



TOMORROW'S HEALTH TODAY

This report was developed and written by Health Partners Consulting Group on behalf of the Ministry of Health and the metro-Auckland DHBs. Their assistance in supporting the data acquisition, analysis and feeding back on the commentary has been invaluable. In particular we would like to acknowledge the time and effort put in by Dean Papa, CMDHB senior health analyst. His expertise and assistance in developing the constructed population through numerous iterations made the approach of this report possible. Note that all views in the document are those of the authors, and the authors alone; they do not necessarily reflect the views or policies of the MoH or the DHBs. The report may be freely used and copied for the purposes of improving the health of New Zealanders, providing the source is acknowledged.

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Key Findings

This report aims to build a robust evidence base for Pacific health that will support the metro-Auckland DHBs to identify areas for Pacific health improvement. The evidence will be used to inform the development of and to pursue an Outcomes Framework including a dashboard, targets and proposed priorities for the 2013/14 annual planning process. This key findings summary distils the most important factors that will need to be addressed by the outcomes framework, and suggests areas to explore in terms of potential interventions. Much more detail is to be found throughout the report, with boxes drawing out the key points at the head of each chapter. The accompanying Workbook has a further 64 pages of graphs and tables of data.

The Pacific population is one of the fastest growing populations in New Zealand. In metro-Auckland (Counties Manukau, Auckland and Waitemata DHBs), the Pacific population makes up 16 percent of the total population. Samoans are the largest Pacific group living in metro-Auckland, followed by Tongans, Cook Island Māori, and Niueans.

Metro-Auckland Pacific people are spread throughout the city, but have specific concentrations in particular South Auckland communities, as well as in West Auckland. Just over one half (54%) of the metro-Auckland Pacific population lives in Counties Manukau.

A large proportion (71 percent) of the New Zealand Pacific population resides in metro-Auckland, thus many of the issues presented in this health needs assessment mirror the issues for the national Pacific population. Metro-Auckland Pacific life expectancy is much lower than non-Māori non-Pacific (NMNP) life expectancy (by 7.7 years), with much of the gap accounted for by increased mortality due to cardiovascular disease, diabetes, cancer and respiratory conditions. In turn the excess mortality is largely linked to differences in tobacco smoking, obesity, and poorer nutrition and exercise levels.

As in New Zealand overall, Pacific people in metro-Auckland have high rates of amenable mortality and ambulatory sensitive hospitalisations (ASH). These indicators, alongside a higher rate of emergency department (ED) use among Pacific people in metro-Auckland compared to NMNP, suggest Pacific families still have difficulty accessing high quality primary care.

We know from the body of evidence in New Zealand that the reasons for Pacific people being unable to access high quality primary care are complex. A number of barriers can impact on access including cost, lack of after-hours services, and lack of transport. Pacific families can also experience cultural and communication barriers during the care process, and they may have different health beliefs which impact upon their health care seeking behaviours and choices. Supporting culturally competent care, outreach and mobile treatment innovations, as well as the continued development of the Pacific health workforce are important for addressing some of these barriers.

Pacific people in metro-Auckland also experience high hospitalisation rates for infectious diseases generally, particularly lower respiratory tract, skin and gastrointestinal infections. Rheumatic fever has received particular publicity and policy attention over the past year – it disproportionately affects Pacific people in metro-Auckland, with the prevalence being 15 times the NMNP prevalence in 2011, with significant downstream morbidity. As with the high ASH rates generally, Pacific hospitalisations for infectious diseases point towards a complex array of barriers impacting Pacific people's care seeking and health service utilisation behaviours.

In addition to these barriers, other broader social and economic influences - such as housing quality - play a significant role in Pacific ill-health. Health literacy (knowing about illnesses and when to seek primary care treatment) also plays an important role in the timely treatment of illnesses, and reducing the acute demand placed on hospitals. For example, knowing when to seek treatment for sore throats is important

for preventing rheumatic fever among Pacific families. Mental health service utilisation and high teenage pregnancy rates are other areas where Pacific people are getting less help than their health status would indicate is needed. Growth and transmission of health knowledge among Pacific communities also depends on having broader, culturally appropriate systems and information sources in place.

Metro-Auckland Pacific people have a high prevalence of chronic conditions such as diabetes and cardiovascular disease. The prevalence of metro-Auckland Pacific diabetes (most of which is Type 2) was almost three times the NMNP prevalence in 2011. All of these conditions are associated with a number of modifiable risk factors such as smoking, obesity and nutrition; less than 5% of Pacific adults in metro-Auckland report living a healthy lifestyle. This requires urgent and sustained preventive intervention at all stages of the life cycle. However, it is likely that a particular focus on infancy would reap the largest dividends – one could envisage a ‘first 1000 days’ campaign, looking at antenatal through to age 3. Then school-based interventions, with an aim to have no child leaving school obese or addicted to tobacco.

Preventing chronic conditions is important for the future sustainability of the health system, both in capacity requirements and in terms of overall cost. Care for Pacific people with diabetes in metro-Auckland costs in excess of \$93m a year, of which around \$35m is the additional costs due to the higher diabetes prevalence. Enabling the shift in investment from acute services to prevention is a perennial issue for health funders, but the scale of the issue has never been larger. Prevention efforts require robust monitoring and evaluation processes that are built into their design during early planning stages. This enables innovations to be shared and also ensures accountability for spending, which in turn enhances likelihood of future investment.

A key innovation in the development of this report was the use of a constructed population to analyse the health care utilisation data. The metro-Auckland Pacific population for this report used a Pacific-prioritised method, differing from the traditional Māori prioritisation method used in New Zealand. It bases its count on the users of health care services, including PHO enrolment, meaning the ethnicity definitions used in the numerators are the same as used for the denominators. This allows more accurate sub-group analysis, including by the major island groups – Samoans, Tongans, Cook Island Māori, and Niueans. For details of this method, refer to the methods section of the report (Section 1.2) and the accompanying Workbook (Appendix 1). One consequence, however, is that some of the rates and estimates included in the report will differ slightly from existing reports.

This Pacific health needs assessment shows there is some variability within the metro-Auckland Pacific population across a number of health indicators. Cook Island Māori people, in particular, had higher prevalence of ischaemic heart disease (IHD), strokes, congestive heart failure (CHF), peripheral vascular disease, gout, and rheumatic fever compared to the total (‘All Pacific’) prevalence. The high prevalence of these conditions is also reflected in the higher mortality rate observed for Cook Island Māori compared to the rest of the Pacific groups in the region.

The ‘Other Pacific’ group within the metro-Auckland Pacific population showed a generally healthier pattern of health service utilisation and health outcomes. This group is a heterogeneous mixture, somewhat of an artefact of the report, being all the Pacific people who had not selected one of the four major groups. It includes Fijians (47%), Tokelauans (6%), people from other Pacific islands (36%) such as Tuvalu, and people whose specific Pacific ethnicity was undefined (11%) in the datasets.

Only further research can clarify what the within-Pacific population variability means in terms of addressing health issues for Pacific people in metro-Auckland. The differences between the various Pacific groups observed could be due to a number of factors such as recency of migration, subtle cultural differences, neighbourhood effects, and socio-demographic differences between the various Pacific groups. However these differences exist alongside a larger number of similarities shared between Pacific

groups, and these congruencies remain the main consideration when addressing the health needs of Pacific people.

While this health needs analysis has necessarily concentrated on ill health and the negative health consequences of social circumstances, it must not be forgotten that there are many strengths to the Pacific communities in metro-Auckland. Strong cultural identities, community organisation including churches, and a clear focus from the health sector on Pacific health are evident. By working with these capability and resilience factors, inroads will be possible into the causes of poor health and premature mortality. In particular, a clear path forward is needed to manage the issue of obesity and its impact on the lives of the Pacific people in metro- Auckland.

At a Glance

Key areas that a Pacific Outcomes Framework for the metro-Auckland DHBs will need to address are:

1. Tobacco smoking
2. Obesity and nutrition
3. Access and use of primary care – in-hours, after-hours
4. Health literacy and self-management
5. Early childhood health, preventing infectious diseases
6. Chronic disease management – diabetes, CVD
7. Mental health service access
8. Teenage pregnancy, and access to contraception
9. Working intersectorally on the determinants of health.

1. Introduction

In New Zealand, the Pacific population experience poorer health outcomes compared to the total population. There has been some improvement in recent years, for example, the increased Pacific immunisation rates. However, Pacific people's mortality has improved the least of all ethnic groups, and Pacific people continue to experience high rates of avoidable hospitalisations for conditions treatable in primary care settings.

Pacific health is complex – it is influenced by a variety of factors such as socioeconomic determinants (e.g. housing), health literacy, and barriers that impact upon access to, and the quality of, primary care. The Ministry of Health's strategy for improving Pacific health outcomes (*'Ala Mo'ui: Pathways to Health and Wellbeing 2010-2014*) has no associated outcomes framework, which has made it difficult to coordinate sector efforts. Bringing together information on Pacific health data, including primary and secondary care data, is essential for supporting key stakeholders to address Pacific health needs with a more integrated approach.

1.1 Aims and Objectives

This Pacific population health profile presented in this report provides a “snapshot” of Pacific health in metro-Auckland. This report is the first part of a two-part project that aims to:

1. build an evidence base by collecting and analysing primary and secondary care data
2. develop an outcomes framework to support work towards improving the health of the Pacific population living in metro-Auckland (to be completed November 2012).

Overall, the objectives of the metro-Auckland Pacific population health profile and outcomes framework are to:

- Build a robust evidence base for Pacific health that will support health services to identify areas for Pacific health improvement for the metro-Auckland DHBs
- Provide information to support knowledge transfer and information sharing across BSMC business cases for Pacific populations
- Better inform localities planning and service integration activities for Pacific populations across metro-Auckland by working with key DHB decision makers as part of regional processes
- Develop an evidence base to inform inter-sectoral and Whanau Ora approaches to addressing the social determinants of health for Pacific populations
- Provide Pacific communities with up to date and relevant information about their health status to better inform community driven (population health) action
- Support a process for better coordination and service integration planning to reduce Pacific health inequalities for metro Auckland.

The evidence base presented in this report will be used to inform the development of the outcomes framework including a dashboard, targets and proposed priorities for the 2013/14 annual planning process. It intentionally does not investigate the trends or implications of the evidence presented. This would be the subject of further work by DHBs at a local level.

1.2 Methods

This population health profile consists of two parts: this report and a linked workbook in Excel format (referred to as the *Workbook* in text). The *Workbook* runs to 64 pages if printed, and features most of the tables and charts used in the document, and includes many more detailed graphs and analyses.

1.2.1 Literature Review

International and national literature relating to Pacific health were reviewed to inform the analysis and interpretation of this report. This included academic and relevant grey literature (government, DHB and other online publications). The literature review was selective in scope; guided by the priorities outlined in *‘Ala Mo‘ui* and the National Health Targets.

1.2.2 Data Collection and Analysis

Data was collected from a variety of sources including national surveys (e.g. NZ Health Survey), the PRIMHD database, and clinical network data from the Northern Region DHBs.

Where the data allowed analyses were done by the four largest Pacific groups (Samoan, Cook Island Māori, Tongan and Niuean) using a constructed population approach (described below in 1.2.3). The remaining Pacific population was used to create a fifth Pacific group (*‘Other Pacific’*), which was a composite of Fijians, Tokelauans, people from other Pacific Islands, and Pacific people whose ethnicity was not further defined. Data was analysed by the three metro-Auckland DHBs, age, and sex, using a non-Māori non-Pacific (NMNP) comparison group. Fijian Indians were specifically assigned to NMNP. Where needed analyses were age-standardised to the WHO world population.

We use the phrase “metro-Auckland” throughout the report to mean the populations covered by Waitemata, Auckland and Counties Manukau DHBs – from Wellsford to Mercer.

1.2.3 The metro-Auckland Pacific population constructed for this report

The metro-Auckland Pacific population dataset used for analysis was constructed specifically for this report. There is much debate around which denominator to use when analysing ethnic-specific data in New Zealand (and other jurisdictions) because the way people answer Census questions can differ from the way they answer an ethnicity question in a health setting; similarly, the question can be asked in a different way in each health setting.

To get the closest match between the numerator and denominator we constructed a population list using the national health data collections. Every person interacting with the publicly-funded health system is assigned a unique identifier – the NHI number (National Health Index). This number is used in each interaction that person has with the health system. The following data sets were used with an encrypted NHI (and no other personally identifiable data):

- NMDS – inpatients and hospital care
- NNPAC – outpatient and community/domiciliary care
- Laboratory tests – community laboratory tests
- Pharms – community prescriptions dispensed
- GMS claims – inter-GP payments
- PHO – the primary health organisation people are enrolled with for primary care subsidies
- PRIMHD – mental health
- Mortality – the national mortality collection (to remove the deceased)

From this we constructed a listing of every person who was alive as at the end of 2011, had had a health event in 2011 (or were enrolled in a PHO) and whose last known domicile was in the metro-Auckland area. This gave a similar overall count to the census-derived estimated populations of Statistics New Zealand, but differed in its ethnicity proportions. More details of this constructed population and how it compares with census-derived estimates are given in *Appendix 1* (see

Workbook). As it is new to this report, some of the figures presented will differ slightly from those in existing reports.

In New Zealand, health datasets usually prioritise Māori ethnicity before Pacific; meaning a person who identifies with both Māori and Pacific ethnicities would usually only be counted as Māori. This can lead to loss of information and possible biases in findings (Didham & Carter, 2012). For this report, people identifying with both Māori and Pacific ethnicities were counted in the Pacific population (i.e. Pacific ethnicity was prioritised first). For within-Pacific analyses, Pacific people were exclusively assigned to one Pacific ethnic group. Assignment to each Pacific group prioritised the smallest Pacific group in metro-Auckland (Niue) first, followed by Cook Island Māori, Tongan, and Samoan (the largest group) last. Those Pacific who were not assigned to one of the four largest Pacific groups, were assigned to the Other Pacific group. To avoid confusion we have generally not presented separate Māori figures, as these would not be consistent with other reports, nor represent a useful way to present the data.

1.2.4 The effective Pacific population: capturing population mobility and fluidity

The constructed population used in this report is similar to the concept of an “effective” population – “a population that uses the basic services and facilities (water, sewerage, accommodation, health services, and so on) in one place, at any point in time” (Bedford, 2008). As Bedford (2008) describes, the concept of an effective Pacific population captures the fluidity of their movement between New Zealand, the islands and other cities in the Pacific Rim.

In this report, the constructed Pacific population captures those Pacific people in the metro-Auckland using health services over the course of a year. This generates a slightly larger Pacific population for the region compared to other cross-sectional measures such as the Census. We thus see multiple benefits from using the constructed population data over traditional Census-based estimates, including:

1. improved ethnicity definitions from the health utilisation datasets
2. increased stability of the Pacific sub-group attribution
3. reduction in the impact of ethnicity coding errors (because members of the population are re-assigned to the latest ethnicity recorded)
4. reprioritisation so that those Pacific people with both Pacific and Māori heritage are included in the Pacific population dataset
5. some capturing of the fluidity of the Pacific population
6. a strong linkage to people actually using health services
7. explicit matching of numerators and denominators.

2. Pacific Population Demography

- *CMDHB has the largest Pacific population of all three metro-Auckland DHBs (54% of the total metro-Auckland Pacific population).*
- *Samoans are the largest Pacific group in metro-Auckland, followed by Tongans and Cook Island Māori. Over half of each of these populations reside in the CMDHB region.*
- *The 'Other Pacific' group (in the population constructed for this report) were made up of Fijian people (47%), people from other Pacific Islands (36%), Tokelauans (6%), and undefined Pacific people.*
- *The metro-Auckland Pacific population has a young age structure (over a third under 15 years and almost half under 25 years of age, in 2011).*
- *The Other Pacific group has a slightly older age profile compared to the Samoan, Tongan, Cook Island Māori and Niuean groups in the region.*
- *The Pacific population is one of the fastest growing populations in New Zealand.*

This section presents the following demographic data for Pacific peoples from across metro-Auckland:

- Ethnic composition of Auckland
- Pacific population size
- Pacific population age and sex structures
- Pacific population density
- Pacific population characteristics: place of birth and multiple ethnicities
- Pacific population growth

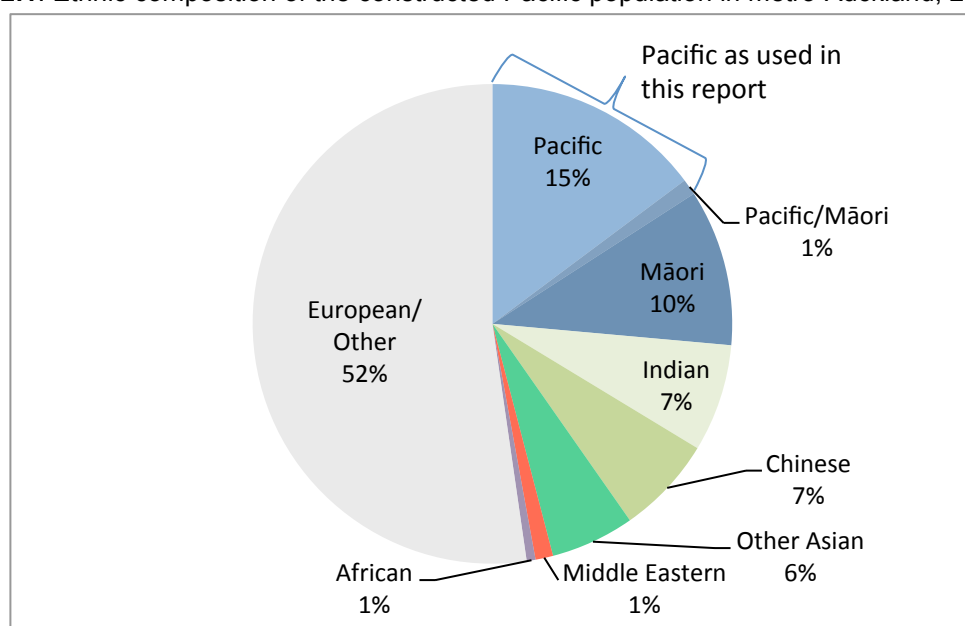
Unless stated otherwise, population estimates in this section are based on a constructed population which was built using an ethnicity prioritisation algorithm, designed specifically for this report (see section 1.2.3). Because the constructed population is unique to this report, some of the estimates in this section may differ slightly from those in existing reports. Refer to *Appendix 1* in the *Workbook* for a comparison of the constructed population with the estimated resident population based on Census data.

2.1 Ethnic Composition of Metro-Auckland

In New Zealand, a large proportion of the Pacific population (71%) resides in metro-Auckland. Pacific people made up 16 percent of the total Auckland region population in 2011 (Figure 2.1). This includes an estimated 16,000 people (1 percent) who identify with both Māori and Pacific ethnicities – for the purposes of this report these people have been classified as Pacific where the data so allows.

The multi-ethnic nature of the metro-Auckland population is readily apparent, with only 52% of the population identifying solely with European ethnicity. For the purposes of this report the Non-Māori Non-Pacific comparison group consists of all groups in Figure 2.1 from Indian, clockwise to European/Other.

Figure 2.1: Ethnic composition of the constructed Pacific population in metro-Auckland, 2011



Note: based on prioritised constructed ethnicity, Pacific prioritised first, then order continues clockwise. Pacific/Māori estimate from Statistics New Zealand estimated resident estimate for 2011.

2.2 Pacific Population Size

This section shows the sizes and composition of the Pacific populations for each DHB in metro-Auckland. The three metro-Auckland DHBs have the largest Pacific populations of all the DHBs in New Zealand. For more detail refer *Workbook sheet 1*.

2.2.1 Metro-Auckland Pacific Populations

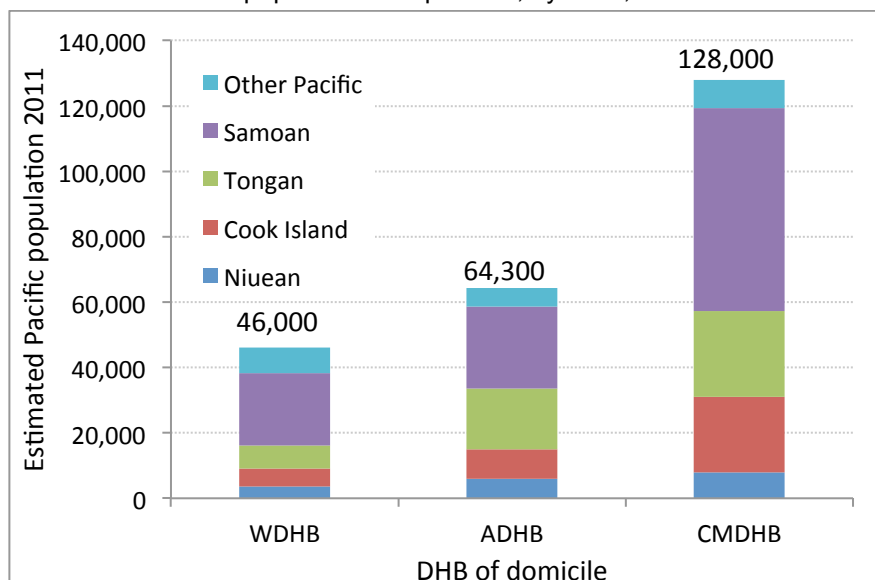
Using the constructed population method there were 238,257 people identified as Pacific in metro-Auckland in 2011, 16% of the population (Table 2.1). CMDHB had the largest Pacific population of all metro-Auckland region DHBs, 54% of the total Pacific population in metro-Auckland. In CMDHB a quarter (25.1%) of the DHB's population identified as being Pacific. ADHB had the second largest Pacific population (14.1% of ADHB's population), followed by WDHB (8.6% of WDHB population).

