori females.

Māori male life expectancy in Otago was 78.4 years, 1.2 years lower than the life expectancy of non-Māori males, but nearly four years lower than that of Māori females.

In the Southland Region, Māori female life expectancy was 78.7 years, lower than that of Māori females in the Otago Region and 4.1 years lower than the life expectancy of non-Māori females in Southland.

Māori males in Southland had a life expectancy of 74.6 years, also lower than that of Otago Māori males, and 4.4 years lower than the life expectancy of non-Māori males in Southland.

Table 62: All-cause deaths, all ages, Southern 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 | 32 | 215.3 | (192.7, | 240.7) | 1,152 | 159.5 | (154.4, | 164.7) | **1.35** | **(1.20,** | **1.52)** | 55.8 |
| Male | 49 | 325.3 | (297.2, | 356.0) | 1,081 | 238.7 | (232.3, | 245.3) | **1.36** | **(1.24,** | **1.50)** | 86.6 |
| Total | 81 | 270.3 | (252.0, | 289.9) | 2,233 | 199.1 | (195.0, | 203.3) | **1.36** | **(1.26,** | **1.46)** | 71.2 |

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

There were 81 Māori deaths per year on average during 2008 to 2012. The Māori all-cause mortality rate was 36% higher than the non-Māori rate, or 71 more deaths per 100,000.

Table 63: Leading causes of death for Māori, all ages, Southern DHB, 2007–2011

|  |  |  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| **Gender and cause** | **Māori** | | | | **Non-Māori** | | | | Māori/non-Māori ratio (95% CI) | | | Rate difference |
| Ave. no. per year | Age-standardised  rate per 100,000 (95% CI) | | | Ave. no. per year | Age-standardised  rate per 100,000 (95% CI) | | |
| **Female** | | | | | | | | | | | | |
| Lung cancer | 6 | 39.4 | (27.5, | 56.5) | 44 | 8.2 | (7.0, | 9.6) | **4.80** | **(3.23,** | **7.12)** | 31.2 |
| IHD | 6 | 31.5 | (21.6, | 46.0) | 217 | 16.2 | (14.9, | 17.5) | **1.95** | **(1.33,** | **2.87)** | 15.4 |
| COPD | 3 | 16.1 | (9.3, | 27.9) | 66 | 7.8 | (6.9, | 9.0) | **2.06** | **(1.17,** | **3.62)** | 8.3 |
| Stroke | 2 | 11.4 | (6.1, | 21.4) | 134 | 10.5 | (9.3, | 11.9) | 1.09 | (0.57, | 2.07) | 0.9 |
| Suicide | 2 | 11.8 | (5.8, | 23.7) | 8 | 5.1 | (3.7, | 7.2) | **2.29** | **(1.06,** | **4.97)** | 6.6 |
| Diabetes | 2 | 9.3 | (4.6, | 18.9) | 21 | 2.7 | (2.0, | 3.5) | **3.49** | **(1.63,** | **7.49)** | 6.6 |
| **Male** | | | | | | | | | | | | |
| IHD | 8 | 50.9 | (37.4, | 69.2) | 222 | 36.1 | (33.6, | 38.8) | **1.41** | **(1.03,** | **1.94)** | 14.9 |
| Accidents | 6 | 44.0 | (30.7, | 63.1) | 56 | 26.7 | (23.0, | 31.0) | **1.65** | **(1.12,** | **2.44)** | 17.3 |
| Suicide | 3 | 21.1 | (12.3, | 36.1) | 29 | 18.5 | (15.5, | 22.1) | 1.14 | (0.65, | 2.00) | 2.6 |
| Lung cancer | 3 | 19.1 | (11.9, | 30.8) | 65 | 12.7 | (11.2, | 14.3) | 1.51 | (0.92, | 2.47) | 6.4 |
| COPD | 3 | 17.4 | (10.4, | 29.1) | 69 | 9.9 | (8.8, | 11.2) | **1.75** | **(1.03,** | **2.97)** | 7.5 |
| **Total** | | | | | | | | | | | | |
| IHD | 14 | 41.2 | (32.5, | 52.3) | 439 | 26.1 | (24.7, | 27.6) | **1.58** | **(1.24,** | **2.02)** | 15.1 |
| Lung cancer | 9 | 29.2 | (21.9, | 39.0) | 109 | 10.4 | (9.5, | 11.5) | **2.80** | **(2.07,** | **3.80)** | 18.8 |
| Accidents | 7 | 23.3 | (16.4, | 33.0) | 92 | 18.3 | (16.1, | 20.8) | 1.27 | (0.88, | 1.84) | 5.0 |
| COPD | 6 | 16.7 | (11.5, | 24.4) | 135 | 8.9 | (8.1, | 9.7) | **1.89** | **(1.28,** | **2.78)** | 7.9 |
| Stroke | 5 | 13.8 | (9.1, | 20.9) | 212 | 10.8 | (9.9, | 11.9) | 1.27 | (0.83, | 1.95) | 2.9 |

