



South Canterbury
District Health Board

Māori Health Profile 2015



Te Rei Puta

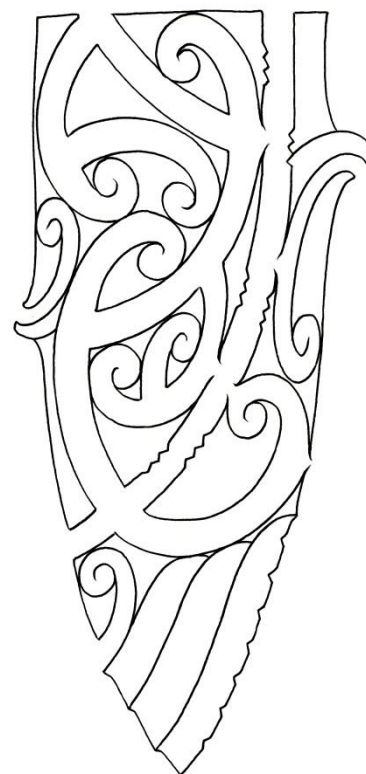
The cover design represents the journey of data from its production to its use by the health sector. The overall shape of the design is the prized rei puta. This signifies the importance of information and the acknowledgement that knowledge is a taonga.

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

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

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

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



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

ISBN 978-0-9941247-1-5 (electronic)

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

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



TE RŌPŪ RANGAHAU HAUORA A ERU PŌMARE



He Mihi

Tūi Tuia i Te Herenga Tangata

Te tangi a Te Rōpū Rangahau Hauora a Eru Pōmare.

Tui Tui Tui Tuia

E ngā maunga whakahii, ngā pū kōrero huri noa

Tēnā koutou, tēnā koutou, tēnā tātou katoa.

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

Haere atu rā, okioki ai.

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

Anei te mihi ki ngā kaimahi hauora

Whakapiki te kaha

Whakapiki te ora

Whakapiki te māramatanga

Kia eke tātou katoa ki Te Pae Ora.

Acknowledgements

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

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

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

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

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

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

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

Ngā mihi nui ki a koutou katoa.

Nā,

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



Tiro whānui

– South Canterbury at a glance

South Canterbury population

- In 2013, 4,400 Māori lived in the South Canterbury District Health Board region, 8% of the District's total population (57,600).
- The South Canterbury Māori population is youthful, but showing signs of ageing. The median age in 2013 was 22.5 years. Fifteen percent of South Canterbury children aged 0–14 years were Māori, as were 12% of the District's youth aged 15–24 years. The Māori population aged 65 years and over will increase by 56% between 2013 and 2020.

Whānau ora – Healthy families

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

Wai ora – Healthy environments

Education

- In 2013, 96% of children starting school had participated in early childhood education.
- In 2013, 46% of South Canterbury Māori adults aged 18 years and over had at least a Level 2 Certificate, an increase since 2006 (39%). In 2013 the proportion of Māori with Level 2 was four-fifths that of non-Māori.

Work

- In 2013, 8% of South Canterbury Māori adults aged 15 years and over were unemployed, twice the non-Māori unemployment rate.
- Most South Canterbury 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 of the home, without pay.

Income and standard of living

- In 2013, 25% of South Canterbury children 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 17% of children in other households.
- Among adults 18 years and over, 26% of those in a Māori household were in a low-income household, compared to 16% living in other households.
- In 2013, 9% of Māori adults in South Canterbury, Canterbury, Nelson Marlborough and West Coast DHBs combined reported putting up with feeling the cold to keep costs down in the previous 12 months, 5% had gone without fresh fruit and vegetables, and 9% had postponed or put off visits to the doctor.
- In 2013, 9% of Māori households had no motor vehicle, compared to 7% of other households.
- Residents in Māori households were less likely to have access to most forms of telecommunications (other than telephone/landline) than those living in other households in South Canterbury: 25% had no internet, 10% no mobile phone, 21% no telephone, and 2.5% had no access to any telecommunications at all.

Housing

- In South Canterbury, Canterbury, Nelson Marlborough, and West Coast DHBs combined, the most common housing problems reported to be a big problem by Māori adults in 2013 were finding it hard to keep warm (15%), needing repairs (14%), and damp (9%).
- In 2013, children in Māori households in South Canterbury were 75% more likely to live in rented accommodation than children in other households (46% compared to 26%).
- South Canterbury residents in Māori households were 2.5 times as likely as others to be in crowded homes (i.e. requiring at least one additional bedroom) (10% compared to 4%).

Area deprivation

- Using the NZDep2013 index of small area deprivation, 41% of South Canterbury Māori lived in NZDep deciles 7 to 10, the four most deprived decile areas, compared to 31% of non-Māori. Only 10% lived in the two least deprived deciles (deciles 1 and 2) compared to 19% of non-Māori.

Mauri ora – Healthy individuals

Pepi, tamariki – Infants and children

- On average 108 Māori infants were born in South Canterbury per year during 2009 to 2013, 17% of all live births in the DHB. Nine percent of Māori and 5% of non-Māori babies had low birth weight.
- In 2013, 75% of Māori babies in South Canterbury were fully breastfed at 6 weeks.
- In 2014, 99% of Māori children were fully immunised at 8 months of age, and 96% at 24 months.
- In 2013, 55% of South Canterbury Māori children aged 5 years and 37% of non-Māori children had caries. At Year 8 of school, 52% of Māori children and 44% of non-Māori children had caries. Among Māori children under 15 years there was an average of 11 hospital admissions per year for diseases of the teeth and gums during 2009 to 2013.
- During 2009–2013, on average there were 12 hospital admissions per year for grommet insertions among Māori children under 15 years, and one admission per year for skin infections.
- On average 43 hospitalisations per year of Māori children were potentially avoidable through population-based health promotion and intersectoral actions.
- Twenty-nine hospitalisations per year of Māori children were potentially avoidable through preventive or treatment intervention in primary care (ambulatory care sensitive hospitalisations, or ASH).

Rangatahi – Young adults

- There has been a significant decrease in the proportion of South Canterbury Māori aged 15–24 years who smoke regularly, but Māori youth smoking rates remain substantially higher than those of non-Māori.
- By September 2014, 40% of Māori girls aged 17 years and 64% of those aged 14 years had completed all three doses of the human papilloma virus (HPV) immunisation.

- During 2009 to 2013, there was an average of two hospital admissions per year for injury from self-harm among Māori youth aged 15–24 years, and one per year among Māori aged 25–44 years.

Pakeke – Adults

- Over half of Māori adults (56%) in South Canterbury, Canterbury, Nelson Marlborough, and West Coast DHBs combined reported having excellent or very good health in 2013, and over a quarter (28%) reported good health. One in six (17%) reported having fair or poor health.
- Smoking rates among South Canterbury adults are decreasing, but remain higher for Māori (35% in 2013) than for non-Māori (19%).

Circulatory system diseases

- On average, 28 South Canterbury Māori adults aged 25 years and over were admitted to hospital per year for circulatory system diseases (including heart disease and stroke) during 2009–2013, at a similar rate to non-Māori.
- Ten Māori adults per year on average were admitted for ischaemic heart disease (IHD), of whom five had acute coronary syndrome (heart attack or unstable angina). Six per year had angiography procedures, three had an angioplasty, and one per year had a coronary artery bypass and graft. There were no significant differences in rates between Māori and non-Māori.
- Among South Canterbury Māori, there were five hospital admissions per year for heart failure, at a rate 2.8 times that of non-Māori.
- Five Māori per year were admitted for stroke, with the rate for Māori females 2.5 times the rate for non-Māori females. Māori women were also more likely than non-Māori to be admitted for hypertensive disease.
- Māori under 75 years were 69% more likely than non-Māori to die from circulatory system diseases during 2002 to 2011.

Diabetes

- In 2013, 4% of South Canterbury Māori were estimated to have diabetes. Among those aged 25 years and over, 52% were regularly receiving metformin or insulin, 71% were having regular blood sugar monitoring, and 38% were being screened regularly for renal disease.
- Māori men with diabetes were 3.8 times as likely as non-Māori men to have a lower limb amputated (one per year on average during 2009–2013).

Cancer

- Cancer incidence overall was not significantly different for Māori and non-Māori during 2003 to 2012.
- Lung, breast, cancers of the genital organs, and cancers of the digestive organs were the most commonly registered among South Canterbury Māori women. The rate of lung cancer was 5.9 times as high for Māori as for non-Māori women.
- Breast screening coverage of women aged 45–69 years during the 24 months to the end of 2014 was 72% for Māori women and 80% for non-Māori women.
- Cervical screening coverage of Māori women aged 25–69 years was 47% over 3 years to the end of 2014 and 56% over five years (compared to 78% and 89% of non-Māori women respectively).
- Lung and breast cancer were the most common causes of death from cancer among Māori women (with mortality rates for both cancers over 3 times as high for Māori as for non-Māori) during 2002 to 2011.
- Among South Canterbury males, cancers of the genital organs, respiratory organs, digestive organs, and urinary tract were the most commonly registered for Māori. The cancer mortality rate was similar to that of non-Māori.

Respiratory disease

- Māori aged 45 years and over were 2.3 times as likely as non-Māori to be admitted to hospital for chronic obstructive pulmonary disease (COPD) during 2009 to 2013, with an average of 10 Māori admissions per year.
- Asthma hospitalisation rates were similar for Māori and non-Māori.
- Māori women under 75 years were 3.2 times as likely as non-Māori women to die from respiratory disease during 2002–2011.

Mental disorders

- Māori were 38% more likely than non-Māori to be admitted to hospital for a mental disorder during 2009–2013. Schizophrenia-related disorders and substance use disorders were the most common causes of admission.

Gout

- In 2011 the prevalence of gout among South Canterbury Māori was estimated to be 4%.
- Thirty-nine percent of Māori with gout regularly received allopurinol, a preventive therapy to lower urate levels. Of those who received allopurinol, just under half had a lab test for serum urate levels in the following six months.
- In 2009–2013 the rate of hospitalisations for gout was 5.8 times as high for Māori as for non-Māori, indicating a higher rate of flare-ups.

All ages

Hospitalisations

- The all-cause rate of hospital admissions was 14% lower for Māori than for non-Māori during 2009–2013.
- There was an average of 155 potentially avoidable hospital admissions per year among South Canterbury Māori, and 87 ambulatory care sensitive admissions per year.

Mortality

- During 2012–2014, life expectancy at birth for Māori in the Canterbury Region was 80.9 years for females (2.6 years lower than for non-Māori females) and 77.2 years for males (2.8 years lower than for non-Māori males).
- The all-cause mortality rate for South Canterbury Māori females during 2003–2012 was around 50% higher than the non-Māori rate, while the rate for males was similar for Māori and non-Māori.
- Leading causes of death for Māori females were lung cancer, stroke, breast cancer, and COPD. Leading causes of death for Māori males were IHD, suicide, and accidents.
- Potentially avoidable mortality and mortality from conditions amenable to health care were both around 40% higher for Māori than for non-Māori in South Canterbury.

Injuries

- There were 62 hospital admissions for injury per year on average among South Canterbury Māori during 2009 to 2013, at a similar rate to non-Māori.
- The most common causes of injury resulting in hospitalisation were falls, exposure to mechanical forces, transport accidents, and assault.
- Māori were 71% more likely than non-Māori to be admitted to hospital for assault.
- On average, one Māori per year died from injuries during the decade 2002 to 2011, at a similar rate to non-Māori.