Table 2.1: Pacific population in metro Auckland, 2011

	DHB Pacific population (constructed)			
	WDHB	ADHB	CMDHB	Total
Niuean	3,637	5,954	7,950	17,541
Cook Island	5,375	8,944	23,130	37,449
Tongan	7,044	18,702	26,267	52,013
Samoan	22,252	25,074	62,063	109,389
Other Pacific	7,722	5,583	8,560	21,865
All Pacific	46,030	64,257	127,970	238,257
Rest of pop	489,725	391,549	381,361	1,262,635
Total	535,755	455,806	509,331	1,500,892
Pacific %	8.6%	14.1%	25.1%	15.9%

Across all three DHBs in metro-Auckland Samoans were the largest Pacific group, with over half (57%) of all Samoans living in the CMDHB area in 2011 (Figure 2.2). Tongans were the second largest group in the Auckland region, followed by Cook Island Māori. Again, over half of the Tongan population (51%) and the Cook Island population (62%) resided in CMDHB (refer *Workbook Table 1.1*).

Figure 2.2: Metro-Auckland Pacific population composition, by DHB, 2011



2.2.2 'Other Pacific'

The Other Pacific group is around half Fijian (47%), with some Tokelauans (6%) – the only other island identified separately in the routine health data. The rest of the Other Pacific group were either from 'other' Pacific islands (36%), or were 'undefined' Pacific people (e.g. not specified due to poor coding). Undefined Pacific are most likely Pacific people from one of the four largest Pacific groups.

2.3 Pacific Population Age and Sex Structures, 2011

The Pacific population in metro-Auckland has a young age structure, with large numbers of Pacific children and youth. Over a third of Pacific people were aged under 15 years (34%), and getting towards a half were under 25 years in 2011 (44%). In comparison, the non-Māori non-Pacific population in the Auckland region has slightly older structure, with less than one fifth (18%) aged under 15 years and less than one quarter (24%) aged under 25 years (Figure 2.3 – see also *Workbook sheet 2*).

Within the Auckland region Pacific population, the age and sex structures were similar to the total Pacific structure for Samoan, Tongan, Cook Island and Niuean Pacific groups (Figures 2.4 – 2.8 NB – different scales on each age pyramid). The Tongan population had the largest child and youth populations, with 38 percent of the population aged under 15 years and almost 48 percent aged under 25 years.

The Other Pacific group had a slightly older age profile compared to Samoans, Tongans, Cook Islanders and Niueans, with 27 percent and 36 percent aged under 15 years and 25 years respectively. Because the Fijian group makes up almost half of the Other Pacific group, the older age structure of the Other Pacific group may reflect the recent increase in Fijian immigrants in New Zealand (see Bedford, 2008). The older age structure could also be due to ethnicity coding issues, since those Pacific people whose ethnicity was not otherwise specified are also included in the Other Pacific group.

Figure 2.3: Total metro-Auckland Pacific population by age and gender, 2011

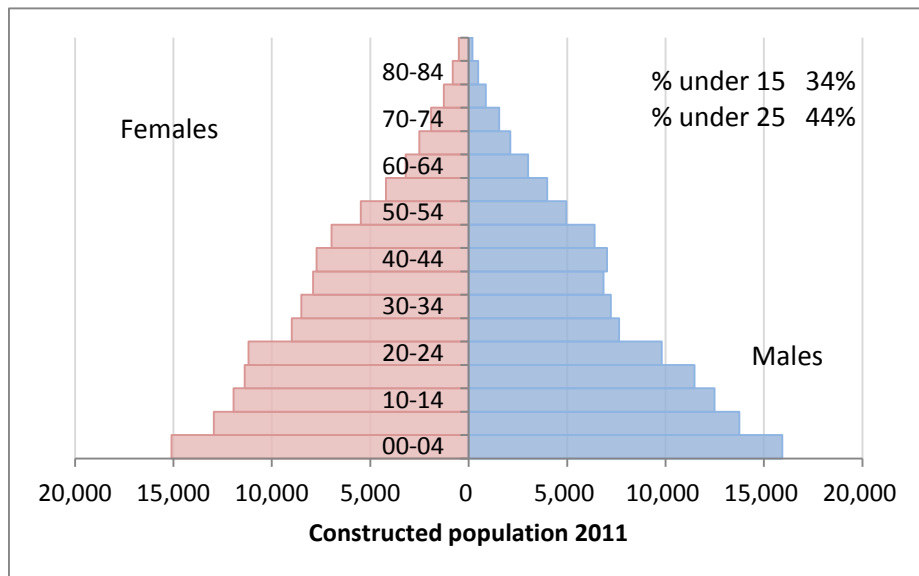


Figure 2.4: Samoan population by age and gender, metro-Auckland, 2011

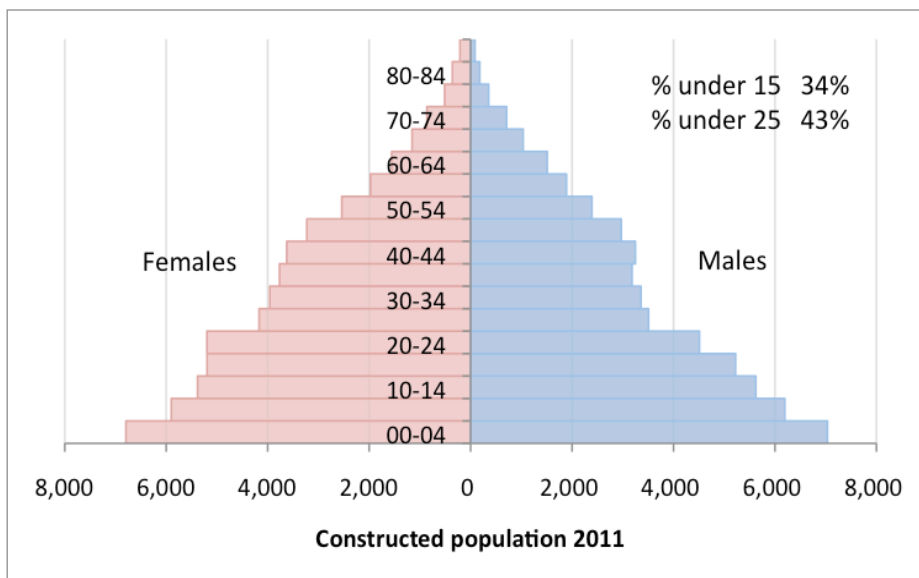


Figure 2.5: Tongan population by age and gender, metro-Auckland, 2011

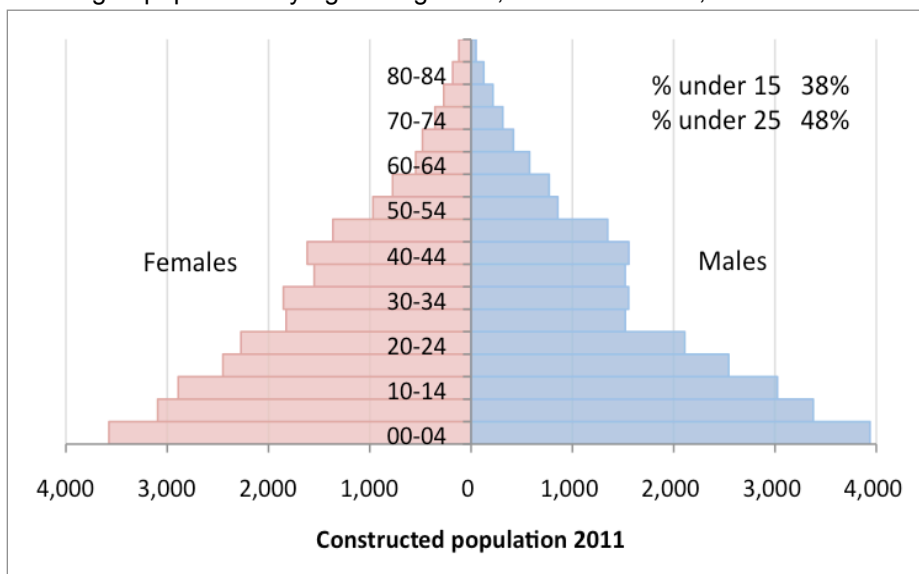


Figure 2.6: Cook Island population by age and gender, metro-Auckland, 2011

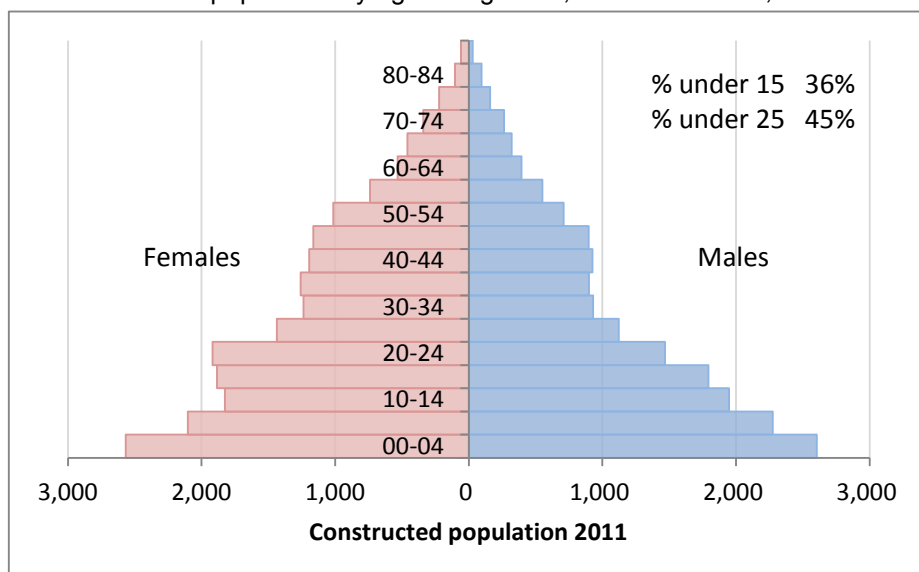


Figure 2.7: Niuean population by age and gender, metro-Auckland, 2011

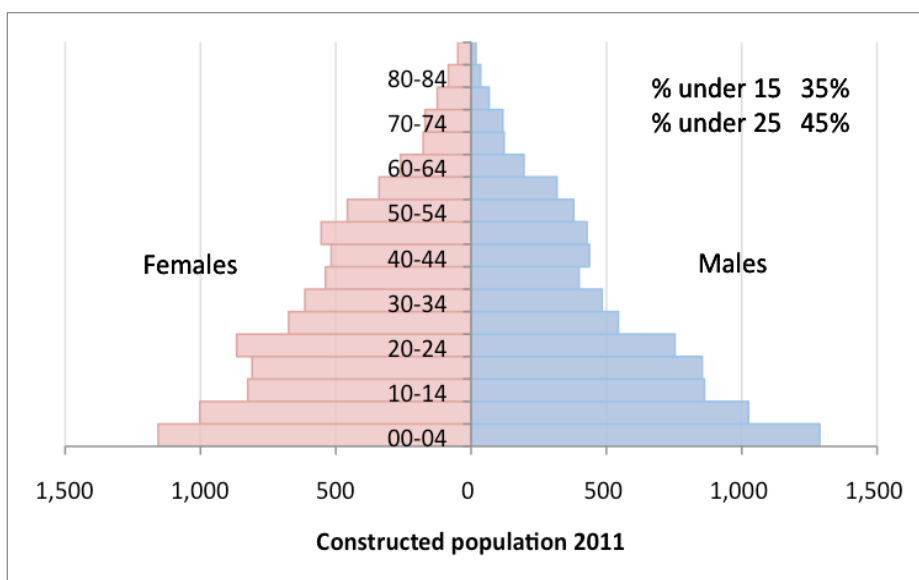
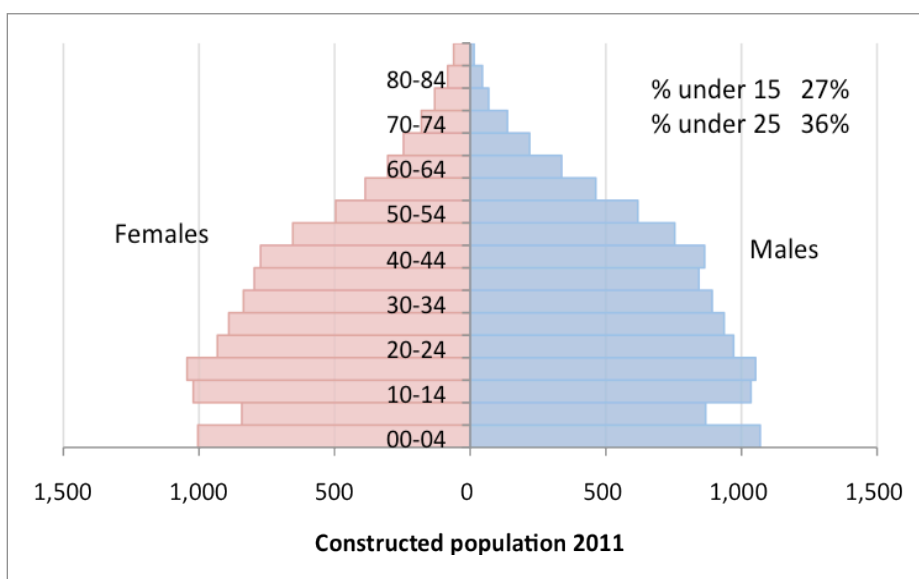


Figure 2.8: Other Pacific population by age and gender, metro-Auckland, 2011



2.4 Pacific Population Density

Pacific people in metro-Auckland are spread throughout the area, but have large concentrations in the South Auckland region. The next largest communities are in the West Auckland region (particularly Henderson and Massey) and also more centrally, predominantly in Maungakiekie, Tamaki and Whau (Figure 2.9) (also see *Tables 1.2 and 1.3 in Workbook*).

Within the Pacific population in metro-Auckland, all the Pacific groups share a similar population density profile, although, a larger population of Samoans lived in the Henderson, Massey and Manurewa suburbs compared to the other Pacific groups. For all the Pacific groups, the largest numbers of Pacific people resided in Mangere, except for the Other Pacific group, where most lived in Henderson and Massey (WDHB) (figures 2.9 – 2.14 below – with thanks to Keming Wang, CMDHB for the mapping).

Within CMDHB, large numbers of the Pacific population live in the Otara and Mangere, Papatoetoe and Manurewa wards. In Otara and Mangere in particular, large proportions of the ward population identified as being Pacific ethnicity in 2011 (68% of the Otara population and 62% of the Mangere population).

Within ADHB, large proportions of the Pacific population resided in the Maungakiekie-Tamaki (32% Pacific) and Whau (22% Pacific) ward areas in 2011. Within WDHB, the ward areas with the largest proportions of Pacific people were Henderson-Massey (20% Pacific) and Whau (19%) (see *Tables 1.2 and 1.3 in Workbook*).

Figure 2.9: Pacific population density in metro-Auckland, 2011

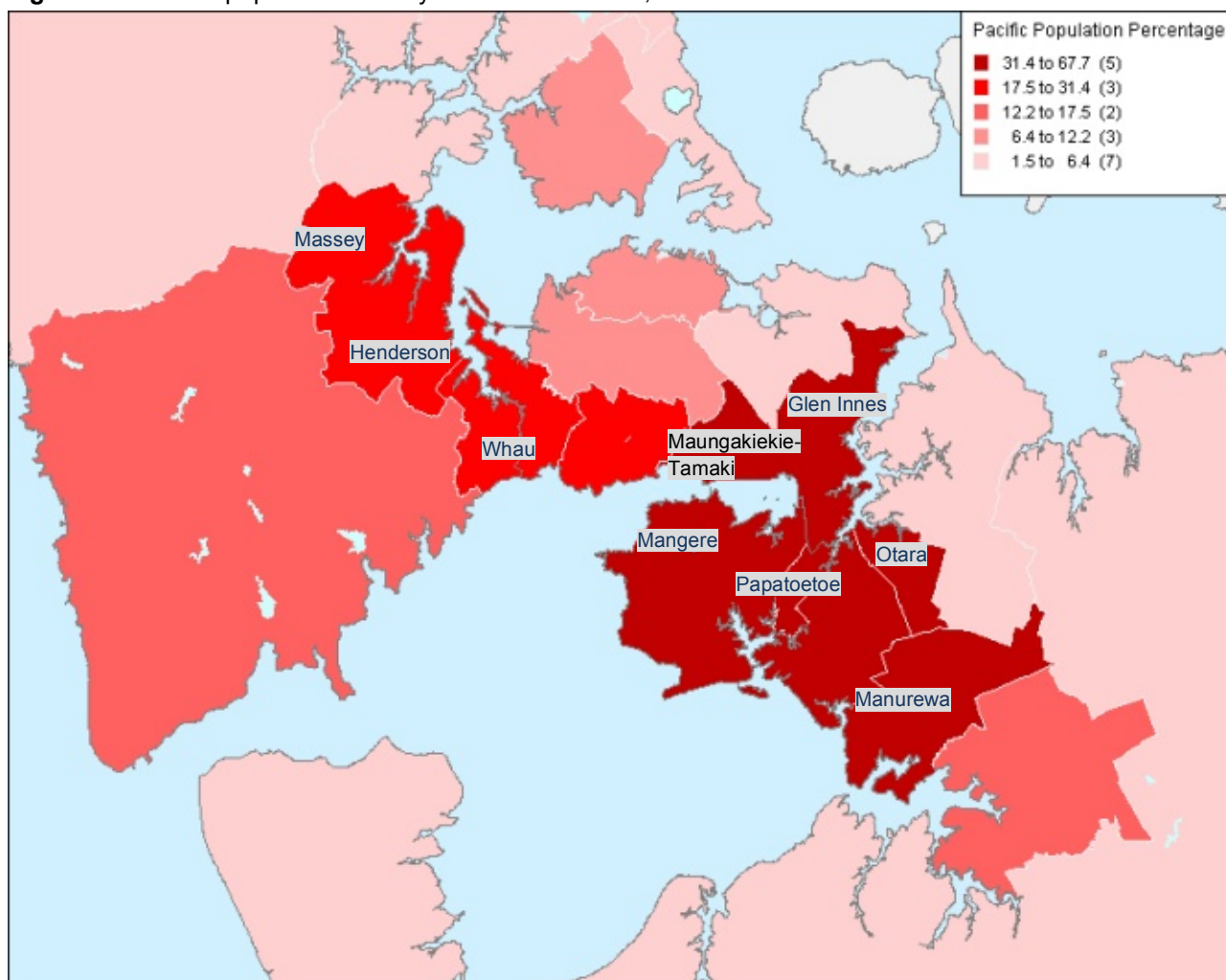


Figure 2.10: Samoan population density in metro-Auckland, 2011

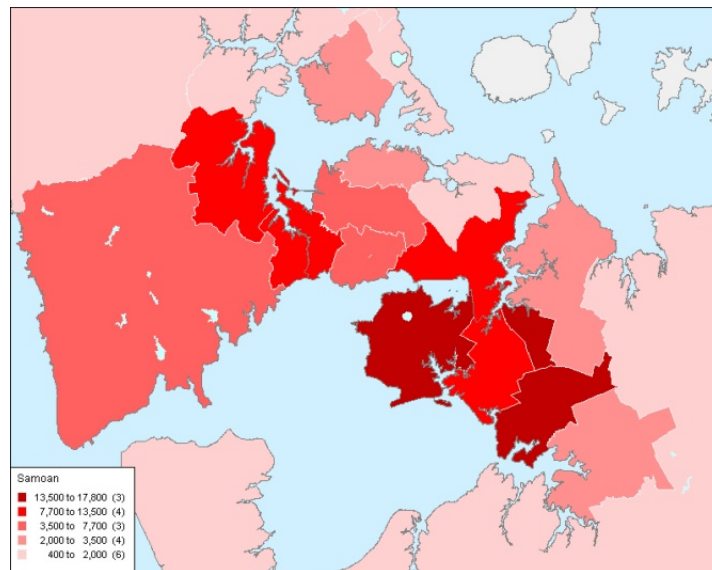


Figure 2.11: Tongan population density in metro-Auckland, 2011

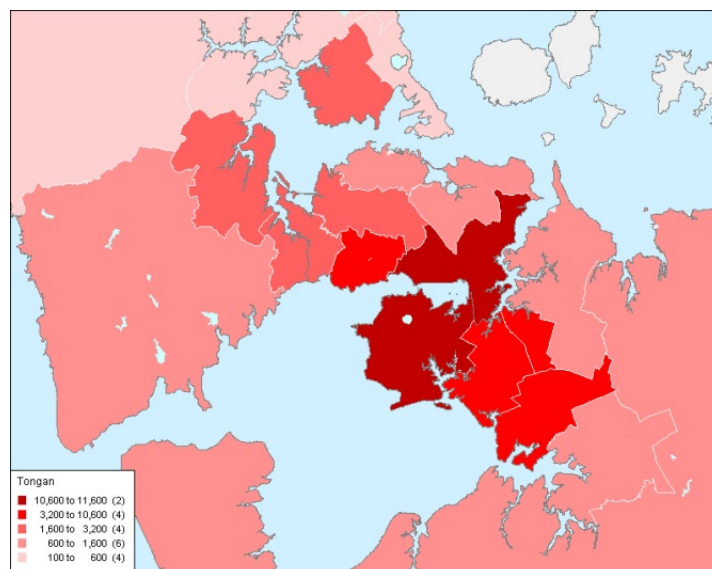


Figure 2.12: Cook Island population density in metro-Auckland, 2011

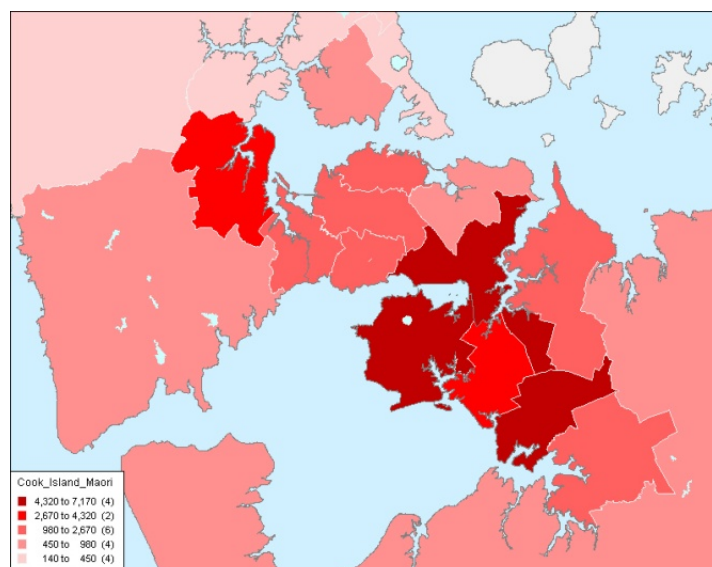


Figure 2.13: Niuean population density in metro-Auckland, 2011

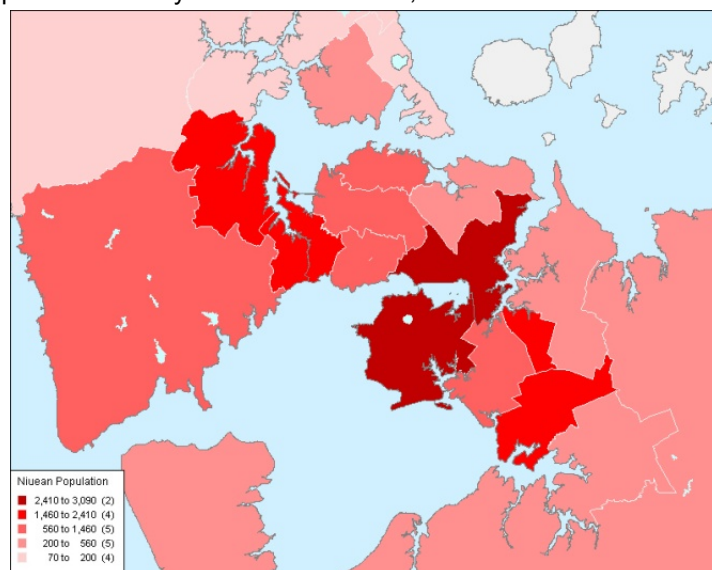
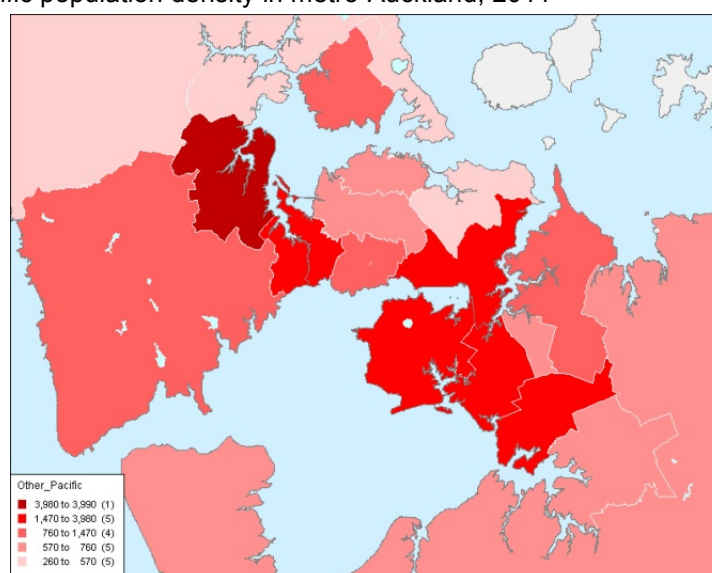