Source: Mortality dataset, Ministry of Health.   
Notes: IHD is ischaemic heart disease, COPD is chronic obstructive pulmonary disease.  
Ratios in **bold** show that Māori rates were significantly different from non-Māori rates in the DHB.

The leading causes of death for Māori females during 2007–2011 were lung cancer, ischaemic heart disease (IHD), stroke, suicide, and diabetes. Significant disparities in mortality rates were evident for each of these causes of death, apart from stroke. Lung cancer mortality was notably 4.8 times as high for Māori as for non-Māori women.

For Māori males, the leading causes of death were IHD, accidents, suicide, lung cancer, and COPD. Mortality rates for IHD, accidents, and COPD were higher for Māori than for non-Māori males.

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, Southern 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 | 20 | 139.1 | (114.2, | 169.3) | 214 | 73.1 | (67.8, | 78.8) | **1.90** | **(1.54,** | **2.35)** | 66.0 |
| Male | 28 | 180.8 | (152.9, | 213.9) | 321 | 124.8 | (117.4, | 132.7) | **1.45** | **(1.21,** | **1.73)** | 56.0 |
| Total | 48 | 160.0 | (140.8, | 181.8) | 535 | 99.0 | (94.4, | 103.8) | **1.62** | **(1.41,** | **1.85)** | 61.0 |

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 48 potentially avoidable Māori deaths per year on average, at a rate 62% higher than the non-Māori rate, or 61 more deaths per 100,000.

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

|  |  |  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| **Gender** | **Māori** | | | | **Non-Māori** | | | | Māori/non-Māori  ratio (95% CI) | | | Rate difference |
| Ave. no. per year | Age-standardised  rate per 100,000 (95% CI) | | | Ave. no. per year | Age-standardised  rate per 100,000 (95% CI) | | |
| Female | 12 | 83.5 | (64.8, | 107.7) | 142 | 50.1 | (45.7, | 55.0) | **1.67** | **(1.27,** | **2.18)** | 33.4 |
| Male | 21 | 131.3 | (107.9, | 159.7) | 226 | 89.5 | (83.2, | 96.3) | **1.47** | **(1.19,** | **1.81)** | 41.8 |
| Total | 33 | 107.4 | (92.0, | 125.4) | 367 | 69.8 | (65.9, | 73.9) | **1.54** | **(1.30,** | **1.81)** | 37.6 |

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

The rate of deaths amenable to health care was 54% higher for Māori than for non-Māori, or 38 more deaths per 100,000. On average, 33 Māori per year died from conditions amenable to health care.

