



Tupu Ola Moui
Pacific Health Chart Book
2012

Acknowledgements

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Tupu ola moui

Growing a prosperous and healthy life (Niuean)

In Samoan, Tongan, Niuean and Tokelauan 'tupu ola' conveys the sense of growing life. In Tongan and Niuean 'moui' conveys the sense of the essence of life force.

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MANATŪ HAUORA

Foreword

Ni sa bula vinaka, Talofa lava, Kia orana, Taloha ni, Malo e lelei, Fakalofa lahi atu, Talofa, Tena koutou and greetings.

It is eight years since the first *Pacific Health Chart Book* (Ministry of Health and Ministry of Pacific Island Affairs 2004) was published.

Tupu Ola Moui Pacific Health Chart Book 2012 brings together the most recent information we have that is relevant to Pacific health: socio-economic determinants, risk and protective factors, health status, the health system and health service utilisation.

Pacific people have lower life expectancy and higher rates of mortality and hospitalisation for conditions that could be avoided given timely access to effective health care. We must do better for Pacific children with asthma, lower respiratory tract infections and infectious diseases such as rheumatic fever. For Pacific adults we need to do better at assessing and treating cardiovascular disease, diabetes and chronic obstructive pulmonary disease.

Tupu Ola Moui 2012 tells us where we need to focus our efforts to improve Pacific health outcomes and shows us where we are making good progress. It is good to see continuing high immunisation rates and increases in the proportion of Pacific women having cervical smears and mammograms. We need to build on what is working well to deliver more effective prevention and protection in areas such as breastfeeding, nutrition and smoking.

The challenge for health professionals, health providers and the organisations they belong to is to replicate the successes in areas where Pacific peoples continue to lag. Many of these areas will require innovative practice, cross-sectoral collaboration and a sustained effort to achieve results. In addition to new models of care and greater service integration, we need to look at implementing programmes that better respond to the cultural beliefs and values of Pacific peoples.

Ensuring health policies and programmes are effective and informed by evidence based information is a priority area for *Ala Mo'ui: Pathways to Pacific Health and Wellbeing 2010–2014* (Minister of Health and Minister of Pacific Island Affairs 2010). Achieving success in the priority areas identified by *Tupu Ola Moui 2012* will require us to work with Pacific families and communities to increase protective factors and reduce risk factors, and reconfigure our services so that they respond to Pacific people's needs and expectations.

Vinaka vakalevu.

Dr Api Talemaitoga
Chief Advisor
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1 Introduction

Tupu Ola Moui: Pacific Health Chart Book 2012 updates the first *Pacific Health Chart Book*, which was released in 2004. This edition presents a snapshot of Pacific health in the mid to late 2000s. Like the first edition, this chart book presents key indicators relating to the socioeconomic determinants of health, risk and protective factors for health, health status, the health system and health service utilisation.

The chart book provides a descriptive analysis of the data, with the statistical information accessible in an easy-to-use format. The most recent data available are presented for each indicator. It is intended that this profile of Pacific health will continue to be updated regularly (every five years).

1.1 ‘Ala Mo’ui: Pathways to Pacific health and wellbeing

Compared with the total New Zealand population, Pacific peoples have poorer health status across a wide variety of measures, including child and youth health, risk factors leading to poor health and long-term conditions.

Achieving better health outcomes for Pacific peoples requires action by the entire health and disability sector. The Ministry of Health, District Health Boards, primary health organisations, and Pacific and non-Pacific health and disability providers all have a role to play, as do other government agencies. (For more detailed information about key parts of the New Zealand health system see: www.health.govt.nz).

‘Ala Mo’ui (Minister of Health and Minister of Pacific Island Affairs 2010) sets out the priority outcomes and actions that will contribute to achieving better health outcomes for Pacific people, families and communities. Monitoring the health status and patterns of service use by Pacific people is identified as a key action for developing appropriate programmes and policies, and driving improvements across the health and disability sector.

1.2 Indicator selection and presentation

Health indicators give an indication of wider health concerns and focus attention on key issues. This chart book focuses on presenting key information through graphs and tables, with short explanations that document some of the key results. It is intended to complement other sources of Pacific health information and resources (see section 1.3 ‘Useful information and resources’).

The indicators were selected using conventional criteria relating to their ability to signal wider health concerns and to focus on salient health issues. Table 1 shows how the indicators are divided into chapters.

Table 1: Chapters and indicators

Chapter	Indicators
Demographics	Population growth Age structure
Socioeconomic Determinants of Health	Neighbourhood deprivation Socioeconomic indicators Health literacy
Risk and Protective Factors	Breastfeeding Nutrition Body size Physical activity Tobacco smoking Alcohol and other drugs Immunisation coverage Cervical screening Breast screening
Health Status Indicators	Life expectancy Health expectancy Disability prevalence Mental health
Health System Indicators	Ambulatory-sensitive hospitalisation Amenable mortality
Health Indicators for Infants and Children	Low birthweight Infant mortality Oral health Asthma Lower respiratory tract infection Infectious diseases Hearing loss
Health Indicators for Youth	Sexual health Teenage pregnancy Suicide
Health Indicators for Adults	Hospital and mortality rates for major conditions Diabetes Cancer
Health Service Utilisation	Use of general practitioners Use of oral health care workers Access to a medical specialist Use of Pacific health providers Use of Pacific traditional healers
Injury	Leading causes of mortality and hospitalisation Road traffic accidents Falls Self harm Assault and homicide Therapeutic use of drugs, medicaments and biological substances

1.3 Useful information and resources

Ministry of Health resources

The Ministry of Health receives data from different parts of the health sector through the utilisation of health services or mandatory reporting (national collections), and also from national population health surveys www.health.govt.nz/nz-health-statistics

National collections

The Ministry of Health has operational responsibility for national collections of health and disability information to support decision-making in policy development, funding and at the point of care. This information contributes to improving the health outcomes of New Zealanders. Collections include the Mortality Collection, the National Immunisation Register, the National Minimum Dataset (hospital events), and the New Zealand Cancer Registry.

Population health surveys

In the past the Ministry of Health repeated national population health surveys at regular intervals to monitor people's health, measure access to health services and help develop health policies, programmes and services that better meet the needs of New Zealanders. From April 2011 the New Zealand Health Survey and the various surveys that were part of the Ministry of Health's wider survey programme (eg, the Adult and Child Nutrition Surveys; the Tobacco, Alcohol and Drug Use Surveys; Te Rau Hinengaro (the New Zealand Mental Health Survey); and the Oral Health Survey) have been integrated into a single survey, which will be in continuous operation.

Ministry of Health publications

- Minister of Health and Minister of Pacific Island Affairs. 2010. *'Ala Mo'ui: Pathways to Pacific Health and Wellbeing 2010–2014*. Wellington: Ministry of Health.
- Ministry of Health. 2008. *A Portrait of Health: Key results of the 2006/07 New Zealand Health Survey*. Wellington: Ministry of Health.
- Ministry of Health. 2009. *A Focus on the Health of Māori and Pacific Children: Key findings of the 2006/07 New Zealand Health Survey*. Wellington: Ministry of Health.
- Ministry of Health. 2010. *Saving Lives: Amenable mortality in New Zealand, 1996–2006*. Wellington: Ministry of Health.

Sources of further information relevant to particular indicators are noted within relevant chapters.



2 Collections, Information and Resources

2.1 Data sources

Data for the indicators used in this document were derived from multiple sources, including the population Census, administrative databases, disease registers, surveys, and research studies. Key sources are listed below.

Table 2: Data sources for *Tupu Ola Moui: Pacific Health Chart Book*

Source (agency or collection)	Data	Period	Type of data
Ministry of Health	Mortality Collection Dataset	2000–2008	National collection
	National Minimum Dataset (NMDS) – hospitalisations	2000–2010	National collection
	New Zealand Cancer Registry (NZCR) – cancer registrations	2004–2008	National collection
	Cervical screening	2001–2010	Screening data
	Breast screening	2006–2010	Screening data
	Immunisation	2009–2011	Register
	New Zealand Oral Health Survey	2009	Survey
Statistics New Zealand	Life expectancy	1981–2006	Life tables
	Disability	2006	Survey
	Demographics	2006	Census
	Population projections	2006–2026	Official estimates
	Household Labour Force	2009–2011	Survey
	New Zealand Income Survey	2011	Survey
	Home Tenure	2006	Census
Institute of Environmental Science and Research Limited (ESR)	Infectious disease notifications	2007–2008	Notifications
2006/07 New Zealand Health Survey (NZHS)	Risk and protective factors, disease prevalence, health service utilisation, mental health	2006/07	Survey
Ministry of Education	Early childhood education	2006–2010	Annual census
	NCEA achievement	2003–2010	National collection

2.2 Statistical methods

Age standardisation

Age standardisation allows comparison between ethnic groups with different age distributions. Most of the indicators are presented as age-standardised rates and are expressed as a rate per 100 (percentage) or 100,000. Age-standardisation was done within five-yearly age groups. The age-standardised rate was not calculated for counts less than five.

For this report, age standardisation was performed by the direct method using the World Health Organization (WHO) world population age distribution (Ahmad et al 2000).

Ninety-five percent confidence intervals

Many of the results presented have a margin of error. The 95% confidence interval (CI) gives an indication of this error. It indicates the interval that has a 95% probability of enclosing the true value.

The CI is influenced by the sample size of the group. When the sample size is small (as is often the case with the Pacific population), 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.

Ethnicity

Most indicators are presented comparing the Pacific population with the total population. Pacific ethnicities are not separated out due to small numbers.

Total response ethnicity was used for all data except where indicated. Total response ethnicity classifies a person as Pacific if any one of their recorded ethnicities was Pacific. Prioritised ethnicity is where individuals who record both Māori and Pacific ethnicity are classified as Māori; those who record Pacific with any other ethnicity are classified as Pacific. Prioritised ethnicity is generally used for administrative data. A single/combination output method of classification is where people are counted just once according to the ethnic group or combination of ethnic groups they have reported.

Population rates for death and cancer registrations were calculated using ethnicity as recorded on death and cancer registrations, respectively.

Age groups

For some indicators in this chart book the data are presented across all ages in the population. For a selection of indicators, age-specific (crude) rates are presented. Adults are defined as those aged 15 and over (for survey data).

Comparability with the 2004 Pacific Health Chart Book

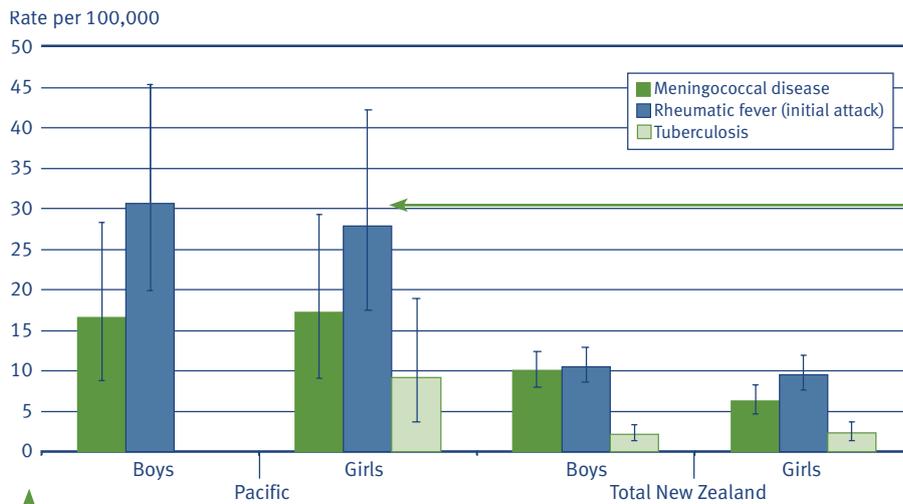
Indicator definitions may not be the same as those used in the first edition of *Tupu Ola Moui* (Ministry of Health and Ministry of Pacific Island Affairs 2004) and we recommend caution in making any comparisons between indicators in the two chart books.

ICD codes

Full details of ICD-10 codes used for mortality and hospitalisation data are given in Appendix 1, codes for amenable mortality are in Appendix 2, and codes for ambulatory-sensitive hospitalisations are in Appendix 3.

2.3 How to interpret results: figures

Figure Y: Infectious disease notification rates for meningococcal disease, rheumatic fever (initial attack) and tuberculosis, Pacific and total children (aged 0–14 years), by sex, 2007 and 2008 (age standardised)



The figure's caption indicates what the figure is about

The legend shows who or what is represented by the different colours in the graphs

This is a graphical presentation of the 95% confidence interval. The difference between two groups is statistically significant when the lines do not overlap.

The y-axis title provides information about the units of measure used

In terms of the convention used for years for data, '2006/07', for example, relates to the 12-month period that the New Zealand Health Survey was undertaken (October 2006 to November 2007), whereas '2009 and 2010', for example, refers to the average of those years.



3 Demographics

The last half of the 20th century saw a rapid growth in the size of Pacific communities in New Zealand. Below are future population projections (Table 3), the growth of Pacific ethnic groups (Figure 1) and age structure (Figure 2) of the Pacific population.

3.1 Population growth

Table 3: Actual and projected New Zealand population, by ethnicity, 2006–2026

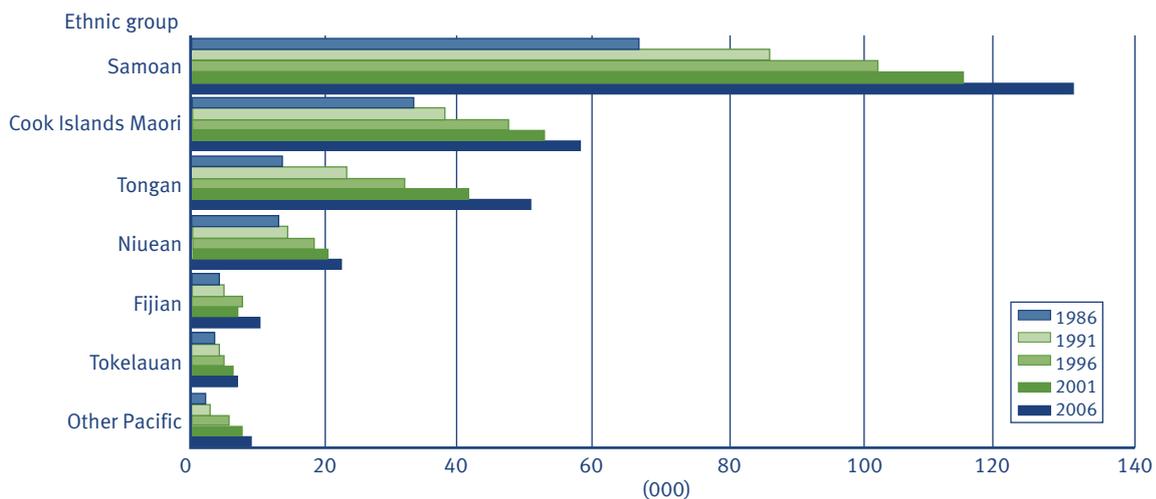
	Pacific	European and Other (including New Zealander)	Māori	Asian	Total
2006	301,600	3,213,300	624,300	404,400	4,185,000
2011	345,000	3,312,200	674,200	501,100	4,425,000
2016	388,800	3,380,200	722,600	596,100	4,631,000
2021	433,700	3,431,100	767,300	694,100	4,818,000
2026	481,200	3,471,700	810,700	791,200	4,992,000

Source: Statistics New Zealand (Population Projections)

Note: Ethnic projections use Series 6 of the 2006 base (assuming medium fertility, medium mortality, medium migration and medium inter-ethnic mobility). Total population projections use the comparable Series 5 (of the 2009 base).

Table 3 shows that the Pacific population is projected to increase from 7.2% of the total population in 2006 to 9.6% of the population in 2026.

Figure 1: Growth of Pacific ethnic groups, 1986–2006



Source: Statistics New Zealand and Ministry of Pacific Island Affairs 2010a

Figure 1 shows the growth of Pacific ethnic groups between the 1986 and 2006 censuses. Samoans are by far the largest Pacific group in New Zealand, numbering over 131,000 at the time of the 2006 Census: this was almost half the Pacific population and 3.3% of the total New Zealand population. The Samoan population grew by 64,800 people, or 98%, between 1986 and 2006. This compares with a growth of 23.4% for the total New Zealand population.

Cook Islands Maori make up the next largest group, with 58,000 living in New Zealand in 2006, an increase of 24,900 since 1986. The fastest rate of growth was in the Tongan community, which grew more than threefold between 1986 and 2006, from 13,600 to over 50,500.

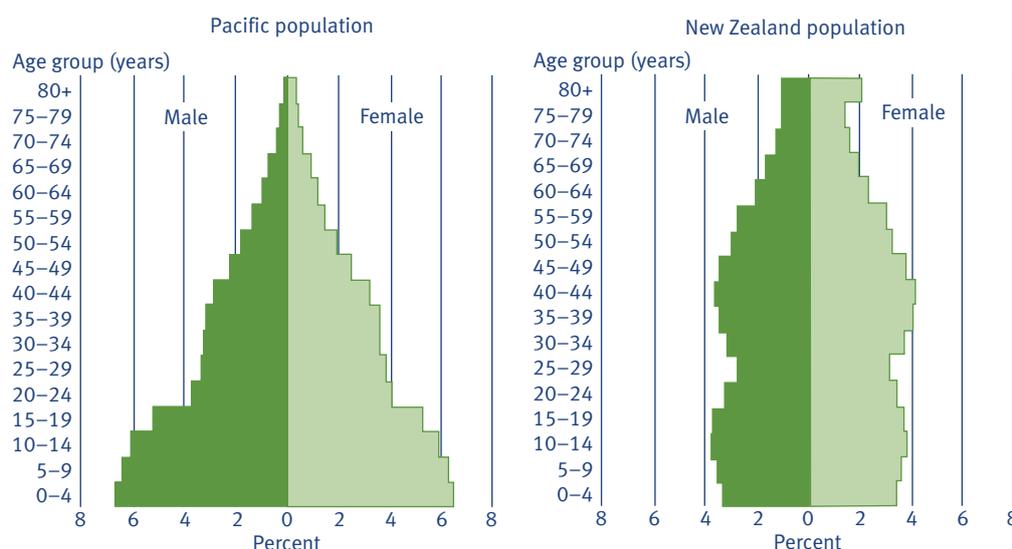
While most of the major Pacific groups show steady growth throughout the period, the Fijian population declined slightly between 1996 and 2001.

Ninety-seven percent of the Pacific population is urbanised, with 92% residing in the 25 main urban areas and 66% in the Auckland urban areas (this is twice the proportion of the total New Zealand population who live in Auckland).

Tongans have the greatest concentration in Auckland (78%), closely followed by Niueans (77%), while Tokelauans have the lowest (26%). Half of the Tokelauan population lives in Wellington, and along with Cook Islands Maori they are also more likely than others to live in secondary urban areas. Fijians are the most likely to live in rural areas (4.7%). (Statistics New Zealand and Ministry of Pacific Island Affairs 2010a).

3.2 Age structure

Figure 2: Age profile of the New Zealand and Pacific populations, by sex, 2006



Source: Statistics New Zealand and Ministry of Pacific Island Affairs 2010a

Figure 2 shows that in terms of age profile, the Pacific population as a whole has a much younger age structure than the total population, with a median age in 2006 of 21 years (compared with 36 years for the total population). In 2006, 38% of the Pacific population was under 15 years (compared with 22% of the total population) and 4% were 65 years and over (compared with 12% of the total population).