Figure 2.14: Other Pacific population density in metro-Auckland, 2011



2.5 Pacific Population Characteristics

2.5.1 Birthplace

Over time, the New Zealand Pacific population has changed from being a migrant population to a population where the majority of people are New Zealand-born (NZ-born). In 1986, just under half of Pacific people were born in New Zealand. This had increased to 60 percent by 2006 (Statistics New Zealand & Ministry of Pacific Island Affairs; SNZ & MPIA, 2010).

Those Pacific groups with unrestricted settlement rights (Cook Island Māori, Niueans and Tokelauns) have the largest proportions of NZ-born people. Among these groups, the increase in NZ-born populations has been the greatest. In 2006, almost three quarters of the Cook Island Māori (73%) and Niuean (74%) populations were NZ-born. Fijians were the only Pacific group in New Zealand where the majority of the population was born overseas (SNZ & MPIA, 2010).

There are more Cook Island Māori, Niuean and Tokelaun Pacific people living in New Zealand than there are living in their respective islands. The Niuean population in New Zealand was 10 times the population living in Niue in 2006 (SNZ & MPIA, 2010).

The NZ-born Pacific population has a younger age profile compared to the overseas-born Pacific population. In 2006 the median age of the NZ-born Pacific population was 13 years, compared to a median age of 39 years for overseas-born Pacific.

Because of their older age profile, the overseas-born Pacific population is more strongly represented in the labour force. Eighty percent of the overseas-born Pacific population was working age in 2006, compared to 44 percent of the NZ-born Pacific population (SNZ & MPIA, 2010).

2.5.2 Multiple Ethnicities

The proportion of the Pacific people identifying with only one ethnicity decreased from 80 percent in 1991 to 70 percent in 2006. Young Pacific people are more likely to identify with multiple ethnicities. Almost half of all Pacific children aged 0-4 years (47%) had more than one ethnicity in 2006. Mostly older Pacific people (93% of those aged over 65 years) identified with solely one ethnicity (SNZ & MPIA, 2010).

2.5.3 Pacific Population Mobility

Pacific people tend to be mobile between New Zealand and their Pacific Island nations. Older Pacific people often return to the Pacific Islands to retire and live out the rest of their lives. This can impact upon Pacific population data because older Pacific people's morbidity and mortality data might not be captured by regional and national New Zealand health data collections.

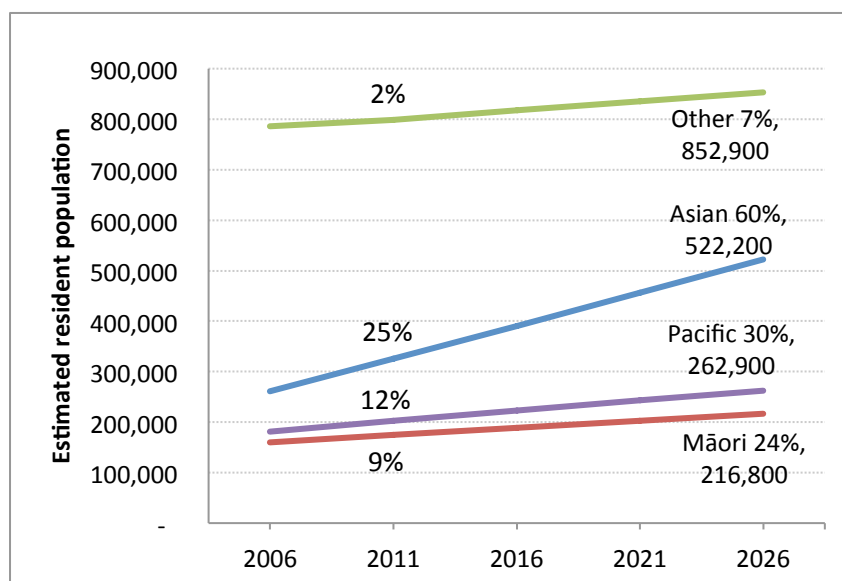
Similarly, among Pacific people there is an increasing trend towards dual residence, where people reside for part of the year in the islands, and the other part of the year in New Zealand; frequently circulating between other Pacific countries and New Zealand throughout their lifespan (Bedford, 2008). This circulation is also likely to impact mortality and morbidity statistics, and also the clinical management of long term conditions, particularly where patients are on complex medical treatment regimes for multiple conditions that require regular monitoring and high cost interventions (such as renal dialysis).

2.6 Metro-Auckland Pacific Population Growth

The Pacific population is one of the fastest growing populations in New Zealand. Statistics New Zealand medium projections show the, by 2026, the Pacific population in metro-Auckland is expected to increase by 30 percent. This compares to a 23 percent increase expected in the overall metro-Auckland population.

Figure 2.15 below shows medium population growth in metro-Auckland DHBs from 2006 to 2026 by ethnicity, with the % estimated change from 2006 to 2011, and the projected 2026 population with the % change projected from 2011 (note - from SNZ estimated resident data projections, not the constructed population).

Figure 2.15: Estimated resident population growth in metro-Auckland, 2006-2026 (% growth changes shown)



Based on Statistics New Zealand projections for MoH, 2011

3. Socioeconomic Determinants of Health for Pacific Peoples

- *Sixty percent of the metro-Auckland Pacific population live in the most deprived areas of Auckland (NZ Dep quintile 5). Almost three quarters of the CMDHB Pacific population live in the most deprived areas.*
- *Within the metro-Auckland Pacific population, the Other Pacific group has a larger proportion of people living in less deprived areas.*
- *Pacific people are more likely to live in crowded households compared to other ethnic groups in New Zealand.*
- *Poor quality housing is associated with high Pacific hospitalisation rates for respiratory illnesses and infectious diseases.*
- *Social connectedness, links with other Pacific communities, families and support are all important for Pacific health and wellbeing.*

This section presents brief information on the broader socioeconomic determinants of Pacific people's health. It has been covered in great detail in past reports. A summary of the main factors is given here, particularly as they pertain to DHB activities and potential intervention points.

Pacific peoples share a broad understanding of health. For many Pacific people, their view of health is holistic, where the health of the family, as a whole, influences the health of individuals and communities (SNZ & MPIA, 2011). Within this broad perspective of health, it is acknowledged that the influences on Pacific health are complex – that the social and economic conditions which influence Pacific families play an important role in the health of Pacific individuals. These socioeconomic determinants of Pacific health include:

- economic resources (income, employment)
- education
- housing
- social connectedness and social cohesion

For Pacific families and communities, these social determinants also impact on Pacific health by constraining the choices available for Pacific individuals. For example, the level of economic resources impacts on family's ability to afford healthy food, and this influences the nutrition of Pacific children. Similarly, social connectedness and participation in Pacific communities is thought to play a protective role in Pacific mental health (SNZ & MPIA, 2011).

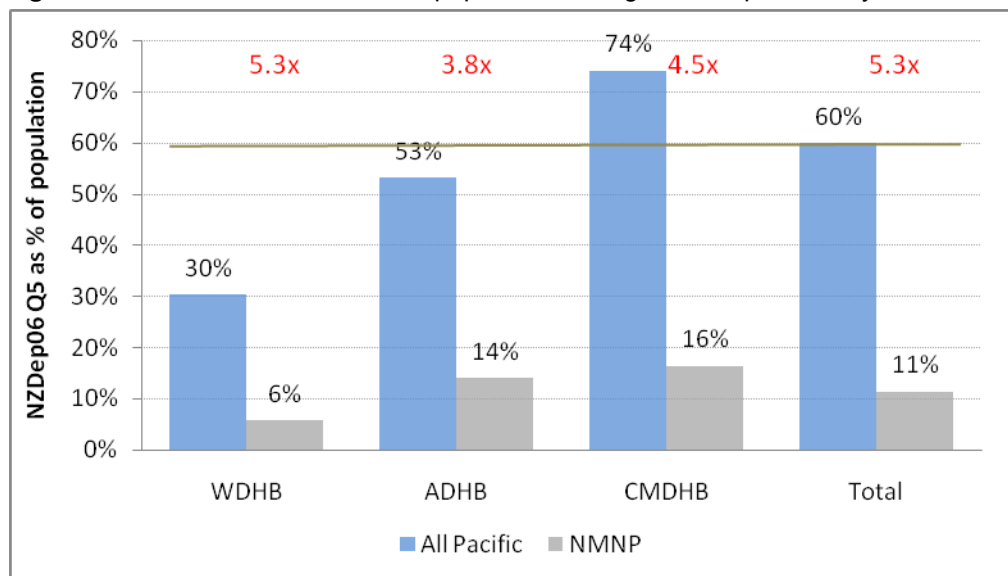
'Pacific people experience improved broader determinants of health' is one of the six priority outcomes of 'Ala Mo'ui: Pathways to Pacific Health and Wellbeing 2010-2014 (Minister of Health and Minister of Pacific Island Affairs, 2010). Improvement in the housing of Pacific families was carried out with the *Healthy Housing* initiatives, but the funding for this has now largely finished. Significant reductions in acute hospitalisation rates were shown by that programme (Jackson, 2011). Housing insulation schemes are still being coordinated by metro-Auckland DHBs (e.g. Snug Homes, Warm Up and Warm 'n' Well programmes).

3.1 Socioeconomic Indicators for Pacific people

3.1.1 Neighbourhood Deprivation (NZDep)

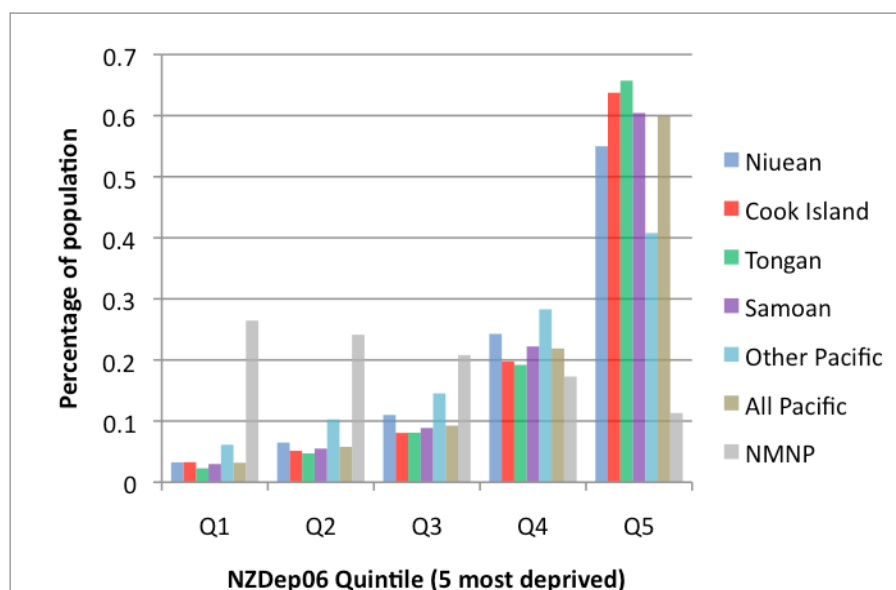
Significant proportions of the metro-Auckland Pacific population live in the most deprived areas of Auckland. Sixty percent of the metro-Auckland Pacific population lived in the most deprived areas (NZ Dep quintile 5) in 2011, compared to 11 percent of the non-Māori non-Pacific population (refer *Workbook sheet 3*). CMDHB had the largest proportion of Pacific people living in the most deprived areas (almost three quarters of their Pacific population), whereas WDHB had the smallest proportion of Pacific people living in the most deprived areas (Figure 3.1).

Figure 3.1: Metro-Auckland Pacific populations living in NZDep06 Q5, by DHB, 2011



The metro-Auckland Pacific groups had similar proportions of their group living in the most deprived areas in 2011. The Other Pacific group was the only exception, where smaller proportions of the group lived in the most deprived areas and more also lived in less deprived areas compared to the total Pacific population (Figure 3.2).

Figure 3.2: Metro-Auckland Pacific population by NZDep06 quintile, 2011



When examining the movement of people between neighbourhoods it appears that those who leave deprived neighbourhoods are more likely to be of European and Asian ethnicity and those who enter are more likely to be Māori and Pacific. The net result reinforces the correlation between ethnicity and levels of neighbourhood deprivation (Morrison & Nissen, 2010).

3.1.2 Economic resources

Economic resources enable Pacific families to participate fully in their communities and maintain a good state of health.

Pacific equivalised median household income has increased from 1988 to 2009, but Pacific median household income remains lower than other ethnic groups except for Māori. Pacific people had among the lowest median hourly earnings for wage and salary earners in June 2009. However, Pacific wage and salary earners also experienced the greatest increase in real median hourly earnings (up by 7%) over the 12 months leading up to June 2009 (MSD, 2010), though this is likely to have been eroded more recently.

A unique Pacific factor is the high level of gifting and remittances. An estimated 85% of Pacific families send remittances overseas, with figures of 5-13% of disposable income quoted. Also two-thirds donate money to churches – many tithing 10% of their income (NZIER, 2007). While this can be viewed as an investment in community assets and communal wealth, it does have a very direct impact on available income, housing ownership and individual savings.

Pacific employment rates reached a high of 62.7 percent in the year to December 2008. In 2009 the Pacific employment rate fell to 56.8 percent; the lowest rate since 1999 (MSD, 2010). Employment conditions remain tough through 2012, with unemployment overall continuing to rise, and an increase casualisation of the workforce. Many people are being forced to work part-time.

3.1.3 Education

Education impacts on the health of Pacific people both directly, through people's ability to understand illness and treatments (e.g. health literacy), and also indirectly, through its impact on employment opportunities and income. Pacific people's education has shown some improvement in recent years, but Pacific communities still had the highest proportion of people with no qualifications in 2006. Pacific males were slightly more likely to have no qualifications compared to Pacific females; and Fijians were more likely to have qualifications compared to the total New Zealand population (Statistics New Zealand & Ministry of Pacific Island Affairs; SNZ & MPIA, 2010a).

Pacific children are less likely to attend early childhood education (ECE) and more likely to enter schools behind in numeracy and literacy skills. There was a small increase in Pacific participation in ECE between 2000 and 2006, but participation remained low (around only 78 percent in Papakura and 80 percent in Manukau) compared to the national average (85 percent). Various cultural barriers can impact on the Pacific family's engagement with ECE centres and schools (SNZ & MPIA, 2010a).

Pacific students have shown improved National Certificate in Education Achievement (NCEA) results since 2004, but still tend to underachieve in many areas compared to the total New Zealand population. In 2004 just over half (53 percent) of Pacific year 11 candidates met the requirements for numeracy and literacy in 2004 (compared to almost 75 percent of non-Pacific year 11 candidates who met the requirements). Fijian students generally were more successful at gaining NCEA qualifications (SNZ & MPIA, 2010a).

Pacific participation in tertiary level education has also improved, increasing by 11 percent between 2002 and 2008. Pacific people are still less likely to complete their diplomas or degrees compared to other ethnic groups (SNZ & MPIA, 2010a).

3.2 Housing

3.2.1 Household Crowding

In New Zealand, household crowding is defined (using the Canadian Crowding Index) as the proportion of the population living in housing requiring one or more additional bedrooms. Crowded housing is associated with high prevalence of infectious disease and also psychological distress (MSD, 2010).

Pacific peoples were more likely to live in a crowded household compared to any other ethnic group in New Zealand. This pattern has been consistent across time from 1986 to 2006 (SNZ, 2012). In 2006, 43 percent of Pacific people lived in houses requiring extra bedrooms, compared to 23 percent Māori, 20 percent Asians and 4 percent Europeans. In addition to poverty and being unable to afford larger housing, some of the household crowding among Pacific families is explained by the younger Pacific age structure and also cultural norms, such as living in extended families (MSD, 2010).

Within the Pacific population, Tongans experienced the highest levels of household crowding in 2006. Recent migrants and people in houses with lower incomes were most likely to live in crowded households (SNZ, 2012).

3.2.2 Healthy Housing

Poor quality, cold and damp housing is associated with higher rates of hospitalisations for respiratory and infectious diseases, particularly among children. Warmer houses are associated with improved well-being, fewer asthma symptoms and less time off school due to illness (Howden-Chapman et al., 2007; Howden-Chapman et al., 2008).

The cost of heating houses can act as a barrier to healthy housing for Pacific families. The government is currently implementing an insulation scheme with the Energy Efficiency and Conservation Authority (EECA) across New Zealand. Because the majority of Pacific people rent their houses, insulation schemes have to be negotiated with landlords on behalf of tenants (SNZ & MPIA, 2011).

3.3 Social Capital and Social Connectedness

For Pacific peoples, links with families and other community members is an important part of health and wellbeing. This social connectedness with other communities is important, both for psychological support, and also for resources to support good physical health.

Social connectedness is related to the concept known as 'social capital'. As a concept, social capital refers to cohesion and social support networks within communities and families that promote good health. Measures of social support, peer support networks, and participation in community organisations have all been used as indicators of social capital (Cattell, 2001; Murayama et al., 2012).

3.3.1 Telephone and Internet Access

The 2010 Social Report showed Pacific people's access to telephones was around 95 percent in 2006. Pacific people's access to internet increased from 20 percent to 38 percent between 2001 and 2006, but Pacific people's access to internet was well below other ethnic groups including Asian (77%) and Europeans (70%) in 2006 (MSD, 2010).

3.3.2 Social Connectedness

In 2007 fewer Pacific young people (49%) reported getting enough time to spend with their Mum or Dad most of the time compared to New Zealand Europeans (61%). These differences remained after adjusting for age, sex and socioeconomic status (MSD, 2010).

A higher proportion of Pacific people (23%) reported experiencing loneliness in the previous 12 months compared to New Zealand Europeans (15%).

3.3.3 Community Engagement

A large proportion of Pacific people participate in voluntary activities in the community. In the 2010 Social Report 42 percent of Pacific people reported doing voluntary work in the previous 4 weeks (MSD, 2010).

Pacific peoples are underrepresented in government. In 2008, the proportion of Pacific people in parliament (4%) was smaller than the proportion of Pacific people in the total NZ population (7%) (MSD, 2010).

3.3.4 Religious affiliation

In the last New Zealand Census, 83 percent of the total Pacific population reported having an affiliation with a religion (compared to 61 percent of the total New Zealand population). Most Pacific people identify with a Christian religion.

Being affiliated with a religion varies slightly between Pacific groups. In the 2006 Census, Samoans and Tongans had larger proportions of people who reported affiliation with a religion (86% and 90% of the populations respectively) compared to Cook Island Māori and Niueans (both 70%).

Similarly, larger proportions of the Cook Island (24%) and Niuean (24%) populations reported having no religious affiliation in the previous Census, compared to Samoans and Tongans (11% and 8% respectively) (SNZ 2007; SNZ 2007a; SNZ2007b; SNZ 2007c).