## Injuries

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

Table : Hospitalisations for injuries, all ages, Southern 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 | 256 | 1,722.9 | (1,603.2, | 1,851.5) | 3,196 | 1,645.6 | (1,600.8, | 1,691.7) | 1.05 | (0.97, | 1.13) | 77.2 |
| Male | 379 | 2,602.1 | (2,451.6, | 2,761.8) | 3,877 | 2,530.9 | (2,475.3, | 2,587.7) | 1.03 | (0.96, | 1.10) | 71.2 |
| Total | 635 | 2,162.5 | (2,065.4, | 2,264.1) | 7,073 | 2,088.3 | (2,052.5, | 2,124.7) | 1.04 | (0.99, | 1.09) | 74.2 |

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

On average there were 635 hospitalisations for injury among Māori, at a rate similar to non-Māori.

Table 67: Hospitalisations for assault and homicide, all ages, Southern 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 | 19 | 129.2 | (99.1, | 168.5) | 44 | 36.4 | (30.3, | 43.7) | **3.55** | **(2.57,** | **4.90)** | 92.8 |
| Male | 41 | 296.8 | (247.9, | 355.3) | 171 | 138.4 | (126.5, | 151.4) | **2.14** | **(1.75,** | **2.62)** | 158.4 |
| Total | 60 | 213.0 | (183.5, | 247.3) | 215 | 87.4 | (80.6, | 94.7) | **2.44** | **(2.06,** | **2.89)** | 125.6 |

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

Sixty Māori per year were admitted to hospital for injury caused by assault, at a rate 2.4 times the non-Māori rate, or 126 more admissions per 100,000. Males had higher admission rates than females.

Table 68: Deaths from injury, all ages, Southern 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 | 17.0 | (9.6, | 30.1) | 46 | 16.0 | (13.3, | 19.3) | 1.06 | (0.58, | 1.94) | 1.0 |
| Male | 9 | 66.3 | (49.4, | 89.2) | 88 | 46.7 | (41.7, | 52.2) | **1.42** | **(1.04,** | **1.95)** | 19.7 |
| Total | 12 | 41.7 | (32.0, | 54.2) | 133 | 31.3 | (28.4, | 34.5) | **1.33** | **(1.01,** | **1.76)** | 10.3 |

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

On average 12 Māori per year died from injuries, at a rate a third higher than non-Māori, or 10 more deaths per 100,000.

# 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 : Māori population projections, single year by age group, Southern DHB, 2013 to 2020