Contents

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

Self-assessed health	19
Smoking status	19
Heart disease and stroke.....	20
Diabetes	22
Cancer	22
Breast and cervical cancer screening	23
Respiratory disease	24
Mental disorders	25
Gout	26
Hip fractures.....	26
Elective surgery	26
Mauri ora: All ages.....	28
Hospitalisations	28
Potentially avoidable hospitalisations	28
Mortality	28
Potentially avoidable mortality	30
Injuries	30
References.....	32
Appendix 1: Population projections.....	33
Appendix 2: Technical notes	35
Data sources.....	35
Data from the Census of Population and Dwellings	35
Data from Te Kupenga 2013	35
Deaths, hospitalisations and cancer registrations	36
Ethnicity	36
Residence.....	36
Hospital transfers.....	36
Suppression of causes of death or hospitalisation	36
Ninety-five percent confidence intervals	36
Age standardisation	37
ICD-10 codes	37

List of Tables and Figures

Table 1: Population by age group, South Canterbury DHB, 2013	3
Table 2: Population projections, South Canterbury DHB, 2013 to 2033	3
Table 3: Whānau well-being reported by Māori aged 15 years and over, South Canterbury, Canterbury, West Coast, Nelson Marlborough DHBs combined, 2013	4
Table 4: Whānau composition reported by Māori aged 15 years and over, South Canterbury, Canterbury, West Coast, Nelson Marlborough DHBs combined, 2013	4
Table 5: Access to whānau support, Māori aged 15 years and over, South Canterbury, Canterbury, West Coast, Nelson Marlborough DHBs combined, 2013	5
Table 6: Importance of Māori culture and spirituality, Māori aged 15 years and over, South Canterbury, Canterbury, West Coast, Nelson Marlborough DHBs combined, 2013	5
Table 7: People who can have a conversation about a lot of everyday things in te reo Māori, South Canterbury DHB, 2013	5
Table 8: Use of te reo Māori in the home, Māori aged 15 years and over, South Canterbury, Canterbury, West Coast, Nelson Marlborough DHBs, 2013	6
Table 9: Access to marae, Māori aged 15 years and over, South Canterbury, Canterbury, West Coast, Nelson Marlborough DHBs combined, 2013	6
Table 10: Māori aged 15 years and over who took part in traditional healing or massage in last 12 months, South Canterbury, Canterbury, West Coast, Nelson Marlborough DHBs combined, 2013	6
Table 11: Adults aged 18 years and over with a Level 2 Certificate or higher, South Canterbury DHB, 2006 and 2013	7
Table 12: Labour force status, 15 years and over, South Canterbury DHB, 2006 and 2013	7
Table 13: Leading industries in which Māori were employed, South Canterbury DHB, 2013.....	8
Table 14: Leading occupations of employed Māori, South Canterbury DHB, 2013.....	8
Table 15: Unpaid work, 15 years and over, South Canterbury DHB, 2013.....	9
Table 16: Unmet need reported by Māori aged 15 years and over to keep costs down in the last 12 months, South Canterbury, Canterbury, West Coast, Nelson Marlborough DHBs combined, 2013	9
Table 17: Children aged 0–17 years living in families where the only income is means-tested benefits, South Canterbury DHB, 2006 and 2013.....	9
Table 18: Children and adults living in households with low incomes, South Canterbury DHB, 2013	10
Table 19: Households with no access to a motor vehicle, South Canterbury DHB, 2006 and 2013.....	10
Table 20: People in households with no access to telephone, mobile/cell phone, internet, or any telecommunications, South Canterbury DHB, 2013.....	10
Table 21: Housing problems reported by Māori aged 15 years and over, South Canterbury, Canterbury, West Coast, Nelson Marlborough DHBs combined, 2013	11
Table 22: Children and adults living in households where rent payment are made, South Canterbury DHB, 2013	11
Table 23: People living in crowded households (requiring at least one more bedroom), South Canterbury DHB, 2013	11
Table 24: People living in households where no heating fuels are used, South Canterbury DHB, 2013	12

Table 25: Birth-weight and gestation, South Canterbury DHB, 2009–2013.....	13
Table 26: Selected Well Child/Tamariki Ora indicators for Māori children, South Canterbury DHB	13
Table 27: Children fully immunised by the milestone age, South Canterbury DHB, 1 Jan 2014 to 31 Dec 2014	14
Table 28: Oral health status of children aged 5 or in Year 8 at school, South Canterbury DHB, 2013	14
Table 29: Hospitalisations for tooth and gum disease, children aged 0–14 years, South Canterbury DHB, 2009–2013	14
Table 30: Hospitalisations for grommet insertions, children aged 0–14 years, South Canterbury DHB, 2009–2013 ...	15
Table 31: Hospitalisations for skin infections, children aged 0–14 years, South Canterbury DHB, 2009–2013	15
Table 32: Potentially avoidable hospitalisations for children aged 1 month to 14 years, South Canterbury DHB, 2009–2013	16
Table 33: Ambulatory care sensitive hospitalisations for children aged 1 month to 14 years, South Canterbury DHB, 2009–2013	16
Table 34: Human papilloma virus immunisations (HPV) by birth cohorts, South Canterbury DHB, 1 September 2008 to 30 September 2014	18
Table 35: Hospitalisations for injury from intentional self-harm, 15–24 and 25–44 years, South Canterbury DHB, 2009–2013	18
Table 36: Health status reported by Māori aged 15 years and over, South Canterbury, Canterbury, Nelson Marlborough, and West Coast DHBs, 2013	19
Table 37: Cigarette smoking status, 15 years and over, South Canterbury DHB, 2006 and 2013	19
Table 38: Hospitalisations for circulatory system diseases, 25 years and over, South Canterbury DHB, 2009–2013...20	
Table 39: Ischaemic heart disease indicators, 25 years and over, South Canterbury DHB, 2009–2013	20
Table 40: Hospitalisations for heart failure, stroke, and hypertensive disease, 25 years and over, South Canterbury DHB, 2009–2013.....	21
Table 41: Hospitalisations for chronic rheumatic heart disease and heart valve replacements, 25 years and over, South Canterbury DHB, 2009–2013	21
Table 42: Early deaths from circulatory system disease, South Canterbury DHB, 2002–2011.....	21
Table 43: Diabetes prevalence, medication use, blood glucose monitoring, screening for renal disease, South Canterbury DHB, 2013	22
Table 44: Hospitalisations for lower limb amputations for people with concurrent diabetes, 15 years and over, South Canterbury DHB, 2009–2013	22
Table 45: Most common cancer registrations for Māori by site, all ages, South Canterbury DHB, 2003–2012.....	22
Table 46: Most common cancer deaths for Māori by site, all ages, South Canterbury DHB, 2002–2011	23
Table 47: BreastScreen Aotearoa breast screening coverage, women aged 45–69 years, South Canterbury DHB, 24 months to 31 December 2014.....	23
Table 48: Cervical screening coverage, women aged 25–69 years, South Canterbury DHB, 3 years and 5 years to 31 December 2014	23
Table 49: Hospitalisations for asthma, by age group, South Canterbury DHB, 2009–2013	24
Table 50: Hospitalisations for chronic obstructive pulmonary disease (COPD), 45 years and over, South Canterbury DHB, 2009–2013.....	24

Table 51: Early deaths from respiratory disease, South Canterbury DHB, 2002–2011	24
Table 52: Hospitalisations for mental disorders, all ages, South Canterbury DHB, 2009–2013	25
Table 53: Gout prevalence and treatment, 20–79 years, South Canterbury DHB, 2011	26
Table 54: Hospitalisations for gout, 25 years and over, South Canterbury DHB, 2009–2013.....	26
Table 55: Hospitalisations for hip replacements, 50 years and over, South Canterbury DHB, 2009–2013	26
Table 56: Publicly funded hospitalisations for cataract surgery, 45 years and over, South Canterbury DHB, 2009–2013	27
Table 57: All-cause hospitalisations, all ages, South Canterbury DHB, 2009–2013	28
Table 58: Potentially avoidable hospitalisations, 0–74 years, South Canterbury DHB, 2009–2013	28
Table 59: Ambulatory care sensitive hospitalisations, 0–74 years, South Canterbury DHB, 2009–2013.....	28
Table 60: Life expectancy at birth, Canterbury Region, 2012–2014.....	29
Table 61: All-cause deaths, all ages, South Canterbury DHB, 2003–2012.....	29
Table 62: Leading causes of death for Māori, all ages, South Canterbury DHB, 2002–2011	29
Table 63: Potentially avoidable mortality, 0–74 years, South Canterbury DHB, 2002–2011	30
Table 64: Amenable mortality, 0–74 years, South Canterbury DHB, 2002–2011.....	30
Table 65: Hospitalisations for injury, all ages, South Canterbury DHB, 2009–2013	31
Table 66: Hospitalisations for assault, all ages, South Canterbury DHB, 2009–2013	31
Table 67: Deaths from injury, all ages, South Canterbury DHB, 2002–2011.....	31
Table 68: Māori population projections, single year by age group, South Canterbury DHB, 2013 to 2020	33
Table 69: Total population projections, single year, by age group, South Canterbury DHB, 2013 to 2020	34
Table 70: Data sources	35
Table 71: 2001 Census total Māori population	37
Table 72: Potentially avoidable hospitalisation ICD-10 codes for children aged 1 month to 14 years.....	37
Table 73: Ambulatory care sensitive hospitalisation ICD-10 codes for children aged 1 month to 14 years	38
Table 74: Ambulatory care sensitive hospitalisation ICD-10 codes for people aged 1 month to 74 years	39
Table 75: Avoidable mortality ICD-10 codes	39
Table 76: Amenable mortality ICD-10 codes.....	41
Figure 1: Distribution by NZDep 2013 decile, South Canterbury DHB, 2013	12
Figure 2: Regular smokers, ages 15–17, 18–19, 20–24 years, South Canterbury DHB, 2013	17



Introduction

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

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

This document presents data for residents of the **Murihiku Rohe Hauora Poari , South Canterbury 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 South Canterbury DHB. Accompanying Excel tables also include data for the total South Canterbury DHB population and the total New Zealand population for reo speakers, socioeconomic indicators, mortality, cancer registrations, and hospital discharges. Due to the relatively small numbers of Māori in South Canterbury DHB, most mortality rates are presented for the ten-year period 2002 to 2011, and hospitalisation rates are presented for the five-year period 2009 to 2013.

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

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

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

Ninety-five percent confidence intervals (95% CI) were calculated for crude and age-standardised hospitalisation and mortality rates and ratios using the log-transformation method (Clayton and Hills 1993). Confidence intervals

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.

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](#)).

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



Te Tatauranga o te Iwi

– Key demographics

In 2013, approximately 1% (4,400) of the country's total Māori population lived in the South Canterbury District Health Board. The total population of the DHB (57,600) made up 1% of the national population. In 2015, the Māori population is estimated to be 4,610 and the total population 58,800.²

Table 1: Population by age group, South Canterbury DHB, 2013

Age group (years)	Māori			Non-Māori		Total DHB Number
	Number	Age distribution	% of DHB	Number	Age distribution	
0–14	1,600	36%	15	8,990	17%	10,590
15–24	760	17%	12	5,750	11%	6,510
25–44	1,010	23%	8	11,280	21%	12,290
45–64	780	18%	5	15,840	30%	16,620
65+	250	6%	2	11,310	21%	11,560
Total	4,400	100%	8	53,200	100%	57,600

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

Māori residents comprised 8% of the South Canterbury DHB population in 2013. The Māori population is relatively young, with a median age in 2013 of 22.5 years, compared with 44.2 years for the total DHB population. Māori comprised 15% of the DHB's children aged 0–14 years and 12% of those aged 15–24 years.

Table 2: Population projections, South Canterbury DHB, 2013 to 2033

Year	Māori							Total DHB			NZ	
	Residents	% of DHB	% of NZ Māori	% 0–14 years	% 15–64 years	% 65+ years	Median age	Residents	Median age	% of NZ pop	NZ Māori	Total NZ
2013	4,400	8	1	37	58	6	22.5	57,600	44.2	1	692,300	4,442,100
2018	4,850	8	1	35	58	7	23.1	59,800	45.1	1	734,500	4,726,200
2023	5,320	9	1	34	57	8	24.0	60,900	45.7	1	773,500	4,935,200
2028	5,810	9	1	33	57	10	25.0	61,700	45.9	1	811,700	5,139,700
2033	6,360	10	1	33	56	11	25.0	62,300	46.4	1	850,700	5,327,700

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

Note: Detailed population projections are provided in Appendix 1.

The proportion of Māori aged 65 years and over in 2013 was 6% in 2013 but is projected to increase to 11% in 2033. Between 2013 and 2020 the number of Māori aged 65 and over will increase by 56% from 250 to 390 (see Appendix 1). In 2013 there were 90 Māori aged 75 years and over in South Canterbury, with 24 living alone (see accompanying Excel tables).

² Population projections are provided in Appendix 1.



Whānau ora

– Healthy families

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

Whānau well-being

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

How the whānau is doing	South Canterbury and other South Island DHBs			New Zealand	
	Estimated number	%	(95% CI)	%	(95% CI)
Well / Extremely well	45,000	84.3	(80.6, 88.0)	83.4	(82.5, 84.4)
Neither well nor badly	5,500*	10.7*	(7.1, 14.3)	10.3	(9.4, 11.2)
Badly / Extremely badly	2,500*	5.0*	(3.2, 6.7)	6.3	(5.6, 7.0)

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

Note: An asterisk (*) shows the sampling error is 30% or more but less than 50%.

The majority (84%) of Māori adults from South Canterbury, Canterbury, Nelson Marlborough, and West Coast DHBs combined reported that their whānau was doing well or extremely well in 2013. However 5% felt their whānau was doing badly or extremely badly.

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

Whānau description	South Canterbury and other South Island DHBs			New Zealand	
	Estimated number	%	(95% CI)	%	(95% CI)
Size of whānau					
10 or less	29,000	54.0	(48.9, 59.1)	53.7	(52.1, 55.3)
11 to 20	13,500	25.2	(20.7, 29.7)	22.6	(21.3, 24.0)
More than 20	11,000	20.8	(16.7, 24.9)	23.6	(22.4, 24.8)
Groups included in whānau					
Parents, partner, children, brothers & sisters	52,000	95.9	(94.0, 97.7)	94.6	(94.0, 95.2)
Aunts & uncles, cousins, nephews & nieces, other in-laws	19,000	35.5	(30.7, 40.3)	41.3	(39.8, 42.8)
Grandparents, grandchildren	23,500	43.4	(38.4, 48.3)	41.9	(40.5, 43.4)
Friends, others	9,500	17.8	(14.3, 21.3)	12.4	(11.5, 13.3)

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

Table 4 shows the size and composition of whānau, with a fifth reporting whānau sizes of more than 20 people. Just under 20% included friends in their description of whānau.