4. Metro-Auckland Pacific Health Outcomes

- *The life expectancy (from birth) of metro-Auckland Pacific people was 75.8 years from 2007-2011, almost 8 years lower than the NMNP life expectancy (83.4 years). Males do particularly poorly.*
- *Cardiovascular diseases, smoking-related diseases and diabetes contribute significantly to the life expectancy gaps between Pacific and non-Māori non-Pacific populations.*
- *Coronary heart disease, strokes and diabetes are the leading causes of amenable mortality among Pacific. The gap between Pacific and NMNP amenable mortality was greatest for valvular heart disease (mostly due to rheumatic heart disease) and diabetes.*
- *Life expectancy varies between Pacific groups in metro-Auckland. For Cook Island Māori and Niuean Pacific groups, life expectancy was significantly lower than the total Pacific life expectancy across the region. For the Other Pacific group, life expectancy was slightly higher than the total Pacific life expectancy across metro-Auckland.*
- *Mortality also varies between Pacific groups in metro-Auckland and this is supported by national rates modelled in the New Zealand Census Mortality Study. In metro-Auckland, Cook Island Māori adults (25-64 years) had a significantly higher mortality rate, and Other Pacific had a lower mortality rate, compared to the total Pacific mortality rate across the region.*
- *The metro-Auckland total Pacific amenable mortality rate was twice the NMNP rate during 2005-2009. This gap was largest for Pacific adults aged 45-64 years.*

This section presents the health outcomes for Pacific peoples from across metro-Auckland. In addition to whole-of-life indicators (life expectancy and avoidable mortality), key indicators of health outcomes for Pacific children, youth and adults are also presented. Five years of data have been combined to allow subgroup analysis. For more specific information on Pacific children and youth, refer to Chapter 9 - Pacific child and youth. For more specific information on Pacific adults in metro-Auckland refer to the Serious Illnesses Chapter 5.

4.1 Life Expectancy

Life expectancy at birth is one of the most useful summary measures of population health. It is reflective of current mortality across different age groups and allows comparison of groups with different population structures. Caution is needed in trying to assess life expectancy for smaller populations. Here we aggregate years to estimate life expectancy by ethnicity across the Auckland Region. Life expectancy at birth is defined as the average number of years that an individual would be expected to live if current mortality rates remain unchanged throughout their entire lifetime. Note that it is a synthetic estimate about the here and now – it does not indicate how long an individual is actually likely to live, as it does not account for future changes in the incidence and treatment of diseases.

4.1.1 Pacific Life Expectancy in Metro-Auckland

Pacific people in metro-Auckland have a significantly lower life expectancy compared to non-Māori non-Pacific people. At birth, Pacific people's life expectancy was 75.8 years from 2007-2011, 7.7 years below the non-Māori non-Pacific life expectancy (83.4 years) (Table 4.1, Figure 4.1, also

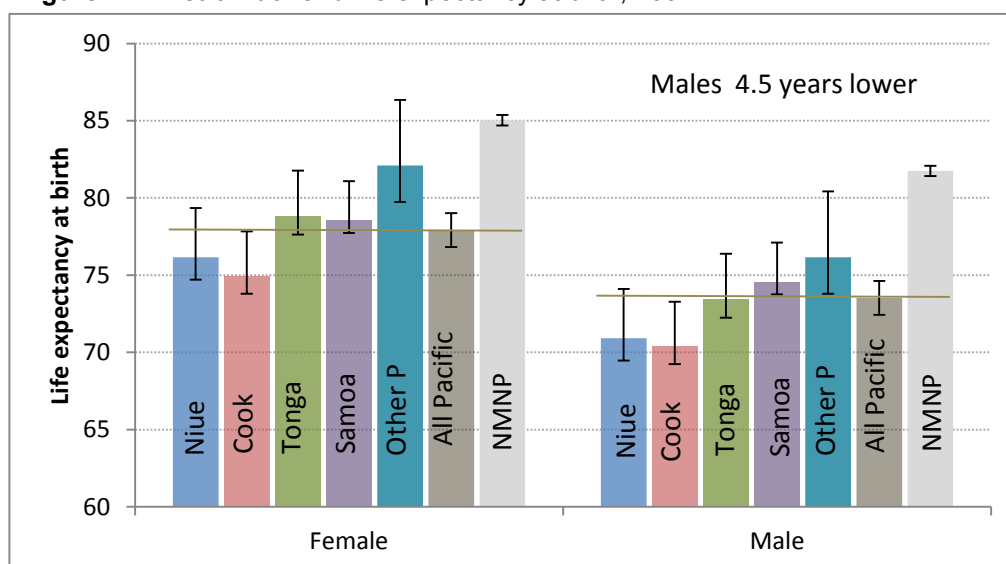
Workbook sheet 4). Over this time period, Pacific male life expectancy (73.5 years) was consistently less than Pacific female life expectancy (77.9 years) across metro-Auckland (Table 4.1), ranging from a gap of 4 years for Samoan men to 5.9 years for Other Pacific. The male discrepancy was a year greater than that seen for NMNP men.

There remains a concern that the official mortality figures for Pacific people are understated due to Pacific people migrating back to their home islands. Evidence from the Census-Mortality study suggests that there may be an undercount (Tan & Blakely, 2012), as does work by Tobias et al examining cancer survival¹. The observed high rates of Pacific obesity (Section 6.3), diabetes and cardiovascular disease (Section 5.1 and 5.2) shown in this report, and the comparatively lower life expectancies of Māori despite similar rates of CVD, cancer and diabetes (not explored in this report), lead to the suspicion that the Pacific mortality data does not tell the complete story².

Table 4.1: Metro-Auckland Pacific population life expectancy at birth, 2007-11

	Life expectancy at birth, years			
	Female	Male	Total	diff F:M
Niuean	76.2	70.9	73.7	5.3
Cook Island	75.0	70.4	72.7	4.5
Tongan	78.8	73.4	76.1	5.4
Samoan	78.5	74.5	76.6	4.0
Other Pacific	82.1	76.2	79.2	5.9
All Pacific	77.9	73.5	75.8	4.4
Non Māori non-Pacific (NMNP)	85.0	81.7	83.4	3.3
Total	83.8	80.2	82.1	3.6
Pacific difference from NMNP (yrs)	-7.1	-8.2	-7.7	-1.1

Figure 4.1: Metro-Auckland life expectancy at birth, 2007-11



There is some significant variation in life expectancy within the metro-Auckland Pacific population. Of note, both the Cook Island Māori and Niuean populations had life expectancies that were significantly lower than the overall ('All Pacific') life expectancy of the Pacific metro-Auckland population. The Other Pacific group (around half of whom are Fijians) had a slightly higher life expectancy compared to the total Pacific population (Figure 4.1). This is likely related to lower prevalence and mortality rates for diabetes and cardiovascular disease (among others) - see Sections 5.1 and 5.2.

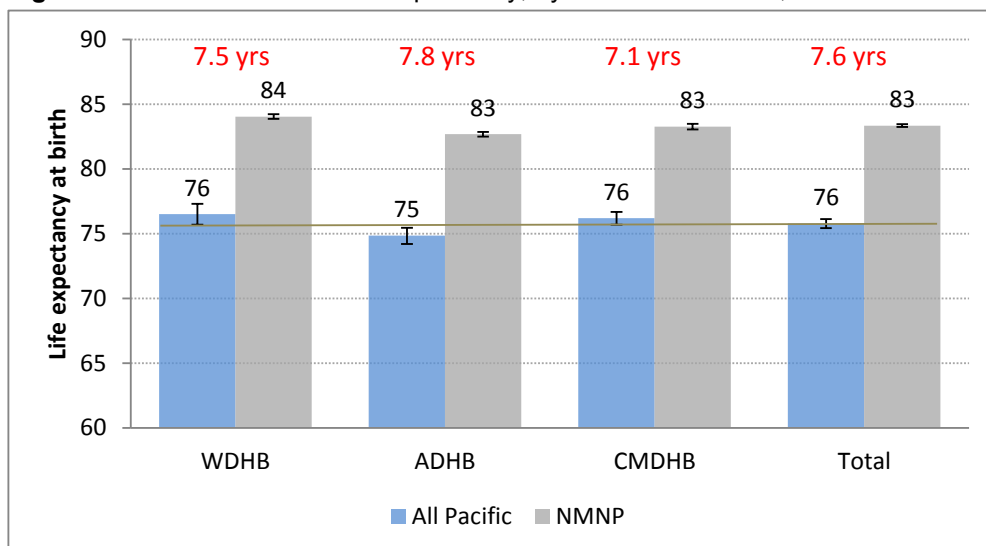
¹ Tobias, M. *HDI Technical Note: Pacific mortality adjusters*. Ministry of Health, 2009

² The constructed Pacific population used for this report looks to be relatively stable from 2009 onwards. This provides a further method for attempting to control for biases introduced by out-migration in coming years.

4.1.2 Life Expectancy by DHB

Across all DHBs in metro-Auckland Pacific life expectancy was significantly lower than non-Māori non-Pacific life expectancy between 2007 and 2011. The life expectancy gap between Pacific and non-Māori non-Pacific was similar across the three DHBs. Pacific life expectancy was slightly higher in WDHB, as was the non-Māori non-Pacific life expectancy (Figure 4.2).

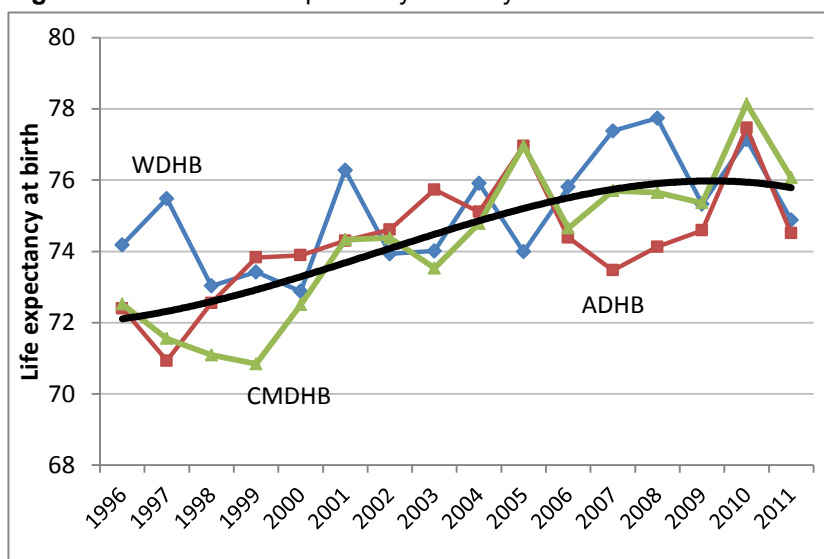
Figure 4.2: Metro-Auckland life expectancy, by DHB of residence, 2007-11



4.1.3 Pacific life expectancy trends

The Pacific life expectancy trend over the past 15 years in Auckland showed a good increase in life expectancy in the mid-2000s, but this was flanked by two periods of low or no growth (Figure 4.3, see also *Workbook Figures 4.3 and 4.4*). This has resulted in the gap in life expectancy between Pacific and NMNP being disappointingly the same or slightly lower in 2009-11 as it was in 1996-8. These periods of low growth are temporally linked with periods of low economic growth for New Zealand.

Figure 4.3: Pacific life expectancy trend by DHB 1996 to 2011



Note: Māori-prioritised population (not constructed). 2010 and 2011 data provisional

4.1.4 Main Drivers of Life Expectancy Gap

One method used to examine differential gains in life expectancy is to look at the comparative gains over a specified time period.³ Using the latest 10 year period (mortality coding is available to 2009), and using 3-year averages for more stable estimates, we can compare 1997-9 with 2007-9. Over this 10-year period, the metro-Auckland population life expectancy increased by 3.0 years; more than the national increase of 2.7 years. However, Pacific life expectancy in metro-Auckland only increased by 2.1 years compared to an increase of 3.4 years among NMNP. Pacific people in CMDHB showed the highest increase in life expectancy (Table 4.2).

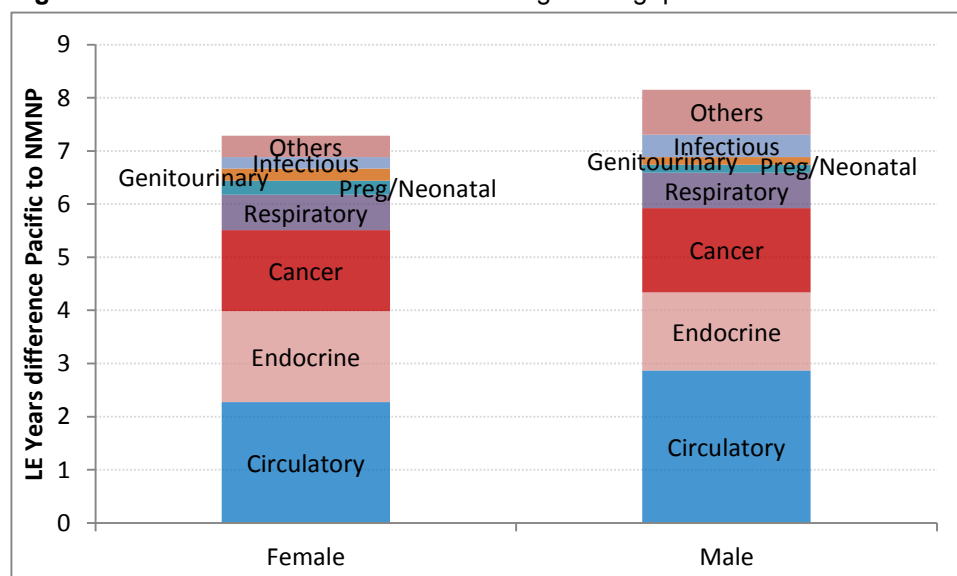
Table 4.2: Metro-Auckland population 10-year life expectancy gain, 1997-9 to 2007-9

	10 year life expectancy gain		
	Pacific	NMNP	difference
WDHB	1.1	3.1	2.1
ADHB	1.7	3.8	2.1
CMDHB	2.8	3.1	0.3
Total	2.1	3.4	1.3

Note: Estimated resident (Māori-prioritised) population, not constructed.

Using ICD10 chapters the causes of death were decomposed to derive the main causes that contributed to the increase in life expectancy over this 10 year period. More than one year of the 2.1 years Pacific gained was due to reductions in deaths due to circulatory conditions, primarily heart disease. The next highest gain was for cancer (0.78 years) and respiratory conditions (0.3 years). Negative causes, those that got worse over the 10 years, were notably endocrine - ie diabetes - (-0.2 years) and infectious disease (-0.15 years) – see *Workbook Table 4.2 and Figure 4.6*. The causes that contributed the most to the increased difference between the Pacific and the total population were circulatory diseases (0.4 years), diabetes (0.2 years) and respiratory conditions (0.1 year). Whilst circulatory and respiratory were areas where Pacific gained the most over the 10 year period they did not gain as much as other ethnic groups.

Figure 4.4: Main causes of death contributing to the gap in Pacific of NMNP life expectancy 2007-9



To extend this cause decomposition the total gap between Pacific and NMNP was examined for the years 2007-2009 combined (Figure 4.4). The main conditions that contribute to the gap region-wide are circulatory conditions, endocrine (diabetes), cancer, and respiratory conditions (Figure 4.4, see

³ Many thanks to Dr Mazin Ghafel, ADHB, for conceptualising and preparing this analysis.

also *Workbook Table 4.4*). Differences in tobacco smoking and the nutrition/obesity/exercise nexus are the main underlying contributors to these 4 groupings as discussed in Chapter 6.

That cardiovascular disease, smoking-related diseases and diabetes are major causes of the mortality gap between Pacific and non-Pacific populations is consistent with other national studies; not surprising given the majority of the Pacific population live in metro-Auckland. Findings from the New Zealand Census Mortality Study (NZCMS), for example, showed that CVD contributed to over one third of the all-cause mortality gap between Pacific and NZ/European populations from 1981-84 to 2001-04. 'Other' causes of death (a category which included diabetes) also contributed to about 40 percent of the Pacific:NZ/European mortality gap, with cancers making an increasing contribution (Blakely et al, 2007). These conditions are discussed in further detail in the Serious Illness chapter 5.

Recent analyses by Northern Region DHBs comparing life expectancies for Pacific and non-Māori non-Pacific populations show similar cardiovascular, diabetes and smoking-related diseases (Northern Region DHBs; GAIHN; National Hauora Coalition; Alliance Health+, 2011 – see *Workbook Figures 4.7 to 4.9*)

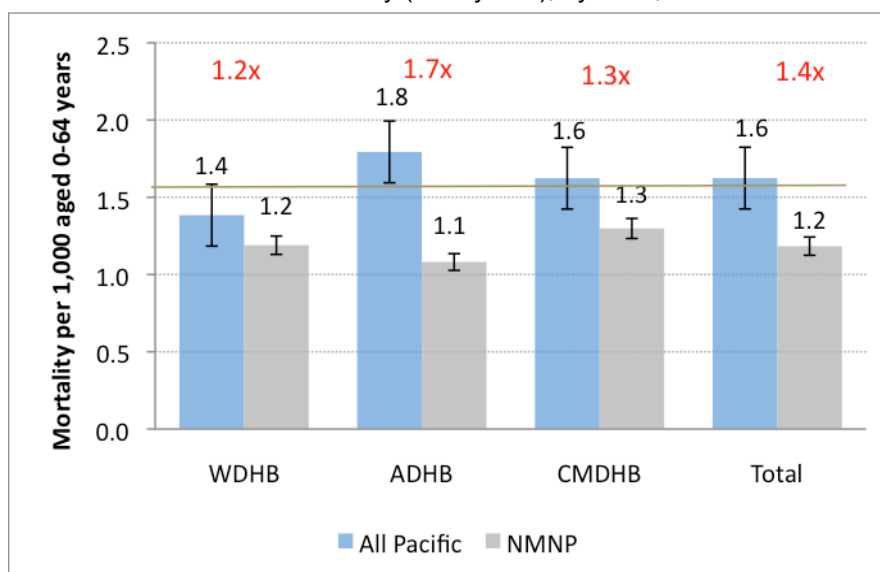
4.2 Pacific Premature Mortality

4.2.1 Pacific 0-64 Mortality in Metro-Auckland DHBs

Overall, across all three metro-Auckland DHBs, the Pacific 0-64 year mortality rate was approximately 40 percent higher than the non-Māori non-Pacific rate from 2007 to 2011 (Figure 4.5). For WDHb there was no significant difference between the Pacific and non-Māori non-Pacific mortality rates. The mortality gap between Pacific and non-Māori non-Pacific was the widest in ADHB (where Pacific mortality was 1.7 times the non-Māori non-Pacific rate).

For Pacific people the mortality gap compared to non-Māori non-Pacific is high at each age group. An average of 72 Pacific 0-24 year olds in the Auckland Region die each year; a rate 1.7 times higher than for NMNP 0-24 years olds (0.6 cf 0.35 per 1,000 age-specific population). For Pacific adults aged 25-64 years the rate is 2.9 per 1000; again, this is 1.7 times the NMNP rate (1.7 per 1000) (refer *Workbook Tables 4.5 - 4.6*).

Figure 4.5: Metro-Auckland Pacific mortality (0-64 years), by DHB, 2007-11



4.2.2 Amenable Mortality

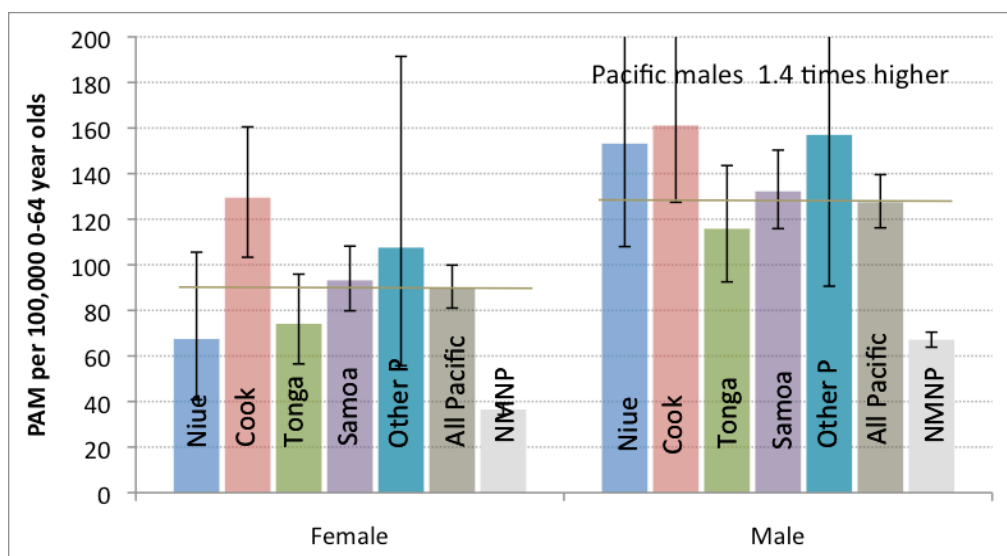
Amenable mortality is a way of representing the deaths in a population that could have potentially been avoided through health care services and technologies available for intervention (Tobias and Yeh, 2009). Amenable mortality has increasingly been used as a specific indicator of health care quality, and health care performance internationally (Page et al., 2006). It is a useful high-level indicator of the overall performance of a health system for a population, but it does not necessarily indicate where the causes lie in health system (e.g. health policies, health services, quality of care issues).

For 2005-2009 over half the deaths in ages 0-64 would be defined as amenable (58 percent for Pacific and 53 percent for NMNP). The total Pacific population ('All Pacific') in metro-Auckland had an amenable mortality rate that was twice the non-Māori non-Pacific rate for the years 2005-2009,⁴ with the amenable mortality rate for Pacific people at 108 deaths per 100,000, compared to 51 per 100,000 for the NMNP population⁵ (see *Workbook sheet 5*).

Pacific male amenable mortality rates (2005-2009) were higher than Pacific female rates, both within each Pacific group, and in the Pacific population in metro-Auckland as a whole. (Figure 4.6)

All the metro-Auckland Pacific groups had amenable mortality rates similar to the average across the region, with the exception of the Cook Island Māori population, whose rate just reached statistical significance as being higher than the overall Pacific rate across the region (Figure 4.6).