|  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| **Projected Māori 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 | 380 | 340 | 720 | 370 | 350 | 730 | 370 | 350 | 720 | 370 | 350 | 720 |
| 1-4 | 1,510 | 1,340 | 2,840 | 1,500 | 1,330 | 2,830 | 1,480 | 1,360 | 2,840 | 1,490 | 1,380 | 2,870 |
| 5-9 | 1,710 | 1,540 | 3,250 | 1,800 | 1,600 | 3,400 | 1,840 | 1,640 | 3,490 | 1,880 | 1,670 | 3,550 |
| 10–14 | 1,590 | 1,420 | 3,010 | 1,560 | 1,430 | 2,990 | 1,610 | 1,470 | 3,080 | 1,620 | 1,470 | 3,090 |
| 15-19 | 1,580 | 1,570 | 3,150 | 1,620 | 1,580 | 3,200 | 1,620 | 1,560 | 3,190 | 1,670 | 1,600 | 3,270 |
| 20-24 | 1,420 | 1,430 | 2,850 | 1,490 | 1,470 | 2,950 | 1,540 | 1,490 | 3,020 | 1,510 | 1,460 | 2,980 |
| 25-29 | 880 | 980 | 1,860 | 940 | 1,030 | 1,970 | 990 | 1,040 | 2,040 | 1,100 | 1,110 | 2,210 |
| 30-34 | 770 | 920 | 1,700 | 790 | 920 | 1,710 | 810 | 970 | 1,780 | 810 | 950 | 1,760 |
| 35-39 | 790 | 850 | 1,640 | 760 | 850 | 1,600 | 750 | 840 | 1,590 | 760 | 880 | 1,630 |
| 40-44 | 810 | 920 | 1,730 | 810 | 910 | 1,720 | 810 | 900 | 1,710 | 790 | 890 | 1,690 |
| 45-49 | 770 | 870 | 1,640 | 780 | 880 | 1,660 | 790 | 900 | 1,690 | 790 | 890 | 1,680 |
| 50-54 | 660 | 740 | 1,400 | 680 | 780 | 1,470 | 700 | 810 | 1,510 | 750 | 810 | 1,560 |
| 55-59 | 550 | 530 | 1,090 | 590 | 580 | 1,170 | 620 | 590 | 1,200 | 600 | 650 | 1,240 |
| 60-64 | 440 | 380 | 820 | 450 | 390 | 830 | 450 | 440 | 890 | 490 | 460 | 940 |
| 65-69 | 330 | 270 | 590 | 340 | 290 | 630 | 360 | 310 | 670 | 380 | 340 | 720 |
| 70–74 | 240 | 180 | 420 | 250 | 200 | 450 | 240 | 200 | 450 | 240 | 210 | 440 |
| 75-79 | 140 | 120 | 260 | 150 | 110 | 260 | 180 | 130 | 310 | 200 | 140 | 340 |
| 80-84 | 70 | 70 | 130 | 70 | 80 | 150 | 80 | 80 | 160 | 80 | 90 | 170 |
| 85-89 | 20 | 30 | 50 | 20 | 40 | 60 | 30 | 40 | 70 | 40 | 50 | 90 |
| 90+ | 10 | 10 | 20 | 10 | 10 | 20 | 10 | 10 | 30 | 10 | 20 | 30 |
| **All Ages** | **14,700** | **14,500** | **29,200** | **15,000** | **14,800** | **29,800** | **15,300** | **15,100** | **30,400** | **15,600** | **15,400** | **31,000** |
|  |  | **2017** |  |  | **2018** |  |  | **2019** |  |  | **2020** |  |