Whānau support

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

How easy is it to get help	South Canterbury and other South Island DHBs			New Zealand	
	Estimated number	%	(95% CI)	%	(95% CI)
Support in times of need					
Easy, very easy	42,000	77.3	(73.4, 81.2)	81.2	(80.1, 82.4)
Sometimes easy, sometimes hard	8,000	14.4	(11.1, 17.7)	12.7	(11.7, 13.6)
Hard / very hard	4,500*	8.3*	(5.6, 11.0)	6.1	(5.4, 6.8)
Help with Māori cultural practices such as going to a tangi, speaking at a hui, or blessing a taonga					
Easy, very easy	32,500	60.5	(55.9, 65.1)	64.1	(62.7, 65.6)
Sometimes easy, sometimes hard	8,500	15.7	(12.1, 19.3)	16.9	(15.9, 18.0)
Hard / very hard	12,000	22.6	(18.6, 26.6)	14.7	(13.5, 15.9)
Don't need help	500**	1.2**	(0.2, 2.1)	4.2	(3.7, 4.7)

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

Notes: * Sampling error is 30% or more but less than 50%. ** Sampling error is 50 percent or more, but less than 100 percent.

In 2013, the majority of Māori adults in these four South Island DHBs (77%) reported having easy access to whānau support in times of need. However, an estimated 4,500 (8%) had difficulty getting help. Sixty-one percent found it easy to get help with Māori cultural practices (61%), with almost a quarter (23%) 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, South Canterbury, Canterbury, West Coast, Nelson Marlborough DHBs combined, 2013

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

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

Being involved in Māori culture was important to a third of Māori adults, and somewhat important to a further quarter (25%). Spirituality was important (very, quite or somewhat) to over half of Māori (59%).

Te Reo Māori

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

Māori			Non-Māori			Māori/non-Māori ratio (95% CI)	Difference in percentage
Number	%	(95% CI)	Number	%	(95% CI)		
441	11.4	(10.4, 12.5)	333	0.8	(0.7, 0.9)	14.19	(12.12, 16.62)

Source: 2013 Censuses, 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, 11% of Māori adults in South Canterbury and nearly 1% of non-Māori adults could have a conversation about a lot of everyday things in te reo Māori.

Table 8: Use of te reo Māori in the home, Māori aged 15 years and over, South Canterbury, Canterbury, West Coast, Nelson Marlborough DHBs, 2013

Language spoken at home	South Canterbury and other South Island DHBs			New Zealand	
	Estimated number	%	(95% CI)	%	(95% CI)
Māori is main language	S	S		2.6	(2.2, 3.0)
Māori is used regularly	6,000*	13.2	(9.3, 17.2)	20.5	(19.2, 21.8)

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

Notes: * Sampling error is 30% or more but less than 50%. S shows the data was suppressed.

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

Access to marae

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

Been to marae	South Canterbury and other South Island DHBs			New Zealand	
	Estimated number	%	(95% CI)	%	(95% CI)
At some time	48,500	89.4	(86.2, 92.6)	96.0	(95.5, 96.6)
In previous 12 months ⁽¹⁾	17,500	35.8	(30.9, 40.7)	58.2	(56.6, 59.7)
Ancestral marae at some time ⁽²⁾	23,000	43.9	(38.2, 49.6)	62.3	(60.9, 63.7)
Ancestral marae in previous 12 months ⁽³⁾	6,500	12.1	(8.7, 15.5)	33.6	(32.3, 34.9)
Like to go to ancestral marae more often ⁽²⁾	16,500	55.7	(48.9, 62.5)	58.7	(56.7, 60.7)

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

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

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

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

In 2013, most Māori in South Canterbury and the three other South Island DHBs (89%) had been to a marae, with just over a third (36%) having been in the last 12 months. Forty-four percent had been to their ancestral marae, 12% within the previous 12 months, but over half (56%) reported that they would like to go more often.

Traditional healing or massage

Table 10: Māori aged 15 years and over who took part in traditional healing or massage in last 12 months, South Canterbury, Canterbury, West Coast, Nelson Marlborough DHBs combined, 2013

South Canterbury and other South Island DHBs			New Zealand	
Estimated number	%	(95% CI)	%	(95% CI)
3,000*	5.4*	(3.1, 7.7)	10.9	(10.0, 11.7)

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

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

An estimated 3,000 Māori adults (5%) in South Canterbury and three other South Island DHBs took part in traditional healing or massage in 2013, a smaller proportion than the national average (11%).



Wai ora

– Healthy environments

This section focuses on those aspects of social and physical environments that influence our health and well-being. Data is presented on individuals, households, and individuals living in households. A household that includes at least one Māori usual resident on Census night is categorised as a Māori household, and other households are categorised as non-Māori.

Education

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

Year	Māori			Non-Māori			Māori/non-Māori ratio (95% CI)	Difference in percentage
	Number	%	(95% CI)	Number	%	(95% CI)		
2006	648	38.6	(36.5, 40.9)	16,437	51.5	(50.9, 52.1)	0.75 (0.71, 0.80)	-12.8
2013	954	46.2	(44.1, 48.4)	18,576	58.0	(57.4, 58.7)	0.80 (0.76, 0.83)	-11.9

Source: 2006 and 2013 Censuses, Statistics New Zealand

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

The proportion of Māori adults aged 18 years and over with at least a Level 2 Certificate increased from 39% to 46% between 2006 and 2013, but remained 80% of the non-Māori proportion.

Work

Table 12: Labour force status, 15 years and over, South Canterbury 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	958	50.3	(48.4, 52.4)	19,026	56.5	(56.0, 57.1)	0.89 (0.86, 0.93)	-6.2
Employed part-time	329	16.0	(14.5, 17.7)	6,381	17.1	(16.7, 17.6)	0.94 (0.85, 1.04)	-1.1
Unemployed	125	6.3	(5.3, 7.5)	822	3.2	(3.0, 3.4)	1.98 (1.64, 2.38)	3.1
Not in the labour force	568	26.9	(25.1, 28.7)	14,184	23.2	(22.8, 23.7)	1.16 (1.08, 1.24)	3.6
2013								
Employed full-time	1,153	50.0	(48.3, 51.9)	19,467	56.2	(55.7, 56.7)	0.89 (0.86, 0.92)	-6.2
Employed part-time	430	17.0	(15.6, 18.5)	6,459	16.9	(16.5, 17.4)	1.01 (0.92, 1.10)	0.1
Unemployed	175	7.6	(6.6, 8.8)	978	3.8	(3.6, 4.1)	2.00 (1.70, 2.34)	3.8
Not in the labour force	669	25.1	(23.5, 26.7)	14,316	23.1	(22.6, 23.6)	1.09 (1.01, 1.16)	2.0

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 no change in the proportion of South Canterbury Māori adults employed full-time. There were non-significant increases in the proportions of Māori employed part-time, and unemployed. Māori were twice as likely as non-Māori to be unemployed in 2013 and 9% more likely not to be in the labour force.

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

ANZSIC Industry	South Canterbury DHB						New Zealand	
	Māori			Non-Māori				
	Number	%	Rank	Number	%	Rank	%	Rank
Females								
Health Care and Social Assistance	105	20.7	1	2,100	18.4	1	17.1	1
Accommodation and Food Services	102	20.1	2	981	8.6	5	7.3	5
Retail Trade	96	18.9	3	1,608	14.1	2	11.6	3
Agriculture, Forestry and Fishing	63	12.4	4	1,236	10.8	4	4.6	8
Education and Training	63	12.4	5	1,284	11.2	3	12.9	2
Males								
Manufacturing	201	39.9	1	2,571	19.3	2	13.4	1
Agriculture, Forestry and Fishing	111	22.0	2	2,823	21.1	1	8.7	4
Construction	78	15.5	3	1,881	14.1	3	13.2	2
Transport, Postal and Warehousing	48	9.5	4	903	6.8	5	5.9	7
Wholesale Trade	39	7.7	5	765	5.7	6	6.2	6

Source: 2013 Census, Statistics New Zealand

Note: ANZSIC is the Australian and New Zealand Standard Industrial Classification.

The leading industries employing Māori females in the West Coast in 2013 were accommodation and food services (27%); health care and social assistance (22%); and retail trade (18%); followed by education and training; and manufacturing.

For Māori men, 29% were employed in manufacturing, 23% in construction, and 21% in mining. Other leading industries included agriculture, forestry and fishing; and retail trade.

Table 14: Leading occupations of employed Māori, South Canterbury DHB, 2013

ANZSCO Occupation	South Canterbury DHB						New Zealand	
	Māori			Non-Māori				
	Number	%	Rank	Number	%	Rank	%	Rank
Females								
Labourers	174	26.4	1	1,596	14.0	5	8.3	6
Professionals	132	20.0	2	2,148	18.8	1	26.7	1
Community and Personal Service Workers	99	15.0	3	1,680	14.7	3	12.9	4
Clerical and Administrative Workers	78	11.8	4	2,061	18.1	2	19.5	2
Sales Workers	78	11.8	5	1,419	12.4	6	11.7	5
Managers	63	9.5	6	1,626	14.3	4	14.4	3
Technicians and Trades Workers	36	5.5	7	663	5.8	7	5.0	7
Males								
Labourers	255	39.5	1	3,015	22.7	2	13.6	4
Technicians and Trades Workers	141	21.9	2	2,541	19.2	3	18.5	3
Managers	105	16.3	3	3,279	24.7	1	22.7	1
Machinery Operators and Drivers	96	14.9	4	1,608	12.1	4	9.1	5
Professionals	21	3.3	5	1,293	9.7	5	18.6	2
Sales Workers	18	2.8	6	684	5.2	6	7.1	6
Community and Personal Service Workers	9	1.4	7	405	3.1	8	5.4	7

Source: 2013 Census, Statistics New Zealand

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

Among employed South Canterbury Māori women, the leading occupational groupings were labourers (26%), professionals (20%), community and personal service workers (15%). The next most common occupations were clerical and administrative workers, sales workers, managers, and technicians and trade workers.

Māori men were most likely to be employed as labourers (40%), technicians and trade workers (22%), managers (16%), and machinery operators and drivers (15%). Professionals, sales workers, and community and personal service workers were the next most common occupations.

Table 15: Unpaid work, 15 years and over, South Canterbury 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	1,994	88.7	(87.5, 90.0)	34,344	89.2	(88.8, 89.6)	0.99	(0.98, 1.01)	-0.5
Looking after disabled/ill household member	237	10.6	(9.3, 12.0)	2,577	6.4	(6.1, 6.7)	1.65	(1.44, 1.88)	4.1
Looking after disabled/ill non-household member	282	11.7	(10.5, 13.1)	3,789	7.7	(7.4, 8.0)	1.52	(1.35, 1.71)	4.0

Source: 2013 Census, Statistics New Zealand

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

Eighty-nine percent of South Canterbury Māori adults worked without pay in 2013. Māori were 65% more likely than non-Māori to look after someone who was disabled or ill without pay within the home, and 52% more likely to look after a non-household member who was disabled or ill without pay.

Income and standard of living

Table 16: Unmet need reported by Māori aged 15 years and over to keep costs down in the last 12 months, South Canterbury, Canterbury, West Coast, Nelson Marlborough DHBs combined, 2013

Actions taken a lot to keep costs down	South Canterbury and other South Island DHBs			New Zealand	
	Estimated number	%	(95% CI)	%	(95% CI)
Put up with feeling the cold	5,000*	9.0*	(6.2, 11.7)	11.0	(10.2, 11.8)
Go without fresh fruit and vegetables	3,000*	5.1*	(3.3, 6.9)	5.4	(4.8, 6.0)
Postpone or put off visits to the doctor	5,000*	9.0*	(6.3, 11.7)	8.8	(7.9, 9.6)

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

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

An estimated 5,000 Māori adults (9%) across the four DHBs reported putting up with feeling cold a lot during the previous 12 months to keep costs down, 3,000 (5%) had gone without fresh fruit and vegetables, and 5,000 (9%) had postponed or put off visits to the doctor in 2013.

Table 17: Children aged 0–17 years living in families where the only income is means-tested benefits, South Canterbury 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	225	13.5	(12.0, 15.3)	528	5.3	(4.9, 5.8)	2.53	(2.19, 2.94)	8.2
2013	240	12.2	(10.8, 13.7)	501	5.4	(4.9, 5.8)	2.28	(1.97, 2.63)	6.8

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.

Twelve percent of children living in Māori families were in families where the only income was means-tested benefits in 2013, 2.3 times the proportion of non-Māori children in South Canterbury.

Table 18: Children and adults living in households with low incomes, South Canterbury 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	438	24.7	(22.8, 26.8)	1,524	16.6	(15.8, 17.3)	1.49 (1.36, 1.64)	8.2
Adults 18 years & over	833	26.2	(24.7, 27.8)	4,665	16.4	(15.9, 17.0)	1.60 (1.49, 1.71)	9.8

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 (25%) and adults (26%) in Māori households were in households with low equivalised household incomes in 2013. Children in Māori households were 49% more likely than children in other households to be in this situation, and adults in Māori households were 60% more likely.

Table 19: Households with no access to a motor vehicle, South Canterbury 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	129	8.1	(6.8, 9.5)	1,491	7.6	(7.2, 7.9)	1.07 (0.90, 1.27)	0.5
2013	168	8.6	(7.4, 9.9)	1,353	6.7	(6.3, 7.0)	1.29 (1.11, 1.50)	1.9
People (% age-standardised)								
2006	282	5.8	(5.1, 6.5)	1,968	2.9	(2.7, 3.1)	2.01 (1.77, 2.30)	2.9
2013	375	6.5	(5.9, 7.2)	1,758	2.7	(2.6, 2.9)	2.36 (2.09, 2.66)	3.7

Source: 2006 and 2013 Census, Statistics New Zealand,

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

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

In 2013, 9% of Māori households had no motor vehicle, over a quarter higher than the proportion of non-Māori households. The proportion of people living in Māori households without a vehicle was 2.4 times that of people living in non-Māori households.