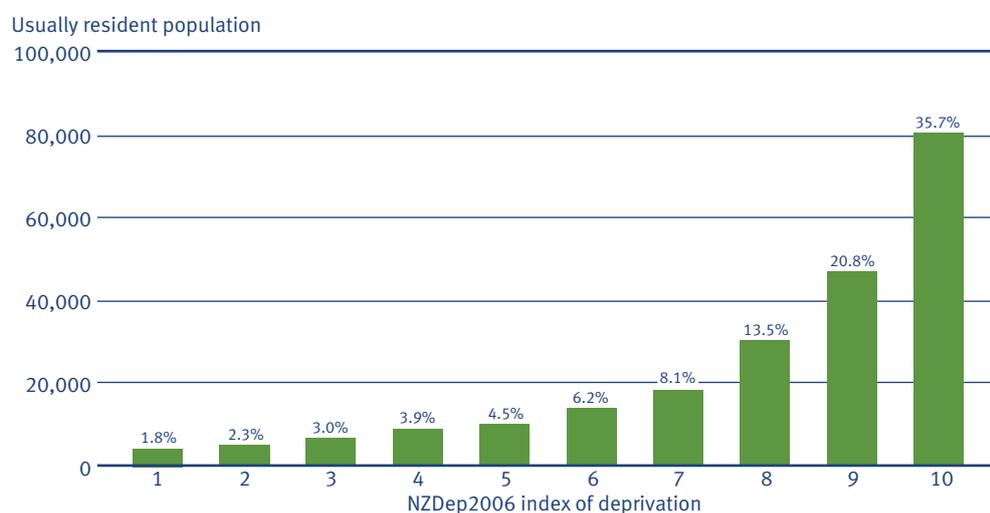
4 Socioeconomic Determinants of Health

Socioeconomic factors such as education, employment status, income and housing can have both direct and indirect impacts on health. In this chapter deprivation is presented as an area-based measure of socioeconomic position, followed by some specific socioeconomic indicators.

4.1 Neighbourhood deprivation

The New Zealand Index of Deprivation (NZDep2006) is a proxy measure of socioeconomic position. NZDep2006 is an area-based index of deprivation that measures the level of socioeconomic deprivation for each neighbourhood (meshblock) according to a combination of the following 2006 Census variables: income, benefit receipt, transport (access to car), household crowding, home ownership, employment status, qualifications, support (sole-parent families), and access to a telephone (Salmond et al 2007).

Figure 3: NZDep2006 profile of Pacific population, 2006



Source: White et al 2008

Figure 3 shows that Pacific people are more likely to live in areas of higher neighbourhood deprivation (NZDep2006 deciles 9 and 10). In 2006, 35.7% of Pacific people lived in decile 10 areas, compared with 4.5% for European/Pākehā and Other ethnic groups combined; the figures were 24.1% for Māori and 7.5% for Asian people.

4.2 Socioeconomic indicators

Education

Pacific attendance at early childhood education and achievement at school are important for improving the social and economic status of Pacific people and the associated health outcomes of Pacific people. Improving educational achievement is also important in terms of Pacific people entering the health and disability workforce.

Table 4: Percentage of Year 1 students who attended early childhood education services, by ethnicity, 2006–2010

Ethnicity	2006	2007	2008	2009	2010	Difference 2006–2010
Pacific	82.8	82.6	83.4	84.0	85.3	2.5
European/Pākehā	97.2	97.3	97.5	97.6	98.1	0.9
Māori	87.9	88.5	88.4	89.3	89.4	1.5
Asian	96.3	96.3	95.6	95.9	96.7	0.4
Other	91.4	93.3	93.6	94.5	96.1	4.7
Total	93.4	93.6	93.6	93.9	94.5	1.1

Source: Ministry of Education (Early Childhood Education)

Note: A prioritised ethnicity method of classification is used for ethnicity.

Table 4 shows that for Pacific new entrants, prior participation rate in early childhood education services was 85.3% in 2010, with a 2.5% increase in participation from 2006 to 2010. This compares to European/Pākehā children with a prior participation rate of 98.1% in 2010 and a 0.9% increase in participation from 2006 to 2010.

Table 5: Percentage of school leavers with NCEA Level 2 or above, by ethnicity, 2003–2010

Year	Pacific	All ethnic groups
2003	42.3	52.6
2004	N/A	N/A
2005	45.3	57.2
2006	49.6	60.4
2007	56.1	65.9
2008	62.9	71.1
2009	65.5	73.0
2010	68.0	74.4

Source: Ministry of Education (NCEA Achievement)

Notes: A prioritised ethnicity method of classification is used for ethnicity.

Due to methodological changes in the allocation of attainment levels in 2004, the percentages of leavers with at least NCEA Level 2 in 2004 are not comparable with other years and have been omitted.

Table 5 shows that a lower percentage of Pacific students left school with NCEA Level 2 or above compared with all ethnic groups, from 2003 to 2010.

Table 6: Percentage of school leavers who fulfilled the requirements to enter university, by ethnicity, 2005–2008

Type of school	Ethnic group	2005 (percent)	2006 (percent)	2007 (percent)	2008 (percent)
State	Pacific	12.1	14.7	17.1	20.3
	Non-Pacific	30.2	33.7	35.9	40.1
Private/integrated	Pacific	24.9	26.1	33.4	32.2
	Non-Pacific	57.6	60.9	65.1	65.9

Source: Statistics New Zealand and Ministry of Pacific Island Affairs 2010b

Note: A prioritised ethnicity method of classification is used for ethnicity.

Table 6 shows that Pacific students were less likely to fulfil the requirements to enter university compared with non-Pacific students, from 2005 to 2008. As with other students, there is an increasing trend in Pacific students fulfilling the requirements to enter university.

Employment

Table 7: Unemployment rate (unadjusted), Pacific population and other ethnic groups aged 15+ years, June 2009 to June 2011

Ethnic group	June 2009 quarter (percent)	June 2010 quarter (percent)	June 2011 quarter (percent)
Pacific peoples only	12.8	14.1	13.1
European only	4.0	4.4	4.7
Māori only	12.6	16.4	13.7
Asian only	7.8	10.5	6.1

Source: Statistics New Zealand (Household Labour Force)

Note: A single/combination output method of classification is used for ethnicity, with single output reported above.

Table 7 shows that Pacific people and Māori (aged 15 years and over) had a higher (unadjusted) unemployment rate compared with other ethnic groups.

Income

Table 8: Average weekly gross earnings from paid employment (self-employment, wage and salary jobs), Pacific and total population, by age and sex, 2011

Ethnicity	Sex	Age (years)	
		15–24	25–64
Pacific	Males	\$528	\$867
	Females	\$416	\$690
Total ethnic groups	Males	\$576	\$1,150
	Females	\$425	\$793

Source: Statistics New Zealand (New Zealand Income Survey)

Table 8 shows that Pacific adults aged 25–64 years had lower average weekly earnings from paid employment compared with the total population.

Home tenure

Tenure holding measures whether an individual owns or partly owns the dwelling they usually live in.

Table 9: Home tenure holder, aged 15+ years, by ethnicity, 2006

Ethnic group	Tenure holder			Total
	Own or partly own usual residence	Do not own usual residence	Not elsewhere included	
Pacific people	33,564 (20.3%)	120,099 (72.5%)	11,967 (7.2%)	165,630
Total	1,578,081 (49.9%)	1,385,856 (43.9%)	196,437 (6.2%)	3,160,374

Source: Statistics New Zealand (Home Tenure)

Notes: All figures are for the 2006 Census usually resident population aged 15 years and over.
‘Not Elsewhere Included’ includes ‘Response Unidentifiable’ and ‘Not Stated’.

Table 9 shows that Pacific people aged 15 years and over were less likely than the total population to own their own residence.

Telephone and internet access

Table 10: Percentage of Pacific population with telephone and internet access in the home compared with other ethnic groups, 2001 and 2006

Ethnic group	Telephone access		Internet access	
	2001	2006	2001	2006
Pacific people	87.0	95.1	20.4	37.7
Māori	88.3	94.4	25.3	46.7
European	98.1	98.9	45.5	70.4
Asian	97.8	98.7	61.5	77.4
Other	97.3	98.5	55.6	72.9
Total	96.3	98.1	42.9	66.4

Source: Ministry of Social Development 2010

Notes: Ethnicity is based on multiple responses.
Telephone access data are from the 2006 Census; internet access data are from the Household Use of Information and Communication Technology (ICT) Survey.

Table 10 shows that Pacific (and Māori) people were less likely than other ethnic groups to have telephone access and internet access in the home.

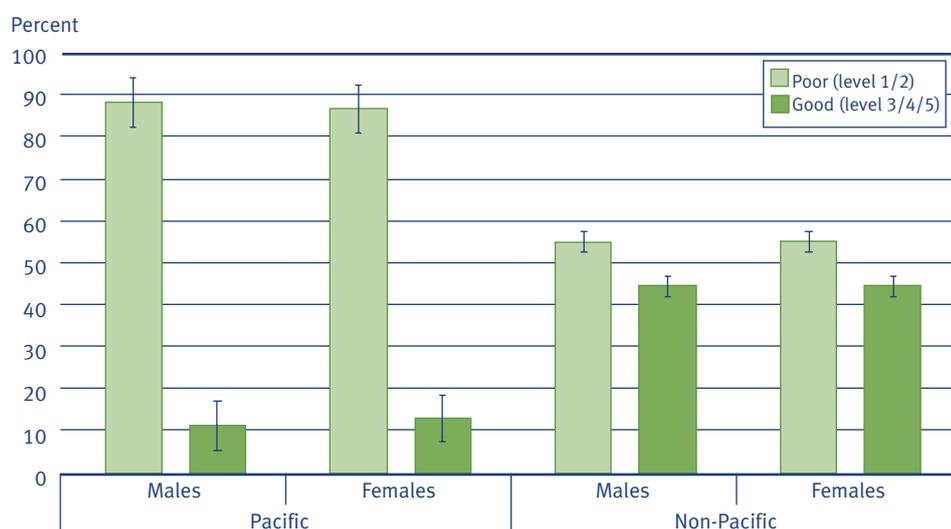
4.3 Health literacy

‘Health literacy’ is a widely used term that encompasses a range of ideas and definitions. Broadly speaking, health literacy is the degree to which individuals have the capacity to obtain, process and understand basic health information and services to make informed and appropriate health decisions (Kickbusch et al 2005).

The consequences of poor health literacy have been studied fairly extensively, with poor health literacy being a strong predictor of a person’s health (Kickbusch et al 2005) and affecting treatment outcomes and safety of care.

Having a health literacy score at level 1 or 2 means that a person has insufficient skills to cope with the health literacy demands they typically face. Level 3 is described as the ‘minimum required for individuals to meet the complex demands of everyday life and work in the emerging knowledge based economy’ (Ministry of Health 2010d).

Figure 4: Percentage of Pacific adults (aged 15+ years) with poor and good health literacy skills compared with non-Pacific population, by sex, 2006



Source: Adult Literacy and Life Skills Survey 2006

Figure 4 shows that almost 90% of Pacific men and women (aged 15 years and over) had poor health literacy. Overall, Pacific men and women were significantly more likely to have poor health literacy skills than non-Pacific men and women (at 55%).



5 Risk and Protective Factors

The indicators in this chapter relate to individual health risk and protective factors that have an impact on health outcomes.

5.1 Breastfeeding

Appropriate nutrition in the first few months of life is more critical than at any other time in the life cycle. Breast milk has many health benefits: breastfed children have reduced risk of respiratory tract disease, asthma, childhood obesity and sudden unexpected death in infancy. Women who breastfeed have lower rates of post-partum haemorrhage, and, in the longer term, lower rates of breast and ovarian cancer (National Breastfeeding Advisory Committee of New Zealand 2009).

Table 11: Breastfeeding in the first few months of life, by ethnicity, 2002–2007

Breastfeeding	Year	Pacific (%)	All (%)
Exclusive and full breastfeeding at 6 weeks	2002	61	66
	2003	62	67
	2004	59	67
	2005	58	66
	2006	57	66
	2007	53	65
Exclusive and full breastfeeding at 3 months	2002	50	55
	2003	49	55
	2004	49	56
	2005	48	56
	2006	48	55
	2007	43	54
Exclusive and full breastfeeding at 6 months	2002	20	23
	2003	19	23
	2004	20	24
	2005	19	25
	2006	19	25
	2007	18	26

Source: National Breastfeeding Advisory Committee of New Zealand 2009

Notes: Exclusive breastfeeding means that the infant has only ever received breast milk, with no water, formula or other liquid or solid food. Full breastfeeding means breast milk only in the last 48 hours.

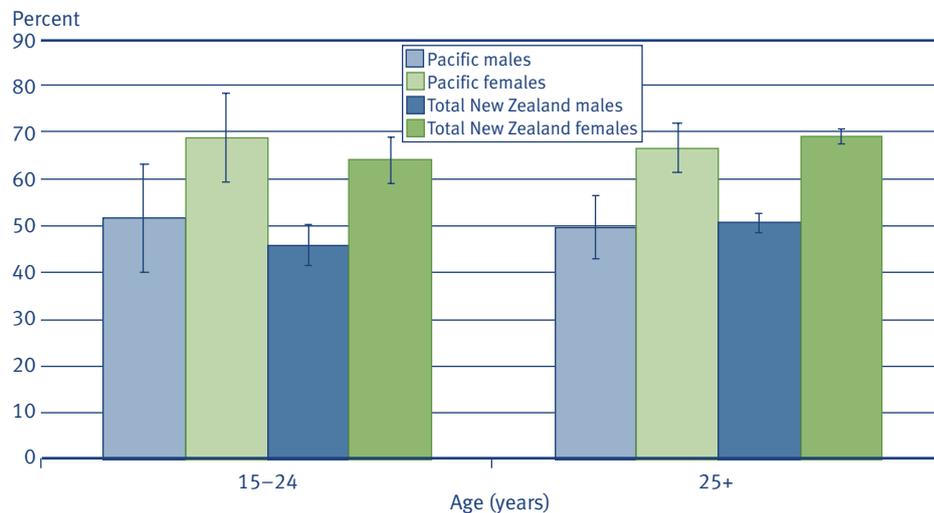
A prioritised ethnicity method of classification was used to classify ethnicity.

Table 11 shows that exclusive and full breastfeeding rates were lower for Pacific babies compared with babies in the total population. The percentage of exclusive and full breastfed Pacific babies decreased from 2002 to 2007, whereas it remained about the same for the total population.

5.2 Nutrition

It is recommended that New Zealanders eat at least three servings of vegetables and at least two servings of fruit per day. Consumption of fruit and vegetables is a protective factor against health conditions such as type 2 diabetes, coronary heart disease and cancer (Ministry of Health 2003).

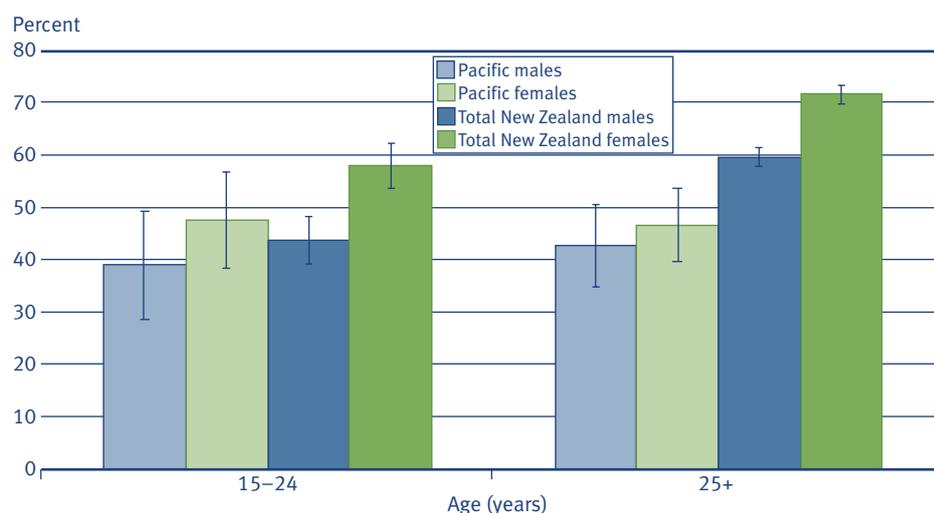
Figure 5: Prevalence of having adequate intake of fruit, Pacific and total adult population, by age and sex, 2006/07 (age standardised)



Source: New Zealand Health Survey 2006/07

Figure 5 shows that, after adjusting for age, Pacific women aged 25 years and over were significantly more likely than Pacific men to meet the recommended intake of fruit.

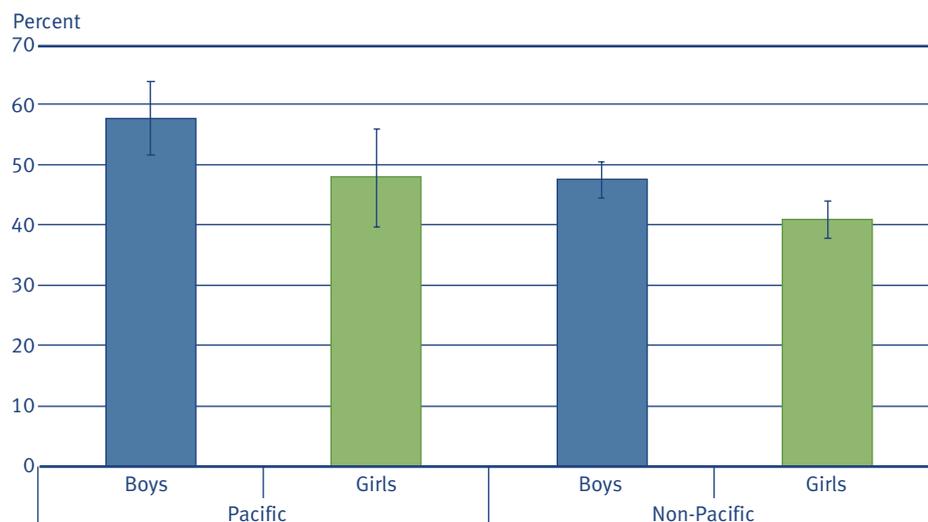
Figure 6: Prevalence of having adequate intake of vegetables, Pacific and total adult population, by age and sex, 2006/07 (age standardised)



Source: New Zealand Health Survey 2006/07

Figure 6 shows that, after adjusting for age, Pacific men and women aged 25 years and over were significantly less likely than men and women in the total population respectively to meet the recommended intake of vegetables.

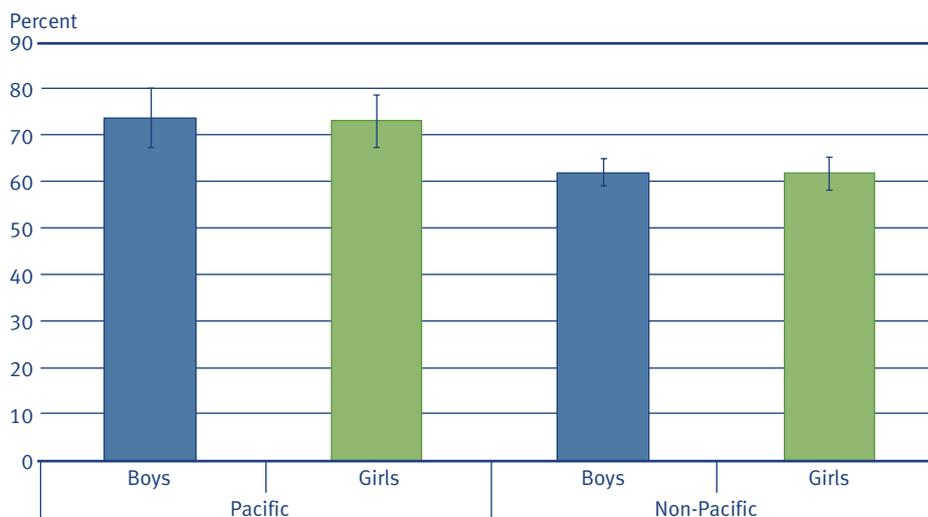
Figure 7: Prevalence of ‘usually have a fizzy drink in a typical week’, Pacific and non-Pacific children (2–14 years), by sex, 2006/07 (age standardised)



Source: New Zealand Health Survey 2006/07

Figure 7 shows that, after adjusting for age, Pacific boys (aged 2–14 years) were significantly more likely to ‘usually have a fizzy drink in a typical week’ compared with non-Pacific boys.

Figure 8: Prevalence of takeaway/fast food intake, Pacific and non-Pacific children (aged 2–14 years), by sex, 2006/07 (age standardised)



Source: New Zealand Health Survey 2006/07

Figure 8 shows that, after adjusting for age, Pacific children (aged 2–14 years) were significantly more likely to ‘usually have a takeaway/fast food in a typical week’ compared with non-Pacific children.

5.3 Body size

A healthy body size is increasingly recognised as important for good health and wellbeing. Body mass index (BMI) provides a useful population-level indicator of excess body weight. BMI is a measure of weight adjusted for height, and is calculated by dividing weight in kilograms by the square of height in metres (kg/m²).