| 0 | 370 | 350 | 720 | 370 | 350 | 730 | 380 | 360 | 730 | 380 | 360 | 740 |
| 1-4 | 1,500 | 1,410 | 2,910 | 1,490 | 1,410 | 2,900 | 1,490 | 1,410 | 2,900 | 1,500 | 1,420 | 2,920 |
| 5-9 | 1,870 | 1,660 | 3,530 | 1,880 | 1,680 | 3,560 | 1,860 | 1,680 | 3,540 | 1,840 | 1,710 | 3,540 |
| 10–14 | 1,640 | 1,530 | 3,170 | 1,700 | 1,540 | 3,240 | 1,780 | 1,590 | 3,380 | 1,820 | 1,630 | 3,450 |
| 15-19 | 1,700 | 1,560 | 3,260 | 1,710 | 1,540 | 3,250 | 1,670 | 1,550 | 3,220 | 1,720 | 1,580 | 3,300 |
| 20-24 | 1,560 | 1,510 | 3,070 | 1,540 | 1,530 | 3,060 | 1,570 | 1,530 | 3,090 | 1,570 | 1,510 | 3,070 |
| 25-29 | 1,130 | 1,160 | 2,290 | 1,210 | 1,190 | 2,400 | 1,280 | 1,220 | 2,500 | 1,330 | 1,240 | 2,570 |
| 30-34 | 830 | 950 | 1,780 | 830 | 950 | 1,780 | 880 | 990 | 1,870 | 940 | 1,000 | 1,940 |
| 35-39 | 740 | 870 | 1,610 | 740 | 900 | 1,650 | 760 | 900 | 1,650 | 780 | 940 | 1,720 |
| 40-44 | 780 | 860 | 1,650 | 780 | 830 | 1,610 | 740 | 820 | 1,560 | 730 | 820 | 1,550 |
| 45-49 | 790 | 900 | 1,690 | 790 | 900 | 1,690 | 780 | 890 | 1,680 | 780 | 870 | 1,660 |
| 50-54 | 740 | 840 | 1,580 | 740 | 850 | 1,590 | 750 | 850 | 1,600 | 760 | 870 | 1,630 |
| 55-59 | 610 | 680 | 1,290 | 630 | 710 | 1,340 | 650 | 750 | 1,400 | 660 | 780 | 1,440 |
| 60-64 | 520 | 470 | 990 | 520 | 510 | 1,040 | 560 | 560 | 1,120 | 580 | 560 | 1,140 |
| 65-69 | 390 | 360 | 750 | 410 | 360 | 770 | 420 | 360 | 780 | 420 | 410 | 840 |
| 70–74 | 250 | 220 | 470 | 290 | 240 | 540 | 310 | 270 | 570 | 320 | 280 | 600 |
| 75-79 | 220 | 150 | 370 | 200 | 170 | 370 | 210 | 180 | 390 | 210 | 180 | 390 |
| 80-84 | 90 | 100 | 190 | 110 | 100 | 210 | 110 | 90 | 210 | 140 | 110 | 250 |
| 85-89 | 40 | 50 | 90 | 50 | 50 | 100 | 60 | 60 | 120 | 60 | 70 | 120 |
| 90+ | 20 | 20 | 40 | 20 | 20 | 40 | 20 | 30 | 50 | 30 | 30 | 60 |
| **All Ages** | **15,800** | **15,600** | **31,400** | **16,000** | **15,800** | **31,900** | **16,300** | **16,100** | **32,400** | **16,600** | **16,400** | **32,900** |
| These projections were derived in October 2014. | | | | | | | | | | | | | |
| **Source: Statistics New Zealand DHB Population Projections** | | | | | | | | | | | | | |