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

Mode of tele-communication	Māori households			Non-Māori households			Māori/non-Māori ratio (95% CI)	Difference in percentage
	Number	%	(95% CI)	Number	%	(95% CI)		
No cell/mobile phone	639	10.1	(9.4, 10.9)	6,378	9.5	(9.2, 9.8)	1.07 (0.98, 1.16)	0.6
No telephone	1,191	21.3	(20.2, 22.4)	4,065	11.9	(11.6, 12.3)	1.78 (1.68, 1.89)	9.3
No internet	1,488	24.8	(23.7, 26.0)	9,606	15.0	(14.6, 15.4)	1.66 (1.57, 1.75)	9.8
No tele-communications	147	2.5	(2.1, 3.0)	399	1.0	(0.9, 1.2)	2.47 (2.02, 3.01)	1.5

Source: 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.

% is age–sex-standardised to the 2001 Māori population.

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

In 2013, 25% of people in South Canterbury Māori households had no access to the internet, 21% had no telephone (landline), 10% did not have a cell phone, and 3% had no access to any telecommunications in the home. The largest absolute gaps between South Canterbury Māori and non-Māori households were in access to the internet (10%) and cell phone (9%).

Housing

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

Housing problem (a big problem)	South Canterbury and other South Island DHBs			New Zealand	
	Estimated number	%	(95% CI)	%	(95% CI)
Too small	2,500*	4.7*	(3.2, 6.3)	5.3	(4.7, 5.9)
Damp	5,000	9.1	(6.5, 11.7)	11.3	(10.5, 12.2)
Hard to keep warm	8,000	14.6	(11.2, 18.0)	16.5	(15.4, 17.7)
Needs repairs	7,500	13.8	(10.2, 17.5)	13.8	(12.7, 14.9)
Pests in the house	2,500*	4.3*	(2.4, 6.3)	5.8	(5.1, 6.5)

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

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

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

Housing security

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

Measure	Māori households			Non-Māori households			Māori/non-Māori ratio (95% CI)	Difference in percentage
	Number	%	(95% CI)	Number	%	(95% CI)		
Households	795	41.3	(39.1, 43.5)	4,101	20.6	(20.1, 21.2)	2.00 (1.89, 2.13)	20.7
Children under 18 years (% age-standardised)	936	46.2	(44.1, 48.4)	2,529	26.4	(25.6, 27.3)	1.75 (1.65, 1.85)	19.8
Adults 18 years and over (% age-standardised)	1,476	41.8	(40.3, 43.4)	6,711	28.5	(27.9, 29.1)	1.47 (1.40, 1.53)	13.3

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, 795 Māori households in South Canterbury were rented, 41% of all Māori households, compared to 21% of non-Māori households.

Among children living in a Māori household, 46% (936) were living in rented homes, three-quarter higher than the proportion of children in non-Māori households (26%).

Forty-two percent of adult residents of Māori households were living in rented accommodation, 47% higher than the proportion of adults in non-Māori households (29%).

Household crowding

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

Measure	Māori households			Non-Māori households			Māori/non-Māori ratio (95% CI)	Difference in percentage
	Number	%	(95% CI)	Number	%	(95% CI)		
Households	105	5.4	(4.4, 6.5)	258	1.3	(1.1, 1.4)	4.22 (3.38, 5.27)	4.1
People (% age standardised)	567	10.2	(9.4, 11.0)	1,224	4.2	(3.9, 4.4)	2.45 (2.22, 2.71)	6.0

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 4.2 times as likely as non-Māori households to be classified as crowded using the Canadian National Occupancy Standard, with 105 homes needing at least one additional bedroom, affecting just over 567 people. People living in Māori households were 2.5 times as likely as residents of non-Māori households to be living in crowded conditions.

Fuel poverty

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

Measure	Māori households			Non-Māori households			Māori/non-Māori ratio (95% CI)	Difference in percentage
	Number	%	(95% CI)	Number	%	(95% CI)		
Households	15	0.8	(0.4, 1.3)	84	0.4	(0.3, 0.5)	1.86 (1.08, 3.21)	0.4
People (% age standardised)	39	0.6	(0.5, 0.9)	132	0.3	(0.3, 0.4)	1.99 (1.36, 2.92)	0.3

Source: 2013 Census, Statistics New Zealand

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

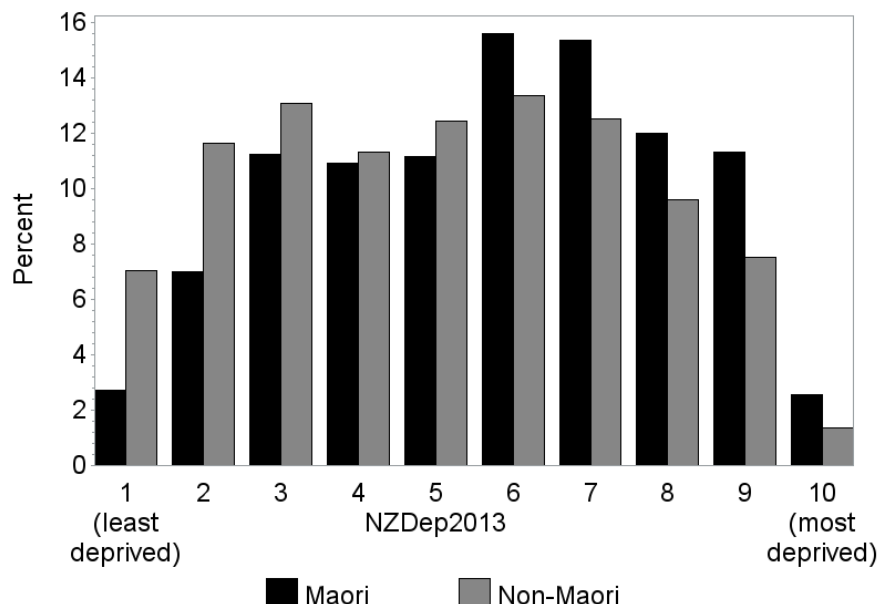
A Māori household is a household with at least one Māori resident. Non-Māori households have no Māori residents.

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

In 2013, close to 1% of South Canterbury Māori households (15 homes) and 0.4% of non-Māori households (84 homes) had no form of heating.

Area deprivation

Figure 1: Distribution by NZDep 2013 decile, South Canterbury DHB, 2013



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

Forty-one percent of South Canterbury Māori lived in the four most NZDep deciles areas (Dep 7 to 10), compared to 31% of non-Māori. Ten percent lived in the two least deprived deciles (Dep 1 and 2) compared to 19% of non-Māori (see accompanying Excel table).



Mauri ora: Pepi, tamariki

– Infants and children

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

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

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

Births

Table 25: Birth-weight and gestation, South Canterbury 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	10	8.9 (6.6, 11.6)	25	4.8 (4.0, 5.7)	1.85 (1.34, 2.54)	4.1
High birth-weight	3	3.0 (1.7, 4.8)	16	3.1 (2.5, 3.9)	0.94 (0.56, 1.60)	-0.2
Preterm	11	10.4 (7.9, 13.2)	32	6.2 (5.3, 7.2)	1.67 (1.25, 2.23)	4.2

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 108 Māori infants born per year on average in South Canterbury, 17% of all live births in the DHB (624 per year). On average, ten Māori babies per year were born with low birth-weight, at a rate of 9%, 85% higher than non-Māori; three per year (3%) were born with high birth-weight. Eleven Māori babies per year were born prematurely, at a rate of 10%, two-thirds higher than the rate among non-Māori infants.

Well child/Tamariki ora indicators

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

Indicator	Period	Māori	
		Count	%
1. Babies enrolled with a Primary Health Organisation (PHO) by three months old	20 Aug to 19 Nov 2013	10	53
11. Babies exclusively or fully breastfed at 2 weeks	January to June 2013	19	79
12. Babies exclusively or fully breastfed at 6 weeks		42	75
19. Mothers smoke-free two weeks postnatal	2012	41	65
5. Children under 5 years enrolled with oral health services (PHO enrolled children)		182	34
7. Children starting school who have participated in ECE	2013	559	96
15. Children with a healthy weight at 4 years, DHB of service	July to Dec 2013	20	67

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

Notes: Since the production of this table, the Ministry of Health (2015) has published more recent Well Child/Tamariki Ora

Indicators for March 2015 which can be viewed [here](#).

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

Indicator 11: Source: National Maternity Collection. Number of babies with breastfeeding recorded (denominator)

Indicator 12: Source: National Maternity Collection. Number of babies with breastfeeding recorded (denominator)

Indicator 19: Source: National Maternity Collection. Number of mother with tobacco use recorded at 2 weeks postnatal (denominator)

Indicator 5: Source Community Oral Health Services (numerator); PHO enrolments (denominator)

Indicator 7: Source: ENROL Ministry of Education

Indicator 15: Source: B4 School Check Information System. Children who have a BMI recorded at their B4 School Check (denominator)

During late 2013, 53% of Māori babies were enrolled with a PHO by three months of age. In the first half of 2013, close to 80% of Māori babies were breastfed at two weeks of age and 75% at six weeks. Two-thirds of Māori mothers were smoke-free two weeks after giving birth.

Among pre-school children enrolled with a PHO, 34% of Māori were enrolled with oral health services in 2012. Almost all (96%) Māori children who started school in 2013 had participated in early childhood education. Two-thirds of Māori children who had their BMI recorded at their B4 School Check had a healthy weight.

Table 27: Children fully immunised by the milestone age, South Canterbury 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	82	80%	470	81%	1.00	0%
8 months	105	99%	516	94%	1.06	5%
12 months	107	98%	500	95%	1.03	3%
18 months	103	90%	483	86%	1.05	4%
24 months	102	96%	525	93%	1.04	3%
5 years	85	89%	575	92%	0.96	-3%

Source: National Immunisation Register

During 2014, 80% of Māori infants aged six months were fully immunised for their age. At eight months 99% of Māori infants were fully immunised, 96% at 24 months and 89% at five years.

Oral health

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

Age group	Māori			Non-Māori			Māori/non-Māori ratio % with caries (95% CI)	Difference in percentage
	Total no.	% with caries (95% CI)	Mean DMFT	Total no.	% with caries (95% CI)	Mean DMFT		
Age 5	56	55 (41, 69)	2.9	610	37 (33, 41)	1.5	1.49 (1.16, 1.93)	18
Year 8	54	52 (38, 66)	1.3	614	44 (40, 48)	1.1	1.17 (0.89, 1.54)	8

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 of Māori (55%) and 37% of non-Māori children aged five years in 2013 had caries, with a mean DMFT of 2.9 and 1.5 respectively. Of those in Year 8, 52% of Māori and 44% of non-Māori children had caries. The mean DMFT was lower than for five year olds at 1.3 for Māori and 1.1 for non-Māori.

Table 29: Hospitalisations for tooth and gum disease, children aged 0–14 years, South Canterbury DHB, 2009–2013

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	6	816.5	(567.2, 1,175.3)	28	676.1	(572.4, 798.7)	1.21 (0.81, 1.80)	140.3
Male	6	724.0	(499.7, 1,049.0)	40	895.2	(779.6, 1,027.8)	0.81 (0.54, 1.20)	-171.2
Total	11	770.2	(593.8, 999.0)	68	785.6	(706.3, 873.9)	0.98 (0.74, 1.30)	-15.4

Source: National Minimum Data Set (NMDS).

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

There were 11 admissions to hospital per year on average for tooth and gum disease among South Canterbury Māori children during 2009 to 2013, at a similar rate to non-Māori children.

Middle ear disease

Table 30: Hospitalisations for grommet insertions, children aged 0–14 years, South Canterbury DHB, 2009–2013

Gender	Māori			Non-Māori			Māori/non-Māori ratio (95% CI)	Rate difference
	Ave. no. per year	Rate per 100,000 (95% CI)		Ave. no. per year	Rate per 100,000 (95% CI)			
Female	4	558.6	(360.2, 866.2)	35	867.3	(747.7, 1006.0)	0.64 (0.41, 1.02)	-308.7
Male	8	975.4	(712.4, 1335.5)	49	1116.7	(985.2, 1265.7)	0.87 (0.62, 1.23)	-141.3
Total	12	767.0	(593.9, 990.6)	84	992.0	(901.4, 1091.8)	0.77 (0.59, 1.02)	-225.0

Source: NMDS

On average, 12 Māori children per year were admitted for insertion of grommets for otitis media.

Healthy skin

Table 31: Hospitalisations for serious skin infections, children aged 0–14 years, South Canterbury DHB, 2009–2013

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	1	107.5	(40.3, 286.3)	5	123.1	(83.6, 181.1)	0.87 (0.30, 2.50)	-15.6
Male	<1	24.2	(3.4, 171.9)	7	144.0	(102.2, 202.8)	0.17 (0.02, 1.23)	-119.8
Total	1	65.8	(27.4, 158.3)	12	133.5	(103.3, 172.6)	0.49 (0.20, 1.23)	-67.7

Source: NMDS

There was only one admission per year on average for serious skin infections among Māori children in South Canterbury DHB.