Figure 4.6: Metro-Auckland Pacific amenable mortality (0-64 years), 2005-09



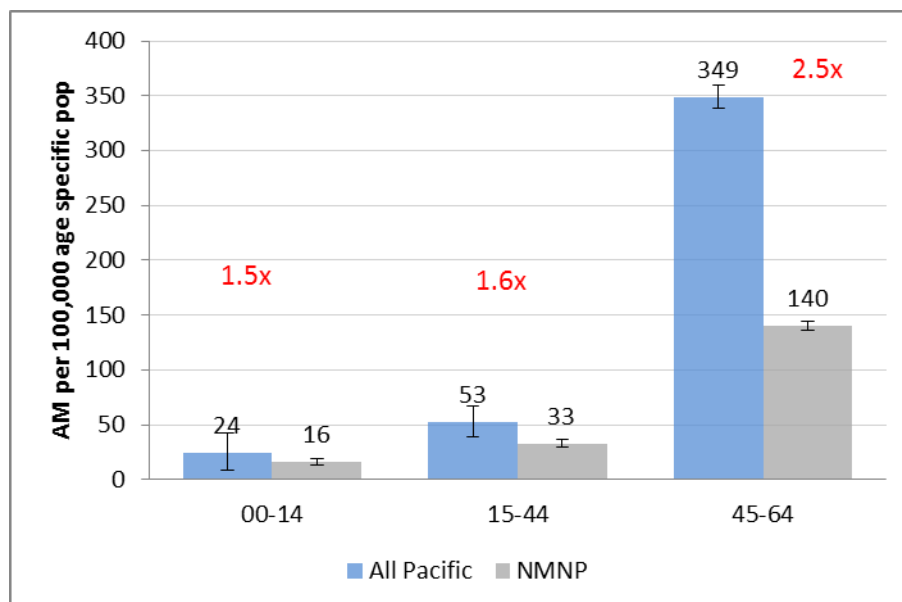
The largest gap between Pacific and non-Māori Pacific amenable mortality was among Pacific adults aged 45-64 years. For this age group, the Pacific rates were 2.5 times more the NMNP rates (Figure 4.7).

⁴ This analysis required coded deaths, and the latest available year of coded mortality was 2009.

⁵ As life expectancies in developed countries have improved over time, amenable mortality analyses have moved from using 0-64, to 0-74 year age groups. For the Pacific population we were more concerned about the mortality rates at younger ages, and so we have analysed amenable mortality for 0-64 years.

Comparing the three DHBs in metro-Auckland, all had a Pacific amenable mortality rate that was similar to the overall rate across the region, although, the gap between Pacific and non-Māori non-Pacific was slightly larger in ADHB (see *Workbook Figure 5.2*).

Figure 4.7: Metro-Auckland Pacific amenable mortality (0-64 years), by age, 2005-09



4.2.3 Leading Causes of Amenable Mortality

From 2005-2009 the leading and significant contributors to amenable mortality among Pacific people (aged 0-64 years) in metro-Auckland are shown in Table 4.3 (in descending order of contribution):

Table 4.3: Amenable mortality by cause of death (ages 0-64) in metro-Auckland, 2005-09

	Pacific average	Rate per 100,000/yr		Rate ratio
	deaths/yr	Pacific	NMNP	
Coronary heart disease	224	30.2	10.4	2.9
Diabetes	124	17.4	1.9	9.3
Cerebrovascular diseases	81	11.1	3.6	3.1
Cancer - female breast	70	9.1	5.9	1.5
Complic of perinatal period	66	4.6	3.5	1.3
Suicide	64	6.8	9.7	0.7
Valvular heart disease	50	6.5	0.6	11.5
Cancer - stomach	36	4.8	1.3	3.7
Road traffic accidents	33	3.4	5.1	0.7
Respiratory infections	18	1.7	0.5	3.6
Cancer - cervix	15	1.9	0.4	4.5
All PAM	869	107.8	51.1	2.1
Non-avoidable mortality	809	97.4	52.0	1.9

See *Workbook Table 5.2*

Half the amenable deaths were due to cardiovascular disease (coronary heart disease and cerebrovascular disease (stroke) and diabetes, at a rate more than three times that of NMNP. Without addressing the causes of this little progress will be made. Of the major categories of amenable mortality the only causes that were not significantly worse for Pacific were complications of the perinatal period, suicide and road traffic accidents.

Table 4.2 also shows the conditions with the largest differentials for Pacific:

1. Valvular heart disease
2. Diabetes
3. Cervical cancer
4. Respiratory infections
5. Cancer – stomach
6. Cerebrovascular diseases
7. Cancer – breast

For valvular heart disease, which was mainly due to rheumatic heart disease, the Pacific amenable mortality rate was almost 12 times the NMNP rate. For diabetes, the Pacific rate was 9 times the NMNP rate. More information on each condition is covered in Chapter 5, and the *Workbook*.

4.3 Pacific Children and Pacific Youth (0 –24 years)

4.3.1 Pacific Child and Youth Mortality

The Pacific child and youth mortality rate (0.6 per 1000) was almost twice the non-Māori non-Pacific mortality rate (0.35 per 1000) across metro-Auckland from 2007-2011 (Table 4.4). None of the mortality rates was significantly different between the various Pacific groups within the region's Pacific child and youth population (refer *Workbook Table 4.5*).

Table 4.4: Metro-Auckland Pacific child and youth mortality (0-24 years), 2007- 2011

	Rate/1,000 0-24 year olds		
	Female	Male	Total
Niuean	0.5	0.4	0.5
Cook Island	0.7	0.7	0.7
Tongan	0.6	0.6	0.6
Samoan	0.4	0.4	0.4
Other Pacific	0.4	0.4	0.4
All Pacific	0.5	0.7	0.6
NMNP	0.3	0.4	0.3
Total	0.4	0.5	0.5
Pacific difference from NMNP - rate ratio	1.8	1.7	1.7

4.4 Pacific Adults (25-64 years)

4.4.1 Pacific Adult Mortality (25-64 years)

The Pacific adult mortality rate was almost twice (1.7 times) the non-Māori non-Pacific rate for 2007-11 (Table 4.5).

Table 4.5: Metro-Auckland Pacific adult mortality (25-64 years), 2007-11

	Rate/1,000 25-64 year olds		
	Female	Male	Total
Niuean	1.8	2.3	2.0
Cook Island	3.3	4.5	3.9
Tongan	2.1	2.3	2.2
Samoan	2.5	2.9	2.7
Other Pacific	2.0	1.8	1.9
All Pacific	2.5	3.4	2.9
NMNP	1.3	2.1	1.7
Total	1.6	2.5	2.1
Pacific: NMNP (rate ratio)	1.9	1.6	1.7

Within the metro-Auckland Pacific population, Cook Island Māori adults (aged 25 to 64 years) had a significantly higher mortality rate compared to the overall Pacific mortality rate across the region; while the Other Pacific group had a lower mortality rate. None of the other Pacific adult mortality rates was significantly different from the overall Pacific ('All Pacific') adult mortality rate across metro-Auckland (refer *Workbook Table 4.6*).

The higher mortality rate for metro-Auckland Cook Island Māori is similar to national rates calculated from Census data in Blakely et al. (2009). For this study, the all-cause mortality rate estimated was also higher for Cook Island Māori, compared to Samoans. This difference was most marked for mortality caused by cardiovascular diseases where the Cook Island CVD mortality was 1.66 times greater than the Samoan rate (Blakely et al., 2009).

5. Serious Illnesses among Metro-Auckland Pacific Peoples

- *The prevalence of diabetes in metro-Auckland Pacific people was almost three times the prevalence of diabetes in the NMNP population. Most of this is type 2 diabetes. In addition to the ill-health and premature mortality caused, the excess rate of diabetes is estimated to be costing the DHBs \$36m a year in health care utilisation costs.*
- *For all of the Pacific groups, the prevalence of diabetes was higher than the NMNP population. There was some variability within the Pacific population. For Tongans the prevalence of diabetes was significantly higher than the total Pacific prevalence across the region, and for the Other Pacific group the prevalence was significantly lower.*
- *Compared to the NMNP population, metro-Auckland Pacific had a significantly higher prevalence of: ischaemic heart disease (IHD), strokes, congestive heart failure (CHF), peripheral vascular disease, gout, chronic obstructive pulmonary disease (COPD) and rheumatic fever.*
- *There was some variability in the prevalence of illnesses between Pacific groups. Cook Island Māori had a higher prevalence of IHD, CHF, gout, peripheral vascular disease and rheumatic fever compared to the overall total Pacific prevalence across the region.*
- *For the Other Pacific group, the prevalence of IHD, gout, and CHF was significantly lower than the total Pacific IHD prevalence (but still higher than the NMNP population). Infectious disease hospitalisations for the Other Pacific group were also lower than the total Pacific rate.*
- *The top 3 causes of infectious disease hospitalisations in metro-Auckland during 2009-2011 were: lower respiratory infections, skin infections and gastrointestinal infections. Rates of rheumatic fever are very high in Pacific people relative to NMNP.*

This section presents the key serious illnesses for Pacific peoples from across metro-Auckland. The serious illnesses and conditions presented here are included based on current key strategic and policy documents for improving Pacific health (e.g. 'Ala Mo'ui), and also the New Zealand health system as a whole (e.g. Health Targets). The illnesses presented in this section include:

- Diabetes
- Cardiovascular disease
- Cancer
- Gout
- Infectious diseases
- Rheumatic fever
- Other chronic conditions

These illnesses are serious, both in the sense that Pacific people are disproportionately affected compared to non-Māori non-Pacific (NMNP) people; and also in the sense that many of these illnesses are preventable – either through primary care, as is the case for rheumatic fever, or through addressing a number of modifiable risk factors (e.g. obesity).

For Pacific people, because their concept of health is broad and holistic, multi-faceted approaches are needed to address these serious illnesses (SNZ & MPIA, 2011). These approaches need to address the wide variety of contributing factors that play a role in the aetiology of serious illnesses. This means that, to improve Pacific health, we need to consider:

- addressing the various barriers (e.g. cost and transport) that reduce Pacific people's access to primary care
- improving Pacific people's housing and other socioeconomic determinants of health
- improving health information available to Pacific people, and improving health literacy
- enhancing the cultural appropriateness of health care for Pacific people

5.1 Diabetes

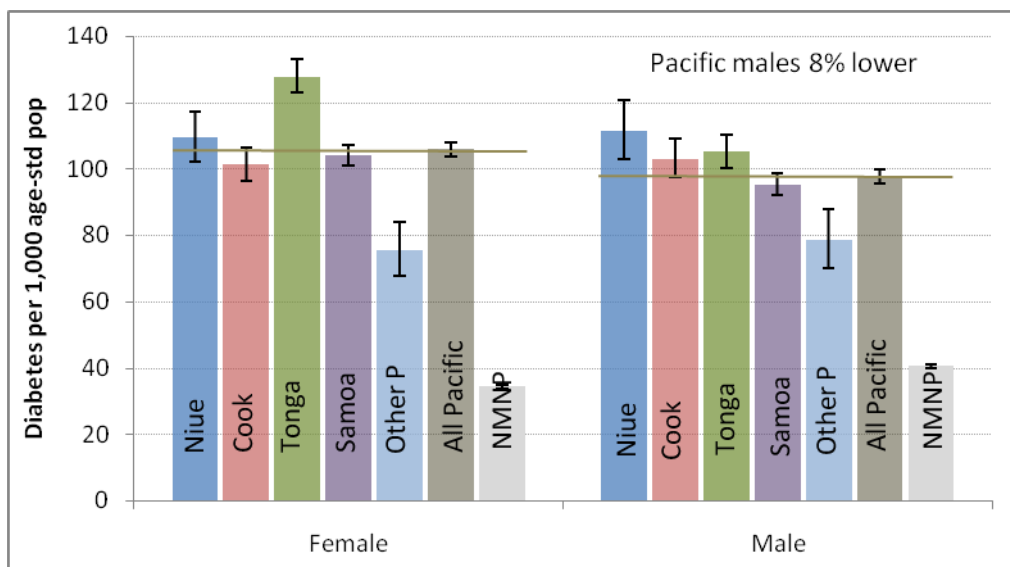
5.1.1 Diabetes Prevalence

In 2011, the estimated prevalence of diabetes in the total Pacific metro-Auckland population (102 per 1000) was almost three times the prevalence of diabetes in the non-Māori non-Pacific (NMNP) population. It is not possible to reliably distinguish between Type 1 and Type 2 diabetes in the datasets. Joshy and Simmons (2006) estimated the proportion of Type 1 diabetes as being 10-15%. For Pacific people, almost all the excess diabetes is likely due to Type 2 diabetes.

The difference between Pacific and NMNP diabetes prevalence was similar in the three metro-Auckland DHBs, although slightly lower in CMDHB (CMDHB Pacific:NMNP ratio was 2.4) (*Workbook Figure 12.2*).

Approximately 14 percent of all Pacific adults (aged 15+ years) were estimated to have diabetes in 2011; this compares with 3 percent of the NMNP population estimated to have diabetes. The prevalence of diabetes was the highest in the 65+ age category; suggesting a predominance of adult-onset (Type 2) diabetes among Pacific people (*Workbook Figure 12.3*).

Figure 5.1: Estimated diabetes prevalence among Pacific in metro-Auckland, 2011



The prevalence of diabetes was similar among most metro-Auckland Pacific groups during 2011. The exceptions were: the Other Pacific group, where the estimated diabetes prevalence was significantly lower than the overall (All Pacific) prevalence; and the Tongan group, where the prevalence was significantly higher than the All Pacific prevalence in 2011. The high prevalence of diabetes in Tongans was also seen in the PREDICT study cohort, where Tongan women (and also Niuean men) had the highest prevalence of diabetes than other Pacific groups (Grey et al., 2010a).

For all of the Pacific groups, including the Other Pacific group, the estimated prevalence of diabetes was significantly higher than the NMNP diabetes prevalence (Figure 5.1).

Diabetes complications can drive significant co-morbidity. Space precludes going into full details here, but they include CVD (Section 5.2) and chronic renal disease (*Workbook sheets 9, 20*).

5.1.2 Pacific People with Diabetes and Cardiovascular Disease (CVD)

Many Pacific people with diabetes also have comorbidities, such as cardiovascular disease (CVD). For Pacific adults (aged 45-64 years) in metro-Auckland, the proportion of those with diabetes who also had CVD (44%) was similar to the NMNP population (43%). For Pacific aged 45-64 **one in four has diabetes**, more than **one in three** have diabetes or known CVD (refer *Workbook sheet 38*).

Within the metro-Auckland Pacific population, the Other Pacific group had a significantly lower proportion of people with either diabetes or CVD, compared to the proportion the overall ('All Pacific') proportion

5.1.3 Estimated Cost of Diabetes and CVD

The cost of diabetes and CVD is much greater for the Pacific population in metro-Auckland compared to the non-Māori non-Pacific (NMNP) population. CVD poses greater costs to the health system per individual than did diabetes, but diabetes has the greatest cost overall, with the Auckland metro DHBs spending \$94m on diabetes care for Pacific people (refer *Workbook sheet 39*).

Across the three metro-Auckland DHBs, the estimated cost of Pacific people with diabetes was almost 5 times greater compared to those Pacific with no CVD or diabetes. This gap was similar for both CMDHB and ADHB, but slightly smaller for WDHB (*Workbook Figure 39.2*).

If the prevalence of diabetes was the same for Pacific as for NMNP people in metro-Auckland, there would be approximately 11,200 fewer diabetes patients in the region, and the cost to the DHBs would be **\$36m less per year** (*Workbook Table 39.3*). For every year a Pacific person with diabetes can be prevented from going on to dialysis through good diabetes care the DHB will save around **\$50,000** in direct outpatient costs (*Workbook Table 9.2*).

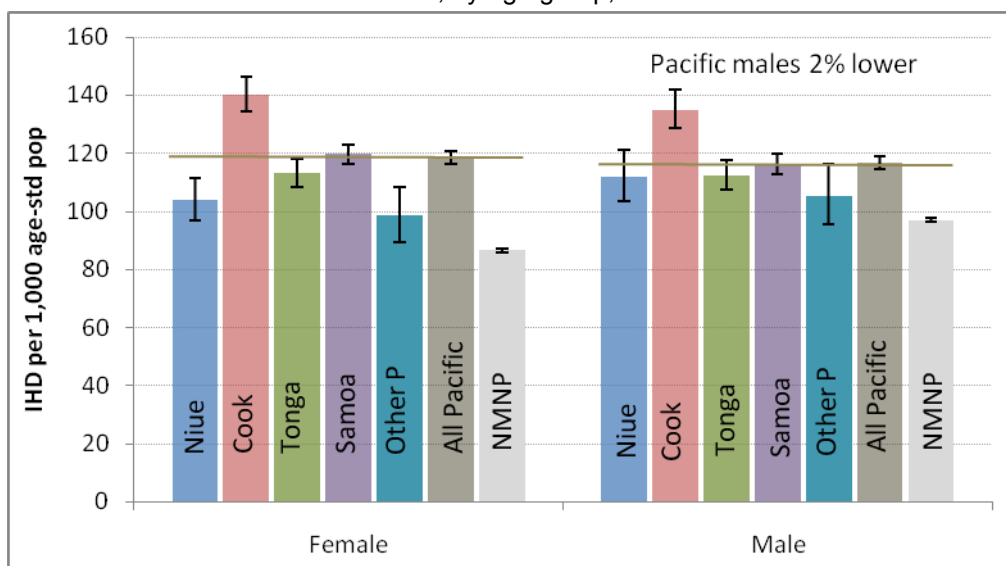
5.2 Cardiovascular Diseases (CVD)

The various subsets of CVD are shown in the sub-sections below. Note that the same person may have multiple varieties of these, so may appear in each prevalence count. Totalling the sub-groups will not equal the overall CVD count. A separate count for CVD is given with *Workbook sheet 38* which examines the association between diabetes and CVD, and is also examined in *Workbook sheet 40* looking at the costs of care for CVD.

5.2.1 Ischaemic Heart Disease (IHD)

The total Pacific ('All Pacific') estimated prevalence of ischaemic heart disease (IHD) was 118 per 1000 in metro-Auckland in 2011. The All Pacific prevalence of IHD was 1.3 times the NMNP prevalence, and similar in all three metro-Auckland DHBs (refer *Workbook sheet 13*).

Figure 5.2: Pacific IHD in metro-Auckland, by age group, 2011



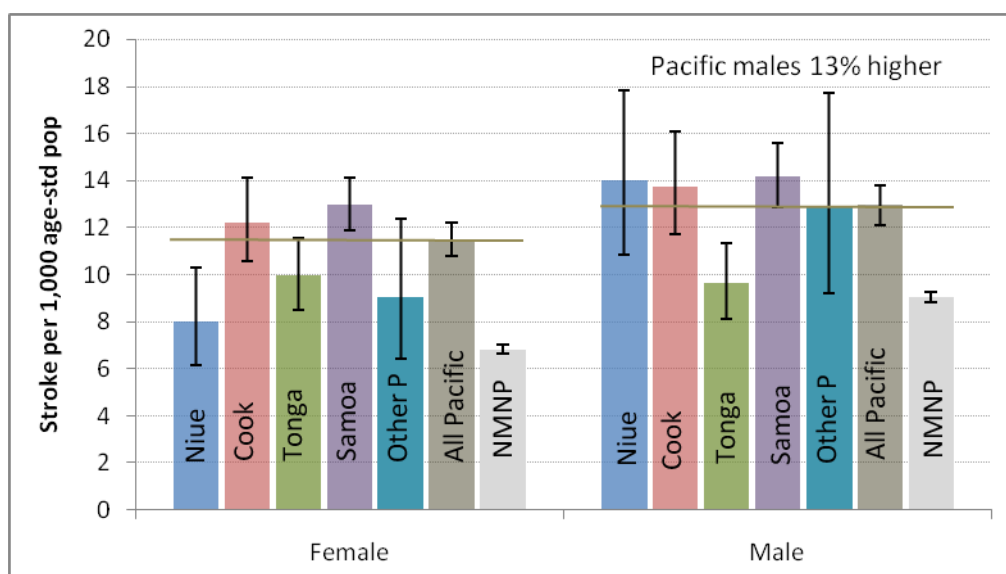
IHD was by far the most prevalent among Pacific adults aged 65 years and over (*Workbook Figure 13.3*). Within the Pacific population, the prevalence of IHD in 2011 was significantly higher among Cook Island Māori, and also significantly lower among the Other Pacific group (Figure 5.2).

5.2.2 Stroke

The prevalence of cerebrovascular disease (stroke) in the metro-Auckland Pacific population was 12.1 per 1000 – about 1.5 times prevalence for the NMNP population (Figure 5.3). The gap between Pacific and NMNP stroke prevalence was similar across the three DHBs (*Workbook Sheet 14*).

Stroke was most common in Pacific males and adults aged over 65 years. Within the metro-Auckland Pacific population, the age-standardised rate of strokes was significantly higher in the Samoan group, and lower in Tongans, compared to the overall Pacific rate

Figure 5.3: Stroke among metro-Auckland Pacific people (all ages), 2011

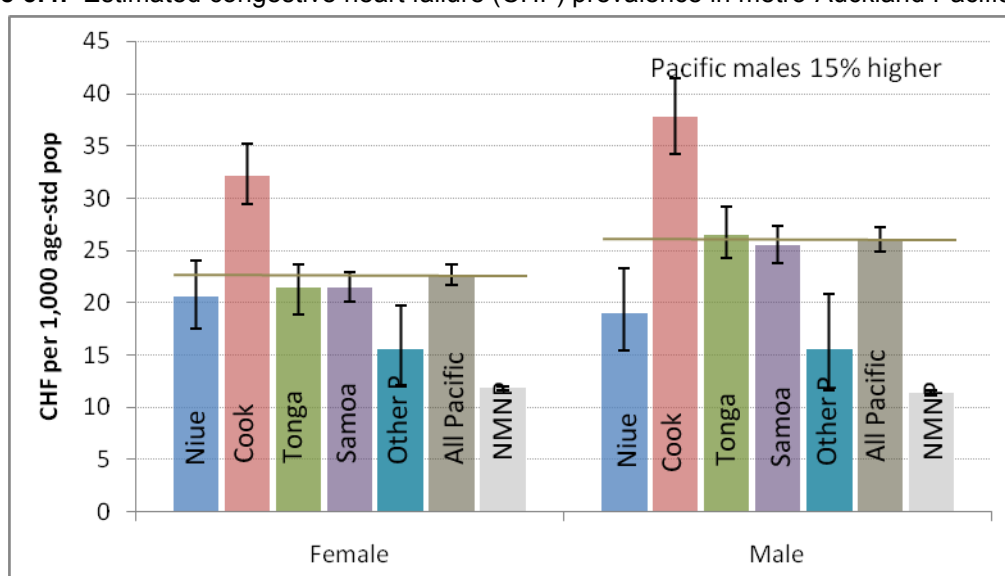


5.2.3 Congestive Heart Failure (CHF)

The estimated prevalence of congestive heart failure (CHF) among the metro-Auckland Pacific population was approximately twice that of the metro-Auckland NMNP population in 2011. This pattern was consistent in each of the three metro-Auckland DHBs (*Workbook Sheet 18*).