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

|  |  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| **Projected Māori 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 | 1,850 | 1,790 | 3,640 | 1,820 | 1,730 | 3,540 | 1,820 | 1,730 | 3,550 | 1,820 | 1,730 | 3,550 | |
| 1-4 | 8,080 | 7,390 | 15,470 | 7,930 | 7,390 | 15,320 | 7,710 | 7,250 | 14,950 | 7,540 | 7,170 | 14,710 | |
| 5-9 | 9,530 | 9,000 | 18,530 | 9,830 | 9,110 | 18,940 | 10,020 | 9,270 | 19,290 | 10,220 | 9,370 | 19,580 | |
| 10–14 | 9,570 | 9,030 | 18,600 | 9,470 | 8,980 | 18,450 | 9,430 | 8,940 | 18,370 | 9,260 | 8,820 | 18,080 | |
| 15-19 | 11,340 | 11,590 | 22,930 | 11,380 | 11,600 | 22,980 | 11,390 | 11,570 | 22,960 | 11,400 | 11,580 | 22,970 | |
| 20-24 | 12,140 | 12,250 | 24,390 | 12,650 | 12,470 | 25,120 | 13,090 | 12,690 | 25,780 | 13,360 | 12,650 | 26,010 | |
| 25-29 | 8,840 | 8,920 | 17,760 | 9,080 | 9,270 | 18,360 | 9,310 | 9,370 | 18,680 | 9,590 | 9,610 | 19,210 | |
| 30-34 | 8,470 | 9,190 | 17,660 | 8,640 | 9,140 | 17,780 | 8,800 | 9,400 | 18,190 | 8,950 | 9,440 | 18,390 | |
| 35-39 | 8,860 | 9,530 | 18,390 | 8,630 | 9,390 | 18,020 | 8,500 | 9,220 | 17,720 | 8,520 | 9,250 | 17,770 | |
| 40-44 | 10,040 | 10,820 | 20,860 | 9,870 | 10,670 | 20,540 | 9,780 | 10,500 | 20,280 | 9,400 | 10,160 | 19,560 | |
| 45-49 | 10,020 | 10,770 | 20,790 | 9,930 | 10,660 | 20,590 | 9,670 | 10,700 | 20,370 | 9,790 | 10,800 | 20,590 | |
| 50-54 | 10,850 | 11,390 | 22,240 | 10,880 | 11,550 | 22,430 | 10,810 | 11,420 | 22,230 | 10,490 | 11,110 | 21,600 | |
| 55-59 | 10,000 | 9,960 | 19,960 | 10,180 | 10,280 | 20,460 | 10,320 | 10,590 | 20,910 | 10,410 | 10,870 | 21,280 | |
| 60-64 | 8,830 | 8,710 | 17,540 | 8,950 | 8,810 | 17,760 | 9,200 | 8,980 | 18,180 | 9,410 | 9,280 | 18,690 | |
| 65-69 | 7,590 | 7,640 | 15,230 | 7,970 | 8,060 | 16,030 | 8,280 | 8,330 | 16,610 | 8,540 | 8,560 | 17,100 | |
| 70–74 | 5,630 | 5,900 | 11,530 | 5,860 | 5,990 | 11,850 | 6,000 | 6,170 | 12,170 | 6,040 | 6,240 | 12,270 | |
| 75-79 | 3,950 | 4,500 | 8,450 | 4,030 | 4,640 | 8,670 | 4,210 | 4,830 | 9,040 | 4,580 | 5,090 | 9,670 | |
| 80-84 | 2,880 | 3,670 | 6,550 | 2,890 | 3,670 | 6,570 | 2,930 | 3,620 | 6,550 | 2,890 | 3,650 | 6,530 | |
| 85-89 | 1,510 | 2,470 | 3,980 | 1,540 | 2,480 | 4,020 | 1,560 | 2,510 | 4,080 | 1,670 | 2,510 | 4,180 | |
| 90+ | 570 | 1,360 | 1,930 | 650 | 1,420 | 2,070 | 710 | 1,480 | 2,190 | 730 | 1,570 | 2,300 | |
| **All Ages** | **150,600** | **155,900** | **306,400** | **152,200** | **157,300** | **309,500** | **153,500** | **158,600** | **312,100** | **154,600** | **159,500** | **314,000** | |