Acute Rheumatic Fever

There were no hospital admissions for acute rheumatic fever among South Canterbury Māori children during the period 2009 to 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, South Canterbury DHB, 2009–2013

Gender	Māori			Non-Māori			Māori/non-Māori ratio (95% CI)		Rate difference
	Ave. no. per year	Rate per 100,000 (95% CI)		Ave. no. per year	Rate per 100,000 (95% CI)				
Female	17	2,401.6	(1,946.1, 2,963.7)	120	2,959.4	(2,731.1, 3,206.9)	0.81	(0.65, 1.02)	-557.9
Male	26	3,220.0	(2,709.3, 3,827.1)	141	3,200.6	(2,972.8, 3,445.9)	1.01	(0.83, 1.21)	19.4
Total	43	2,810.8	(2,459.2, 3,212.7)	261	3,080.0	(2,916.9, 3,252.3)	0.91	(0.79, 1.05)	-269.2

Source: NMDS

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

There were 43 potentially avoidable hospitalisations per year on average among Māori children during 2009 to 2013.

Table 33: Ambulatory care sensitive hospitalisations for children aged 1 month to 14 years, South Canterbury DHB, 2009–2013

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	13	1770.5	(1385.5, 2262.5)	92	2254.2	(2056.7, 2470.6)	0.79	(0.60, 1.02)	-483.7
Male	16	2034.8	(1636.3, 2530.4)	99	2229.0	(2040.6, 2434.7)	0.91	(0.72, 1.15)	-194.1
Total	29	1902.7	(1616.3, 2239.7)	191	2241.6	(2103.3, 2388.9)	0.85	(0.71, 1.01)	-338.9

Source: NMDS

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

On average there were 29 admissions per year for ambulatory care sensitive conditions among Māori children in South Canterbury.



Mauri ora: Rangatahi

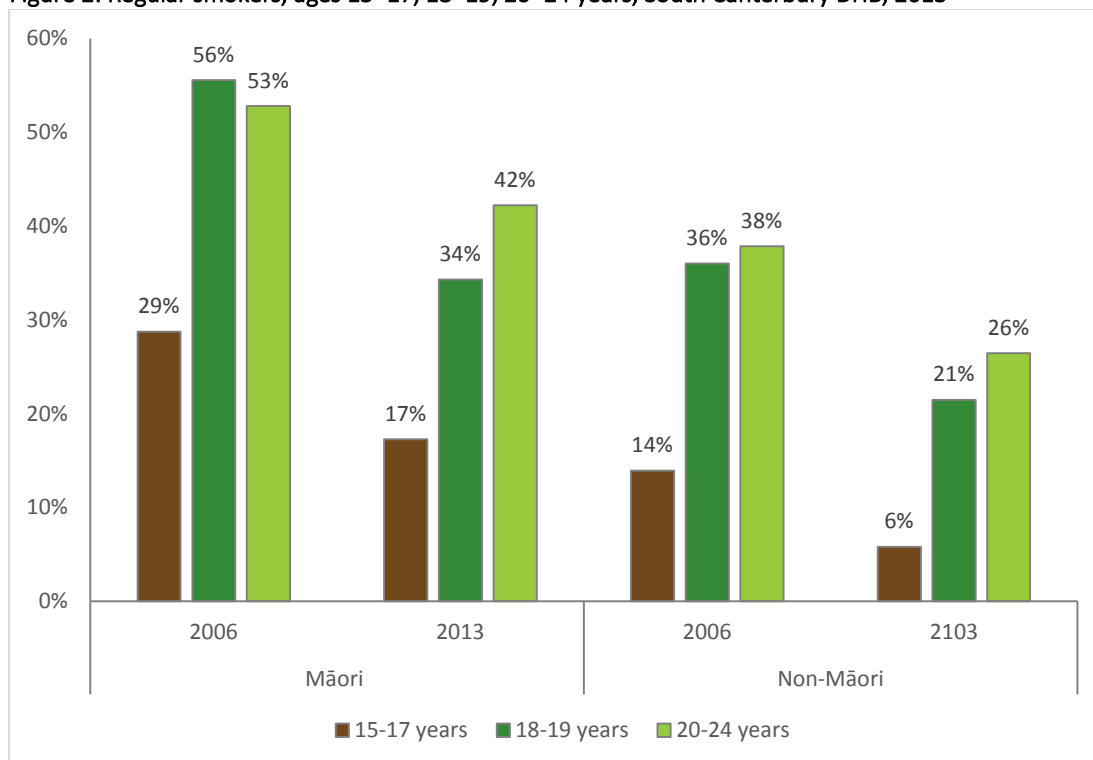
– Young adults

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

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

Smoking

Figure 2: Regular smokers, ages 15–17, 18–19, 20–24 years, South Canterbury 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 Māori and non-Māori youth in South Canterbury since 2006. However, smoking remains higher among 18–24 year olds than younger age groups, suggesting that a sizeable group start smoking in early adulthood. At ages 20–24 years, 42% of Māori were smoking regularly in 2013. Non-Māori in each age group were less likely than Māori to smoke regularly.

Immunisations

Table 34: Human papilloma virus immunisations (HPV) by birth cohorts, South Canterbury 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	32	64.0%	142	45.8%	1.40	18.2%
1999	15	2012	22	55.0%	133	45.9%	1.20	9.1%
1998	16	2011	17	56.7%	126	39.4%	1.44	17.3%
1997	17	2010	16	40.0%	127	39.7%	1.01	0.3%

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.

Nearly two-thirds of South Canterbury Māori girls aged 14 years in 2014 had received all three doses of the human papilloma virus immunisation by 30 September 2014. This was the highest coverage of all age groups, with only 40% of girls aged 17 years fully immunised by that date.

Mental health

Table 35: Hospitalisations for injury from intentional self-harm, 15–24 and 25–44 years, South Canterbury DHB, 2009–2013

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	1	344.3	(154.5,	767.0)	7	271.8	(196.8,	375.4)	1.27	(0.53,	3.00)	72.5
Male	1	250.3	(104.2,	601.3)	5	181.3	(124.1,	264.8)	1.38	(0.53,	3.59)	69.0
Total	2	297.3	(164.3,	537.7)	13	226.5	(177.1,	289.7)	1.31	(0.69,	2.49)	70.7
25–44 years												
Female	1	180.0	(74.4,	435.9)	10	169.9	(127.3,	226.8)	1.06	(0.42,	2.69)	10.1
Male	<1	89.6	(22.4,	358.7)	5	87.1	(58.5,	129.7)	1.03	(0.24,	4.36)	2.5
Total	1	134.8	(63.7,	285.1)	15	128.5	(101.7,	162.3)	1.05	(0.48,	2.30)	6.3

Source: NMDS.

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

On average there were two hospital admissions per year for injury from intentional self-harm among South Canterbury Māori aged 15–24 years and one per year among Māori aged 25–44 years.

Mauri ora: Pakeke

– Adults

This section focuses mainly on long term conditions among adults, including heart disease and stroke, cancer, diabetes, respiratory disease (asthma, chronic obstructive pulmonary disease), mental disorders, and gout. Information is also presented on hip fractures, hip replacements and cataract surgery. Self-assessed health status and smoking status are also included.

Information on other causes of hospitalisation or deaths in South Canterbury can be found in the accompanying Excel® tables labelled 'Death registrations' and 'Hospitalisations by principal diagnosis'.

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

Self-assessed health

Table 36: Health status reported by Māori aged 15 years and over, South Canterbury, Canterbury, Nelson Marlborough, and West Coast DHBs, 2013

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

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

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

Smoking status

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

Smoking status	Māori			Non-Māori			Māori/non-Māori ratio (95% CI)	Difference in percentage
	Number	%	(95% CI)	Number	%	(95% CI)		
2006								
Regular smoker	780	42.3	(40.1, 44.5)	7,740	25.8	(25.3, 26.4)	1.64 (1.55, 1.73)	16.4
Ex-smoker	421	21.8	(20.1, 23.7)	9,558	18.8	(18.4, 19.3)	1.16 (1.06, 1.26)	3.0
Never smoked	671	34.7	(32.7, 36.9)	21,090	55.4	(54.8, 56.0)	0.63 (0.59, 0.67)	-20.7
2013								
Regular smoker	755	34.7	(32.8, 36.8)	6,015	19.2	(18.7, 19.7)	1.81 (1.70, 1.93)	15.5
Ex-smoker	589	23.7	(22.1, 25.5)	10,383	19.9	(19.4, 20.3)	1.19 (1.11, 1.29)	3.9
Never smoked	966	41.8	(39.8, 43.8)	23,079	60.9	(60.3, 61.5)	0.69 (0.65, 0.72)	-19.1

Source: 2006 and 2013 Census, Statistics New Zealand

Notes: % is age-standardised to the 2001 Māori population. Ratios in **bold** show a significant difference between Māori and non-Māori. Regular smokers smoke one or more cigarettes per day.

Between 2006 and 2013 the proportion of Māori adults who smoked cigarettes regularly decreased from 42% to 35%, and the proportion who had never smoker increased from 35% to 42%. However, Māori remained 81% more likely than non-Māori to smoke regularly.

Heart disease and stroke

Table 38: Hospitalisations for circulatory system diseases, 25 years and over, South Canterbury DHB, 2009–2013

Gender	Māori			Non-Māori			Māori/non-Māori ratio (95% CI)		Rate difference
	Ave. no. per year	Age-standardised rate per 100,000 (95% CI)		Ave. no. per year	Age-standardised rate per 100,000 (95% CI)				
Female	11	867.3	(658.4, 1,142.3)	565	924.7	(873.3, 979.2)	0.94	(0.71, 1.24)	-57.5
Male	17	1,368.0	(1,100.9, 1,699.8)	637	1,416.7	(1,351.1, 1,485.6)	0.97	(0.77, 1.21)	-48.8
Total	28	1,117.6	(942.4, 1,325.5)	1,202	1,170.7	(1,128.7, 1,214.3)	0.95	(0.80, 1.14)	-53.1

Source: NMDS.

During the five-year period 2009 to 2013, on average 28 South Canterbury Māori per year were admitted to hospital for diseases of the circulatory system (including heart disease and stroke), at a similar rate to non-Māori.

Table 39: Ischaemic heart disease indicators, 25 years and over, South Canterbury DHB, 2009–2013

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	2	142.6	(72.4, 280.8)	187	278.2	(254.3, 304.3)	0.51	(0.26, 1.02)	-135.6
Male	8	621.2	(453.0, 852.0)	257	573.1	(535.2, 613.7)	1.08	(0.78, 1.50)	48.1
Total	10	381.9	(286.8, 508.5)	444	425.6	(403.0, 449.5)	0.90	(0.67, 1.20)	-43.7
Angiography procedures									
Female	1	119.0	(55.7, 254.4)	72	173.0	(151.9, 196.9)	0.69	(0.32, 1.49)	-53.9
Male	4	365.7	(239.4, 558.7)	142	378.6	(346.3, 413.9)	0.97	(0.63, 1.49)	-12.9
Total	6	242.4	(167.4, 351.0)	214	275.8	(256.2, 296.8)	0.88	(0.60, 1.28)	-33.4
Angioplasty procedures									
Female	1	46.0	(14.8, 142.7)	26	54.0	(44.2, 66.0)	0.85	(0.27, 2.69)	-8.0
Male	2	194.6	(110.1, 343.8)	65	177.0	(155.4, 201.6)	1.10	(0.61, 1.97)	17.6
Total	3	120.3	(72.3, 200.1)	90	115.5	(103.4, 129.0)	1.04	(0.62, 1.75)	4.8
Coronary Artery Bypass Graft (CABG)									
Female	0	0.0	. .	5	8.2	(5.3, 12.7)	0.00	. .	-8.2
Male	1	48.1	(15.5, 149.3)	20	45.2	(36.0, 56.7)	1.06	(0.33, 3.38)	2.9
Total	1	24.0	(7.7, 74.7)	25	26.7	(21.8, 32.7)	0.90	(0.28, 2.85)	-2.7
Acute coronary syndrome admissions									
Female	1	93.2	(40.0, 217.0)	119	166.7	(148.4, 187.2)	0.56	(0.24, 1.31)	-73.5
Male	4	322.8	(209.4, 497.6)	165	368.4	(337.5, 402.2)	0.88	(0.56, 1.36)	-45.6
Total	5	208.0	(141.5, 305.8)	284	267.6	(249.4, 287.1)	0.78	(0.53, 1.15)	-59.6

Source: NMDS.

On average, there were 10 hospital admissions per year among South Canterbury Māori for ischaemic heart disease. Of these, five were admitted with acute coronary syndrome. On average, six per year had angiography procedures conducted, three per year had angioplasties, and one per year had a coronary artery bypass graft. There were no significant differences in rates between Māori and non-Māori.