BMI is used internationally to classify underweight, overweight and obesity. It should be noted that the BMI provides a crude measure and does not distinguish between weight associated with muscle and weight associated with fat. However, it does provide a good estimate of increased risk of health conditions associated with obesity (World Health Organization 2008).

To comply with current international practice, the same BMI cut-off points are now used for all ethnic groups (Ministry of Health 2008b). The classification of underweight, overweight and obesity according to BMI is shown in Table 12.

Table 12: Classification of weight using BMI

NZ classification	BMI score (kg/m ²)	Risk of health conditions*
Underweight	< 18.50	Low risk
Normal range	18.50–24.99	Average risk
Overweight	25.00–29.99	Increased risk
Obese	≥ 30.00	Substantially increased risk

Source: Ministry of Health 2008b.

* Only health conditions associated with increased BMI.

Table 13: Prevalence of overweight and obesity, Pacific and total children (2–14 years), by sex, 2006/07 (age standardised)

Sex	Overweight		Obese	
	Pacific	Total	Pacific	Total
Males	30.6 (25.8–35.5)	20.5 (18.3–22.6)	21.0 (16.8–25.1)	8.0 (6.7–9.2)
Females	32.0 (26.2–37.8)	21.4 (18.9–23.8)	26.0 (20.4–31.6)	8.7 (7.2–10.2)
Total	31.3 (27.7–34.9)	20.9 (19.2–22.6)	23.4 (19.9–26.9)	8.3 (7.4–9.3)

Source: New Zealand Health Survey 2006/07

Note: The 95% confidence intervals are presented in brackets.

Table 13 shows that, after adjusting for age, Pacific children aged 2–14 years were significantly more likely to be overweight or obese than total children. Fifty-five percent of Pacific children were overweight or obese compared to 29% of total children.

Table 14: Prevalence of overweight and obesity, Pacific and total adults (aged 15+ years), by sex, 2006/07 (age standardised)

Sex	Overweight		Obese	
	Pacific	Total	Pacific	Total
Males	27.0 (21.7–32.4)	40.7 (39.1–42.3)	63.9 (58.6–69.3)	24.8 (23.3–26.2)
Females	21.9 (17.1–26.8)	29.4 (27.9–30.8)	66.3 (61.2–71.5)	26.1 (24.7–27.5)
Total	24.5 (21.0–28.0)	35.0 (34.0–36.0)	65.1 (61.2–69.0)	25.4 (24.5–26.4)

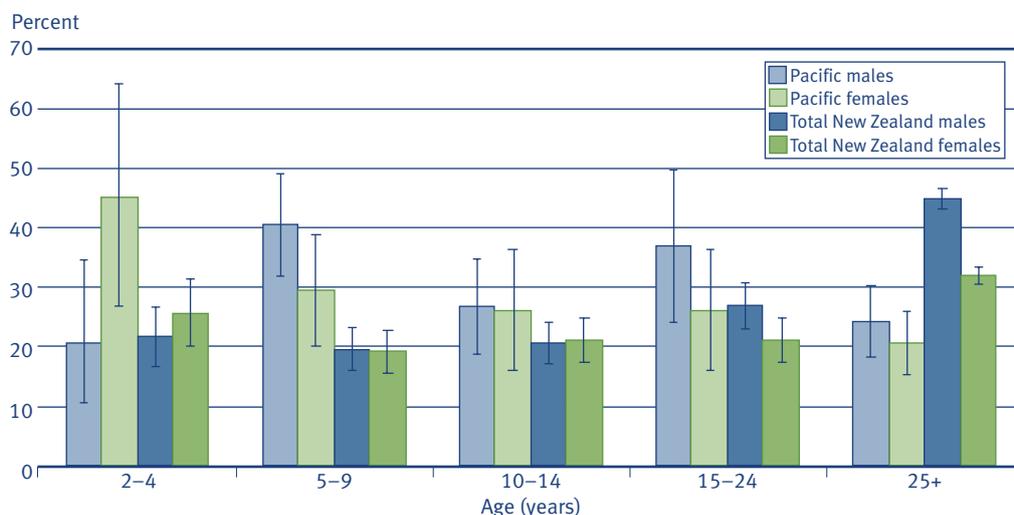
Source: New Zealand Health Survey 2006/07

Note: The 95% confidence intervals are presented in brackets.

Table 14 shows that, after adjusting for age, Pacific adults (aged 15 years and over) were significantly less likely to be overweight and significantly more likely to be obese than total adults. Eighty-nine percent of Pacific adults were overweight or obese compared to 60% of total adults.

Tables 13 and 14 show that Pacific children and adults are more likely to be in the higher weight category (with a substantially increased risk of developing related health conditions) than total children and adults. Forty-three percent of overweight or obese Pacific children were obese compared with 28% of total children. Seventy-three percent of overweight or obese Pacific adults were obese compared with 42% of total adults. This pattern of distribution is also reflected in Figures 9 and 10.

Figure 9: Prevalence of overweight, Pacific and total population, by age and sex, 2006/07 (age standardised)



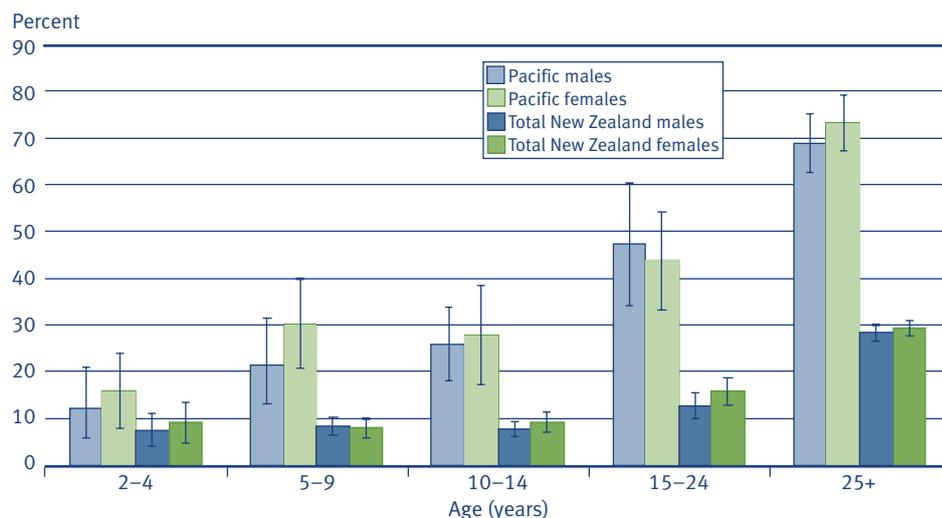
Source: New Zealand Health Survey 2006/07

Notes: Ethnic-specific BMI cut-off points were not used. This follows international recommendations from the World Health Organization (Ministry of Health 2008b).

For the 2–4, 5–9 and 10–14 years age groups there will be no difference between age standardised and unadjusted rates.

Figure 9 shows that, after adjusting for age, Pacific males and females aged 25 years and over were significantly less likely to be overweight than males and females in the total population.

Figure 10: Prevalence of obesity, Pacific and total population, by age and sex, 2006/07 (age standardised)



Source: New Zealand Health Survey 2006/07

Notes: Ethnic-specific BMI cut-off points were not used. This follows international recommendations from the World Health Organization (Ministry of Health 2008b).

For the 2-4, 5-9 and 10-14 years age groups there will be no difference between age standardised and unadjusted rates.

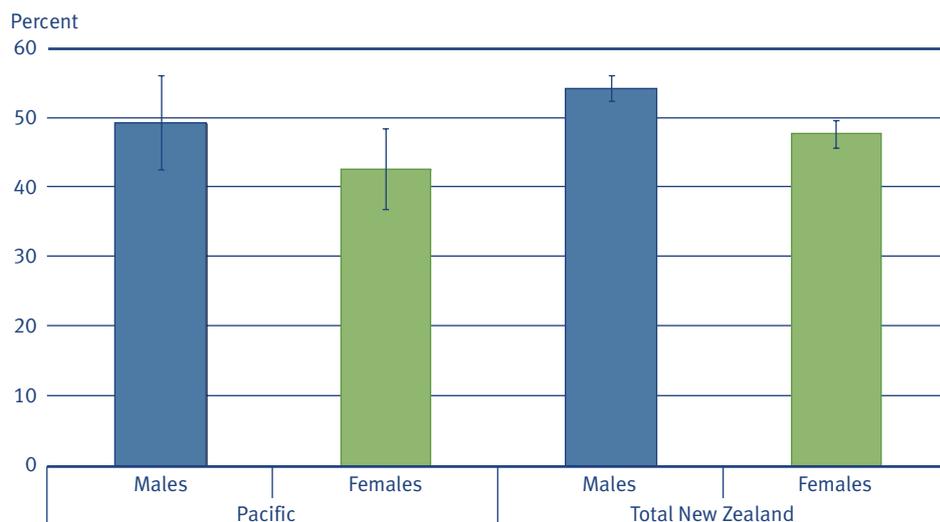
Figure 10 shows that, after adjusting for age, Pacific males and females were significantly more likely to be obese than males and females in the total population across all age groups except the 2-4 years age group.

5.4 Physical activity

Physical activity can help people live longer, healthier lives. The recommended amount of physical activity for adults is at least 30 minutes of moderate intensity physical activity at least five days a week.¹

¹ Adult guidelines for physical activity were developed by the Hillary Commission in consultation with the Ministry of Health in 2001.

Figure 11: Prevalence of meeting the physical activity guidelines, Pacific and total adult population (18 years and over), by sex, 2006/07 (age standardised)



Source: New Zealand Health Survey 2006/07

Figure 11 shows that, after adjusting for age, there were no significant differences between Pacific and total men and women (aged 18 years and over) in the prevalence of meeting the physical activity guidelines.

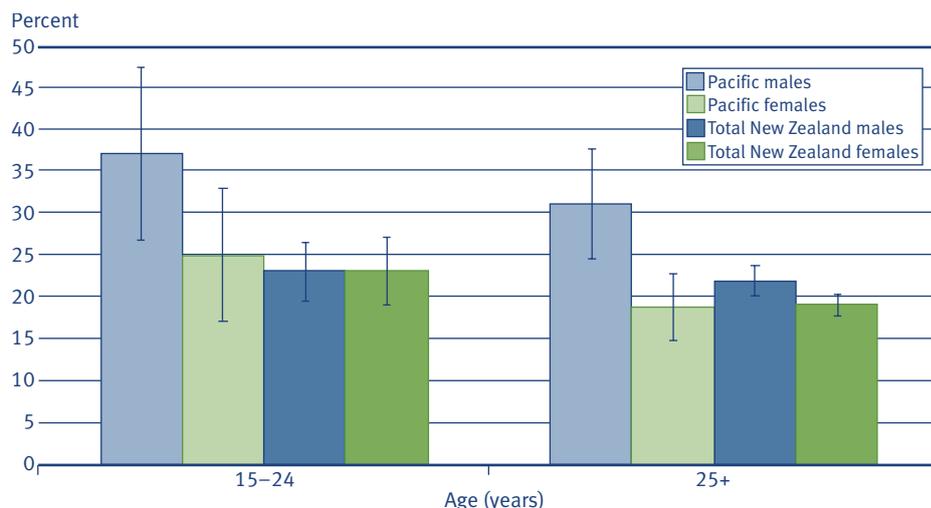
5.5 Tobacco smoking

Tobacco smoking is a major cause of ill health and death. Smoking is the main cause of lung cancer and chronic obstructive pulmonary disease (COPD), and is a primary risk factor for cardiovascular disease, cancer and chronic diseases (US Department of Health and Human Services 2004).

A current smoker, according to the World Health Organization definition, is someone who has smoked more than 100 cigarettes in their lifetime and is currently smoking at least once a month (World Health Organization 1998).



Figure 12: Prevalence of being a current smoker, Pacific and total population, by age and sex, 2006/07 (age standardised)



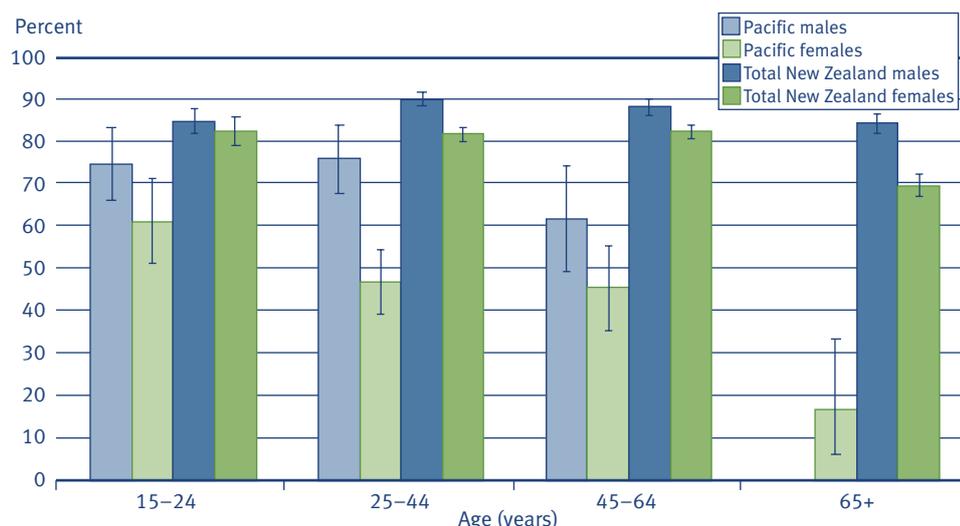
Source: New Zealand Health Survey 2006/07

Figure 12 shows that, after adjusting for age, Pacific men aged 25 years and over had a significantly higher prevalence of being a current smoker than Pacific women and men and women in the total population.

5.6 Alcohol and other drugs

Alcohol is the most commonly used recreational drug in New Zealand, with the majority of adults consuming alcohol at least occasionally. However, the misuse of alcohol can cause a wide range of harms to the individual, to their family, and to the wider community (Ministry of Health 2007a).

Figure 13: Any alcohol intake in the last 12 months, Pacific and total population, by age and sex, 2006/07 (age standardised)



Source: New Zealand Health Survey 2006/07

Note: Rates were suppressed when the denominator was less than 30.

Figure 13 shows that, after adjusting for age, both Pacific men and Pacific women had a lower prevalence of any alcohol intake than men and women respectively in the total population. This difference was significant in every age group except for men aged 15–24 years.

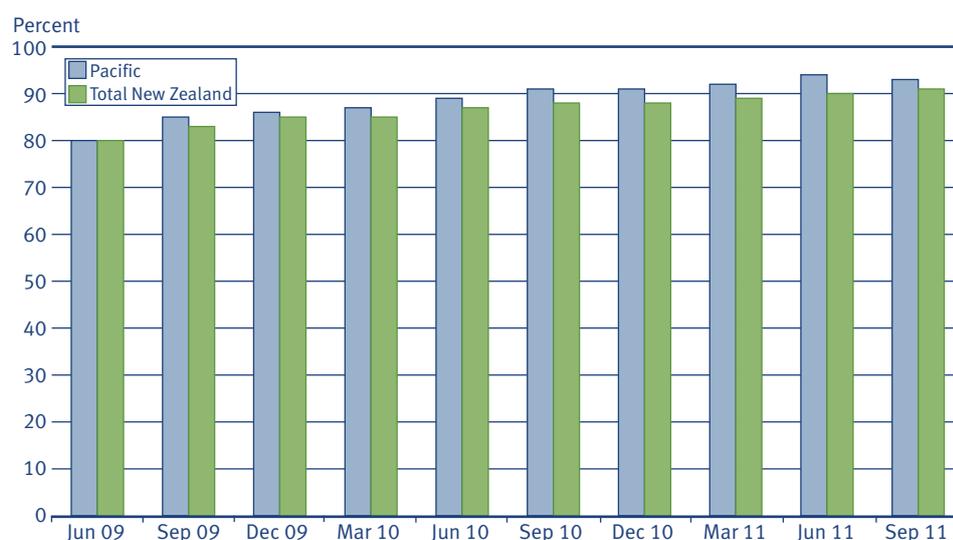
Although Pacific adults had a lower prevalence of any alcohol intake than the total population, among drinkers² Pacific men were 1.5 times more likely and Pacific women 1.7 times more likely to have a potentially hazardous alcohol drinking pattern³ than adults in the total population (New Zealand Health Survey 2006/07).

The 2007/08 New Zealand Alcohol and Drug Use Survey found that, overall, Pacific men and women were less likely to have used drugs over the previous year than men and women in the total population. The exception was kava (which is used largely for ceremonial purposes in Pacific communities), with Pacific men being almost six times more likely to have consumed kava in the past year compared with men in the total population (Ministry of Health 2010a).

5.7 Immunisation coverage

Immunisation coverage is the percentage of children who have received all of the immunisations on the National Childhood Immunisation Schedule for their age. Immunisation programmes are considered to be one of the most cost-effective public health interventions (Ministry of Health 2007b).

Figure 14: Percentage children fully immunised at 24 months, Pacific and total population (across all DHBs), June 2009 to September 2011



Source: National Immunisation Register Data Mart Report

Note: A prioritised ethnicity method of classification is used for ethnicity.

Figure 14 shows that Pacific children were more likely to be fully immunised at 24 months of age compared with children in the total population. In September 2011, 93% of Pacific children were fully immunised at 24 months of age. Coverage rates have improved for Pacific children and for the total population since June 2009.

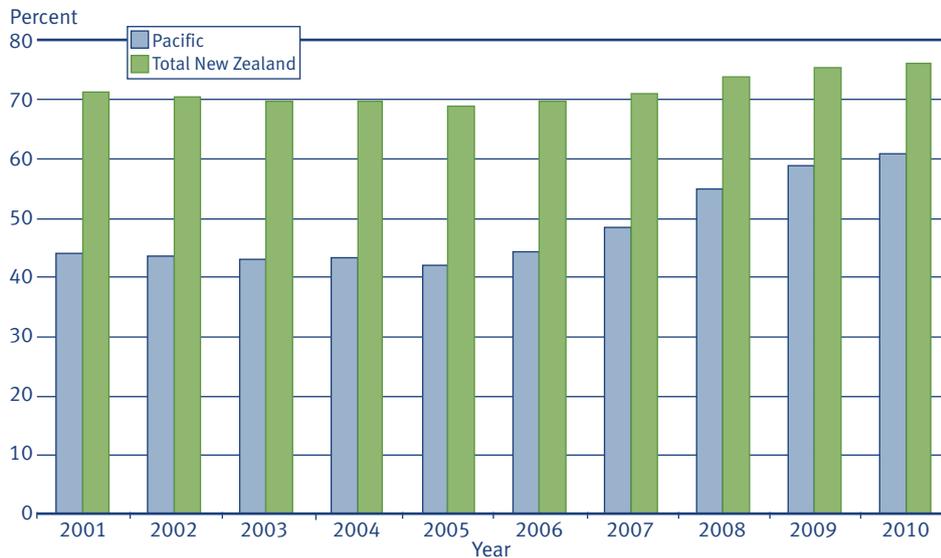
² Proportion of population who had a drink containing alcohol in the previous 12 months.

³ The international definition of hazardous drinking as an AUDIT (Alcohol Use Disorders Identification Test) score of 8 or more has been used, representing an established pattern of drinking that carries a high risk of future damage to physical or mental health.

5.8 Cervical screening

New Zealand's National Cervical Screening Programme aims to reduce the incidence of and mortality from cervical cancer by detecting pre-cancerous changes of the cervix.