Within the metro-Auckland Pacific population, males had a significantly higher prevalence of CHF compared to Pacific females. CHF was significantly less prevalent among both the Niuean and Other Pacific groups; and significantly more prevalent among Cook Island Māori (Figure 5.4).

Figure 5.4: Estimated congestive heart failure (CHF) prevalence in metro-Auckland Pacific, 2011



5.2.4 Peripheral Vascular Disease

The prevalence of peripheral vascular disease (vascular disease other than in the heart or brain) was significantly higher in the total Pacific population across metro-Auckland compared to the NMNP population in 2011 (*Workbook sheet 27*).

Within the metro-Auckland Pacific population the prevalence of peripheral vascular disease (PVD) was much higher among Pacific males (55% higher) compared to Pacific females in 2011. PVD was also significantly more prevalent in the Cook Island Māori group, and was most common among Pacific adults aged over 65 years.

5.2.5 Costs of Cardiovascular Disease

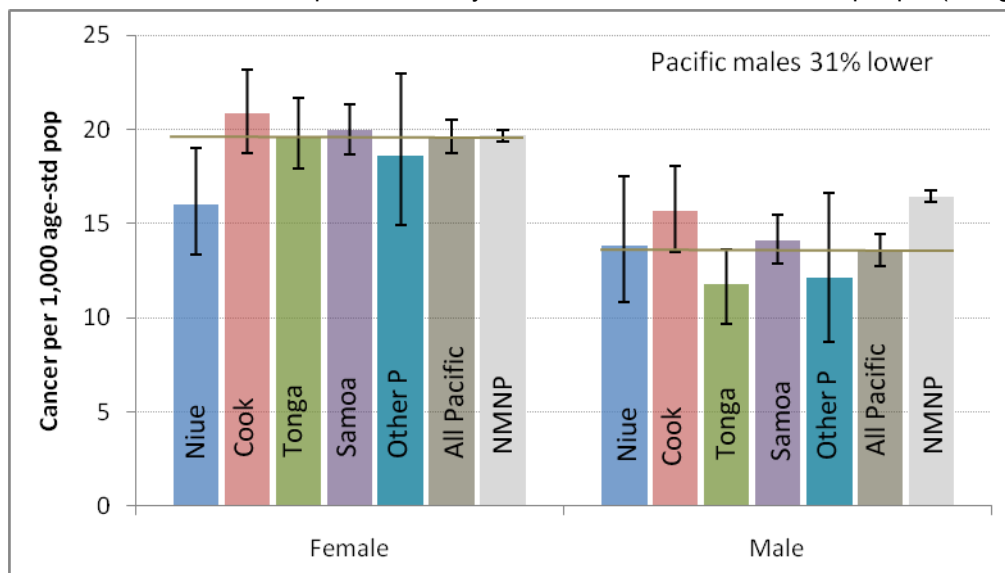
If Pacific people had the same rate of CVD per age group as NMNP then there would be 2150 less CVD patients in the Auckland population. The cost to the health system for treating CVD would reduce by \$13.7m per year (*Workbook Table 40.4*). At present 46% of all Pacific inpatient costs are for Pacific people with diabetes or CVD, while a remarkable 65% of outpatient, ED and domiciliary visit costs are for Pacific people with diabetes or CVD – particularly driven by dialysis (see *Workbook sheet 9*).

5.3 Cancer

Across the metro-Auckland DHBs, the prevalence of those having had cancer in the previous five years was the same for Pacific population as it was in the NMNP population in 2011. This pattern was also observed within each of the three metro-Auckland DHBs. As with the NMNP population, cancer was most prevalent in those Pacific adults aged over 65 years (*Workbook Sheets 15, 43*).

Among the metro-Auckland Pacific population, Pacific males had a lower prevalence of cancer – almost a third lower (31%) than in Pacific females, and slightly lower than the NMNP male cancer prevalence. There were no significant differences in previous 5-year cancer prevalence between the various Pacific groups in the region (Figure 5.5). By way of contrast Pacific males had a similar level of cancer registration for the years 2005-09 (see *Workbook sheet 43*). The prevalence figures will be reflecting the longer period of treatment necessary for breast cancer, the most common cancer registration in Pacific in metro-Auckland.

Figure 5.5: Prevalence of cancer in previous five years in metro-Auckland Pacific people (all ages), 2011



In metro-Auckland the rate of cancer registrations during 2005-2009 were similar for the Pacific and NMNP populations across all three DHBs. Cancer registrations were more common in older people aged 65+ years.

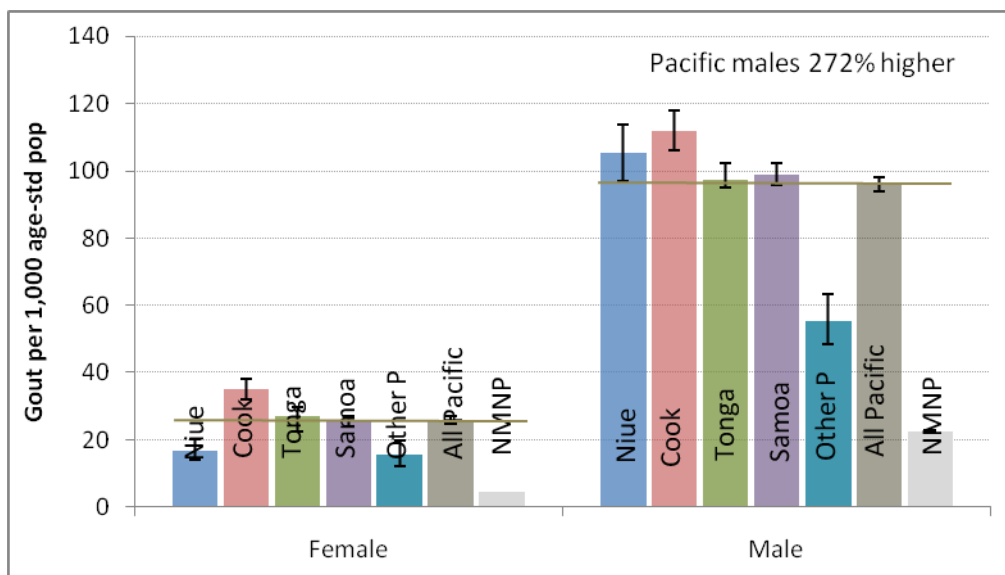
Cancer registrations for the metro-Auckland DHBs during 2005-2009 show Pacific people (all ages) were significantly more likely than NMNP to be registered for cancers of the uterus, stomach, liver and biliary tract, uterus, trachea, bronchus and lung, and lip and oral cancers. Prostate cancer, colorectal cancer, and also melanomas were less common among Pacific people (*Workbook Table 43.2*).

5.4 Gout

We were able to estimate the number of people with gout based on either hospital diagnosis or the dispensing of gout medications allopurinol or colchicine (Winnard 2012). In 2011 nearly 8% of the metro-Auckland Pacific adult population had gout compared to 1.8% in the NMNP population (4.5 times higher among Pacific). The gap between Pacific and NMNP gout prevalence was the greatest in ADHB. For WDHB, the Pacific gout prevalence was significantly lower than the total Pacific gout prevalence across metro-Auckland (refer *Workbook sheet 22*).

Gout predominantly affects Pacific males and Pacific people aged over 65 years. Of all the Pacific groups in metro-Auckland, the prevalence of gout was highest in Cook Island Māori (9.2% of the adult population aged 15+), and significantly higher than the overall ('All Pacific') prevalence in 2011. In contrast, for the Other Pacific group, the prevalence of gout was significantly lower than the overall Pacific prevalence, but still higher than the prevalence of gout among NMNP (Figure 5.6).

Figure 5.6: Gout prevalence in metro-Auckland Pacific people (all ages), 2011



While gout is an important cause of suffering and ill-health in and of itself, it has a high co-morbidity with diabetes and CVD, and can act as a red flag for looking for those conditions (Winnard 2012).

5.5 Infectious Disease Hospitalisations (IDH)

In New Zealand, infectious disease hospitalisations have increased markedly over the past 20 years, with Māori and Pacific populations having particularly high hospitalisations. Most of the infectious disease hospitalisations (IDH) in New Zealand are children under 5 years of age (Baker 2012). For this reason Pacific child hospitalisations for infectious diseases are presented and discussed in the Child and Youth Health chapter - 9.

In the metro-Auckland Pacific population (all ages) during 2009-2011, the age-standardised rate of IDH was significantly higher than, and just over twice, the rate for the NMNP population. The gap between Pacific and NMNP hospitalisations for infectious disease was similar in each of the three DHBs in the region (*Workbook Figure 11.2*).

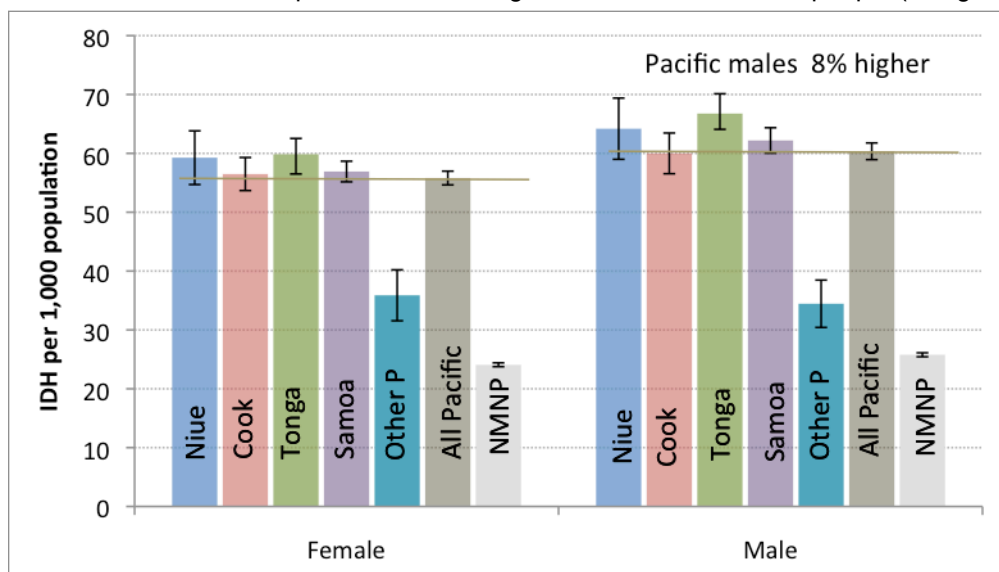
IDH rates were similar among most of the Pacific groups and slightly higher for Pacific males (8% higher) compared to Pacific females. For the Other Pacific group, however, the hospitalisation rate for infectious diseases was significantly lower than the total Pacific ('All Pacific') rate in metro-Auckland, but still higher than the NMNP IDH rate (*Figure 5.7*). Overall around a third (34%) of all hospitalisations were due to IDH for Pacific, compared with 18% for NMNP.

The top three causes of IDH among the metro-Pacific population (all ages) were:

- Lower respiratory tract infections
- Skin infections
- Gastrointestinal infections

(see *Workbook Table 11.2. Also notifiable diseases Workbook Table 47.2*).

Figure 5.7: Infectious disease hospitalisations among metro-Auckland Pacific people (all ages), 2009-11



Recent work suggests that the rate of IDH be used as a marker of health inequity (Baker 2012). In those terms the Pacific population of metro-Auckland is showing significant health inequity. “The risk of admission for infectious diseases is heightened in the most economically deprived populations, in Māori and Pacific peoples, and in the youngest and oldest age groups. That both ethnic and area-based socioeconomic inequalities in the burden of infectious diseases are increasing is a concern.” (Baker 2012, p1116)

5.6 Rheumatic Fever (RF)

Rheumatic fever (RF) is a preventable disease, occurring when an untreated throat infection spreads to the heart. It is most prevalent among Pacific children – who are nearly 50 times more likely to have it compared with European children across New Zealand. RF almost exclusively affects Māori and Pacific children (SNZ & MPIA, 2011).

Over the last 20 years, RF rates have increased significantly among Māori and Pacific people (Baker et al., 2012). To address the increasing RF rates in New Zealand, The Ministry of Health has made reducing RF cases among children a priority. A Rheumatic Fever Prevention Programme began in mid-2011. The programme uses a coordinated combination of: school-based throat swabbing and treatment of sore throats; and also an education campaign to encourage families to seek early treatment and advice for sore throats (Ministry of Health, 2012a).

In 2011, the prevalence of RF and rheumatic heart disease for Pacific people (all ages) in metro-Auckland was estimated to be 5 times the prevalence among NMNP. For children the prevalence rate was 16-fold higher (see Section 9.2.4 and Figure 9.3). This population difference (5 times cf 16 times) arises from the legacy of rheumatic fever-related heart valve disease seen in the older European populations. The gap between Pacific and NMNP prevalence of RF was slightly smaller in ADHB (Figure 5.8). RF was more prevalent among Pacific females and Pacific children aged 0-14 years (see *Workbook sheet 25*).

Within the metro-Auckland Pacific population, the prevalence of RF was similar across all Pacific groups, except for Cook Island Māori, where the prevalence of RF was significantly higher than the overall (‘All Pacific’) prevalence across the region (Figure 5.9).

Note that these prevalence figures are based on hospital diagnosis. Some RF is not hospitalised so this is likely to be an underestimate of the differential. Another view is provided from disease notifications

received by the Regional Public Health Unit – an average 39 a year for Pacific people for 2008-2011, more than 60 times the notification rate for NMNP children (*Workbook Table 47.2*). Not all cases will be necessarily identified and notified.

Figure 5.8: Pacific rheumatic fever and heart disease (all ages), by DHB of residence, 2011

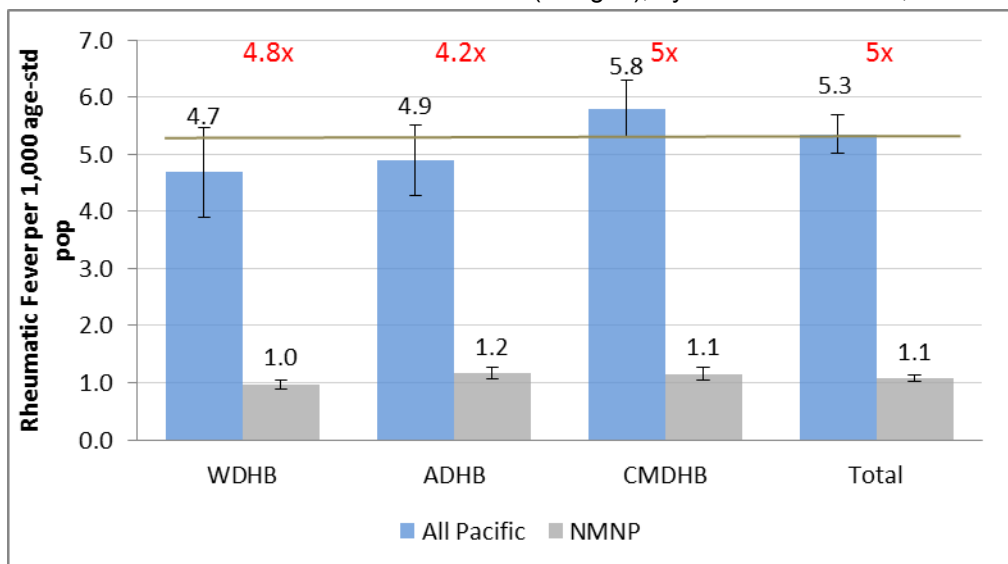
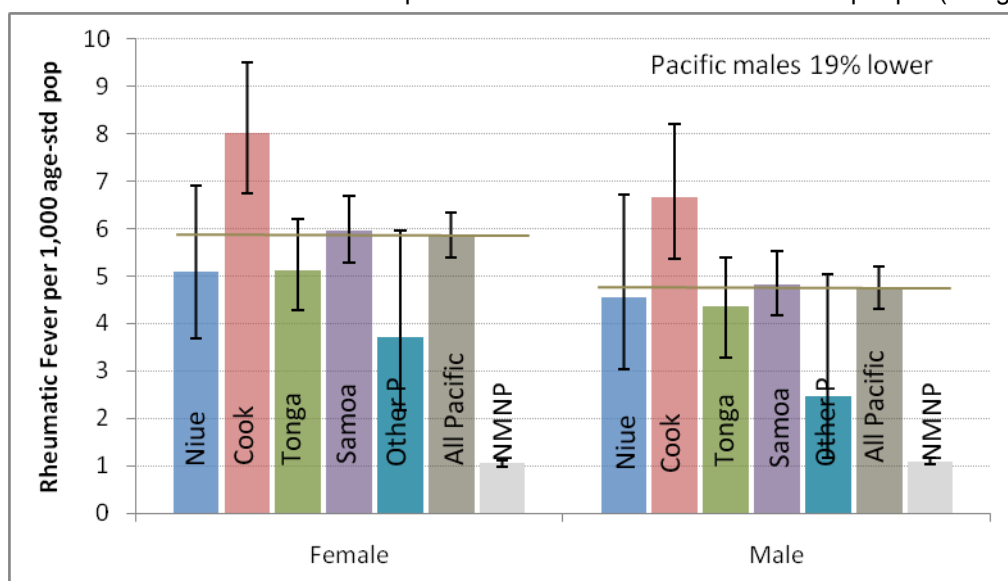


Figure 5.9: Rheumatic fever/heart disease prevalence in metro-Auckland Pacific people (all ages), 2011



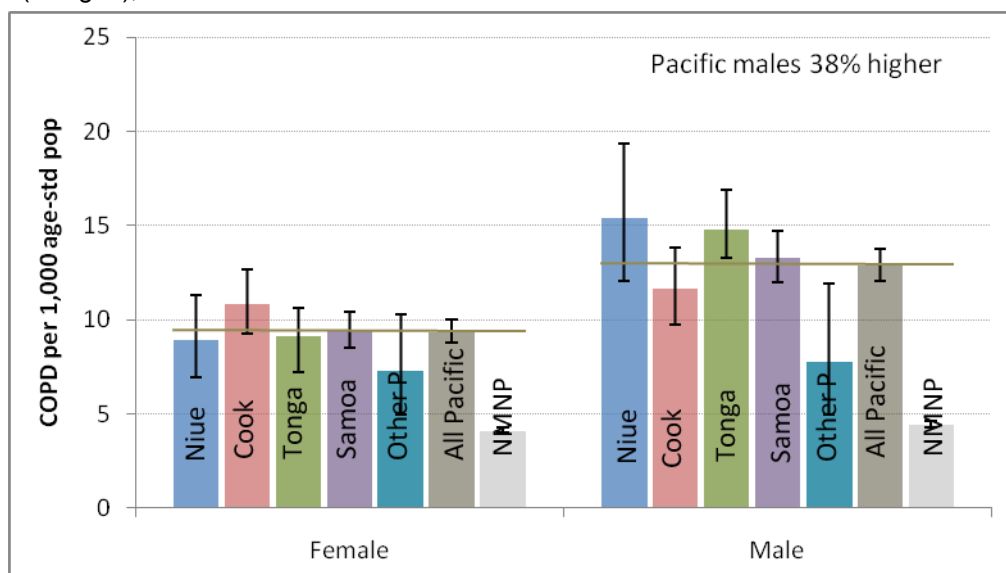
5.7 Other Chronic Conditions

5.7.1 Chronic Obstructive Pulmonary Disease (COPD)

In 2011, the prevalence of chronic obstructive pulmonary disease (COPD) in the metro-Auckland Pacific population was about 2.5 times higher than in the NMNP population. This gap was consistent in each of the three metro-Auckland DHBs (*Workbook Figure 19.2*).

In the metro-Auckland Pacific population COPD was more prevalent among Pacific males, and Pacific people aged over 65 years, but the prevalence did not vary significantly between any of the Pacific groups (Figure 5.10).

Figure 5.10: Chronic obstructive pulmonary disease (COPD) prevalence in metro-Auckland Pacific people (all ages), 2011



The high prevalence of Pacific COPD is related to the high prevalence of smoking among Pacific people (refer to the Modifiable Risk Factors chapter 6 for information on Pacific smoking).

5.7.2 Other conditions

A number of analyses on other illnesses among the metro-Auckland Pacific population were also completed during the production of this health needs assessment. For charts and tables on the following illnesses, refer to the *Workbook*:

- Chronic renal disease – Pacific 2.6 times the NMNP rate (*sheet 20*)
- Human Immunodeficiency Virus (HIV/AIDS) - Pacific less than half NMNP rate (23)
- Inflammatory bowel disease – Pacific one-fifth the NMNP rate (24)
- Rheumatoid arthritis Pacific similar to NMNP rate (26)
- Epilepsy – Pacific 70% of NMNP rate (29)
- Connective tissue disorders Pacific 1.2x higher (30)
- Major skin disorders - Pacific 1.7x higher (31)
- Immune deficiency disorder – Pacific 2.1x higher (32)
- Dementia – Pacific same as NMNP (35)
- Disease notifications - Pacific lower disease notification rates overall (47)

6. Modifiable Health Risk Factors among Metro-Auckland Pacific Peoples

- *The prevalence of smoking is high among Pacific people but their uptake of smoking cessation support programmes is low.*
- *The prevalence of obesity is extremely high among Pacific people. Most metro-Auckland Pacific adults (15-64 years) were in the obese category (30+ BMI) and 18 percent were in the morbidly obese (40+ BMI) category in 2006/07.*
- *Pacific males were more likely to be hospitalised for an alcohol related condition compared to NMNP in metro-Auckland.*
- *There is some variability between Pacific groups. Cook Island and Niuean women were more likely to have been hospitalised for an alcohol related condition compared to other Pacific women. Chronic liver disease was most common among Tongan (particularly men) and less common among Samoans and the Other Pacific group.*
- *Nutrition is an issue for Pacific people. Fruit intake is generally adequate, but vegetable intake is not. Pacific children consume more fizzy drinks and fast foods, and are also less likely to eat breakfast before school. Pacific adults are also less likely to eat breakfast daily.*
- *Broader aspects of the social and economic environment influence the risk factor profile of Pacific people. Overall less than 5% of Pacific adults are able to live a 'healthy lifestyle'.*

This section presents information about modifiable health risk factors among Pacific peoples from across metro-Auckland. Key risk factors included in this section are:

- Smoking
- Overweight and obesity
- Alcohol use
- Nutrition
- Physical activity

Some of the findings presented in this section are taken from the most recent New Zealand Health Survey. It should be noted that, other than a few objective measurements (e.g. BMI), the NZ Health Survey findings are largely based on self-report, with parents responding to a battery of questions on behalf of children. This means that, in order to construct a clear picture of the issues for Pacific peoples, the NZ Health Survey findings should be interpreted in the context of other converging evidence.