Table 40: Hospitalisations for heart failure, stroke, and hypertensive disease, 25 years and over, South Canterbury DHB, 2009–2013

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	1	138.4	(64.0, 299.3)	73	63.6	(53.6, 75.4)	2.18	(0.99, 4.80)	74.8		
Male	4	301.1	(193.8, 467.6)	75	94.2	(82.5, 107.6)	3.19	(2.02, 5.06)	206.8		
Total	5	219.7	(149.2, 323.6)	148	78.9	(71.1, 87.6)	2.78	(1.86, 4.16)	140.8		
Stroke											
Female	4	285.2	(182.8, 444.9)	77	116.4	(100.0, 135.5)	2.45	(1.53, 3.92)	168.8		
Male	1	77.5	(32.1, 187.0)	71	126.1	(108.8, 146.1)	0.61	(0.25, 1.50)	-48.6		
Total	5	181.3	(121.9, 269.8)	148	121.2	(109.1, 134.8)	1.50	(0.99, 2.26)	60.1		
Hypertensive disease											
Female	1	108.3	(51.6, 227.2)	9	14.7	(8.9, 24.3)	7.36	(3.01, 18.03)	93.6		
Male	0	0.0	. .	5	13.3	(7.9, 22.4)	0.00	. .	-13.3		
Total	1	54.2	(25.8, 113.6)	14	14.0	(9.7, 20.1)	3.87	(1.70, 8.83)	40.2		

Source: NMDS.

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

There were five hospital admissions per year on average for Māori with heart failure, (mostly male) at a rate 2.8 times that of non-Māori.

Five Māori per year were admitted for stroke (mostly female). Māori females were admitted at 2.5 times the rate of non-Māori women. On average, one Māori woman per year was admitted to hospital with hypertensive disease, at a rate 7.4 times the non-Māori rate.

Table 41: Hospitalisations for chronic rheumatic heart disease and heart valve replacements, 25 years and over, South Canterbury DHB, 2009–2013

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	0	0.0	. .	1	2.1	(0.7, 6.2)	0.00	. .	-2.1		
Male	0	0.0	. .	1	1.9	(0.7, 5.2)	0.00	. .	-1.9		
Total	0	0.0	. .	2	2.0	(1.0, 4.2)	0.00	. .	-2.0		
Heart valve replacements											
Female	0	0.0	. .	6	11.2	(6.7, 18.6)	0.00	. .	-11.2		
Male	0	0.0	. .	6	16.3	(9.8, 27.0)	0.00	. .	-16.3		
Total	0	0.0	. .	12	13.7	(9.5, 19.8)	0.00	. .	-13.7		

Source: NMDS.

There were no Māori admissions for chronic rheumatic heart disease (CRHD) or for heart valve replacements during 2009 to 2013 in South Canterbury. However, among non-Māori, there were two admissions per year for CRHD, and 12 heart valve replacements per year on average.

Table 42: Early deaths from circulatory system disease, South Canterbury DHB, 2002–2011

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	1	29.1	(13.1, 64.8)	13	17.2	(13.9, 21.2)	1.70	(0.74, 3.88)	11.9		
Male	1	64.5	(37.9, 109.7)	27	38.2	(33.2, 43.9)	1.69	(0.97, 2.92)	26.3		
Total	2	46.8	(30.0, 72.8)	40	27.7	(24.6, 31.1)	1.69	(1.07, 2.67)	19.1		

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.

During the period 2002 to 2011, on average two South Canterbury Māori per year died early from cardiovascular disease, at a rate 69% higher than non-Māori, or 19 more deaths per 100,000.

Diabetes

Table 43: Diabetes prevalence, medication use, blood glucose monitoring, screening for renal disease, South Canterbury DHB, 2013

Indicator	Māori		Non-Māori		Māori/non-Māori ratio	Difference in percentage
	Count	% (crude)	Count	% (crude)		
Prevalence of diabetes (all ages)	157	3.9	3,205	6.1	0.63	-2.2
People with diabetes regularly receiving metformin or insulin, 25+	81	51.6	1,802	56.2	0.92	-4.6
People with diabetes having regular Hb1Ac monitoring, 25+	111	70.7	2,537	76.0	0.93	-5.3
People with diabetes having regular screening for renal disease, 25+	60	38.2	1,504	46.9	0.81	-8.7

Source: NZ Atlas of Healthcare Variation

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

In 2013, 157 Māori in South Canterbury were estimated to have diabetes, giving a crude prevalence of 4%. Although this is lower than the prevalence among non-Māori, the prevalence has not been adjusted for age. Half of Māori with diabetes were regularly receiving metformin or insulin in 2013; 71% were having regular monitoring of blood glucose levels and 38% were being screened for renal disease.

Table 44: Hospitalisations for lower limb amputations for people with concurrent diabetes, 15 years and over, South Canterbury DHB, 2009–2013

Gender	Māori			Non-Māori			Māori/non-Māori ratio (95% CI)	Rate difference	
	Ave. no. per year	Age-standardised rate per 100,000 (95% CI)		Ave. no. per year	Age-standardised rate per 100,000 (95% CI)				
Female	0	0.0	.	3	4.9	(2.4, 10.3)	0.00	-4.9	
Male	1	30.4	(9.7, 95.5)	5	7.9	(4.7, 13.3)	3.83	(1.09, 13.47)	22.5
Total	1	15.2	(4.8, 47.8)	8	6.4	(4.2, 9.9)	2.36	(0.70, 8.01)	8.8

Source: NMDS

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

On average one South Canterbury Māori male with diabetes per year had a lower limb amputated during the period 2009 to 2013. The rate for Māori men was 3.8 times the rate for non-Māori men.

Cancer

Table 45: Most common cancer registrations for Māori by site, all ages, South Canterbury DHB, 2003–2012

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	5	228.0	(167.5, 310.4)	152	181.1	(168.8, 194.3)	1.26	(0.92, 1.73)	46.9
Lung	1	66.9	(36.6, 122.4)	13	11.4	(9.4, 13.8)	5.88	(3.12, 11.10)	55.5
Breast	1	56.8	(32.9, 98.0)	36	53.8	(47.2, 61.2)	1.06	(0.60, 1.85)	3.0
Genital	1	34.6	(13.4, 89.0)	14	17.4	(13.9, 21.8)	1.99	(0.75, 5.25)	17.1
Digestive	1	25.8	(11.5, 57.9)	42	34.3	(30.3, 39.0)	0.75	(0.33, 1.70)	-8.5
Male									
All cancers	4	177.1	(129.6, 242.0)	189	201.0	(189.4, 213.4)	0.88	(0.64, 1.21)	-23.9
Genital	1	38.5	(18.8, 78.8)	51	51.2	(45.9, 57.0)	0.75	(0.37, 1.55)	-12.6
Respiratory	1	33.0	(16.4, 66.2)	23	19.2	(16.5, 22.3)	1.72	(0.84, 3.50)	13.8
Digestive	1	31.7	(15.8, 63.6)	51	49.1	(44.2, 54.5)	0.64	(0.32, 1.31)	-17.5
Urinary tract	1	28.0	(13.3, 59.2)	14	15.3	(12.3, 19.1)	1.83	(0.84, 3.99)	12.7

Source: Cancer Registry, Ministry of Health

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

During the ten-year period 2003 to 2012, on average, there were five new cancer registrations per year among Māori females. The most common cancers registered for Māori females were cancers of the lung, breast, genital organs, and digestive organs. The lung cancer rate for Māori women was almost 6 times the rate for non-Māori women.

Among Māori males there were four new cancer registrations per year on average. Cancers of the genital organs (mostly prostate), respiratory and intrathoracic organs (mostly lung), digestive organs, and urinary tract (mostly kidney) were the most common cancers for Māori males.

Table 46: Most common cancer deaths for Māori by site, all ages, South Canterbury DHB, 2002–2011

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	2	104.0	(62.1, 174.2)	68	54.3	(48.7, 60.5)	1.92 (1.13, 3.25)	49.7
Lung	1	34.3	(16.3, 72.1)	11	9.1	(7.3, 11.3)	3.79 (1.74, 8.23)	25.2
Breast	1	38.2	(15.5, 94.1)	10	11.8	(9.2, 15.1)	3.24 (1.27, 8.26)	26.4
Male								
All cancers	1	56.3	(32.6, 97.0)	84	73.9	(67.9, 80.3)	0.76 (0.44, 1.32)	-17.6

Source: Death registrations, Ministry of Health

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

During the ten-year period 2002 to 2011, deaths from cancer accounted for 40% of all deaths among South Canterbury Māori females, with a rate nearly twice that of non-Māori females. Cancers of the lung and breast were the most common causes of cancer death, with the mortality rates for these two cancers more than three times the rates for non-Māori women.

For Māori males, cancer comprised 22% of all deaths, with an average of one Māori male dying from cancer per year.

Breast and cervical cancer screening

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

Māori			Non-Māori		
Number screened	Eligible population	% screened	Number screened	Eligible population	% screened
347	485	71.5%	7,892	9,828	80.3%

Source: National Screening Unit, Ministry of Health

BreastScreen Aotearoa provides free mammography screening for breast cancer to women aged 45 to 69 years, with a target of at least 70% of eligible women screened every two years. During the two years prior to 31 December 2014, 72% of Māori and 80% of non-Māori women in South Canterbury had been screened.

Table 48: Cervical screening coverage, women aged 25–69 years, South Canterbury 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 %
957	539	56.3%	446	46.6%	13,660	12,174	89.1%	10,613	77.7%

Source: National Screening Unit, Ministry of Health

Note: Population is adjusted for hysterectomy.

Among women aged 25 to 69 years, 56% of Māori women and 89% of non-Māori women had had a cervical smear test during the five years prior to December 2014. The three year cervical screening coverage was 47% for Māori

women and 78% 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, South Canterbury DHB, 2009–2013

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)			
0–14 years								
Female	1	192.6	(91.8, 404.3)	8	200.8	(148.2, 272.0)	0.96 (0.43, 2.14)	-8.2
Male	2	220.4	(114.7, 423.8)	14	309.9	(245.0, 392.0)	0.71 (0.36, 1.42)	-89.5
Total	3	206.5	(126.4, 337.5)	22	255.4	(212.0, 307.5)	0.81 (0.48, 1.37)	-48.8
15–34 years								
Female	0	65.7	(16.3, 264.9)	3	63.3	(38.8, 103.5)	1.04 (0.24, 4.55)	2.4
Male	1	100.3	(31.9, 315.4)	3	50.2	(29.7, 85.0)	2.00 (0.57, 7.04)	50.0
Total	1	83.0	(34.2, 201.2)	6	56.8	(39.6, 81.3)	1.46 (0.56, 3.80)	26.2
35–64 years								
Female	1	187.4	(83.2, 422.3)	9	83.3	(60.8, 114.3)	2.25 (0.94, 5.38)	104.1
Male	0	45.7	(6.4, 324.1)	2	24.6	(12.8, 47.4)	1.85 (0.23, 14.63)	21.0
Total	1	116.5	(54.6, 248.6)	11	54.0	(40.6, 71.8)	2.16 (0.96, 4.85)	62.5
65 years and over								
Female	0	0.0	. .	4	62.6	(37.7, 103.9)	0.00 . .	-62.6
Male	0	0.0	. .	1	14.6	(5.2, 40.8)	0.00 . .	-14.6
Total	0	0.0	. .	5	38.6	(24.5, 60.8)	0.00 . .	-38.6

Source: NMDS.

There were three admissions for asthma per year on average among Māori children aged 0–14 years during 2009 to 2013, one among Māori aged 15–34 years, and one per year among Māori aged 35–64 years. No Māori aged 65 years and over was admitted for asthma during this period.

Table 50: Hospitalisations for chronic obstructive pulmonary disease (COPD), 45 years and over, South Canterbury DHB, 2009–2013

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	1,176.6	(816.2, 1,696.1)	71	326.4	(287.1, 371.1)	3.60 (2.45, 5.31)	850.2
Male	2	463.0	(260.3, 823.6)	90	382.3	(344.1, 424.7)	1.21 (0.67, 2.18)	80.8
Total	8	819.8	(602.1, 1,116.4)	161	354.3	(326.4, 384.6)	2.31 (1.68, 3.18)	465.5

Source: NMDS.

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

There were eight hospitalisations per year on average for Māori with COPD, at a rate 2.3 times that of non-Māori, or 466 more admissions per 100,000.

Table 51: Early deaths from respiratory disease, South Canterbury DHB, 2002–2011

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	<1	19.6	(7.4, 52.2)	5	6.1	(4.3, 8.7)	3.21 (1.13, 9.11)	13.5
Male	<1	4.8	(0.7, 34.2)	7	9.4	(6.8, 12.9)	0.51 (0.07, 3.74)	-4.6
Total	1	12.2	(5.1, 29.3)	12	7.7	(6.1, 9.8)	1.58 (0.64, 3.91)	4.5

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, one Māori per year died early from respiratory disease during the ten-year period 2002 to 2011. The mortality rate for Māori females was 3.2 times the rate for non-Māori females, or 14 more deaths per 100,000.