Figure 15: Percentage of Pacific women and women in total population, aged 20–69 years, who had a cervical smear in the last three years, 2001 to 2010



Source: National Cervical Screening Programme (hysterectomy-adjusted)

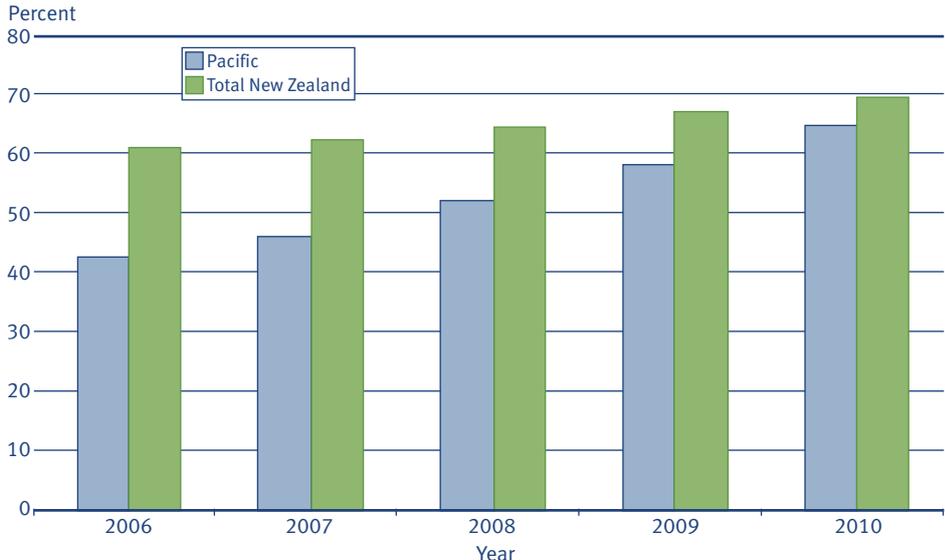
Note: A prioritised ethnicity method of classification is used for ethnicity.

Figure 15 shows that, from 2006 to 2010, participation by Pacific women aged 20–69 years in the National Cervical Screening Programme increased at a faster rate (from 44% to 61%), than that for the total population (from 70% to 76%). However, the proportion of Pacific women having a cervical smear still remains below that for total women. In 2010, 60.9% of Pacific women had had a cervical smear in the last three years compared with 76.1% in the total population.

5.9 Breast screening

Mammograms (a type of breast X-ray) are used to identify early breast cancer. Finding breast cancer early means a person has a better chance of surviving the disease. In New Zealand, BreastScreen Aotearoa, the national breast-screening programme, provides a free mammogram every two years to all women aged 45–69 years to help check for early breast cancer.

Figure 16: Percentage of Pacific women and women in the total population, aged 50–69 years, who had a mammogram in the last two years, 2006 to 2010



Source: National Breast Screening Programme

Notes: A prioritised ethnicity method of classification is used for ethnicity.
 December 2006 is the first complete 24-month period after extension of BreastScreen Aotearoa to 65–69 year olds (and 45–49 year olds).

Figure 16 shows that the percentage of Pacific women (aged 50–69 years) who have had a mammogram in the last two years is lower than that for total women. However, the participation of Pacific women in BreastScreen Aotearoa is increasing at a faster rate than for women in the total population. The percentage of Pacific women who have had a mammogram increased by 52% from 2006 to 2010, compared with a 14% increase for total women.



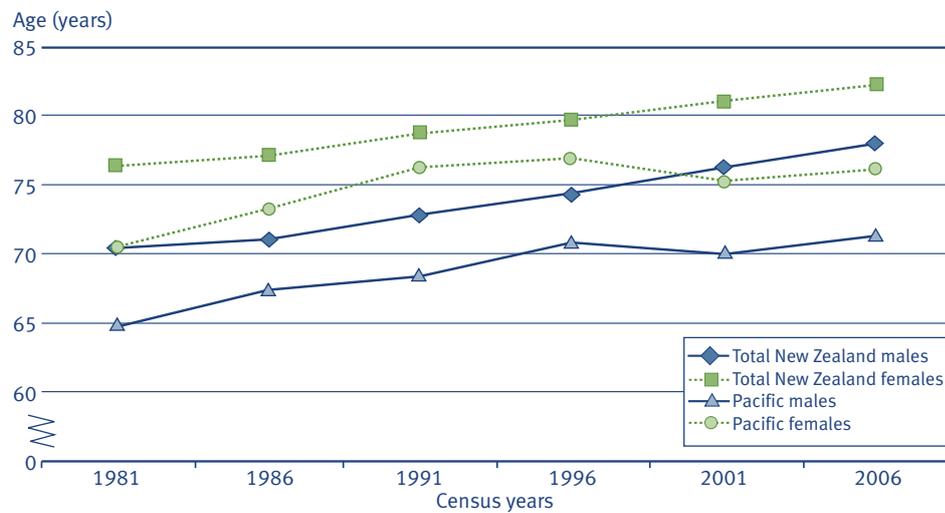
6 Health Status Indicators

The health status of the Pacific population is profiled in this chapter using a set of indicators from a whole-of-life perspective, including quantity of life (life expectancy) and quality of life (health expectancy), followed by disability prevalence and mental health (psychological distress in adults). Later chapters present specific indicators for major health concerns across the life cycle (infants and children, young people, and older adults).

6.1 Life expectancy

Life expectancy indicates the total number of years a person can expect to live, based on the mortality rates of the population at each age in a given year or period.

Figure 17: Life expectancy at birth, Pacific and total population, by sex, 1981–2006



Source: Ministry of Health, based on adjusted Pacific mortality (unpublished)

Figure 17 shows that from 1981 to 2006 the life expectancy at birth of the Pacific population increased. For Pacific males, life expectancy at birth increased from 64.7 years to 71.3 years, while life expectancy for Pacific females increased from 70.5 years to 76.1 years.

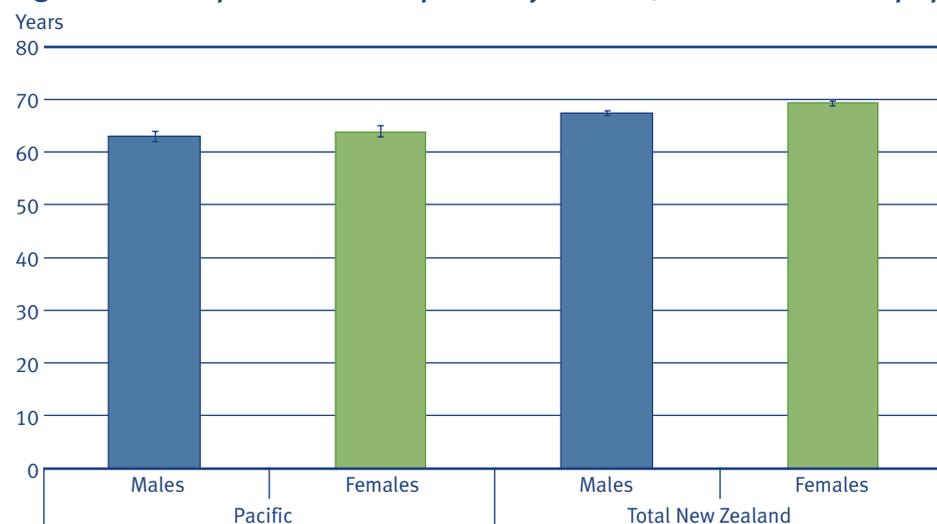
The percentage increase for the Pacific population was similar to that for the total population, being slightly lower for Pacific males compared with total males (10.2% and 10.8% respectively) and slightly higher for Pacific females compared with total females (7.9% and 7.6% respectively).

In 2006, life expectancy for Pacific males was 6.7 years less than total males and for Pacific females it was 6.1 years less than total females.

6.2 Health expectancy

Health expectancy, in the form of independent life expectancy, is the number of years a person can be expected to live free of functional limitation needing assistance.

Figure 18: Independent life expectancy at birth, Pacific and total population, by sex, 2006



Source: Statistics New Zealand, unpublished

Notes: A prioritised ethnicity method of classification is used for ethnicity.

The measure uses data from the 2006 Disability Survey.

Figure 18 shows that in 2006 Pacific people could expect to live fewer years independently compared with the total population. The gap in independent life expectancy (ILE) for Pacific males compared with males in the total population was 4.4 years. The gap in ILE for Pacific females compared with females in the total population was 5.3 years. These differences are statistically significant.

6.3 Disability prevalence

Disability is an umbrella term covering impairments, activity limitations and participation restrictions. An impairment is a problem in body function or structure; an activity limitation is a difficulty encountered by an individual in executing a task or action; a participation restriction is a problem experienced by an individual in becoming involved in life situations (World Health Organization⁴). Disabilities may be present at birth; caused by accidents or injuries; caused by disease or illness; or due to ageing.

4 www.who.int/topics/disabilities/en/

Table 15: Number and percentage of people with a disability, by age and ethnicity, 2006

Ethnic group	Age group (years)				
	0–14	15–44	45–64	65+	Total
Pacific people	8.1% (6100)	7.7% (8100)	19.2% (6600)	40.8% (4000)	11% (24,800)
Total ethnic groups	10.4% (90,000)	8.9% (141,500)	20.1% (208,500)	44.6% (220,300)	16.6% (660,300)

Source: Statistics New Zealand (Disability Survey)

Note: A prioritised ethnicity method of classification is used for ethnicity.

Table 15 shows that Pacific people had a lower prevalence of disability than the total population across all age groups. An estimated 6100 Pacific children had a disability. Three percent of the Pacific child population (2500 children, 40% of Pacific children with a disability) had special education needs, and 3% (2400 children, 39% of Pacific children with a disability) had chronic conditions or health problems⁵.

An estimated 18,700 Pacific adults (aged 15 years and over) had a disability. Diseases and illnesses were by far the most common causes of disability for Pacific adults, accounting for an estimated 8100 adults (43% of Pacific adults with a disability).

Eight percent of the Pacific adult population (an estimated 11,900, or 64% of Pacific adults with a disability) had physical disabilities, which was the most common disability type for this group. Other disability types, such as difficulty speaking, learning, remembering or doing everyday activities, were the next most common disability types (41% of Pacific adults with a disability), followed by sensory (hearing and/or seeing) disabilities (35% of Pacific adults with a disability).

6.4 Mental health

Mental health is a state of wellbeing in which an individual realises his or her own abilities, can cope with the normal stresses of life, can work productively and is able to make a contribution to his or her community (World Health Organization⁶). When answering a set of questions designed to detect psychological distress, one in fifteen adults (6.6%) were found to have a high or very high probability of an anxiety or depressive disorder (K10 score: 12–40) (Ministry of Health 2008a).

⁵ People may have more than one type and more than one cause of disability.

⁶ World Health Organization Media Centre Fact Sheet No 220.

Table 16: Prevalence of a high or very high probability of anxiety or depressive disorder (K10 score), Pacific and non-Pacific adult population, aged 15 years and over, 2006/07 (age standardised)

Sex	Pacific	Non-Pacific
Males	11.6 (7.4–15.8)	5.4 (4.5–6.2)
Females	14.0 (10.6–17.3)	7.3 (6.4–8.3)
Total	12.9 (10.2–15.6)	6.4 (5.7–7.1)

Source: New Zealand Health Survey 2006/07

Note: The 95% confidence intervals are presented in brackets.

Table 16 shows that Pacific adults (aged 15 years and over) were twice as likely to have a higher burden of psychological distress (high or very high probability of an anxiety or depressive disorder) compared with non-Pacific adults (adjusted for age).



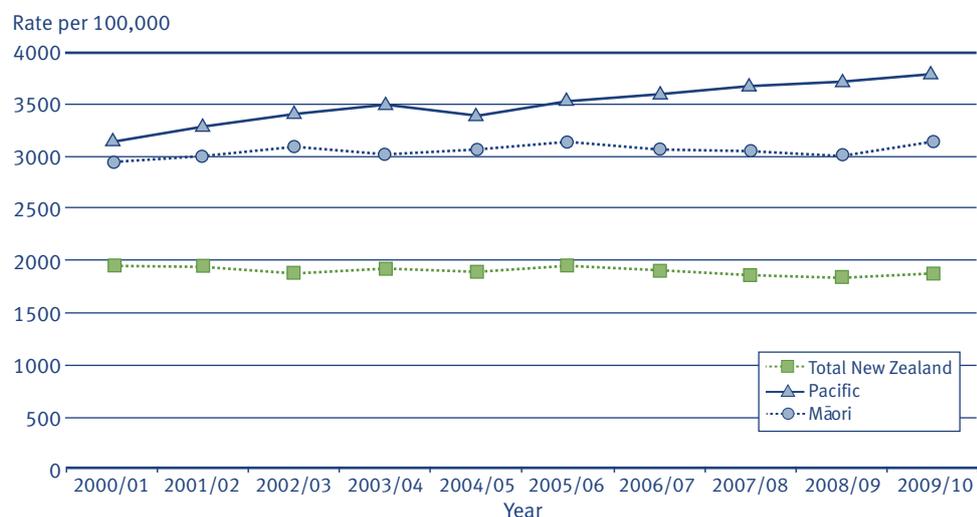
7 Health System Indicators

There are two main indicators of health system performance: amenable mortality and avoidable hospitalisation. Amenable mortality is mortality that could potentially be avoided given timely access to health care. Similarly, avoidable hospitalisations are those either preventable or responsive to treatment in a primary health care setting. Avoidable hospitalisations in this report are reported in terms of ambulatory-sensitive hospitalisation rates.

7.1 Ambulatory-sensitive hospitalisation

Ambulatory-sensitive hospitalisations are defined as hospital admissions due to those medical conditions that could be avoided by the provision of adequate primary health care.

Figure 19: Ambulatory-sensitive hospitalisation rates, Pacific (across seven DHBs), Māori and total population (aged 0–74 years), 2000/01 to 2009/10 (age standardised)



Source: Ministry of Health (National Minimum Dataset)

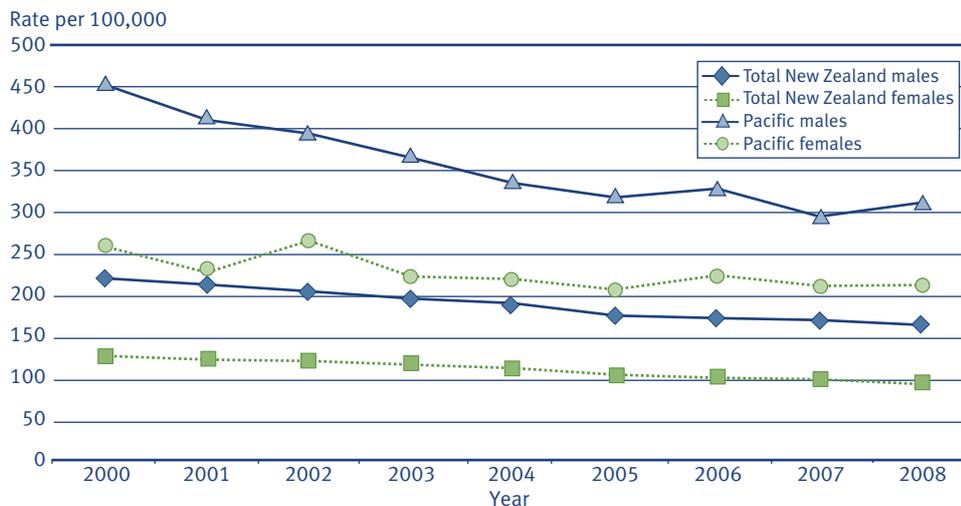
Notes: A prioritised ethnicity method of classification is used for ethnicity.

Pacific rates are across the seven DHBs with the largest Pacific populations: Waitemata, Auckland, Counties Manukau, Waikato, Capital & Coast, Hutt Valley and Canterbury.

Figure 19 shows that after adjusting for age, the ambulatory-sensitive hospitalisation rate for the Pacific population (0–74 years) increased between 2000/01 and 2009/10, while the rate for the total population fell slightly. The differences between Pacific and Māori ambulatory-sensitive hospitalisation rates have increased since 2005/06. These results suggest increasing disparity in access to effective primary health care for the Pacific population.

7.2 Amenable mortality

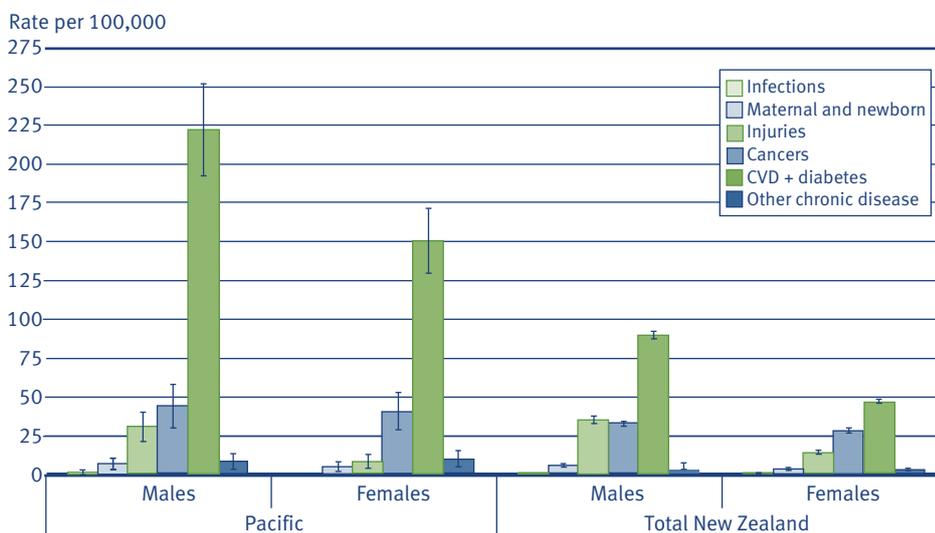
Figure 20: Amenable mortality rate (applied to deaths under the age of 75 years), Pacific and total population, by sex, 2000–2008 (age standardised)



Source: Ministry of Health (Mortality Collection Dataset)

Figure 20 shows that, after adjusting for age, the amenable mortality rate (applied to deaths under the age of 75 years) declined for the Pacific population between 2000 and 2008 (as it did for the total population). However, the amenable mortality rate for Pacific males remained considerably higher than for all other groups.

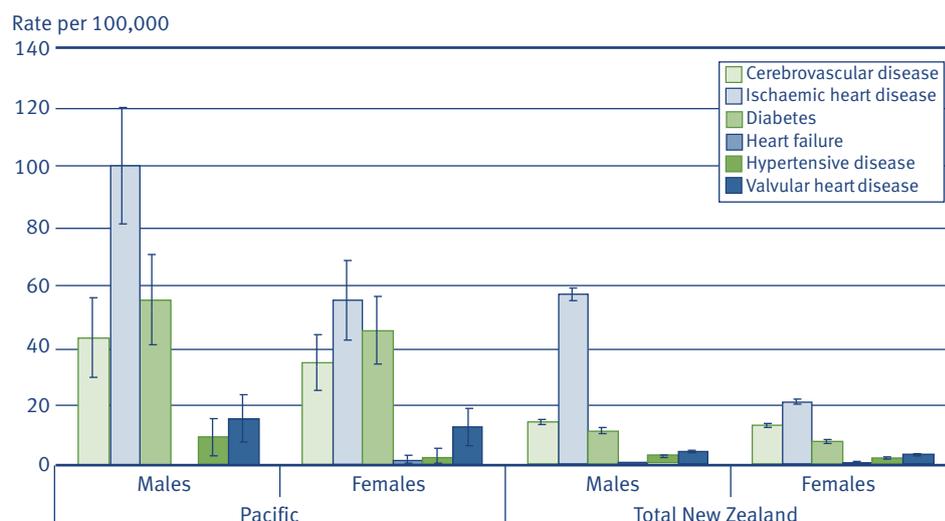
Figure 21: Amenable mortality rate (applied to deaths under the age of 75 years), Pacific and total population, by cause and sex, 2008 (age standardised)



Source: Ministry of Health (Mortality Collection Dataset)

Figure 21 shows that, after adjusting for age, cardiovascular disease (CVD) and diabetes was the major cause of amenable mortality in the Pacific population, and at a significantly greater rate than for the total population (applied to deaths under the age of 75 years). The amenable mortality rate for CVD and diabetes for Pacific males was 2.5 times the rate for total males and for Pacific females it was 3.2 times the rate for total females.

Figure 22: Amenable mortality rate (applied to deaths under the age of 75 years), separating out cardiovascular diseases and diabetes, Pacific and total population, by sex, 2008 (age standardised)



Source: Ministry of Health (Mortality Collection Dataset)

Figure 22 shows that, after adjusting for age, Pacific males and females were significantly more likely to die from cerebrovascular disease, ischaemic heart disease and valvular heart disease than total males and females. The diabetes mortality rate for Pacific females was significantly higher than for females in the total population.