|  |  | **2017** |  |  | **2018** |  |  | **2019** |  |  | **2020** |  | |
| 0 | 1,820 | 1,730 | 3,550 | 1,820 | 1,730 | 3,560 | 1,830 | 1,730 | 3,560 | 1,830 | 1,740 | 3,570 | |
| 1-4 | 7,420 | 7,100 | 14,520 | 7,380 | 7,030 | 14,410 | 7,380 | 7,030 | 14,400 | 7,380 | 7,030 | 14,410 | |
| 5-9 | 10,150 | 9,360 | 19,510 | 10,040 | 9,280 | 19,330 | 9,800 | 9,180 | 18,980 | 9,540 | 9,000 | 18,540 | |
| 10–14 | 9,340 | 8,850 | 18,190 | 9,490 | 8,950 | 18,440 | 9,750 | 9,020 | 18,760 | 9,910 | 9,150 | 19,060 | |
| 15-19 | 11,350 | 11,520 | 22,870 | 11,170 | 11,380 | 22,540 | 11,010 | 11,280 | 22,290 | 10,940 | 11,200 | 22,140 | |
| 20-24 | 13,500 | 12,660 | 26,160 | 13,420 | 12,620 | 26,040 | 13,360 | 12,550 | 25,920 | 13,300 | 12,460 | 25,760 | |
| 25-29 | 9,860 | 9,790 | 19,640 | 10,290 | 9,980 | 20,270 | 10,650 | 10,050 | 20,700 | 10,970 | 10,140 | 21,110 | |
| 30-34 | 9,050 | 9,390 | 18,440 | 9,240 | 9,480 | 18,720 | 9,360 | 9,740 | 19,100 | 9,510 | 9,760 | 19,270 | |
| 35-39 | 8,460 | 9,340 | 17,800 | 8,420 | 9,310 | 17,720 | 8,530 | 9,200 | 17,730 | 8,650 | 9,400 | 18,050 | |
| 40-44 | 9,100 | 9,710 | 18,810 | 8,820 | 9,540 | 18,370 | 8,530 | 9,350 | 17,880 | 8,360 | 9,140 | 17,500 | |
| 45-49 | 9,820 | 10,800 | 20,620 | 9,890 | 10,690 | 20,580 | 9,680 | 10,500 | 20,170 | 9,560 | 10,290 | 19,850 | |
| 50-54 | 10,130 | 10,880 | 21,010 | 9,780 | 10,600 | 20,380 | 9,650 | 10,440 | 20,090 | 9,360 | 10,460 | 19,820 | |
| 55-59 | 10,530 | 11,140 | 21,670 | 10,570 | 11,250 | 21,820 | 10,570 | 11,380 | 21,940 | 10,480 | 11,230 | 21,710 | |
| 60-64 | 9,550 | 9,430 | 18,980 | 9,740 | 9,770 | 19,510 | 9,880 | 10,060 | 19,940 | 10,000 | 10,350 | 20,350 | |
| 65-69 | 8,530 | 8,570 | 17,110 | 8,480 | 8,500 | 16,980 | 8,570 | 8,570 | 17,140 | 8,800 | 8,720 | 17,520 | |
| 70–74 | 6,440 | 6,650 | 13,090 | 7,000 | 7,230 | 14,230 | 7,370 | 7,630 | 15,000 | 7,660 | 7,890 | 15,550 | |
| 75-79 | 4,810 | 5,330 | 10,130 | 4,830 | 5,360 | 10,190 | 5,020 | 5,430 | 10,450 | 5,130 | 5,580 | 10,710 | |
| 80-84 | 2,920 | 3,640 | 6,560 | 3,020 | 3,760 | 6,780 | 3,070 | 3,870 | 6,940 | 3,230 | 4,050 | 7,280 | |
| 85-89 | 1,740 | 2,560 | 4,290 | 1,760 | 2,540 | 4,300 | 1,780 | 2,560 | 4,340 | 1,830 | 2,520 | 4,350 | |
| 90+ | 740 | 1,600 | 2,350 | 770 | 1,620 | 2,390 | 830 | 1,650 | 2,470 | 840 | 1,700 | 2,540 | |
| **All Ages** | **155,300** | **160,000** | **315,300** | **155,900** | **160,600** | **316,600** | **156,600** | **161,200** | **317,800** | **157,300** | **161,800** | **319,100** | |
| These projections were derived in October 2014. | | | | | | | | | | | | |
| **Source: Statistics New Zealand DHB Population Projections** | | | | | | | | | | | | |