Mental disorders

Table 52: Hospitalisations for mental disorders, all ages, South Canterbury DHB, 2009–2013

Gender and 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	14	706.7 (556.6, 897.2)		278	788.7 (738.1, 842.9)		0.90 (0.70, 1.15)	-82.0
Schizophrenia	3	149.0 (89.2, 249.1)		50	116.9 (101.1, 135.0)		1.28 (0.75, 2.17)	32.2
Mood (affective)	4	222.6 (145.5, 340.6)		148	473.7 (434.7, 516.1)		0.47 (0.30, 0.73)	-251.0
—Bipolar	2	117.6 (64.6, 213.9)		47	194.7 (168.4, 225.1)		0.60 (0.33, 1.12)	-77.2
—Depressive episode	1	74.2 (35.1, 156.5)		59	151.4 (130.9, 175.1)		0.49 (0.23, 1.05)	-77.2
Substance use	4	227.8 (149.0, 348.4)		21	73.9 (58.7, 93.1)		3.08 (1.90, 5.00)	153.9
—Alcohol	3	134.1 (77.2, 233.0)		16	56.2 (43.0, 73.4)		2.39 (1.29, 4.41)	78.0
Anxiety, stress-related	1	64.7 (28.8, 145.3)		18	51.2 (38.8, 67.7)		1.26 (0.54, 2.97)	13.5
Male								
All disorders	22	1,223.2 (1,011.5, 1,479.1)		186	611.4 (565.4, 661.2)		2.00 (1.63, 2.46)	611.7
Schizophrenia	14	823.7 (651.3, 1,041.7)		56	206.6 (181.3, 235.3)		3.99 (3.05, 5.22)	617.1
Mood (affective)	3	157.9 (94.1, 265.0)		58	190.9 (166.0, 219.5)		0.83 (0.48, 1.41)	-33.0
—Bipolar	1	35.5 (13.2, 95.6)		14	48.7 (36.7, 64.7)		0.73 (0.26, 2.04)	-13.2
—Depressive episode	2	97.8 (50.1, 191.2)		31	97.7 (80.6, 118.3)		1.00 (0.50, 2.01)	0.2
Substance use	3	153.1 (91.2, 257.1)		29	123.7 (103.1, 148.4)		1.24 (0.71, 2.14)	29.4
—Alcohol	2	94.7 (50.3, 178.4)		20	76.1 (60.6, 95.5)		1.24 (0.64, 2.44)	18.6
Anxiety, stress-related	1	49.7 (18.5, 133.6)		12	45.9 (34.1, 61.8)		1.08 (0.39, 3.04)	3.8
Total								
All disorders	36	964.9 (831.5, 1,119.8)		464	700.1 (665.5, 736.5)		1.38 (1.18, 1.61)	264.8
Schizophrenia	17	486.3 (392.7, 602.3)		105	161.7 (146.6, 178.4)		3.01 (2.38, 3.81)	324.6
Mood (affective)	7	190.3 (136.9, 264.3)		206	332.3 (308.8, 357.5)		0.57 (0.41, 0.80)	-142.0
—Bipolar	3	76.6 (45.8, 128.0)		61	121.7 (107.0, 138.5)		0.63 (0.37, 1.07)	-45.2
—Depressive episode	3	86.0 (52.2, 141.6)		90	124.5 (110.9, 139.8)		0.69 (0.41, 1.15)	-38.5
Substance use	7	190.4 (137.1, 264.5)		50	98.8 (85.7, 114.0)		1.93 (1.35, 2.76)	91.6
—Alcohol	5	114.4 (75.4, 173.5)		35	66.1 (55.6, 78.7)		1.73 (1.10, 2.72)	48.3
Anxiety, stress-related	2	57.2 (30.6, 107.1)		30	48.6 (39.7, 59.5)		1.18 (0.61, 2.28)	8.6

Source: NMDS

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

There were 36 hospital admissions for mental disorders per year on average among Māori residents of the South Canterbury DHB. Rates of hospitalisation for mental disorders were 38% higher for Māori than for non-Māori, rates for schizophrenia were three times as high, and rates for substance use were twice as high.

Schizophrenia, substance use disorders, and mood disorders were the most common causes of admission for Māori women. The rate of admission for mood disorders was half that of non-Māori women, while the admission rate for substance use was 3 times as high.

Admissions for mental health disorders were twice as high for Māori men as for non-Māori men. Schizophrenia related disorders were the most common causes of admission for Māori men, with a rate four times the rate for non-Māori men.

Gout

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

Indicator	Māori		Non-Māori		Māori/non-Māori ratio	Difference in percentage
	Count	%	Count	%		
Gout prevalence	72	3.7	1,578	4.2	0.88	-0.5
People with gout who received allopurinol regularly	28	38.9	703	44.6	0.87	-5.7
Serum urate test within six months following allopurinol dispensing	35	48.6	668	42.3	1.15	6.3

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

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

In 2011, 72 Māori adults were estimated to have gout, a prevalence of almost 4%, similar to the prevalence in non-Māori. Thirty-nine percent of Māori with gout regularly received allopurinol, a preventive therapy to lower urate levels. Of those who received allopurinol, 49% had a laboratory test for serum urate levels within the following six months.

Table 54: Hospitalisations for gout, 25 years and over, South Canterbury DHB, 2009–2013

Gender	Māori			Non-Māori			Māori/non-Māori ratio (95% CI)	Rate difference
	Ave. no. per year	Age-standardised rate per 100,000 (95% CI)		Ave. no. per year	Age-standardised rate per 100,000 (95% CI)			
Female	<1	13.8	(1.9, 98.1)	2	5.2	(1.8, 14.9)	2.67 (0.29, 24.71)	8.6
Male	1	131.9	(60.0, 289.8)	8	20.1	(12.7, 31.7)	6.56 (2.64, 16.30)	111.8
Total	2	72.8	(34.9, 152.1)	10	12.6	(8.3, 19.3)	5.76 (2.46, 13.47)	60.2

Source: NMDS

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

On average, two South Canterbury Māori per year were admitted to hospital for gout. The admission rate was 5.8 times as high for Māori as for non-Māori.

Hip fractures

There were few admissions for hip fracture among South Canterbury Māori aged 65 years and over (four in five years).

Elective surgery

Table 55: Hospitalisations for hip replacements, 50 years and over, South Canterbury DHB, 2009–2013

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	378.2	(177.5, 805.5)	51	344.9	(300.9, 395.5)	1.10 (0.51, 2.36)	33.2
Male	<1	99.4	(24.1, 410.5)	39	279.3	(239.7, 325.6)	0.36 (0.09, 1.48)	-180.0
Total	2	238.8	(122.5, 465.5)	90	312.1	(281.9, 345.7)	0.76 (0.39, 1.50)	-73.4

Source: NMDS

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

On average, two South Canterbury Māori aged 50 years and over were admitted to hospital per year for a hip replacement.

Table 56: Publicly funded hospitalisations for cataract surgery, 45 years and over, South Canterbury DHB, 2009–2013

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	648.1	(387.3, 1,084.4)	137	400.0	(364.5, 438.9)	1.62 (0.96, 2.73)	248.1
Male	2	463.2	(255.2, 840.9)	104	406.0	(367.2, 448.9)	1.14 (0.62, 2.09)	57.2
Total	5	555.6	(376.3, 820.5)	241	403.0	(376.3, 431.5)	1.38 (0.93, 2.05)	152.6

Source: NMDS

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

On average five Māori per year were admitted to hospital for cataract surgery during 2009 to 2013.

Mauri ora: All ages

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

Hospitalisations

Table 57: All-cause hospitalisations, all ages, South Canterbury DHB, 2009–2013

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	432	20,841.2	(19,961.9, 21,759.1)	7,895	24,471.6	(24,139.3, 24,808.4)	0.85 (0.81, 0.89)	-3,630.4
Male	318	14,625.6	(13,906.5, 15,381.9)	6,298	16,552.6	(16,285.3, 16,824.3)	0.88 (0.84, 0.93)	-1,927.0
Total	750	17,733.4	(17,161.7, 18,324.1)	14,193	20,512.1	(20,298.4, 20,728.0)	0.86 (0.84, 0.89)	-2,778.7

Source: NMDS

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

On average, there were 750 Māori hospital admissions per year and around 14,200 non-Māori admissions. All-cause admission rates were 14% lower for Māori than for non-Māori during 2009 to 2013.

Potentially avoidable hospitalisations

Table 58: Potentially avoidable hospitalisations, 0–74 years, South Canterbury DHB, 2009–2013

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	82	3,835.0	(3,475.2, 4,232.1)	985	3,624.3	(3,494.2, 3,759.2)	1.06 (0.95, 1.18)	210.8
Male	72	3,342.9	(3,010.1, 3,712.6)	1,053	3,742.6	(3,613.2, 3,876.6)	0.89 (0.80, 1.00)	-399.6
Total	155	3,589.0	(3,340.3, 3,856.2)	2,038	3,683.4	(3,591.2, 3,778.0)	0.97 (0.90, 1.05)	-94.4

Source: NMDS

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

During 2009–2013, on average 155 hospital admissions per year among South Canterbury Māori were potentially avoidable.

Table 59: Ambulatory care sensitive hospitalisations, 0–74 years, South Canterbury DHB, 2009–2013

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	45	2,072.8	(1,814.0, 2,368.5)	531	1,858.6	(1,766.2, 1,955.9)	1.12 (0.97, 1.29)	214.1
Male	42	1,848.1	(1,609.3, 2,122.4)	589	1,895.7	(1,806.4, 1,989.4)	0.97 (0.84, 1.13)	-47.6
Total	87	1,960.5	(1,780.9, 2,158.1)	1,120	1,877.2	(1,812.4, 1,944.2)	1.04 (0.94, 1.16)	83.3

Source: NMDS

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

On average, there were 87 ambulatory care sensitive hospitalisations per year among Māori.

Mortality

Table 60: Life expectancy at birth, Canterbury Region, 2012–2014

Gender	Māori		Non-Māori		Difference in years
	Years (95% credible interval)		Years (95% credible interval)		
Female	80.9	(79.7, 82.1)	83.5	(83.3, 83.7)	-2.6
Male	77.2	(76.1, 78.4)	80.0	(79.7, 80.2)	-2.8

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

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

Life expectancy at birth is a summary measure of age-specific mortality rates during a specific period. It does not take account of any changes in mortality rates after the period. During 2012–2014, for residents of the Canterbury Region, life expectancy at birth was 80.9 years for Māori females, 2.6 years lower than for non-Māori females (83.5 years). For Māori males, life expectancy was 77.2 years, 2.8 years lower than that of non-Māori males (80.0 years).

Table 61: All-cause deaths, all ages, South Canterbury DHB, 2003–2012

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	4	234.3	(167.5, 327.7)	266	159.4	(147.1, 172.7)	1.47 (1.04, 2.08)	74.9
Male	6	282.4	(211.2, 377.6)	264	264.7	(248.3, 282.2)	1.07 (0.79, 1.44)	17.7
Total	10	258.3	(207.3, 321.9)	530	212.0	(201.7, 222.9)	1.22 (0.97, 1.53)	46.3

Source: Mortality dataset, Ministry of Health.

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

During the ten-year period 2003 to 2012, there were 10 deaths per year on average among South Canterbury Māori. Among females, the Māori mortality rate was 47% higher than the non-Māori rate, or 75 more deaths per 100,000.

Table 62: Leading causes of death for Māori, all ages, South Canterbury DHB, 2002–2011

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	1	34.3	(16.3, 72.1)	11	9.1	(7.3, 11.3)	3.79 (1.74, 8.23)	25.2
Stroke	1	48.3	(20.1, 116.4)	26	8.8	(7.3, 10.7)	5.46 (2.22, 13.43)	39.5
Breast cancer	1	38.2	(15.5, 94.1)	10	11.8	(9.2, 15.1)	3.24 (1.27, 8.26)	26.4
COPD	1	28.4	(12.6, 63.9)	13	6.8	(5.2, 8.7)	4.20 (1.80, 9.83)	21.6
Male								
IHD	1	67.1	(36.5, 123.4)	53	37.8	(34.0, 42.1)	1.77 (0.95, 3.29)	29.3
Suicide	1	38.2	(17.0, 85.8)	6	23.3	(17.4, 31.2)	1.64 (0.70, 3.88)	15.0
Accidents	1	30.6	(12.6, 74.5)	13	37.5	(29.9, 47.1)	0.82 (0.33, 2.05)	-6.9
Total								
IHD	1	36.0	(20.1, 64.5)	110	28.4	(26.2, 30.8)	1.27 (0.70, 2.28)	7.6
Lung cancer	1	23.6	(12.7, 44.0)	29	11.8	(10.3, 13.5)	2.01 (1.06, 3.79)	11.8
Stroke	1	28.8	(13.3, 62.3)	42	9.6	(8.1, 11.3)	3.01 (1.37, 6.63)	19.2
COPD	1	23.5	(10.7, 51.3)	33	9.3	(8.1, 10.7)	2.52 (1.14, 5.58)	14.2
Accidents	1	21.4	(10.1, 45.4)	22	24.7	(20.3, 30.0)	0.87 (0.40, 1.89)	-3.3
Suicide	1	22.1	(10.5, 46.7)	7	13.7	(10.5, 18.0)	1.61 (0.73, 3.56)	8.4

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 South Canterbury Māori during the decade 2002 to 2011 were ischaemic heart disease, lung cancer, stroke, COPD, accidents, and suicide. The Māori mortality rate for lung cancer was twice as high as non-Māori, stroke 3 times as high, and COPD 2.5 times as high. Breast cancer was also a leading cause of death for Māori women, with the rate 3.2 times the non-Māori rate.