Table 17: Top five causes of amenable mortality for the Pacific population, ranked by counts, by age and sex, 2004–2008

Age		Pacific males	Pacific females
0–14 years*	1.	Complications of the perinatal period	Complications of the perinatal period
	2.	Selected land transport accidents	Selected land transport accidents
15–24 years*	1.	Suicide	Suicide^
	2.	Selected land transport accidents	Selected land transport accidents^
25–44 years	1.	Ischaemic heart disease	Breast cancer
	2.	Suicide	Ischaemic heart disease
	3.	Selected land transport accidents	Diabetes
	4.	Valvular heart disease	Suicide
	5.	Cerebrovascular disease	Cerebrovascular disease
45–64 years	1.	Ischaemic heart disease	Ischaemic heart disease
	2.	Diabetes	Breast cancer
	3.	Cerebrovascular disease	Diabetes
	4.	Valvular heart disease	Cerebrovascular disease
	5.	Stomach cancer	Valvular heart disease

Age		Pacific males	Pacific females
65+ years	1.	Ischaemic heart disease	Ischaemic heart disease
	2.	Cerebrovascular disease	Cerebrovascular disease
	3.	Diabetes	Diabetes
	4.	Prostate cancer	Breast cancer
	5.	Stomach cancer	Valvular heart disease

Source: Ministry of Health (Mortality Collection Dataset).

Notes: * Causes of amenable mortality with counts less than five are not included.

^ Counts for suicide and selected land transport accidents were the same.

Table 17 shows that land transport accidents were one of the top two causes of amenable mortality for the younger Pacific age groups (less than 25 years of age). In the 15–24 years age group suicide was the main cause of amenable mortality for Pacific men and women. For the older Pacific population (45 years and over), ischaemic heart disease was the main cause of amenable mortality.



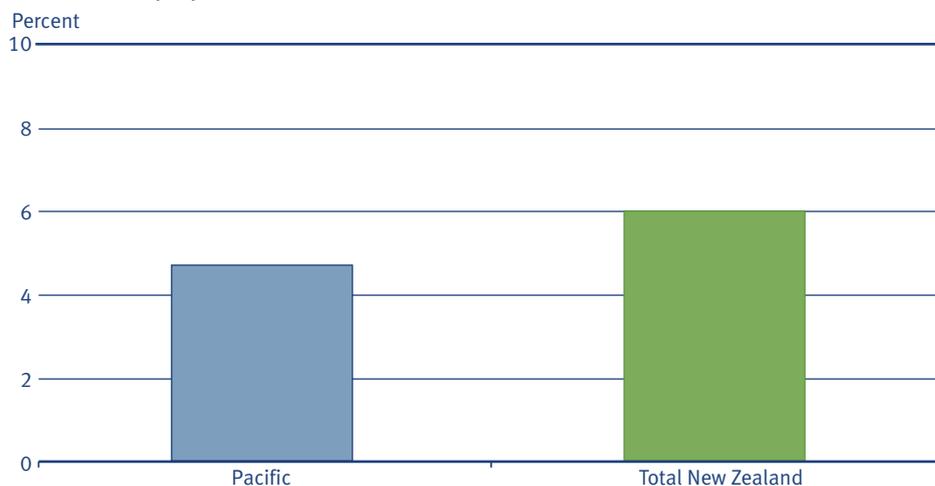
8 Health Indicators for Infants and Children (0–14 Years)

This chapter presents specific indicators for infants and children. Compared with children in the total New Zealand population, Pacific children have poorer health status across a wide variety of measures.

8.1 Low birthweight

Low birthweight (less than 2500 grams) is closely associated with fetal and neonatal mortality and is a result of pre-term birth, multiple pregnancy or restricted fetal (intrauterine) growth (United Nations Children’s Fund and World Health Organization 2004).

Figure 23: Proportion of live-born babies with a low birthweight, Pacific and total population, 2007



Source: Ministry of Health 2010c.

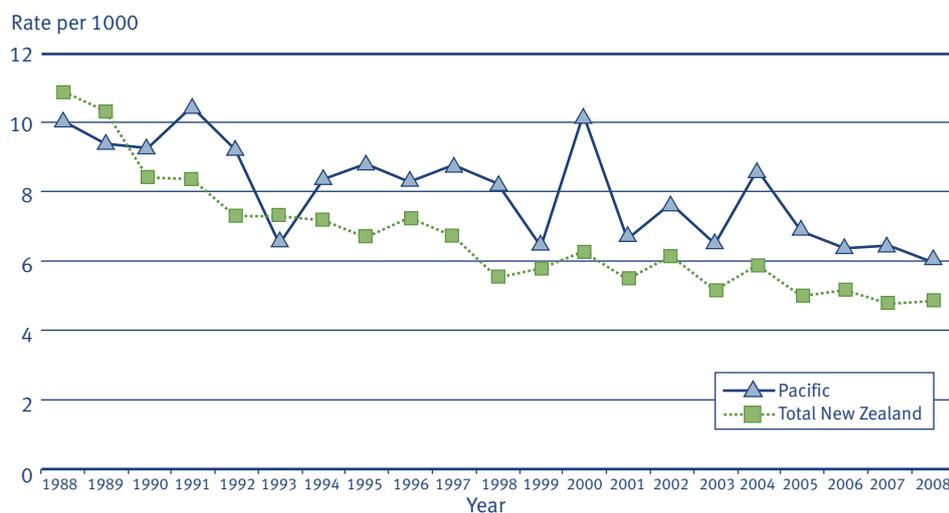
Note: A prioritised ethnicity method of classification is used for ethnicity.

Figure 23 shows that Pacific babies were less likely to have a low birthweight than all New Zealand babies in 2007.

8.2 Infant mortality

Presented below are data on deaths that occur before one completed year of life. There are several potential infant (and fetal) death risk factors, including levels of deprivation, access to maternity and antenatal care, multiple births and short gestation or pre-term birth (Ministry of Health 2010b).

Figure 24: Infant mortality rate per 1000 live births, Pacific and total population, 1988–2008



Source: Ministry of Health (Mortality Collection Dataset)

Note: A prioritised ethnicity method of classification is used for ethnicity.

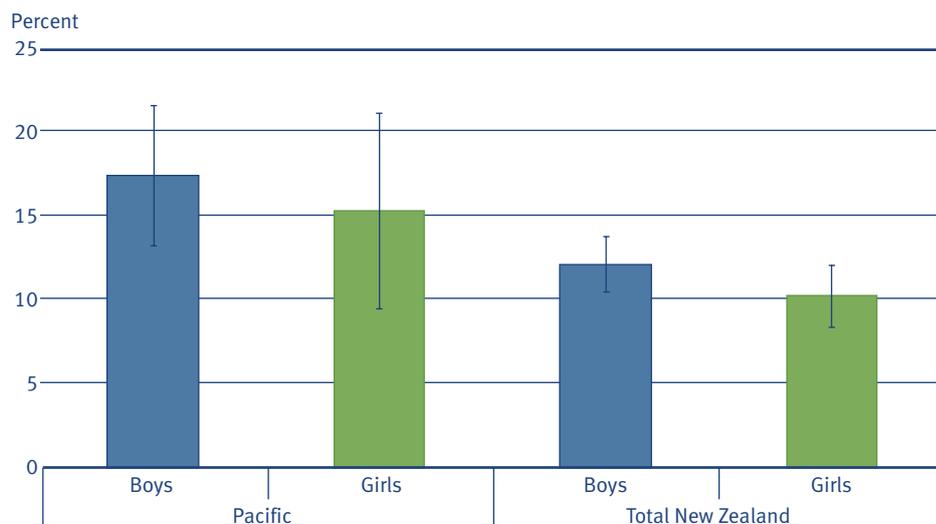
Figure 24 shows that the infant death rate for the Pacific population varied considerably between 1988 and 2008, although there was a downward trend over the period shown and it continues to be higher than that for the total population.

8.3 Oral health

Oral health refers to the health of teeth and the mouth, and encompasses more than just having good teeth and a nice smile. It is critical to the good health and wellbeing of children and adults. Oral diseases are among the most prevalent chronic diseases in New Zealand and represent a considerable burden on the public (Ministry of Health 2010e).

School dental survey data suggest that inequalities in oral health by ethnicity are mediated by fluoridation status, with Pacific children living in non-fluoridated areas having worse oral health than those in fluoridated areas (Ministry of Health 2009b).

Figure 25: Percentage of Pacific and total children (aged 2–14 years) who had one or more teeth removed due to decay, abscess, infection or gum disease, by sex, 2006/07 (age standardised)



Source: New Zealand Health Survey 2006/07

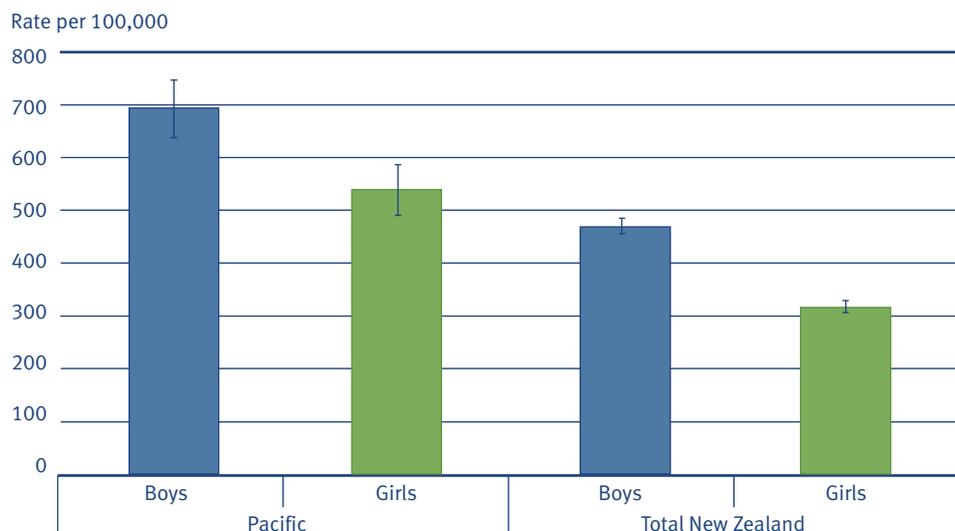
Figure 25 shows that, after adjusting for age, there were no significant differences between Pacific boys and girls and total boys and girls respectively in the percentage who had one or more teeth removed.

Results from the New Zealand Oral Health Survey 2009 (Ministry of Health 2010e) show that, after adjusting for age group and sex, the prevalence of caries-free primary teeth for children aged 2–11 years was significantly lower for Pacific than for non-Pacific children (15.5% rate difference, 0.7 rate ratio).

8.4 Asthma

Asthma is an inflammatory disorder of the airways that causes reversible restriction of air flow into and out of the lungs. It is the most common chronic health condition in New Zealand children (Ministry of Health 2009a).

Figure 26: Asthma hospitalisation rate, Pacific and total children (aged 0–14 years), by sex, 2009 and 2010 (age standardised)



Source: Ministry of Health (National Minimum Dataset)

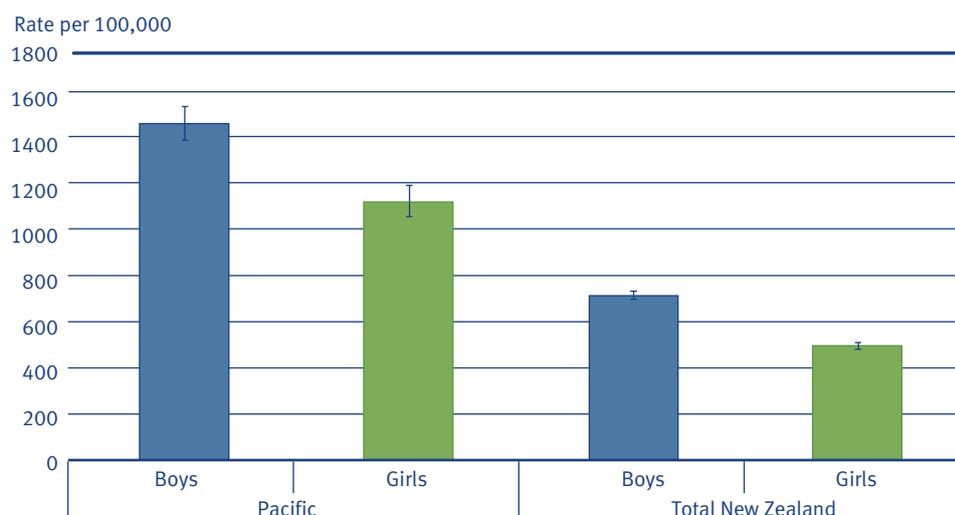
Note: A prioritised ethnicity method of classification is used for ethnicity.

Figure 26 shows that, after adjusting for age, Pacific boys and girls were 1.5 times more likely to be hospitalised due to asthma compared with boys and girls in the total population. The differences were significant.

8.5 Lower respiratory tract infection

Acute lower respiratory tract infections are a major cause of morbidity and mortality among children less than five years of age (Ministry of Health 2008c).

Figure 27: Hospitalisation rate for lower respiratory tract infection, Pacific and total children (aged 0–14 years), by sex, 2009 and 2010 (age standardised)



Source: Ministry of Health (National Minimum Dataset)

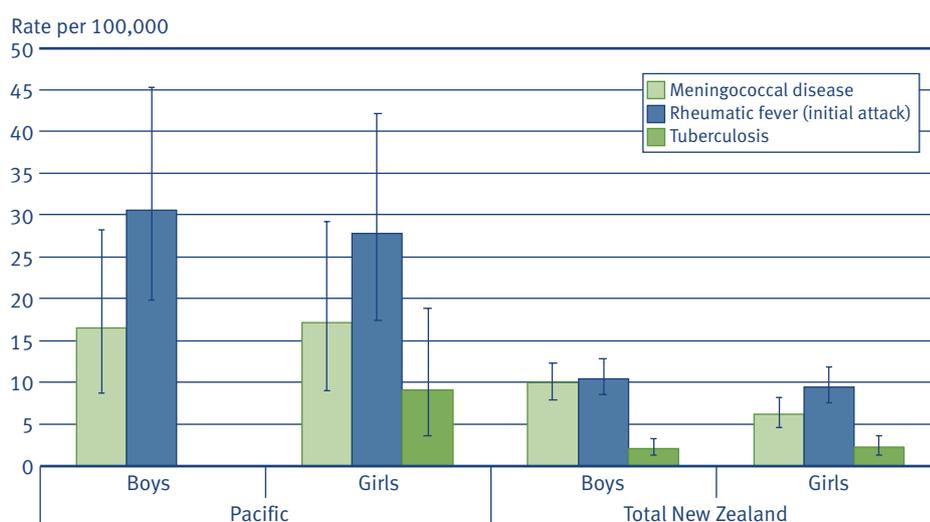
Note: A prioritised ethnicity method of classification is used for ethnicity.

Figure 27 shows that, after adjusting for age, the hospitalisation rate for lower respiratory infection for Pacific boys and girls was twice the rate for boys and girls in the total population. Also, Pacific boys had a significantly higher hospitalisation rate for lower respiratory infection than Pacific girls.

8.6 Infectious diseases

Pacific children have higher rates of some infectious diseases than children in the total population. Diseases of concern include meningococcal disease, rheumatic fever and tuberculosis.

Figure 28: Infectious disease notification rates for meningococcal disease, rheumatic fever (initial attack) and tuberculosis, Pacific and total children (aged 0–14 years), by sex, 2007 and 2008 (age standardised)



Source: Institute of Environmental Science and Research Ltd

Notes: A prioritised ethnicity method of classification is used for ethnicity.

Tuberculosis notification rates for Pacific boys were suppressed as the count was less than five.

Figure 28 shows that, after adjusting for age, Pacific boys and girls had significantly higher disease notification rates for rheumatic fever than boys and girls in the total population. For rheumatic fever, the rate was 30.7 for Pacific boys and 27.9 for Pacific girls compared to 10.6 and 9.6 respectively for boys and girls in the total population. Pacific girls also have significantly higher disease notification rates for meningococcal disease and tuberculosis than girls in the total population.

8.7 Hearing loss

Combining pure tone audiometry and tympanometry tests provides a valid way to identify children with hearing loss and/or ear disease. Tympanometry screening is carried out on preschool children (predominantly three-year-olds) in an attempt to identify chronic middle ear disease so that it can be treated before children start school.

Findings from a report prepared for the National Audiology Centre, Auckland District Health Board, in 2006 (Greville Consulting 2006) show a reduction in audiometry failure rates over the previous 15 years in all ethnic groups. Pacific children had the highest failure rate: 11.2%, compared with 10.3% for Māori children and around 4% for all other groups. Pacific children also had the highest tympanometry failure rate as preschoolers: 13.2% compared with 10% for Māori children and other ethnic groups around 4–5%.



9 Health Indicators for Youth

The current health issues facing New Zealand’s Pacific youth, and youth in general, include high injury rates (including injuries and deaths from road traffic accidents, see later chapter), high rates of suicide and suicide attempts, and sexual and reproductive health problems including high teenage pregnancy rates.

9.1 Sexual health

Youth ’07 found that contraceptive and condom use were lower among Pacific students than NZ European students (Helu et al 2009). Sixty-six percent (60.6–70.7 95% confidence interval) of the Pacific students who were sexually active reported using a form of contraception to protect against pregnancy compared to 87% (85.2–89.4) of NZ European students, and 58% (53.8–62.3) of the Pacific students reported using a condom to protect against sexually transmitted infections or HIV compared to 77% (75.2–79.4) of the NZ European students.

9.2 Teenage pregnancy

Table 18: Average number of live births (2005–2007) and fertility rate per 1000 females estimated resident population, by age and ethnicity

Age (years)	Ethnicity			
	Pacific		Total	
	Average annual births (2005–2007)	Fertility rate	Average annual births (2005–2007)	Fertility rate
13	0	0.00	4	0.00
14	7	0.01	37	0.00
15	21	0.02	133	0.01
16	69	0.04	436	0.03
17	119	0.07	887	0.04
18	196	0.09	1326	0.06
19	266	0.11	1665	0.06

Source: Statistics New Zealand (Births)

Notes: Births data are based on live births registered in New Zealand to mothers resident in New Zealand by date of registration.

Births data are based on ethnicity of the mother.

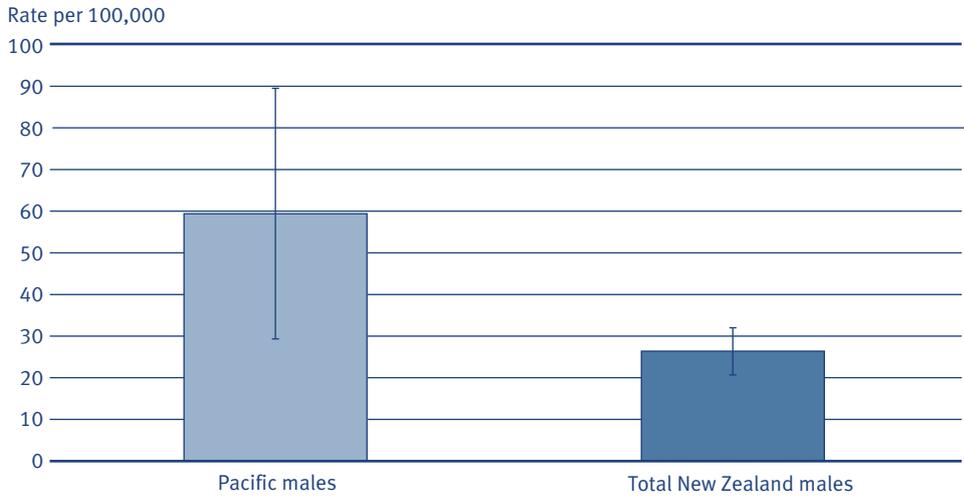
Fertility rates are the average annual births for each age (during the three-year period 2005–2007) per 1000 female estimated resident population at each age (at 30 June 2006).

Table 18 shows that Pacific females aged 14–19 years had higher fertility rates on average than the total population of the same age.

9.3 Suicide

Suicide was the leading cause of death in Pacific men in the 15–24 years age group.

Figure 29: Completed suicide rate, Pacific men and total men (aged 15–24 years), 2008



Source: Ministry of Health (Mortality Collection Dataset).

Note: A prioritised ethnicity method of classification is used for ethnicity.

Figure 29 shows that there were no significant differences in completed suicide rate for Pacific men and total men aged 15–24 years. The rate for Pacific women is suppressed because the count was too low to report.