6.1 Risk Factors Among Pacific Peoples in New Zealand

Pacific people tend to have an adverse risk factor profile for cardiovascular disease (CVD). In Auckland and Northland, a CVD primary care risk assessment and management programme (PREDICT) was developed to support assessment of CVD risk in a number of PHOs. Information on the three main CVD risk factors (diabetes smoking and prior CVD history) was captured for Pacific and European ethnic groups. PREDICT showed that Pacific men and women were 2-4 times more likely than Europeans to be diagnosed with diabetes. Diabetes was most prevalent among Pacific women aged 65-74 years (approximately 50%), whereas smoking was most prevalent among Pacific men aged 35-64 years (Grey et al., 2010).

Current government efforts are in place to help address some of the risk factors experienced by Pacific people. 'Better help for smokers to quit', one of the national Health Targets, should help reduce the high prevalence of smoking among Pacific people; but this is only one part of the issue.

The World Health Organization recognises that efforts to curb the dramatic increases in the four main non-communicable diseases (CVD, diabetes, cancers and chronic respiratory disease) need to combine both prevention and control interventions. In the 2008-2012 Action Plan for the Global Strategy for the Prevention and Control of Non-communicable Diseases, there are **four** risk factors that are targeted for preventive action – as well as tobacco control, there is emphasis placed on physical inactivity, unhealthy diets and harmful alcohol use (WHO, 2008).

It is evident from the information presented in this section that Pacific people urgently require preventive action in all four of the modifiable risk factors mentioned in the WHO's Global Strategy. Without these efforts, the high prevalence of Pacific diabetes and CVD will continue to place cost pressures on the New Zealand health system. Prevention of diabetes and CVD among Pacific peoples is vital to ensuring the future sustainability of the health system.

There are many places where preventive actions can take place for Pacific people. For example all three DHBs have trialled church-based initiatives that aim to prevent obesity in Pacific communities.

Some Pacific people, particularly Pacific youth, and also larger proportions of Cook Island Māori and Niueans, do not identify with religion. Other avenues for preventive activities should be explored for these Pacific people. Both school-based interventions and also opportunistic preventive activities in primary care settings can be equally effective (Starfield et al., 2012). In one recent New Zealand study a number of international and national obesity prevention programmes were evaluated for their cost-effectiveness in terms of government incurred health costs. Based on their models the most effective interventions were school-based programmes for children as well as screening and advice for adults in primary care settings (Mernagh et al., 2010). Adversity can impact early – some programmes like the CMDHB Infant Mental Health Programme target the first 3 years of life.

Metro-Auckland DHBs have the largest Pacific population in New Zealand; as such, there are great gains to be made with respect to reducing the prevalence of diabetes and CVD through preventive efforts. However, it is important to ensure outcome measures are in place and evaluation is built into the interventions. This will help ensure the spending in this area is effective and contributes to cost-savings in the health system as a whole.

6.1.2 Broader influences that influence the Pacific population risk factor profile

For many of the risk factors presented in this chapter, it is important to remember that, while there is some degree personal agency, there are also wider social determinants that influence how the risk factors are distributed. Pacific people's health 'choices' are constrained by their social and economic circumstances. Just as poor housing is associated with the high rates of respiratory and infectious disease hospitalisations (Baker et al., 2012; Butler et al., 2003) nutrition is also shaped by aspects of the social environment, such as affordability of healthy foods, and the availability of unhealthy foods in communities.

Environments can be obesogenic; they can facilitate obesity among communities, particularly where there is high access to fast foods and takeaways. In New Zealand, people living in the most deprived neighbourhoods tend to live in closer proximity to fast-food outlets (Pearce et al., 2007). This means that attempts to reduce the high prevalence of obesity and Type 2 diabetes need to also consider the higher-level aspects of the social environment that shape Pacific people's nutrition and health choices. Indeed, there is some evidence that, in New Zealand, there can be sustained benefits from discounts offered on healthy food purchases (Ni Mhurchu et al., cited SNZ & MPIA, 2011).

6.2 Smoking

6.2.1 Pacific Smokers in New Zealand

Smoking is the most significant cause of avoidable morbidity and mortality in New Zealand. Smoking is a major cause of lung cancer and also chronic obstructive pulmonary disease (COPD). Those who smoke have an increased risk of developing cardiovascular disease (CVD), cancer and other chronic conditions. Most of the smoking-related deaths (more than three quarters in New Zealand are due to lung cancer, COPD and CVD (Ministry of Health, 2010b). The prevalence of these conditions are high among metro-Auckland Pacific people, particularly for Pacific males. Refer to the Serious Illnesses chapter 5 for further information on these.

In New Zealand, the prevalence of smoking in Pacific people, while not as high as the Māori population, is still significantly higher compared to the total New Zealand population. In the most recent New Zealand Tobacco Use Survey (NZTUS), 29 percent of Pacific females were smokers and almost one third (32%) of Pacific males were smokers (Ministry of Health, 2010b). The prevalence of smoking is highest among Pacific males aged 25 years and over (Ministry of Health, 2012).

Information captured by the PREDICT system showed that, in Auckland and Northland, Cook Island Māori women were almost 60 percent more likely to smoke compared to Samoan women. Among Pacific men, Tongans had the highest prevalence of smoking; whereas Tongan women had the lowest smoking prevalence of all Pacific women (Grey et al., 2010a).

6.2.2 Quitting Smoking

Pacific people in New Zealand tend to use smoking cessation products and services less than other New Zealanders. The most recent NZTUS showed that, after adjusting for age, Pacific young people and adults (15-64 years) who were attempting to quit smoking, were two-thirds less likely to use quitting products or seek advice than all 15-64-year olds in New Zealand attempting to quit (Ministry of Health, 2010). For residents of CMDHB aged 15 to 64 Pacific peoples were 60% less likely to claim nicotine replacement therapy than European (odds ratio 0.34), despite a higher prevalence of smoking (Thornley et al, 2010).

Pacific smokers (aged 15-64 years) attempting to quit were also half as likely to have used Quitline in their most recent attempt to quit, compared to the total population of quit attempters aged 15-64 years (Ministry of Health, 2010).

6.2.3 Pacific Smokers in Metro-Auckland

In metro-Auckland, the prevalence of smoking among Pacific adults aged 15 years and over was highest in ADHB (29%) and CMDHB (27%), but slightly lower in WDHB (19%) (Huakau, 2009, Auckland DHB, 2008, Counties Manukau DHB, 2008). All three DHBs in metro-Auckland currently have smoking cessation activities in place, but uptake of these cessation programmes are lower among Pacific people (NRHP, 2011).

Although WDHB and ADHB report increased support for Pacific hospitalised smokers to quit, there continues to be a high Did Not Attend (DNA) rate for those smokers referred to the hospital outpatient clinic. To help increase access in this area, work is underway to provide home-based Pacific Quit Smoke services run from Waitakere and North Shore hospitals (Fa'aselele et al., 2012).

6.3 Overweight and Obesity

6.3.1 Overweight and Obesity in New Zealand Pacific Peoples

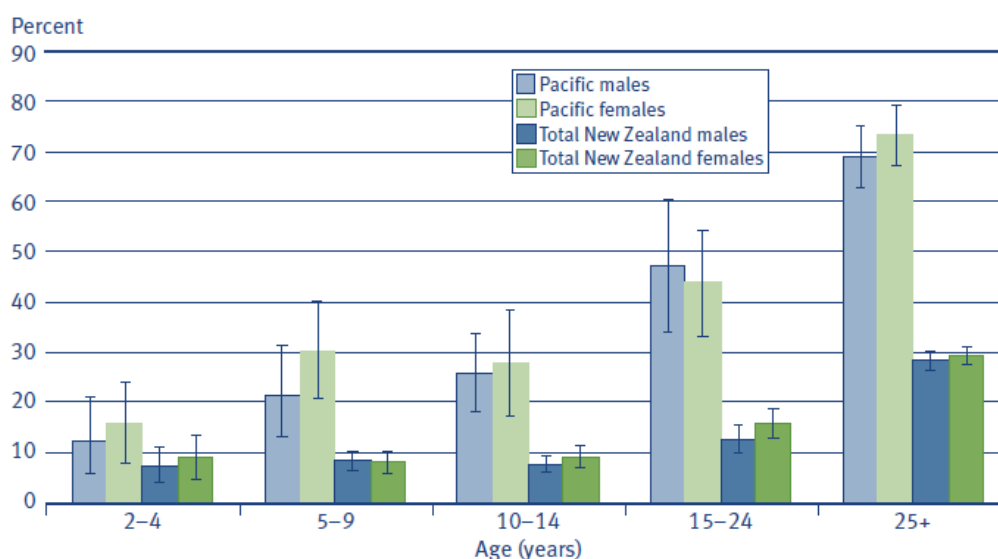
Body Mass Index (BMI) is a useful crude population measure of body weight, and also provides a good estimate of risk of developing obesity-related health conditions, such as Type 2 diabetes (Ministry of Health, 2012). It takes weight in kilograms divided by height in metres squared, with 20-24 considered optimal weight, 25-29 overweight and 30+ obese.

For Pacific peoples in New Zealand, obesity and overweight appears to emerge relatively early in life. The 2006/07 NZ Health Survey, for example, showed that 55 percent of Pacific children aged 2-14 years were overweight or obese, compared to 29 percent of the total child population in New Zealand (Ministry of Health, 2009; Ministry of Health, 2012).

Pacific adults aged 15 years and over were significantly more likely to be obese compared to the total adult population in 2006/07. Almost 90 percent (89%) of Pacific adults were overweight or obese, compared to 60 percent of the total adult population (Ministry of Health, 2012).

The 2006/07 NZ Health Survey showed that, after adjusting for age, Pacific people were significantly more likely to be obese than those in the total NZ population. This held true for Pacific males and females across all age categories (5-9 years, 10-14 years, 15-24 years, 25+ years) except for the 2-4 years age group (Ministry of Health, 2009; Ministry of Health, 2012 – see Figure 9.1).

Figure 6.1 Prevalence of obesity in New Zealand, Pacific and total by age and sex, 2006/07



Source: Ministry of Health. 2012. *Tupu Ola Moui: Pacific Health Chart Book 2012*. p19.

For Pacific people the overweight/obese populations are skewed towards the obese weight ranges. In 2006/07 just over 40 percent (43%) of overweight or obese Pacific children (0-14 years) fell in the obese category, compared to 28 percent of the total NZ child population. Similarly almost three quarters (73%) of overweight or obese Pacific adults (15+ years) fell into the obese category, compared to 42 percent of the total NZ adult population (Ministry of Health, 2012).

Pacific people show similar trends in body size in other countries. A systematic review showed a higher adjusted odds of being overweight among Pacific Islander, Filipino and Asian children in the United States (Flores & The Committee on Pediatric Research, 2010).

6.3.2 Hospital-Identified Obesity Prevalence in metro-Auckland Pacific

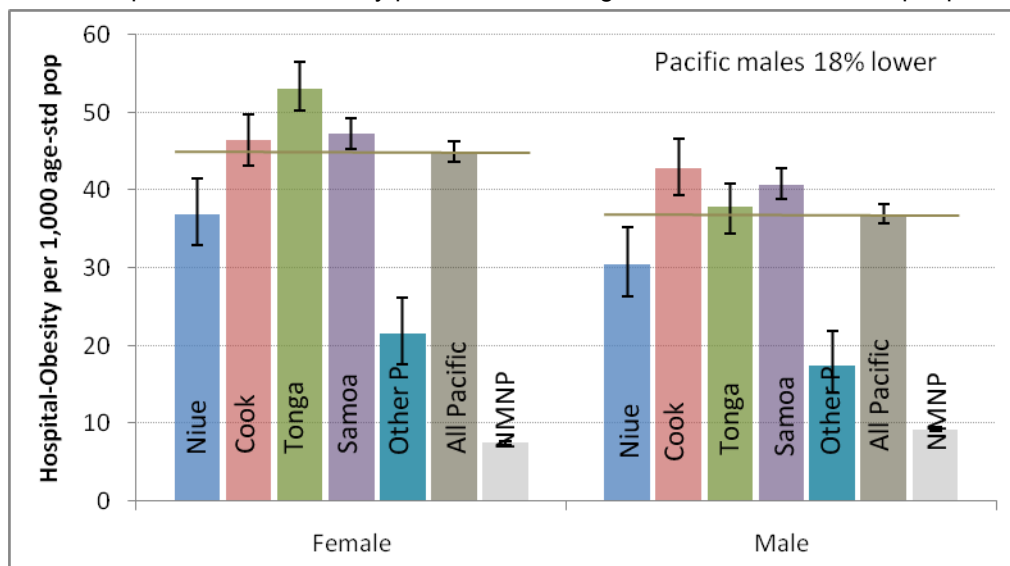
One method of identifying those with health issues due to morbid obesity is to look at hospital admissions and clinics for specific obesity issues. In metro-Auckland, the prevalence of hospital-identified obesity⁶ was approximately 5 times higher among the total Pacific ('All Pacific') population compared to the NMNP population in 2011 (*Workbook Table 28.2*). The gap between Pacific and NMNP hospital-identified obesity was largest in ADHB (Pacific:NMNP rate ratio was 6.1). For all Pacific adults (aged 15+) in metro-Auckland in 2011, 5.4 percent had had an admission to hospital at some time in the past 10 years where obesity was identified as a factor. The comparable figure for NMNP was 1 percent.

Within the metro-Auckland Pacific population, Pacific males had a slightly lower prevalence of hospital-identified obesity. Both the Niuean and Other Pacific groups had significantly lower prevalence of hospital-identified obesity compared to the All Pacific prevalence (Figure 5.2). Hospital-identified obesity was most common among Pacific adults aged 65 years and over.

Results from the NZ Health Survey 2006/07 showed Pacific adult obesity is most prevalent in CMDHB (78% and 77% for Pacific females and males respectively), followed by ADHB (50%) and WDHB (48%) (HPCG, 2011).

The results from our analyses, using the Pacific population constructed for this report, will be lower than national Pacific population estimates as they are based only on those identified as being obese in hospital. Therefore, only a proportion of obese people in metro-Auckland will be captured – albeit those with complications due to their obesity, or at risk of such, given they are presenting with comorbidities at hospital.

Figure 6.2: Hospital-identified obesity prevalence among metro-Auckland Pacific people, 2011



6.3.3 Morbid Obesity

While Pacific population obesity rates have slowed their rate of increase, with the majority of Pacific adults now in the obese category (30+ BMI), concern remains for the continued increase in numbers of morbidly obese – that is 40 BMI and over. Complications and conditions caused by obesity rise exponentially as BMI rises over 30.

⁶ Hospital-identified obesity refers to those who were identified in a hospital setting as being obese. These people were diagnosed as having obesity, sleep apnoea, or conditions related to these (see Workbook sheet 28).

Estimates of the number of people in New Zealand with a BMI of 40-54 and 55+ can be derived using the New Zealand Health Survey in 2006/07. These estimates have been applied to the Auckland metro population giving an overall prevalence of 18% of adults aged 15 to 64 having a BMI of 40 or greater (Tables 6.1 and 6.2).

Table 6.1: Auckland metro residents aged 15-64, 2007, BMI 40-54

	Estimated NZ%		Est No in Auckland metro			% of all w BMI 40-54	% of 15-64 pop
	Female	Male	Female	Male	Total		
Māori	7.9%	4.8%	4,260	2,290	6,550	16%	6.4%
Pacific	23.5%	9.4%	12,990	4,820	17,810	44%	16.7%
Other	3.3%	1.0%	12,740	3,710	16,450	40%	2.2%
Total	5.0%	1.9%	29,990	10,820	40,810	100%	4.2%
Estimated % in Akl			6.1%	2.3%	4.2%		

Based on 2006/07 NZ Health Survey, modelled estimate. Note: Māori-prioritised

Table 6.2: Auckland metro residents aged 15-64, 2007, BMI 55+

	Estimated NZ%		Est Number in Auckland metro			% of all w BMI 55+	% of 15-64 pop
	Female	Male	Female	Male	Total		
Māori	0.8%	0.2%	450	80	530	25%	0.5%
Pacific	1.3%	0.4%	720	210	930	43%	0.9%
Other	0.1%	0.1%	230	470	700	32%	0.1%
Total	0.2%	0.1%	1,400	760	2,160	100%	0.2%
Estimated % in Akl			0.3%	0.2%	0.2%		

Based on 2006/07 NZ Health Survey, modelled estimate. Note: Māori-prioritised

Based on the rate of change from the 2002/03 survey to the 2006/07 survey, the Pacific population with a BMI of 40+ is growing at around 16% per annum, adding an extra 2100 per year. In 2007 an estimated 4.4% of the Auckland metro population had a BMI of 40+, of whom 44% were of Pacific ethnicity.

Once a person is over 40 BMI it is very difficult for diet and exercise options to achieve sizable weight loss. Bariatric surgery becomes the most likely option at this point (Ministry of Health, 2008b). The recent business case for bariatric surgery carried out by the Ministry of Health estimated that 90,000 people in metro- Auckland aged 15-64 might be considered for bariatric surgery based on the 2007 prevalence figures – 9.3% of the population. Pacific people make up 31,000 (or 35%) of that total.

By way of comparison 225 publicly-funded procedures were carried out in the public sector in 2009/10. Given the cost of the procedures, and the constrained capacities in the health system generally, it is unfeasible that large scale bariatric surgery will take place; however an increased volume would likely be cost-beneficial to the system (ref: business case). Note however this is not necessarily a help to those most adversely affected, with surgery not recommended for those with a BMI 55+ due to complication rates. With over 2000 super-obese (55+ BMI) in metro-Auckland, 900 of them Pacific, this remains a significant issue.

6.4 Alcohol Use

6.4.1 Alcohol Intake

Pacific men and women tend to have a lower alcohol intake compared to the total NZ population in 2006/07, except for Pacific young men aged 15-24 years (Ministry of Health, 2012).

Although their general intake of alcohol is low, when Pacific people do drink, they are more likely to engage in hazardous drinking⁷ behaviour compared to the total NZ population. This is particularly the case for Pacific females (1.7 times the prevalence of hazardous drinking in the total population) (Ministry of Health, 2012).

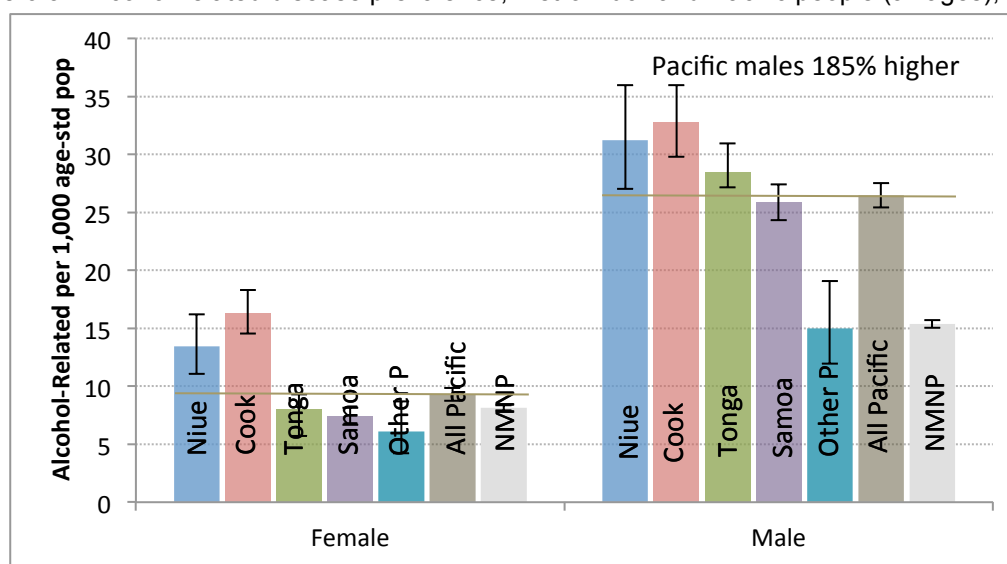
6.4.2 Alcohol-related Conditions

An estimate was derived for the three Auckland DHBs for people with conditions that can be related to alcohol consumption – this includes any hospitalisation for alcohol-related conditions like alcoholic hepatitis, alcoholic cardiomyopathy, intoxication, or any prescription for naltrexone or disulfuram medication (an indicator of attempting to prevent further alcohol consumption). Note that this is not a measure of the complete impact of alcohol in the community as many may not seek treatment, and those that died prior to the end of 2011 were not included.

For metro-Auckland Pacific people (all ages), the estimated prevalence of people with alcohol-related conditions in 2011 was 1.5 times higher than for the NMNP population in the region. This gap was only significant among Pacific males (Figure 6.3) with Pacific female rates overall similar to NMNP.

Niuean and Cook Island women were more likely to have been treated for an alcohol-related condition than other Pacific women, and their male populations had similarly raised rates. Pacific living in Auckland DHB had higher alcohol-related condition rates than those in Counties Manukau and Waitemata DHBs. For Pacific males aged 15-64 years 3.6 percent had been treated for an alcohol-related condition compared to 2 percent of NMNP men (more detail in *Workbook sheet 17*).