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 63: Potentially avoidable mortality, 0–74 years, South Canterbury DHB, 2002–2011

Gender	Māori			Non-Māori			Māori/non-Māori ratio (95% CI)	Rate difference
	Ave. no. per year	Age-standardised rate per 100,000 (95% CI)		Ave. no. per year	Age-standardised rate per 100,000 (95% CI)			
Female	3	147.9	(102.6, 213.3)	48	89.1	(78.3, 101.4)	1.66 (1.13, 2.45)	58.8
Male	4	191.2	(137.7, 265.6)	77	150.4	(136.5, 165.8)	1.27 (0.90, 1.79)	40.8
Total	7	169.6	(132.8, 216.6)	125	119.8	(110.8, 129.5)	1.42 (1.10, 1.83)	49.8

Source: Mortality, Ministry of Health

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

During 2002 to 2011, there was an average of seven potentially avoidable deaths per year among South Canterbury Māori, at a rate 42% higher than the rate for non-Māori, or 50 more deaths per 100,000.

Table 64: Amenable mortality, 0–74 years, South Canterbury DHB, 2002–2011

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	107.2	(69.7, 164.9)	30	58.8	(50.1, 69.1)	1.82 (1.15, 2.89)	48.4
Male	3	140.8	(95.1, 208.5)	55	112.5	(100.3, 126.2)	1.25 (0.83, 1.88)	28.3
Total	5	124.0	(92.8, 165.8)	85	85.7	(78.0, 94.1)	1.45 (1.07, 1.96)	38.3

Source: Mortality, Ministry of Health

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

The amenable mortality rate was 45% higher for Māori than for non-Māori, or 38 more deaths per 100,000. On average there were five deaths per year from conditions amenable to health care among South Canterbury Māori.

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 resulting in a hospital admission among South Canterbury Māori were falls, exposure to mechanical forces, transport accidents, and assault.

Table 65: Hospitalisations for injury, all ages, South Canterbury DHB, 2009–2013

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	23	1,115.1	(925.8, 1,343.1)	490	1,291.4	(1,216.6, 1,370.9)	0.86 (0.71, 1.05)	-176.4
Male	39	1,903.0	(1,648.4, 2,196.9)	534	1,914.6	(1,824.6, 2,009.0)	0.99 (0.85, 1.16)	-11.6
Total	62	1,509.0	(1,346.8, 1,690.8)	1,024	1,603.0	(1,544.0, 1,664.2)	0.94 (0.84, 1.06)	-94.0

Source: NMDS

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

On average, 62 Māori per year were hospitalised for injury at a similar rate to non-Māori.

Table 66: Hospitalisations for assault, all ages, South Canterbury DHB, 2009–2013

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	48.7	(20.2, 117.6)	6	32.9	(22.6, 47.9)	1.48 (0.57, 3.86)	15.8
Male	5	258.1	(174.8, 381.1)	28	146.1	(122.5, 174.1)	1.77 (1.15, 2.71)	112.0
Total	6	153.4	(107.4, 219.1)	34	89.5	(76.3, 104.9)	1.71 (1.16, 2.53)	63.9

Source: NMDS

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

On average six Māori per year were admitted to hospital for injury caused by assault, at a rate 71% higher than non-Māori, or 64 more admissions per 100,000. Rates were higher for males than females.

Table 67: Deaths from injury, all ages, South Canterbury DHB, 2002–2011

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	<1	18.2	(5.8, 56.8)	10	16.2	(11.6, 22.5)	1.12 (0.34, 3.68)	2.0
Male	1	68.8	(37.8, 125.2)	19	63.2	(53.0, 75.5)	1.09 (0.58, 2.03)	5.6
Total	1	43.5	(25.6, 73.9)	29	39.7	(34.0, 46.4)	1.10 (0.63, 1.90)	3.8

Source: Mortality dataset, Ministry of Health.

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

During the ten-year period 2002 to 2011, on average one South Canterbury Māori died from injuries per year.



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, 2009–2013*. 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 68: Māori population projections, single year by age group, South Canterbury DHB, 2013 to 2020

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

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

Age	Male	Female	Total	Male	Female	Total	Male	Female	Total	Male	Female	Total
	2013(Base)			2014			2015			2016		
0	60	60	120	60	60	120	60	60	120	60	60	120
1-4	240	220	460	240	220	460	240	220	460	250	230	480
5-9	280	220	500	300	250	550	320	250	570	300	260	560
10-14	250	270	520	240	250	500	240	240	480	260	230	490
15-19	240	190	430	260	200	460	280	240	520	280	250	530
20-24	170	160	330	180	150	330	180	140	320	170	140	310
25-29	120	120	240	130	140	270	130	160	290	160	170	330
30-34	110	140	240	110	130	230	110	110	220	110	110	220
35-39	110	130	250	110	130	240	110	140	250	110	130	240
40-44	120	160	280	130	170	300	140	160	300	120	160	280
45-49	100	140	240	80	140	230	90	140	230	110	150	260
50-54	110	120	230	110	130	240	110	130	250	110	140	250
55-59	80	90	170	90	100	180	90	90	180	90	100	190
60-64	70	70	140	70	80	150	70	80	150	80	90	170
65-69	50	50	100	50	50	100	60	50	110	60	50	110
70-74	30	30	60	30	30	60	30	40	70	40	40	80
75-79	20	20	40	20	20	40	30	20	50	30	20	50
80-84	10	20	30	10	20	30	10	10	20	10	10	30
85-89	0	0	10	10	10	10	10	10	20	10	10	20
90+	0	0	10	0	10	10	0	0	10	0	0	10
All Ages	2,190	2,210	4,400	2,240	2,260	4,500	2,300	2,310	4,610	2,350	2,360	4,700
	2017			2018			2019			2020		
0	60	60	120	60	60	120	60	60	120	60	60	130
1-4	250	240	490	250	240	480	250	240	490	250	240	490
5-9	300	250	550	310	280	580	300	270	570	300	270	570
10-14	270	230	500	280	210	490	300	240	540	310	250	560
15-19	260	250	510	240	260	500	230	250	480	220	230	450
20-24	200	160	360	220	170	390	240	180	420	250	220	470
25-29	150	160	310	150	160	310	160	140	300	170	130	300
30-34	120	110	230	120	120	240	120	140	270	130	160	290
35-39	110	140	240	110	140	250	110	130	230	110	110	220
40-44	120	150	270	110	130	250	110	130	240	110	140	240
45-49	110	150	260	120	160	280	130	160	300	140	150	290
50-54	100	140	240	100	140	230	80	140	220	90	140	230
55-59	100	100	200	100	120	220	110	120	230	110	130	240
60-64	80	90	170	80	90	170	80	90	180	90	90	180
65-69	60	60	110	60	60	130	70	80	140	60	80	140
70-74	40	50	90	40	50	90	50	40	90	50	40	100
75-79	20	20	50	30	30	50	30	30	60	30	30	70
80-84	20	20	40	20	20	30	20	10	30	20	20	40
85-89	10	10	20	10	10	30	10	10	20	10	10	20
90+	0	0	10	0	0	10	10	10	10	10	10	20
All Ages	2,390	2,400	4,780	2,420	2,430	4,850	2,470	2,480	4,950	2,520	2,520	5,040

These projections were derived in October 2014.

Source: Statistics New Zealand Population Projections

Table 69: Total population projections, single year, by age group, South Canterbury DHB, 2013 to 2020

Projected Total Population by Age and Sex at 30 June 2014-20 (2013-Base)

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

Age	Male	Female	Total	Male	Female	Total	Male	Female	Total	Male	Female	Total
	2013(Base)			2014			2015			2016		
0	350	320	670	340	320	650	340	320	660	350	320	670
1-4	1,490	1,300	2,790	1,470	1,290	2,750	1,440	1,290	2,730	1,440	1,300	2,740
5-9	1,810	1,660	3,470	1,880	1,720	3,600	1,960	1,740	3,700	1,970	1,800	3,770
10-14	1,880	1,780	3,660	1,830	1,710	3,540	1,780	1,700	3,480	1,810	1,630	3,440
15-19	1,960	1,680	3,640	1,980	1,750	3,730	1,960	1,750	3,710	1,870	1,690	3,560
20-24	1,490	1,380	2,870	1,530	1,350	2,880	1,610	1,340	2,960	1,660	1,350	3,010
25-29	1,300	1,340	2,640	1,410	1,430	2,850	1,510	1,560	3,070	1,620	1,660	3,280
30-34	1,300	1,390	2,690	1,300	1,420	2,720	1,310	1,430	2,750	1,400	1,470	2,860
35-39	1,470	1,620	3,090	1,440	1,580	3,020	1,440	1,570	3,010	1,390	1,540	2,940
40-44	1,850	2,030	3,870	1,830	2,020	3,850	1,780	1,980	3,760	1,720	1,890	3,610
45-49	1,950	2,160	4,110	1,920	2,080	4,000	1,940	2,080	4,020	1,940	2,110	4,050
50-54	2,210	2,290	4,500	2,180	2,290	4,470	2,140	2,280	4,420	2,100	2,270	4,370
55-59	2,030	2,020	4,050	2,060	2,110	4,160	2,090	2,150	4,240	2,110	2,220	4,330
60-64	1,950	2,000	3,960	1,990	1,980	3,970	2,020	2,010	4,030	2,040	2,040	4,080
65-69	1,690	1,780	3,480	1,770	1,880	3,650	1,880	1,940	3,830	1,970	1,980	3,960
70-74	1,380	1,460	2,840	1,420	1,500	2,920	1,390	1,510	2,900	1,410	1,550	2,960
75-79	940	1,150	2,090	980	1,140	2,120	1,050	1,240	2,290	1,090	1,270	2,360
80-84	750	900	1,650	720	920	1,630	750	880	1,630	750	890	1,650
85-89	370	640	1,010	390	640	1,030	390	650	1,050	430	670	1,100
90+	150	340	490	170	360	530	180	370	550	170	380	560
All Ages	28,300	29,200	57,600	28,600	29,500	58,100	29,000	29,800	58,800	29,200	30,100	59,300
	2017			2018			2019			2020		
0	350	330	670	350	330	670	350	330	670	350	330	680
1-4	1,450	1,330	2,780	1,440	1,340	2,780	1,450	1,340	2,790	1,450	1,340	2,790
5-9	1,980	1,730	3,710	1,950	1,730	3,690	1,910	1,700	3,610	1,880	1,690	3,570
10-14	1,810	1,700	3,510	1,850	1,730	3,580	1,910	1,790	3,700	1,990	1,790	3,780
15-19	1,800	1,630	3,430	1,750	1,540	3,300	1,690	1,470	3,160	1,630	1,440	3,070
20-24	1,690	1,360	3,050	1,680	1,390	3,070	1,680	1,440	3,120	1,640	1,420	3,050
25-29	1,680	1,680	3,360	1,760	1,670	3,430	1,770	1,610	3,380	1,820	1,570	3,390
30-34	1,490	1,510	2,990	1,510	1,570	3,090	1,600	1,640	3,240	1,680	1,740	3,420
35-39	1,350	1,550	2,900	1,420	1,530	2,950	1,410	1,550	2,960	1,400	1,550	2,950
40-44	1,640	1,820	3,460	1,540	1,740	3,280	1,500	1,680	3,180	1,490	1,660	3,150
45-49	1,950	2,100	4,050	1,920	2,070	3,990	1,890	2,060	3,950	1,820	2,010	3,830
50-54	2,020	2,190	4,210	1,980	2,160	4,130	1,940	2,070	4,010	1,950	2,060	4,000
55-59	2,180	2,270	4,460	2,210	2,320	4,530	2,180	2,310	4,490	2,130	2,290	4,420
60-64	2,050	2,060	4,110	2,040	2,050	4,090	2,060	2,140	4,200	2,080	2,180	4,260
65-69	1,930	2,010	3,950	1,950	2,040	3,980	1,980	2,010	3,990	2,000	2,030	4,040
70-74	1,500	1,610	3,110	1,600	1,740	3,340	1,680	1,830	3,510	1,780	1,890	3,670
75-79	1,170	1,340	2,510	1,210	1,330	2,540	1,240	1,370	2,610	1,210	1,370	2,580
80-84	730	910	1,640	720	950	1,670	750	940	1,690	800	1,030	1,830
85-89	460	650	1,110	460	630	1,090	440	650	1,090	480	620	1,100
90+	180	410	590	200	430	630	230	440	660	210	450	660
All Ages	29,400	30,200	59,600	29,500	30,300	59,800	29,700	30,400	60,000	29,800	30,500	60,200

These projections were derived in October 2014.

Source: Statistics New Zealand Population Projections



Appendix 2: Technical notes

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

Data sources

Table 70: Data sources

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

Note: *no causes for 2012

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

Data from the Census of Population and Dwellings

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

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

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

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

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

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

Data from Te Kupenga 2013

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

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

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

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

Deaths, hospitalisations and cancer registrations

Ethnicity

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

Residence

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

Hospital transfers

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

Suppression of causes of death or hospitalisation

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

Ninety-five percent confidence intervals

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

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

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

Age standardisation

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

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

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

Table 71: 2001 Census total Māori population

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

ICD-10 codes

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

Table 72: 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 73: 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 74: 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 75: 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 76: Amenable mortality ICD-10 codes

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

Source: Ministry of Health 2010

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



TE RŌPŪ RANGAHAU HAUORA A ERU PŌMARE