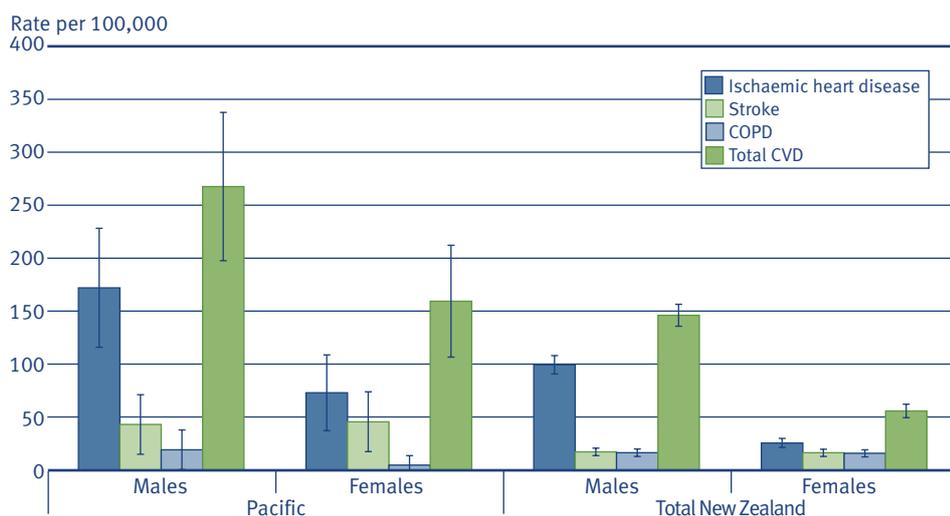


10 Health Indicators for Adults

Specific indicators are presented for major health conditions for Pacific adults compared with adults in the total population.

10.1 Hospital and mortality rates for major conditions

Figure 30: Hospitalisation rate for major conditions affecting the Pacific and total adult population (aged 45–64 years), by sex, 2009 and 2010 (age standardised)



Source: Ministry of Health (National Minimum Dataset)

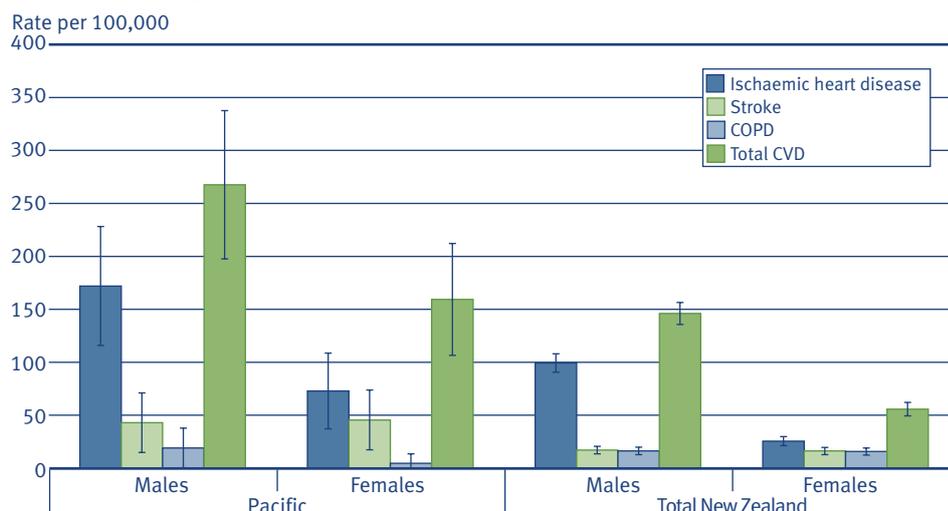
Notes: A prioritised ethnicity method of classification is used for ethnicity.

Total CVD covers the whole cardiovascular disease chapter in ICD-10 disease classification (ICD-10 codes I00–I99). Ischaemic heart disease and stroke are subgroups of the CVD chapter (ICD-10 codes I20–I25 and I60–I69). Chronic obstructive pulmonary disease (COPD) is one of the respiratory conditions (ICD10 codes J40–J44), not a cardiovascular disease. Therefore the sum of ischaemic heart disease (IHD), stroke and COPD will not equal Total CVD.

Figure 30 shows that, after adjusting for age, Pacific men and women aged 45–64 years had significantly higher hospitalisation rates from total cardiovascular disease, ischaemic heart disease, stroke and COPD than men and women in the total population of the same age.



Figure 31: Mortality rate for major conditions affecting Pacific and total adult population (aged 45–64 years), by sex, 2008

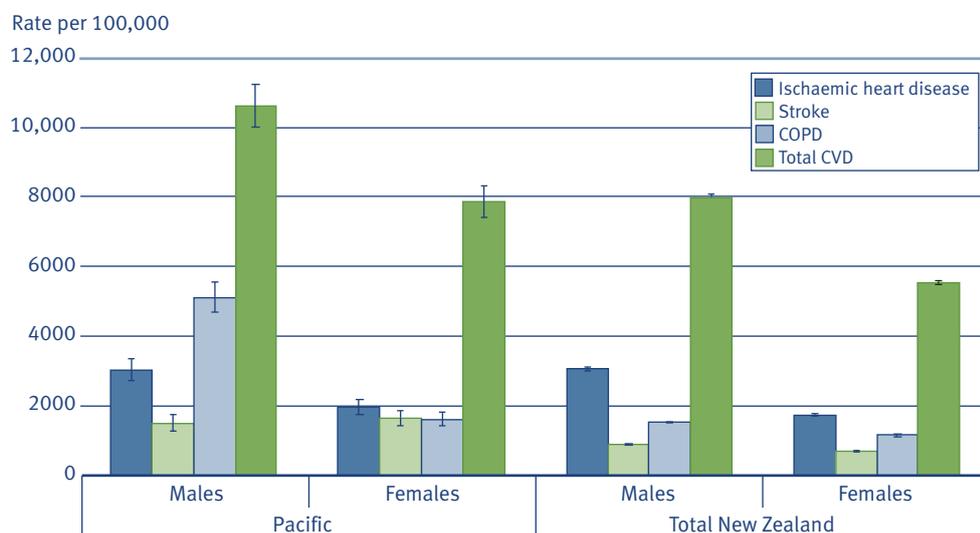


Source: Ministry of Health (Mortality Collection Dataset)

Note: A prioritised ethnicity method of classification is used for ethnicity.

Figure 31 shows that Pacific men aged 45–64 years had almost twice and Pacific women almost three times the mortality rate for total cardiovascular disease than total men and women respectively of the same age. There are also significant differences between Pacific and total adults for ischaemic heart disease (for males and females).

Figure 32: Hospitalisation rate for major conditions affecting Pacific and total adult population (aged 65+ years), by sex, 2009 and 2010 (age standardised)

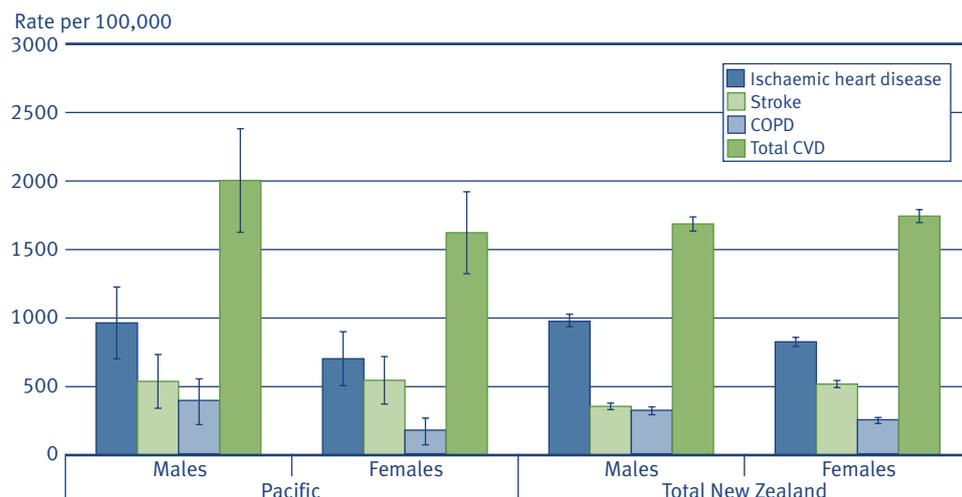


Source: Ministry of Health (National Minimum Dataset)

Note: A prioritised ethnicity method of classification is used for ethnicity.

Figure 32 shows that, after adjusting for age, Pacific men and women aged 65 years and over had higher hospitalisation rates from total cardiovascular disease than men and women in the total population of the same age. Pacific men and women aged 65-plus had significantly higher rates of hospitalisation for stroke and COPD than total men and women aged 65-plus.

Figure 33: Mortality rate for major conditions affecting Pacific and total adult population (aged 65+ years), by sex, 2008

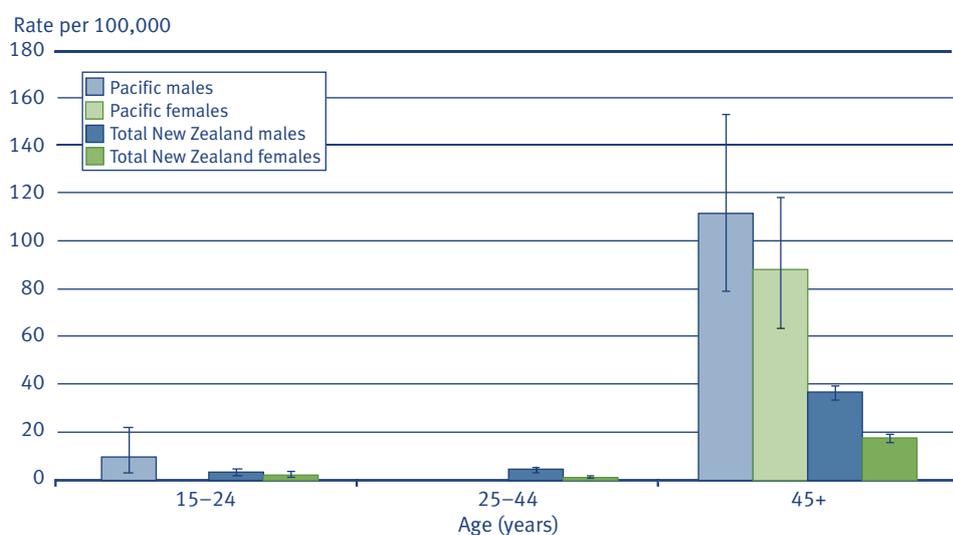


Source: Ministry of Health (Mortality Collection Dataset)

Note: A prioritised ethnicity method of classification is used for ethnicity.

Figure 33 shows that there were no significant differences between Pacific adults and total adults aged 65 years and over for total cardiovascular disease, stroke, ischaemic heart disease and COPD.

Figure 34: Hospitalisation rate from chronic lung disease, Pacific and total adult population, by age, 2009 and 2010 (age standardised)



Source: Ministry of Health (National Minimum Dataset)

Notes: A prioritised ethnicity method of classification is used for ethnicity.

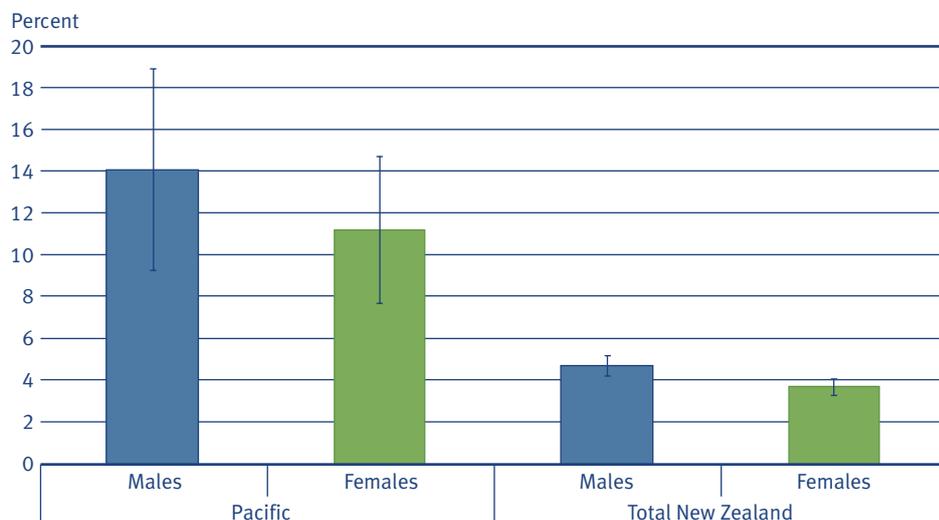
Rates were suppressed when counts were less than five.

Figure 34 shows that, after adjusting for age, Pacific men (45-plus years age group) had three times the hospitalisation rate from chronic lung disease than total men. Pacific women (45-plus years age group) were five times more likely to be hospitalised for chronic lung disease than total women in the same age group.

10.2 Diabetes

Diabetes is a major cause of ill health and premature death in the Pacific population.

Figure 35: Prevalence of diagnosed diabetes, Pacific and total adult population (aged 15+ years), by sex, 2006/07 (age standardised)

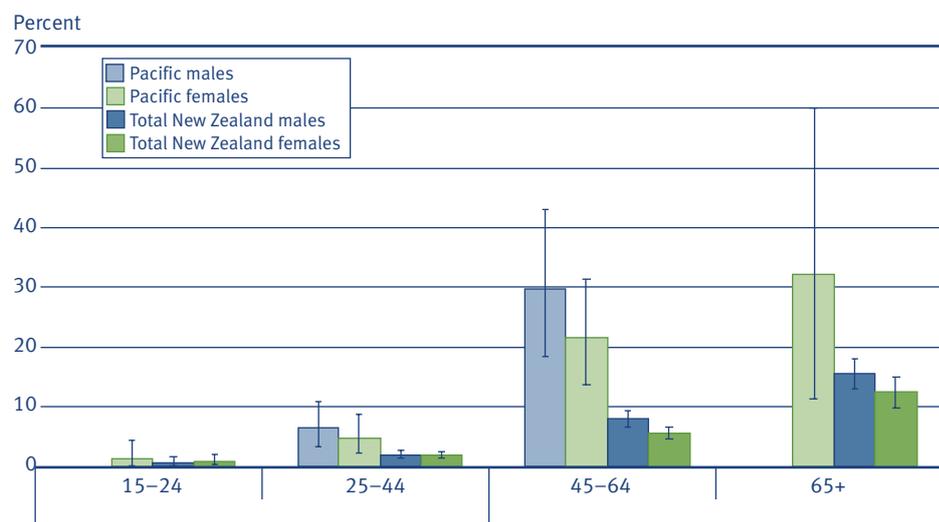


Source: New Zealand Health Survey 2006/07

Note: Rates were suppressed when the denominator was less than 30.

Figure 35 shows that, after adjusting for age, the prevalence of diagnosed diabetes was significantly higher in the Pacific population than in the total population.

Figure 36: Prevalence of diagnosed diabetes, Pacific and total population, by age and sex, 2006/07 (age standardised)



Source: New Zealand Health Survey 2006/07

Note: Rates were suppressed when the denominator was less than 30.

Figure 36 shows that, after adjusting for age, the rate of diagnosed diabetes was significantly higher for Pacific men and women (45–64 years age group) than men and women in the total population. The rate for Pacific men aged 25–44 years was also significantly higher than the rate for total men in the same age group.

10.3 Cancer

Table 19: Top five causes of cancer hospitalisation for the Pacific population (children included), ranked by counts and by age and sex, 2004–2008

	Pacific males		Pacific females	
Age (years)	Cancer sites	No.	Cancer sites	No.
0–14	Leukaemia	103	Leukaemia	74
	Brain	19	Brain	28
	Non-Hodgkin's lymphomas	18	Liver	6
	Kidney	–	Non-Hodgkin's lymphomas	5
	Liver	–	Kidney	–
	<i>All other sites</i>	<i>137</i>	<i>All other sites</i>	<i>84</i>
15–24	Leukaemia	57	Leukaemia	29
	Hodgkin's disease	9	Brain	17
	Non-Hodgkin's lymphomas	8	Ovary	8
	Head and neck	–	Non-Hodgkin's lymphomas	7
	Stomach (gastric)	–	Uterus	–
	<i>All other sites</i>	<i>30</i>	<i>All other sites</i>	<i>69</i>
25–44	Non-Hodgkin's lymphomas	67	Breast	128
	Head and neck	28	Leukaemia	81
	Colorectal	26	Uterus	66
	Leukaemia	23	Cervical	39
	Stomach (gastric)	20	Non-Hodgkin's lymphomas	29
	<i>All other sites</i>	<i>162</i>	<i>All other sites</i>	<i>335</i>
45–64	Lung	87	Breast	258
	Liver	71	Uterus	153
	Head and neck	56	Myeloma	55
	Colorectal	52	Lung	47
	Stomach (gastric)	51	Cervical	45
	<i>All other sites</i>	<i>470</i>	<i>All other sites</i>	<i>637</i>
65+	Lung	136	Breast	92
	Prostate	89	Uterus	78
	Stomach (gastric)	69	Colorectal	68
	Colorectal	44	Lung	65
	Non-Hodgkin's lymphomas	31	Myeloma	60
	<i>All other sites</i>	<i>305</i>	<i>All other sites</i>	<i>459</i>

Source: Ministry of Health (New Zealand Cancer Registry (NZCR))

Notes: A prioritised ethnicity method of classification is used for ethnicity.
Counts have been suppressed when less than 5 (denoted by a dash [–]).

Table 19 shows that the most common cause of cancer hospitalisation for Pacific children and young people aged 15–24 years was leukaemia. The most common cause for Pacific men in the 25–44 years age group was non-Hodgkin’s lymphoma. For Pacific women in the 25-plus age groups the most common cause was breast cancer. The most common cause of cancer hospitalisation for Pacific men in the 45-plus years age groups was lung cancer.

Table 20: Top five causes of cancer mortality, Pacific adults, ranked by counts and by age and sex, 2004–2008

	Males		Females	
Age (years)	Cancer sites	No.	Cancer sites	No.
25–44	Lung	9	Breast	17
	Liver	7	Brain	7
	Non-Hodgkin’s lymphomas	7	Cervical cancer	7
	Head and neck cancer	6	Lung	7
	Stomach	6	Stomach	7
	<i>All other sites</i>	<i>18</i>	<i>All other sites</i>	<i>36</i>
45–64	Lung	79	Breast	69
	Liver	39	Lung	37
	Stomach	18	Colorectal	16
	Colorectal	15	Uterine	16
	Pancreatic	12	Ovarian	15
	<i>All other sites</i>	<i>89</i>	<i>All other sites</i>	<i>107</i>
65+	Lung	113	Lung	54
	Prostate	58	Breast	42
	Colorectal	30	Malignant neoplasm (unspecified site)	27
	Liver	28	Uterine	27
	Stomach	24	Stomach	26
	<i>All other sites</i>	<i>127</i>	<i>All other sites</i>	<i>313</i>

Source: Ministry of Health (New Zealand Cancer Registry (NZCR))

Notes: A prioritised ethnicity method of classification is used for ethnicity.

Table 20 shows that the most common cause of cancer mortality for Pacific women in the 25–64 years age groups was breast cancer. The most common cause for Pacific men in the 45-plus years age groups and for Pacific women aged over 65 years was lung cancer.