# Appendix 2: Technical notes

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

## Data sources

Table 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 Quality Indicators | 2014 |
|  | National Minimum Data Set (NMDS), hospital discharges | 2011–2013 |
| Plunket | Breastfeeding rates | 2013 |
| Statistics New Zealand | Census of Population and Dwellings | 2006 |
|  | Census of Population and Dwellings | 2013 |
|  | NZ Population projections for the Ministry of Health (2013 Census base) | 2014 |
|  | Te Kupenga 2013, the Māori Social Survey | 2013 |
|  | Subnational Period Life Tables | 2012–2014 |

Note: \*no causes for 2012

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## Data from the Census of Population and Dwellings

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

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

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

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

Standard Census definitions and forms can be found [here.](http://www.stats.govt.nz/Census/2013-census/info-about-2013-census-data/2013-census-definitions-forms/definitions.aspx)

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](http://www.stats.govt.nz/survey-participants/a-z-of-our-surveys/te-kupenga-data-dictionary.aspx).

## Deaths, hospitalisations and cancer registrations

### Ethnicity

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

### Residence

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

### Hospital transfers

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

### Suppression of causes of death or hospitalisation

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

### Ninety-five percent confidence intervals

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

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

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

### Age standardisation

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

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

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

Table 72: 2001 Census total Māori population

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

### ICD-10 codes

The International Classification of Diseases (ICD-10) codes used for the calculation of avoidable and ambulatory sensitive hospitalisations and avoidable and amenable mortality are presented in Tables 45 to 49 below. For the Excel tables of deaths by cause, hospitalisations by cause, mental disorders, hospitalisations for injuries by external cause, and cancer registrations, the codes are listed in Appendix 2 of [Hauora: Māori Standards of Health IV.](http://www.otago.ac.nz/wellington/otago067739.pdf) For other tables, the ICD codes are listed in the accompanying Excel tables.

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

|  |  |
| --- | --- |
| **Condition** | **ICD-10-AM code** |
| Acute bronchiolitis | J21 |
| Acute rheumatic fever | I00,I02 |
| Acute upper respiratory tract infection excluding croup | J00,J03, J06 |
| Asthma | J45, J46 |
| Bacterial meningitis\* | G00, G01 |
| Bacterial/Unspecified pneumonia | J13,J16, J18 |
| Bronchiectasis | J47 |
| Constipation | K59.0 |
| Chronic rheumatic heart disease | I05,I09 |
| Croup, acute laryngitis, tracheitis | J04, J05.0 |
| Dental (dental caries, pulp, periodontal) | K02, K04, K05 |
| Dermatitis/eczema | L20,L30 |
| Febrile convulsions | R560 |
| Gastroenteritis | A00,A09, K529, R11, |
| Gastro oesophageal reflux | K21 |
| Meningococcal disease | A39 |
| Nutritional deficiency | D50,D53, E40,E64, |
| Otitis media | H65,H67 |
| Osteomyelitis | M86 |
| Skin infection | H00.0, H01.0, J34.0, L00,L05, L08, L98.0 |
| Tuberculosis | A15,A19 |
| Urinary tract infection ≥ 5 years | N10, N12, N13.6, N30.0, N30.9, N39.0, |
| Vaccine preventable diseases: tetanus neonatorum congenital rubella | P350, A33, A34 |
| tetanus, diphtheria, pertussis, polio, hepatitis B | A35, A36, A37, A80, B16, B18.0, B18.1 |
| measles, rubella, mumps | B05, B06, B26, M01.4 |
| Viral pneumonia | J12, J10.0, J11.0 |
| Viral /other / unspecified meningitis | A87, G02, G03 |
| Viral infection of unspecified site | B34 |

Source: Anderson et al (2012)  
Notes:  
Includes all acute admissions and arranged admissions that were admitted within 7 days.   
Waiting list admissions were excluded, apart from dental admissions which were all included.   
Admissions were included for patients aged 29 days through to 14 years, at admission.

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

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

Source: Anderson et al (2012)  
Notes:  
Includes all acute admissions and arranged admissions that were admitted within 7 days.   
Waiting list admissions were excluded, apart from dental admissions which were all included.   
Admissions were included for patients aged 29 days through to 14 years, at admission.

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

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

Source: Ministry of Health   
Notes:  
Acute and arranged (occurring in less than 7 days of decision) admissions, except dental where elective admission are also included.  
Excluding discharges from an emergency department with one day of stay or shorter.  
\* Aged 15 months to 14 years.  
† Each admission counts as a half.  
‡ Aged six months to 14 years.  
§ Aged 15 years and over.  
|| Aged more than 15 years.  
¶ Aged 5 years and over.

Table 76: Avoidable mortality ICD-10 codes

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

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.



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. [↑](#footnote-ref-1)
2. Population projections are provided in Appendix 1. [↑](#footnote-ref-2)