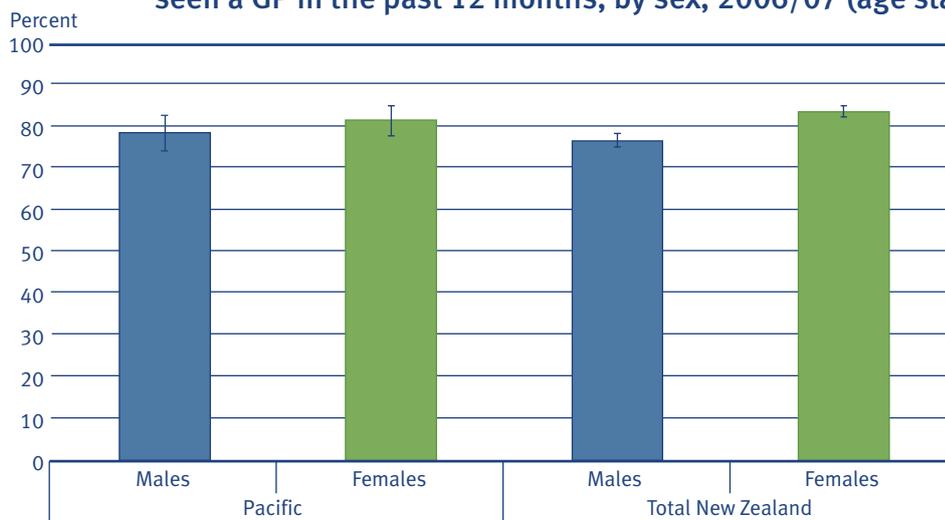


11 Health Service Utilisation

Research shows that Pacific people can experience barriers in access and use of services across the health system (Minister of Health and Minister of Pacific Island Affairs 2010). This chapter presents indicators that look at the utilisation of health services. The indicators presented are the use of general practitioners (GPs), oral health care workers, medical specialists, Pacific health care providers, and Pacific traditional healers.

11.1 Use of general practitioners

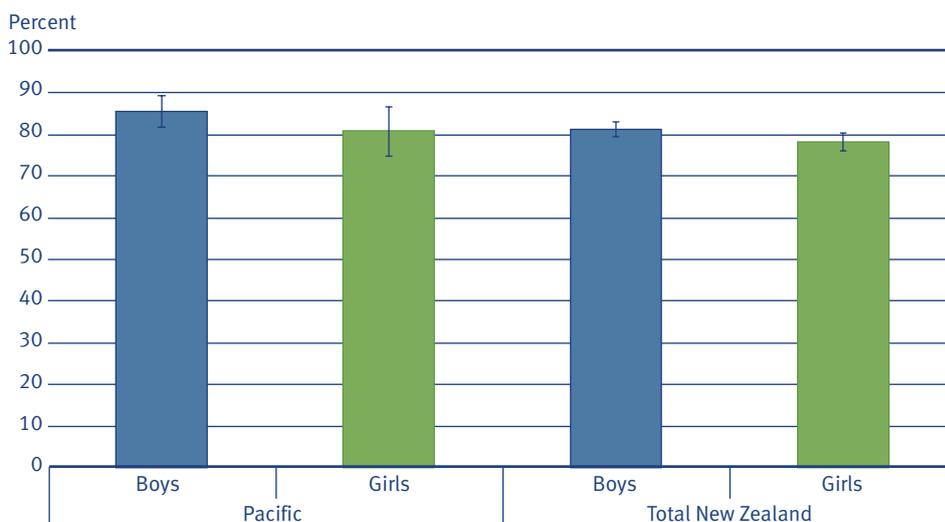
Figure 37: Percentage of Pacific and total adults (aged 15+ years) who reported having seen a GP in the past 12 months, by sex, 2006/07 (age standardised)



Source: New Zealand Health Survey 2006/07

Figure 37 shows that, after adjusting for age, about the same proportion of Pacific adults reported having visited a GP in the last 12 months as adults in the total population.

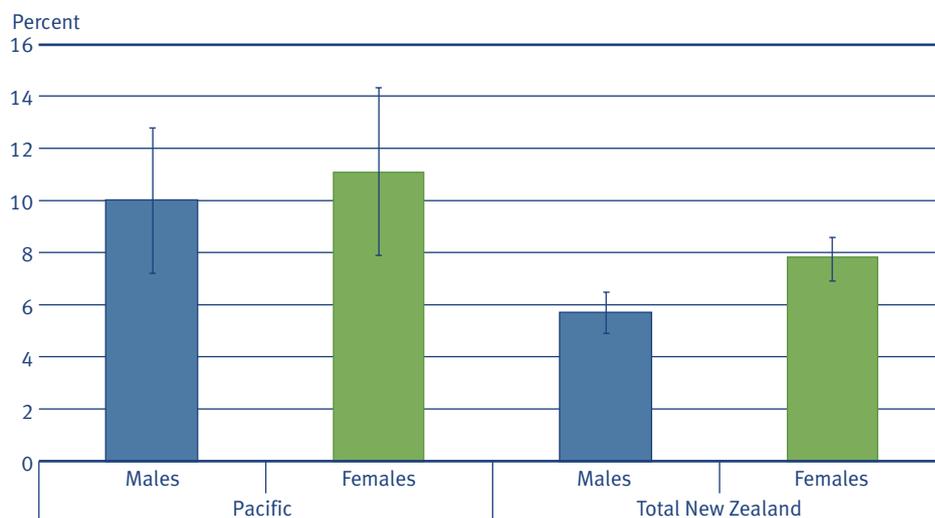
Figure 38: Percentage of Pacific and total children (aged 2–14 years) who reported having seen a GP in the past 12 months, by sex, 2006/07 (age standardised)



Source: New Zealand Health Survey 2006/07

Figure 38 shows that, after adjusting for age, about the same proportion of Pacific children reported having visited a GP in the last 12 months as all children in the total population.

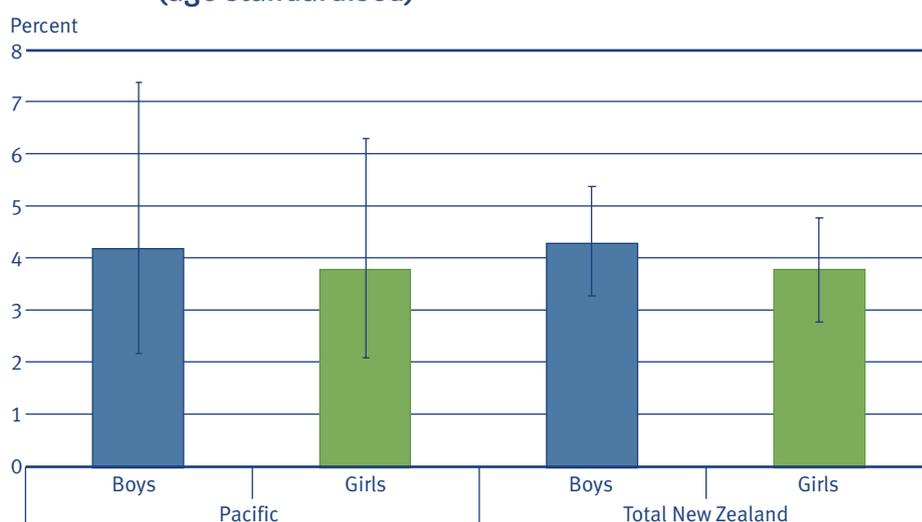
Figure 39: Percentage of Pacific and total adults (aged 15+ years) who reported having an unmet need for a GP in the past 12 months for any reason, by sex, 2006/07 (age standardised)



Source: New Zealand Health Survey 2006/07

Figure 39 shows that, after adjusting for age, Pacific men were significantly more likely to report having an unmet need for a GP in the past 12 months than total men. The main reason for unmet need for Pacific and total adults was cost.

Figure 40: Percentage of Pacific and total children (aged 2–14 years) who reported having an unmet need for a GP in the past 12 months for any reason, by sex, 2006/07 (age standardised)

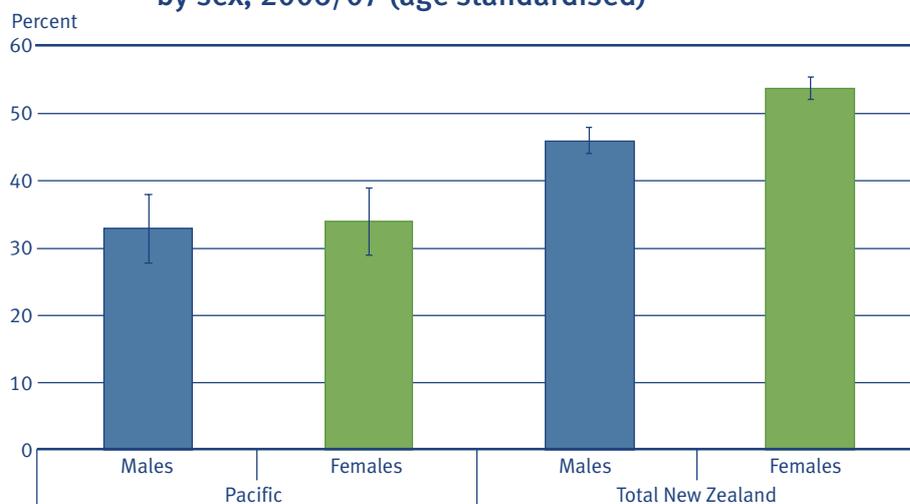


Source: New Zealand Health Survey 2006/07

Figure 40 shows that, after adjusting for age, less than 5% of Pacific children and children in the total population reported having an unmet need for a GP. There was no significant difference between Pacific and total New Zealand rates or between boys and girls. The main reason for unmet need for Pacific children and children in the total population was ‘no appointment soon enough/at suitable time’.

11.2 Use of oral health care workers

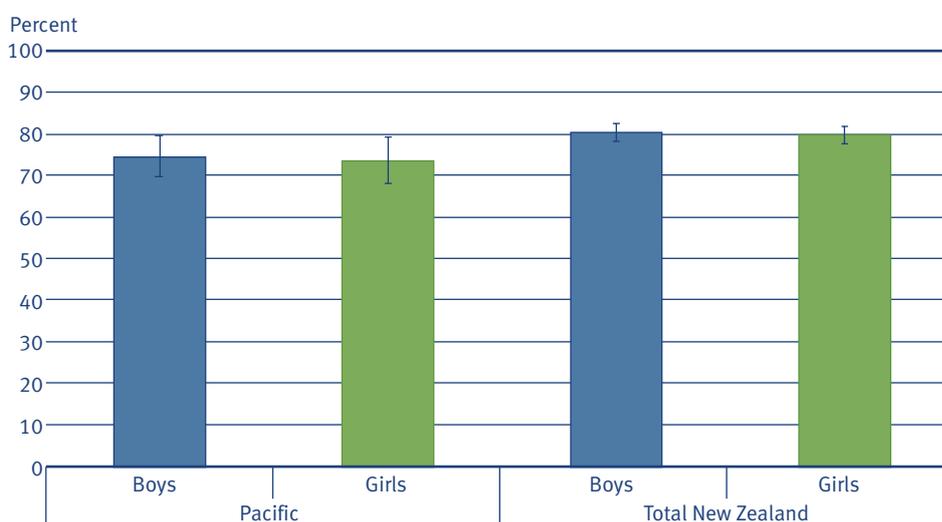
Figure 41: Percentage of Pacific and total adults (aged 15+ years) who reported having visited an oral health care worker in the past 12 months for any reason, by sex, 2006/07 (age standardised)



Source: New Zealand Health Survey 2006/07

Figure 41 shows that, after adjusting for age, Pacific adults were significantly less likely to report having visited an oral health care worker in the past 12 months than adults in the total population.

Figure 42: Percentage of Pacific and total children (aged 2–14 years) who reported having visited an oral health care worker in the past 12 months for any reason, by sex, 2006/07 (age standardised)



Source: New Zealand Health Survey 2006/07

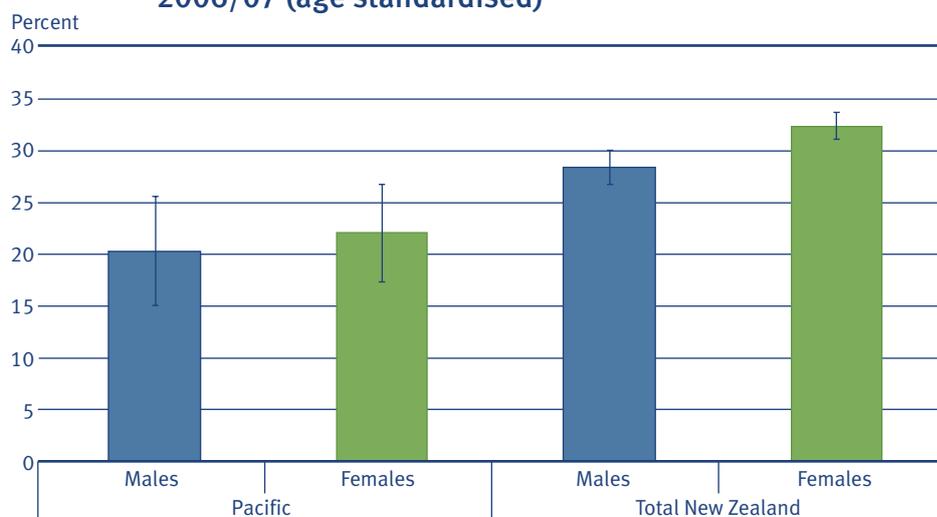
Figure 42 shows that, after adjusting for age, there were no significant differences between Pacific children and total children in the percentage that had visited an oral health care worker in the past 12 months.

The more recent 2009 Oral Health Survey found that Pacific children and adolescents (2–17 years) and adults (18 years and over) were significantly less likely to have visited a dental professional in the last 12 months than non-Pacific children and adolescents and adults respectively, after adjusting for age and sex (Ministry of Health 2010e).

11.3 Access to a medical specialist

A medical specialist is defined as a doctor who specialises in a branch of medicine other than general practice and includes, for example, general surgeons, paediatricians, cardiologists, obstetric and gynaecology specialists and rheumatologists.

Figure 43: Percentage of Pacific and total adults (aged 15+ years) who reported having seen a medical specialist in the previous 12 months, by sex, 2006/07 (age standardised)

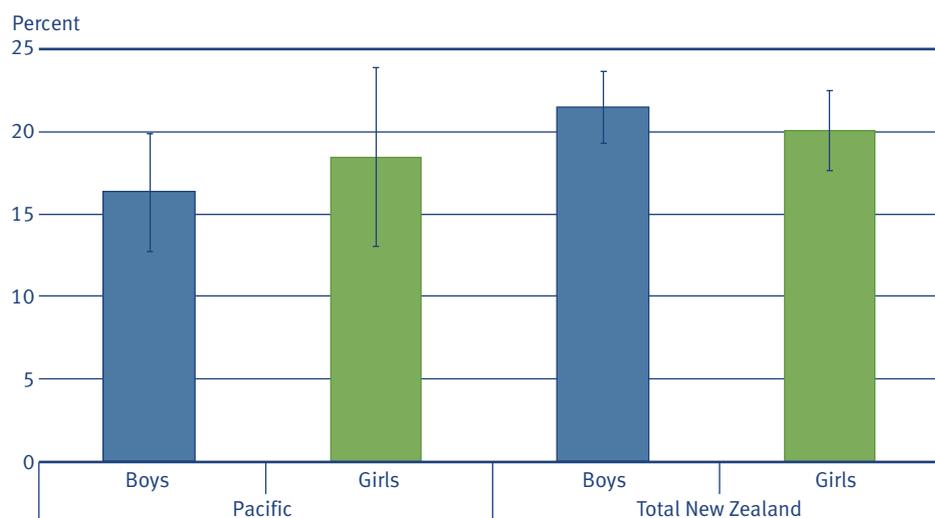


Source: New Zealand Health Survey 2006/07

Figure 43 shows that, after adjusting for age, Pacific men and women were significantly less likely to report having seen a medical specialist in the previous 12 months than total men and women respectively.



Figure 44: Percentage of Pacific and total children (aged 2–14 years) who reported having seen a medical specialist in the previous 12 months, by sex, 2006/07 (age standardised)

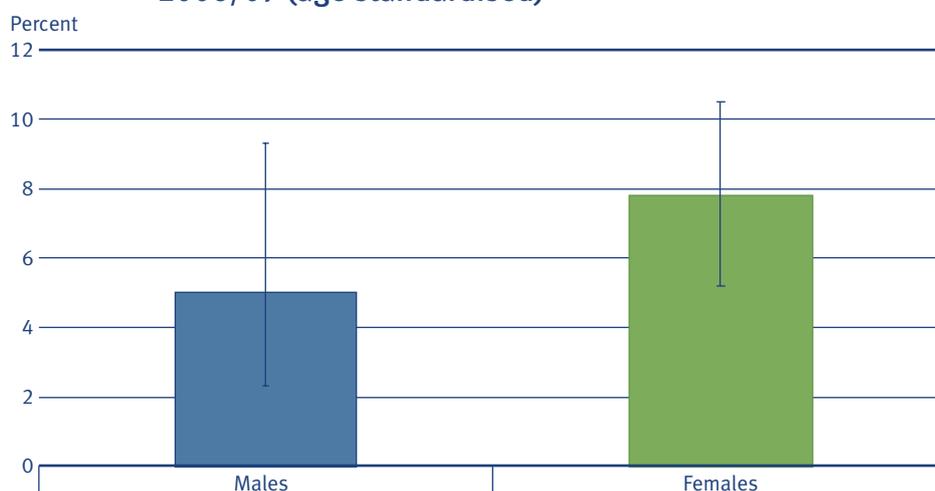


Source: New Zealand Health Survey 2006/07

Figure 44 shows that, after adjusting for age, there were no significant differences in the likelihood of Pacific children and total children having seen a medical specialist in the previous 12 months.

11.4 Use of Pacific health providers

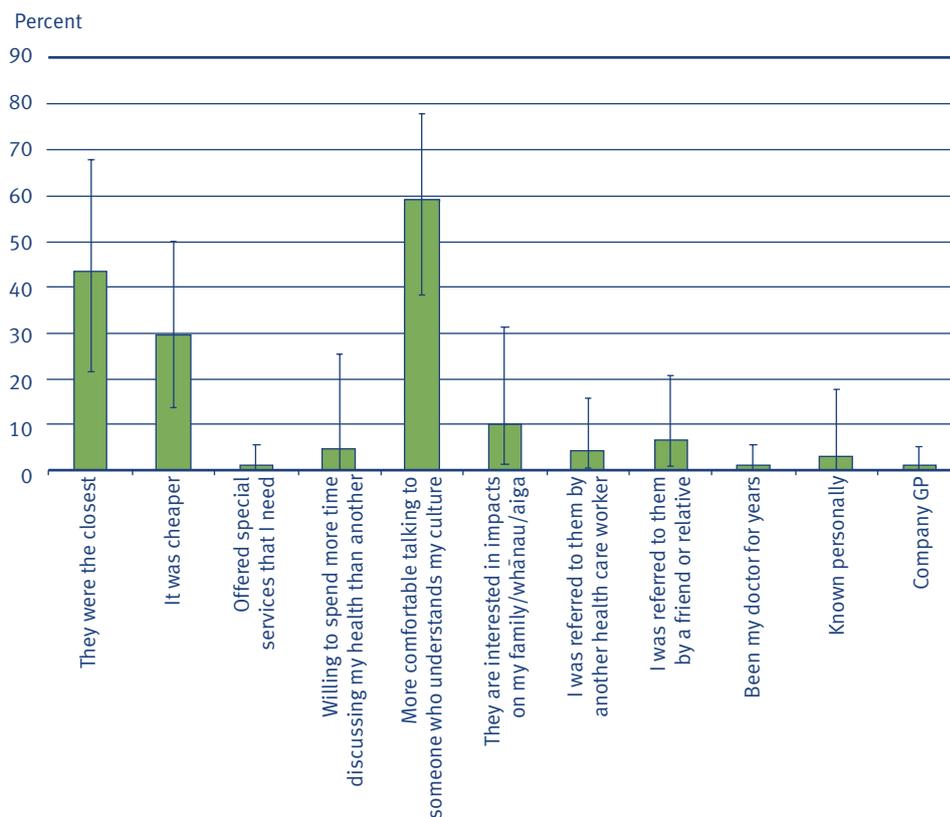
Figure 45: Percentage of Pacific adults (aged 15+ years) who reported having a Pacific primary health care provider that they usually go to first, by sex, 2006/07 (age standardised)



Source: New Zealand Health Survey 2006/07

Figure 45 shows that, after adjusting for age, there were no significant differences between Pacific men and women in having a Pacific primary health care provider (that they usually go to first).

Figure 46: Reasons reported for Pacific women (aged 15+ years) choosing to visit a Pacific primary health care provider (among those who visited such a provider in the past 12 months), 2006/07 (age standardised)



Source: New Zealand Health Survey 2006/07

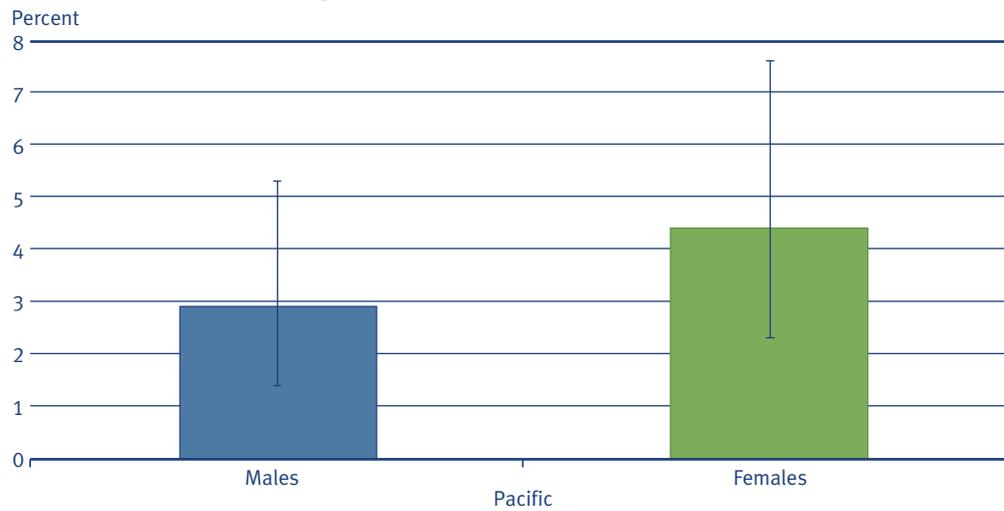
Note: Sample sizes were too small to report for Pacific men.

Figure 46 shows that, after adjusting for age, the most prevalent reasons reported for Pacific women choosing to visit a Pacific primary health care provider included ‘more comfortable talking to someone who understands my culture’, ‘they were the closest’ and ‘it was cheaper’.



11.5 Use of Pacific traditional healers

Figure 47: Prevalence of Pacific adults (aged 15+ years) who reported having seen a Pacific traditional healer in the past 12 months, by sex, 2006/07 (age standardised)



Source: New Zealand Health Survey 2006/07

Figure 47 shows that, after adjusting for age, there were no significant differences between Pacific men and women in having seen a Pacific traditional healer in the past 12 months.



12 Injury

Injury is the leading cause of death for New Zealanders aged between 1 and 34 years. Injury is the second leading cause of hospitalisations. The estimated social and economic costs of injury are approximately \$9.67 billion per year, yet many injuries are preventable (Accident Compensation Corporation 2010).

This chapter presents leading causes of injury mortality and hospitalisation for the Pacific population, and hospitalisation rates for the Pacific population compared to the total population.

12.1 Leading causes of mortality and hospitalisation

Table 21: Leading cause of injury mortality, Pacific population, by age and sex, 2004–2008

Age (years)	Males	Females
0–14	Other threats to breathing (not drowning or submersion)	Road traffic accidents* Other threats to breathing* (not drowning or submersion)
15–24	Suicide	Road traffic accidents^ Suicide^
25–44	Suicide	Suicide
45–64#	Suicide^ Road traffic accidents^	
65+	Falls	Falls

Source: Ministry of Health (Mortality Collection Dataset)

Notes: A prioritised ethnicity method of classification is used for ethnicity.

^ Counts for suicide and road traffic accidents were the same.

* Counts for road traffic accidents and other threats to breathing were the same.

Counts for causes of injury mortality for Pacific females aged 45–64 were less than five.

Road traffic accidents or suicide were the leading causes of injury mortality for Pacific men and women aged 15–64 years. Falls were the main cause of injury mortality for Pacific men and women aged 65+.



Table 22: Leading cause of injury hospitalisation, Pacific population, by age and sex, 2009 and 2010

Age (years)	Male	Female
0–14 years	Falls	Falls
15–24 years	Falls	Falls
25–44 years	Falls	Drugs, medicaments and biological substances causing adverse effects in therapeutic use*
45–64 years	Drugs, medicaments and biological substances causing adverse effects in therapeutic use	Drugs, medicaments and biological substances causing adverse effects in therapeutic use
65+ years	Drugs, medicaments and biological substances causing adverse effects in therapeutic use	Drugs, medicaments and biological substances causing adverse effects in therapeutic use

Source: Ministry of Health (National Minimum Dataset)

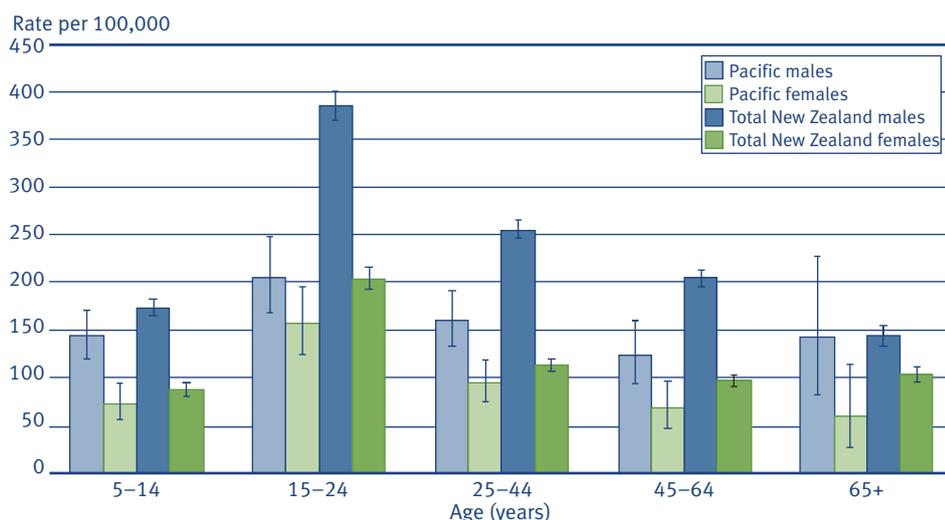
Notes: A prioritised ethnicity method of classification is used for ethnicity.

* Assigned for adverse effects of drugs properly administered (eg, allergic reaction).

Falls were the main cause of injury hospitalisation for Pacific men and women aged 0–24 years. Drugs, medicaments and biological substances causing adverse effects in therapeutic use were the main causes of injury hospitalisation for Pacific men and women aged 45 years and over.

12.2 Road traffic accidents

Figure 48: Road traffic hospitalisation rate, Pacific and total population, by age and sex, 2009 and 2010 (age standardised)



Source: Ministry of Health (National Minimum Dataset)

Note: A prioritised ethnicity method of classification is used for ethnicity.

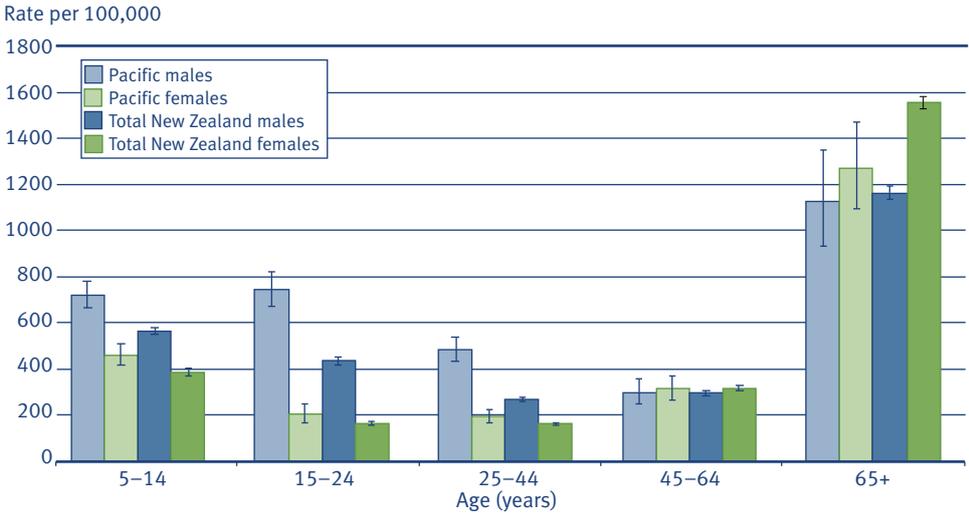
Figure 48 shows that, after adjusting for age, Pacific males in the 15–64 years age groups had significantly lower road traffic hospitalisation rates than total males in the same age groups.

Pacific females in the 5–14 and 25–44 years age groups had significantly lower road traffic hospitalisation rates than Pacific males in the same age groups.

Mortality rates have not been included due to low counts and wide confidence intervals for the Pacific population.

12.3 Falls

Figure 49: Falls hospitalisation rate, Pacific and total population, by age and sex, 2009 and 2010 (age standardised)



Source: Ministry of Health (National Minimum Dataset)

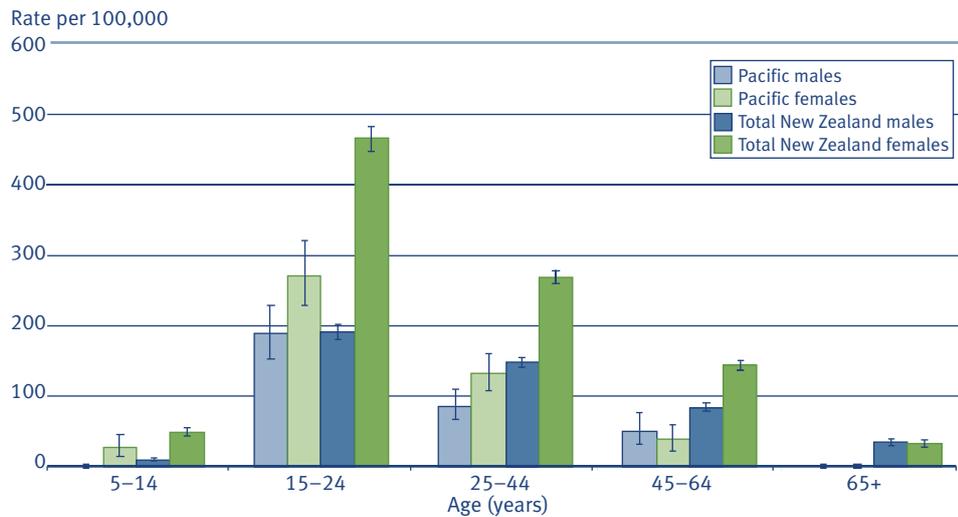
Note: A prioritised ethnicity method of classification is used for ethnicity.

Figure 49 shows that, after adjusting for age, those in the 65-plus age group had the highest likelihood of hospitalisations from falls compared with people in other age groups. Pacific males had significantly higher hospitalisation rates from falls than total males in the 5–14, 15–24 and 25–44 years age groups. Pacific females had significantly higher hospitalisation rates from falls than total females only in the 5–14 years age group.

Mortality rates have not been included due to low counts and wide confidence intervals for both the Pacific and total population.

12.4 Self harm

Figure 50: Self-harm hospitalisation rate, Pacific and total population, by age and sex, 2009 and 2010 (age standardised)



Source: Ministry of Health (National Minimum Dataset).

Notes: A prioritised ethnicity method of classification is used for ethnicity.

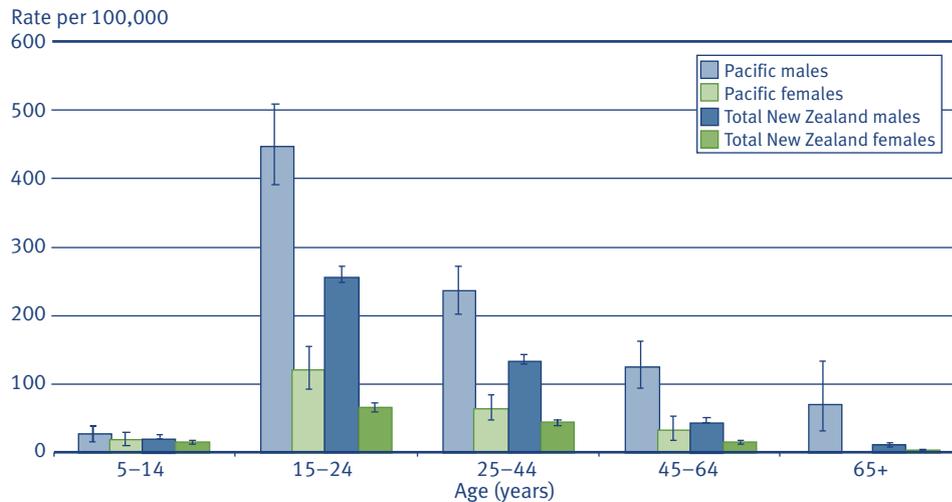
Rates were suppressed when counts were less than five.

Figure 50 shows that, after adjusting for age, Pacific males and females had significantly lower rates of hospitalisations from self-harm than total men and women, respectively across the 25–64 years age groups for males and the 15–64 years age groups for females (differences were not significant in other age groups).



12.5 Assault and homicide

Figure 51: Hospitalisation rate from assault and attempted homicide, Pacific and total population, by age and sex, 2009 and 2010 (age standardised)



Source: Ministry of Health (National Minimum Dataset)

Notes: A prioritised ethnicity method of classification is used for ethnicity.

Rates were suppressed when counts were less than five.

Includes homicide resulting from intent to injure.

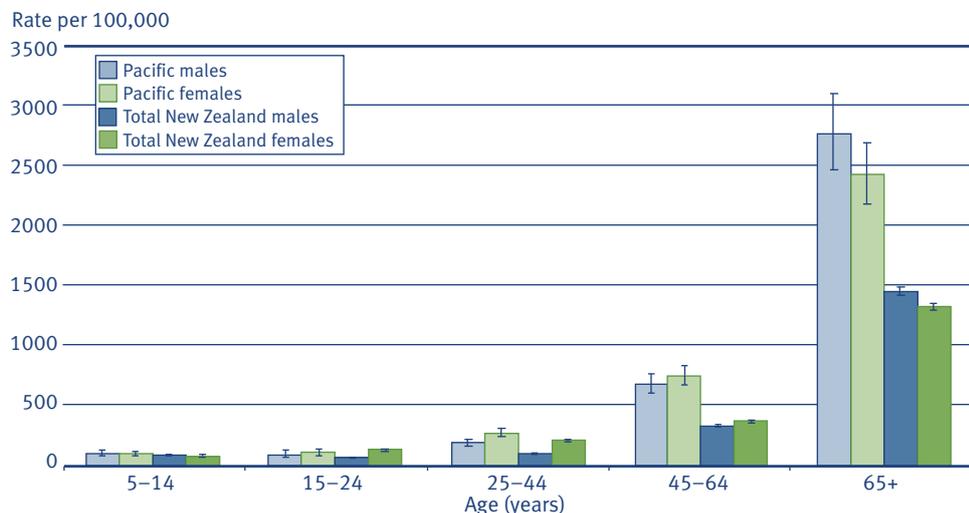
Figure 51 shows that, after adjusting for age, Pacific males and females had higher rates of hospitalisations from assault and attempted homicide than total males and females, respectively across the 15–65+ years age groups for males and the 45–64 years age group for females (differences were not significant in other age groups).

Mortality rates have not been included due to low counts for the Pacific population.



12.6 Therapeutic use of drugs, medicaments and biological substances

Figure 52: Hospitalisation rate from adverse effects from the therapeutic use of drugs, medicaments and biological substances, Pacific and total population, by age and sex, 2009 and 2010 (age standardised)



Source: Ministry of Health (National Minimum Dataset)

Note: A prioritised ethnicity method of classification is used for ethnicity.

Figure 52 shows that, after adjusting for age, Pacific males and females had significantly higher hospitalisation rates for adverse effects from drugs, medicaments and biological substances in therapeutic use than total males and females, in the 25–65+ years age groups. In the 45–64 and 65-plus age groups, the hospitalisation rates for the Pacific population were about twice the rate for the total population.

Mortality rates have not been included due to low counts for both Pacific and total population.



Appendices

Appendix 1: ICD-10 codes used for mortality and hospital data

Condition	ICD-10 codes
Asthma	J45–J46
Lower respiratory tract infection	J20–J22
Total cardiovascular disease	I00–I99
Ischaemic heart disease	I20–I25
Stroke	I60–I69
Chronic obstructive pulmonary disease (COPD)	J40–J44
Chronic lung disease	J60–J70
All cancer	C00–C97
Head and neck cancer	C00–C14
Stomach cancer	C16
Colorectal cancer	C18–C21
Liver cancer	C22
Pancreatic cancer	C25
Lung cancer	C33–C34
(female) Breast cancer	C50
Cervical cancer	C53
Uterine cancer	C54–C55
Ovarian cancer	C56
Prostate cancer	C61
Kidney cancer	C64
Brain cancer	C71
Malignant neoplasm (unspecified site)	C80
Hodgkin’s disease	C81
Non-Hodgkin’s lymphomas	C82–C85
Myeloma	C90
Leukaemia	C91–C95
All injuries	V00–Y99
Road traffic accident	V01–V89
Falls	W00–W19
Exposure to inanimate mechanical forces	W20–W49
Accidental drowning and submersion	W65–W74
Other accidental threats to breathing	W75–W84
Suicide and self-harm	X60–X84
Assault and homicide	X85–Y09
Drugs, medicaments and biological substances causing adverse effects in therapeutic use	Y40–Y59

Appendix 2: ICD-10 codes for amenable mortality

Infections	Respiratory tuberculosis	A15–A16
	Meningococcal infection	A39
	Pneumococcal disease	A403, G001, J13
Cancers	Stomach cancer	C16
	Rectal cancer	C19 -C218
	Bone and cartilage cancer	C40-C41
	Melanoma of skin	C43
	Female breast cancer	C50
	Cervical cancer	C53
	Prostate cancer	C61
	Testis cancer	C62
	Thyroid cancer	C73
	Hodgkin lymphoma	C81
	Acute lymphoblastic leukaemia	C910
Maternal and newborn	Complications of pregnancy	O01-O99
	Complications of perinatal period	P02-P94
	Congenital malformations of cardiac septa	Q210-Q219
CVD and diabetes	Diabetes	E101-E149
	Valvular heart disease	I01, I05-I09, I33-I37
	Hypertensive diseases	I10-I15
	Ischaemic heart diseases	I20-I25
	Heart failure	I50
	Cerebrovascular diseases	I60-I69
Other chronic disorders	Pulmonary embolism	I26
	Unspecified chronic bronchitis	J41-J42
	Asthma	J45-J46
	Peptic ulcer disease	K25-K27
	Cholelithiasis	K800-K808
	Renal failure	N17-N19
Injuries	Selected land transport accidents	V01-V79, V87, V89
	Accidental falls	W00-W19
	Exposure to smoke, fire and flames	X00-X09
	Suicide	X60-X84
	Misadventures to patients during surgical and medical care	Y60-Y69

Appendix 3: ICD-10 codes for ambulatory-sensitive hospitalisations

Condition	Principal diagnosis codes
Angina and chest pain	I20, R072–R074
Asthma	J45–J46
Bronchiectasis	J47
Cellulitis	H000, H010, J340, L01–L04, L08, L980
Cervical cancer	C53
Congestive heart failure	I50, J81
Constipation	K590
Dental conditions	K02, K04, K05
Dermatitis & eczema	L20–L30
Diabetes	E10–E14, E162
Epilepsy	G40–G41, O15, R560, R568
Gastroenteritis/dehydration	A02–A09, R11
GORD (Gastro-oesophageal reflux disease)	K21
Hypertensive disease	I10–I15, I674
Kidney/urinary infection	N10, N12, N136, N309, N390
Myocardial infarction	I21–I23; I241
Nutrition Deficiency and Anaemia	D50–D53, E40–E46, E50–E64, M833*
Other ischaemic heart disease	I240, I248, I249, I25
Peptic ulcer	K25–K28
Respiratory infections - Pneumonia	J13–J16, J18
Rheumatic fever/heart disease	I00–I02, I05–I09
Sexually transmitted Infections	A50–A59, A60, A63, A64, I980, M023, M031, M730, M731, N290, N341
Stroke	I61, I63–I66
Upper respiratory tract and ENT infections	J00–J04, J06, H65–H67
Vaccine-preventable disease - Meningitis, Whooping Cough, Hep B, Pneumococcal disease, Other	A33–A37, A403, A80, B16, B18
Vaccine-preventable disease - MMR	B05, B06, B26, M014, P350^

Notes: * Adult only (age 15+)

^ All ages

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