Figure 6.3: Alcohol-related disease prevalence, metro-Auckland Pacific people (all ages), 2011

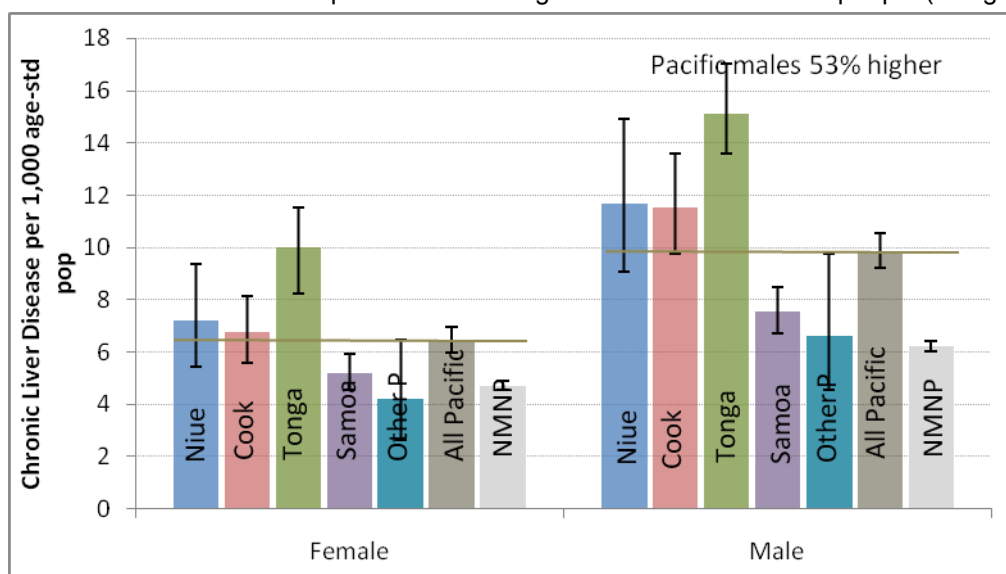


⁷ Hazardous drinking is defined as having an AUDIT (Alcohol Disuse Identification Test) score of more than 8 (Ministry of Health, 2012).

For metro-Auckland Pacific people (all ages), the estimated prevalence of chronic liver disease⁸ in 2011 was also 1.5 times higher compared to the NMNP population in the region. This gap was similarly most pronounced among Pacific males (Figure 6.4) and -Auckland DHB was slightly higher. Chronic liver disease was most common in Pacific adults aged 65 years and over (See *Workbook Figures 21.2 and 21.3*)

The Tongan prevalence of chronic liver disease was significantly higher than the overall ('All Pacific') prevalence; whereas, the Samoan and Other Pacific rates were significantly lower (Figure 6.4).

Figure 6.4: Chronic liver disease prevalence among metro-Auckland Pacific people (all ages), 2011



6.5 Nutrition

6.5.1 Fruit and Vegetable Intake

Pacific people in New Zealand generally have adequate fruit intake, but not vegetable intake, although this differs between Pacific males and females. Findings from the previous two New Zealand Adult Nutrition Surveys reveals there was an increase in the proportion of Pacific males who consumed two or more servings of fruit per day from 1997 to 2008/09. In 2008/09 approximately half of Pacific males and 63 percent of Pacific females consumed two or more servings of fruit a day; and this was similar to fruit consumption among non-Pacific males and females (Ministry of Health, 2012c).

In the 2006/07 NZ Health Survey, young Pacific males and females aged 15-24 years were just as likely as total NZ males and females to consume the recommended intake⁹ of fruit and vegetables (Ministry of Health, 2008; Ministry of Health, 2012).

Both Pacific men and women aged over 25 years were significantly less likely to consume the recommended intake of vegetables compared to total NZ men and women (Ministry of Health, 2008; Ministry of Health, 2012).

⁸ Note that chronic liver disease includes factors other than alcohol in its aetiology, but alcohol is an important factor – the prevalence patterns are similar to the alcohol-related conditions noted above.

⁹ In New Zealand, it is recommended people eat at least two servings of fruit, and 3 servings of vegetables, per day (Ministry of Health, 2012).

Findings from the previous two Adult Nutrition Surveys show there was no change in the prevalence of Pacific adults meeting the recommendations for vegetable intake between 1997 and 2008/09. Less than half of Pacific males (40.9%) and Pacific females (48.9%) aged 15 years and over met this recommendation in 2008/09; and this was significantly lower compared to non-Pacific people (Ministry of Health, 2012c).

Dietary information from the Adult Nutrition Survey was not available for each Pacific ethnic group. The PREDICT work did not collect dietary information but did show the Total cholesterol: HDL ratio by Pacific group. Tongan men and women had raised risk, while Niuean men and women had the lowest mean total cholesterol/HDL ratios (and indeed lowest systolic and diastolic blood pressures of the five Pacific groups) (Grey 2010).

6.5.2 Fizzy Drinks, Fast Food and Energy Intake

Pacific children consume more fizzy drinks and fast foods compared to other children in New Zealand. In the 2006/07 NZ Health Survey, significantly more Pacific boys (but not Pacific girls) aged 2-14 years reported they usually had fizzy drink in a typical week, compared to non-Pacific boys. Both Pacific girls and boys aged 2-14 years were significantly more likely to report usually having takeaways in a typical week, compared to non-Pacific boys and girls (Ministry of Health, 2012).

In the 2008/09 Adult Nutrition Survey, Pacific males and females aged 15 years and over were more likely to consume three or more servings of soft drinks or energy drinks per week. Pacific females, in particular, were about three times as likely to eat fast foods and takeaways compared to non-Pacific females. Pacific females also had a significantly higher median daily energy intake compared to non-Pacific females (Ministry of Health, 2012c).

6.5.3 Food Security

The 2008/09 Adult Nutrition Survey showed Pacific people were more likely to live in households classified as having low and moderate food security, and less likely to live in households classified as having full/almost full food security compared to non-Pacific people. Between 1997 and 2008/09 there was a decrease in the proportion of Pacific people living in households with full / almost full food security (Ministry of Health, 2012c).

6.5.4 Eating Breakfast

Eating breakfast is a useful proxy measure of a healthy diet. There is some evidence that suggests children who do not eat breakfast at home are more likely to snack on unhealthy foods such as pies, chocolate and soft drinks (cited Ministry of Health, 2009).

In the 2006/07 NZ Health Survey, Pacific parents reported that Pacific children (aged 2-14 years) were significantly less likely to have eaten breakfast at home every day compared to non-Pacific children. Pacific children living in the more deprived neighbourhoods were also significantly less likely to have eaten breakfast at home in the past seven days, compared to non-Pacific children living in the same neighbourhoods (Ministry of Health, 2009).

The 2008/09 Adult Nutrition Survey showed Pacific males and females aged 15 years and over were significantly less likely than non-Pacific males and females to eat breakfast daily (Ministry of Health, 2012c).

6.6 Physical Activity

In the 2006/07 NZ Health Survey, Pacific children were significantly more likely to use an active form of transport (e.g. walking, cycling, skating) to get to school compared to non-Pacific. Walking to school was the most common form of active transport for Pacific children, and Pacific children were more likely to walk to school compared to non-Pacific children (Ministry of Health, 2009).

The NZ Health Survey 2006/07 showed that Pacific adults aged 18 years and over were just as likely to meet physical activity guidelines¹⁰ compared to adults in the total NZ population (Ministry of Health, 2012). It should be noted that the NZ Health Survey is based on self-report, so it is difficult to conclude whether physical activity is an issue for Pacific people or not.

6.7 Healthy Lifestyle

The 2006/07 NZ Health Survey also provided an analysis of what was termed a 'healthy lifestyle'. This was made up of five factors, effectively summarising this chapter!

Behaviour	Definition (unhealthy)	Comment
Tobacco use	One or more cigarettes per day	Never smokers, ex-smokers, and non-daily smokers all classified as 'healthy'.
Alcohol use	AUDIT ≥ 8	Abstainer or drinker with AUDIT score of 7 or less classified as 'healthy'.
Physical activity	<30 mins / day on < 5 days / week	Only <i>regular</i> physical activity (5 or more days per week) meeting threshold (at least 30 minutes per day of moderate intensity) classified as 'healthy'.
Fruit & vegetable intake	<5 servings / day	Fruit intake ≥ 2 AND vegetable intake ≥ 3 classified as 'healthy'.
Obesity	BMI ≥ 30 (all ethnicities) *	BMI < 30 classified as 'healthy'. Note that overweight (BMI 25-29) is classified as 'healthy'.

Overall less than 5% of Pacific adults in metro-Auckland would be considered to fit these criteria of having a healthy lifestyle (Figure 6.5) – as compared with 13% for NMNP.

Figure 6.5: Percentage of Pacific adults with 'healthy' behaviours, 2006/07

	Non-smoking	Healthy drinking	Physically active	Adequate Fruit & Veg	Not obese	Healthy lifestyle
Waitemata	78	75	41	28	38	2.3
Auckland	79	76	40	35	29	3.2
CM	80	85	54	31	30	6.3
Akl Region	79	80	48	31	31	4.7

Source: MOH (Li-Chia Yeh), using data from NZ Health survey 2006/07, based on small area modelling

¹⁰ In New Zealand, it is recommended that adults engage in at least 30 minutes of moderate intensity physical activity, at least five days per week (Ministry of Health, 2012).

7 Health Service Utilisation among Metro-Auckland Pacific People

- *The proportion of Pacific people enrolled with a PHO in metro-Auckland is similar to the total metro-Auckland population. Pacific people report using a GP and unmet need for a GP at similar levels to the total NZ population; however the high ambulatory sensitive hospitalisations (ASH) and high amenable mortality rates suggest Pacific primary care needs are not being met.*
- *Other issues such as health literacy, quality of care, cultural competence of providers, cost, availability of after-hours services and transport all play a role in influencing primary care outcomes for Pacific people and families.*
- *Medical and surgical hospital admissions were 1.6 times higher among metro-Auckland Pacific compared to NMNP.*
- *Outpatient, first specialist assessments, and follow-ups were all slightly higher among metro-Auckland Pacific compared to NMNP. However, “did not attend” (DNAs) for secondary care referrals were high among Pacific.*
- *Elective surgery procedure rates were slightly higher among Pacific compared to NMNP, and were most common among Pacific adults aged 45-64 years and 65+. The Cook Island Māori group had a higher rate of elective surgery and the Other Pacific group had a lower rate, compared to the total metro-Auckland Pacific rate.*
- *The Pacific ASH rate was 2.3 times the NMNP rate during 2009-2011. The top causes of Pacific child ASH were cellulitis, pneumonia and asthma. The top causes of Pacific adult ASH were angina/other ischaemic heart disease, diabetes, cellulitis and pneumonia.*
- *Emergency Department (ED) use is higher among metro-Auckland Pacific compared to NMNP.*

This section presents information on Pacific people’s utilisation of health services in metro-Auckland, including:

- access to primary care
- screening
- heart and diabetes checks
- immunisation
- ambulatory sensitive hospitalisations (ASH)
- medical and surgical hospitalisations
- elective surgeries
- management of chronic conditions

Readers should refer to the Social Determinants chapter for discussion of issues related to primary care access and ASH. Further information on child ASH is also presented in the Child and Youth chapter.

7.1 Primary Health Care

Primary health care is a broader concept than primary care. Primary care refers to the first point of contact a patient has with the health system – usually a general practitioner (GP). On the other hand, primary health care encompasses a wide variety of activities such as prevention, screening, health promotion, health education, needs assessments, and also primary care (Forrest & Starfield, 1998).

7.1.1 Access to Primary Care

Pacific people make up 16 percent of the metro-Auckland population enrolled with PHOs. One PHO, Alliance Health Plus, has specific emphasis on serving Pacific people. It serves around 14 percent of the Auckland Pacific population, with about half (49%) of the population enrolled with Alliance Health Plus PHO being Pacific people. The largest Pacific groups enrolled with Alliance Health Plus are the Tongans (21% of the PHO's population), followed by Samoans (14%) and Cook Island Māori (12%) (see *Workbook sheet 41*).

Overall, Pacific PHO enrolments are similar to PHO enrolments in the total metro-Auckland population. The proportions of the total Pacific ('All Pacific') population not enrolled in PHOs in metro-Auckland (4.8%) was similar to the proportion not enrolled in the total metro-Auckland population (4.4%) in December, 2011 (Table 7.1). This pattern is also evident for Pacific children (ages 0-14 years) and Pacific youth and adults (ages 15-44 years). In older Pacific age groups (45-74 years and 75+ years), however, there were slightly higher proportions of people not enrolled with a PHO in metro-Auckland; and the difference was greatest in the 75+ age group. This may indicate access issues for older Pacific adults, but also could be due to older Pacific adults returning to the Pacific Islands later in their adult life. Detail for other PHOs is given in *Workbook Table 41.6*.

Table 7.1: Pacific PHO enrolments in metro-Auckland (all ages), 2011

	Alliance Health Plus (AH+)	Other Akl PHOs	Other PHOs	Not enrolled	Total	% AH+	% not enrolled
Niuean	1,590	15,170	80	700	17,540	9%	4.0%
Cook Island	4,330	31,310	270	1,540	37,450	12%	4.1%
Tongan	10,900	38,050	290	2,790	52,010	21%	5.4%
Samoan	15,270	88,580	610	4,930	109,390	14%	4.5%
Other Pacific	2,050	18,200	220	1,400	21,870	9%	6.4%
All Pacific	34,140	191,310	1,450	11,360	238,260	14%	4.8%
Māori	5,570	141,240	4,770	6,780	158,360	4%	4.3%
Rest of pop	30,080	1,012,510	13,900	47,800	1,104,280	3%	4.3%
Total	69,790	1,345,050	20,120	65,930	1,500,890	5%	4.4%
Pacific %	49%	14%	7%	17%	16%		

It is important to remember that PHO enrolments are only an indicator of access to primary care; a Pacific person only has to see a GP once every three years to be captured by enrolment databases. Other indicators of access to primary care suggest there are a variety of issues to consider when delivering primary care to Pacific people.

In the 2006/07 New Zealand Health Survey, participants were asked a number of questions regarding health service utilisation. For both Pacific adults (aged 15 years and over) and Pacific children, the same proportions reported having visited a GP in the past 12 months compared to the total NZ population (Ministry of Health, 2008). Around 11 percent of Pacific people reported an "unmet need" for a GP in the previous 12 months; that is, they needed to see a GP but couldn't. The only significant difference between Pacific unmet need and unmet need of the total NZ population was among Pacific males, who were more likely to report an unmet need compared to all males in the NZ (Ministry of Health, 2012).

Ryan et al. (2011) describe how an 'unmet need', in a broader sense, also includes indicators, in addition to self-reported (i.e. perceived) unmet need. In a broader conceptual understanding of unmet

need, 'need' is defined as the capacity to benefit from healthcare. This means that the self-reported findings from the NZ Health Survey should be interpreted alongside other population indicators of unmet need.

Other population indicators of unmet need in primary care include avoidable mortality and ambulatory sensitive hospitalisations (ASH). Indeed, in the context of reduced co-payments in New Zealand (i.e. reduced patient costs to see GPs) the high rates of avoidable hospitalisations, particularly ambulatory sensitive hospitalisations (ASH), suggest Pacific primary care needs not being met.

7.1.2 Factors Influencing Primary Care for Pacific People

Primary care outcomes are influenced by a combination of the quality of the care, as well as the barriers that prevent access to that care. In New Zealand, a small body of literature identifies a number of barriers that hinder Pacific people's access to, and utilisation of, primary care. These include:

- lack of after-hours services
- cost
- health literacy – knowledge and understanding of health conditions, and perceived need
- transport
- quality of care issues related to cultural appropriateness of care, Pacific health beliefs, communication barriers, and the cultural competence of service providers (CBG, 2005; Ministry of Health, 2008a; Ministry of Health, 2008b; Ryan et al., 2011; SNZ & MPIA, 2011; Southwick et al., 2012).

Health literacy refers to the ability to gain access to, understand and use information in ways that help promote and maintain good health. Good health literacy helps people make informed and appropriate health decisions (Nutbeam, 2000; Kickbush et al., 2005). Health literacy is generally worse among older people, those with less education and also people from lower socio-economic backgrounds (SNZ & MPIA, 2011). Evidence from the Adult Literacy and Life Skills Survey suggests that almost 90 percent of Pacific adults aged 15 years and over had poor health literacy skills. Pacific adults were also significantly less likely to have good health literacy skills compared to non-Pacific adults (Ministry of Health, 2012).

Some of the communication and rapport issues that Pacific people face in health care settings can be addressed by enhancing the cultural competence of the health care providers and clinicians. Cultural competence involves integrating cultural practices, values and concepts in the service delivery model (Ministry of Health, 2008b). Supporting culturally competent care for Pacific peoples is one the focuses of *'Ala Mo'ui: Pathways to Pacific Health and Wellbeing 2010–2014* (Minister of Health & Minister of Pacific Island Affairs, 2010).

“Cultural, educational, and language differences make it more difficult for clinicians to grasp quickly what the patient's problem is. Problem recognition is a rate-limiting step in the process of providing care; when it is incomplete, subsequent diagnosis, management, and follow-up will be inadequate” (Starfield et al., 2012, p. 93).

For Pacific people, because their concept of health and their health beliefs are holistic, culturally competent care may include some of the following aspects:

- closely including the family in care and treatment processes
- incorporating traditional Pacific healers in the model of care
- acknowledging and understanding how Pacific health beliefs impact on the chosen path of care
- delivering care in Pacific homes and communities
- having translators and Pacific health workers assist in the care process

- providing health information in culturally appropriate forms (e.g. in Pacific languages) (Ministry of Health, 2008b; Ryan et al., 2011).

Both the Pacific health workforce and Pacific providers play important roles in delivering culturally competent care to Pacific people; and both continue to be developed through the Ministry of Health's Pacific Provider and Workforce Development Fund (Ryan et al, 2010). Having a Pacific person available to deliver to Pacific people and their families, helps ensure the intricacies of the Pacific culture are acknowledged and incorporated into health care. This is important for strengthening trust between care providers and the patient.

In New Zealand, the majority of Pacific people, particularly younger Pacific people, use non-Pacific (mainstream) primary care providers. In the Auckland metro DHBs 14% of Pacific aged 15-44 are enrolled with Alliance Health Plus (the main Pacific PHO), compared with 17% of 45-64 and 21% of 65+ year olds (*Workbook tables 41.3 to 41.5*). This is why developing the Pacific health workforce is just as important as developing Pacific providers – it ensures those Pacific people using mainstream services also have access to culturally competent care.

7.1.3 Screening

In New Zealand, cervical screening among Pacific women has increased in recent years, but is still significantly lower compared to non-Pacific women (SNZ & MPIA, 2011). For Pacific women in metro-Auckland, cervical screening continues to be a challenge with rates being around 60 percent for women aged 20 to 64 years (10 percent lower compared to the overall rate). Cervical screening rates have increased for ADHB from 60 percent to 64 percent during the 2011/2012 year.

Breast screening coverage (45-69 years) in WDHB Pacific women has increased to 64 percent in March 2012. In ADHB breast screening was at 62 percent, while CMDHB was at 58 percent. Note that these figures do not include scans carried out privately. Breast and cervical screening have traditionally been viewed as markers of primary care access and effectiveness. This has become a matter of debate with the current national system of screening, but many of the interventions needed to lift rates for Pacific women will need to work closely with, or be based in primary care.

Metro-Auckland Pacific breast and cervical screening rates are summarised in table 7.2.

Table 7.2: Cervical and breast screening rates in metro-Auckland DHBs

DHB	Cervical screening (20-64 years)		Breast screening (45-69 years)	
	Pacific	Total	Pacific	Total
WDHB	59%	73%	64%	66%
ADHB	64%	75%	62%	59%
CMDHB	58%	64%	58%	62%

Time periods: WDHB (Jan-Mar, 2012), ADHB (Jan-Mar, 2012), CMDHB (Oct-Dec, 2011).

7.1.4 Diabetes Care

The proportion of those with diagnosed diabetes having an annual review (Health Targets Q4 2012) is shown in Table 7.3. Also shown is the proportion of those having an annual review who were considered to be in control of their diabetes (with an HbA1c level at or under 64 mmol/mol, or 8% in old units).

Table 7.3: Proportions of metro-Auckland people with diagnosed diabetes who had an annual check and also an HbA1c of 64 mmol/mol or less.

DHB	Annual diabetes check		HbA1c of 64 mmol/mol	
	Pacific	Total	Pacific	Total
WDHB	59%	61%	55%	73%
ADHB	68%	59%	60%	75%
CMDHB	104%	82%	50%	62%

Source: Ministry of Health Health Targets Q4, 2011/12.

Interpretation of this indicator is difficult as the number of people with diagnosed diabetes varies significantly with the method employed. Likewise the related indicator for diabetes management only includes those undergoing an annual check. The new Northern Region work on TestSafe data (referred to in Coster 2011) will provide a better benchmark of clinical performance. For example, in CMDHB 21% of all people with diabetes had at least one HbA1c over 75 mmol/mol (9% in old units) in 2009, but 29% for Pacific (Dr Wing Cheuk Chan, personal communication). This is a much more direct outcome of care measure, and covers all with diabetes, not just those identified while having an annual review.

The types of pharmaceuticals dispensed in the Northern region DHBs (includes Northland DHB in addition to the 3 metro-Auckland DHBs) for diabetes management between April 2011 and March 2012 are presented in Table 7.4. Pacific people have higher rates of treatment and consistency than NMNP and the population overall.

Table 7.4: Medications and testing according to guidelines, Pacific diabetes patients in the Northern region DHBs, Apr 2011-Mar 2012

Guidelines	Pacific	Total
On diabetic medications (all ages)	60%	58%
On lipid lowering medications (age 30-79)	55%	55%
On BP lowering medications (age 30-79)	61%	61%
Timely monitoring with HbA1c	78%	79%
Tested for microalbuminuria & on ACE/ARB	66%	62%

Note: Includes Northland DHB in addition to the metro-Auckland DHBs

Overall, despite having similar medication rates to other ethnic groups Pacific people with diabetes are less likely to be in control – for example more likely to have a current HbA1c level greater than 64 and more likely to show complications and downstream consequences related to their diabetes (see also Section 5.1).

7.1.5 Cardiovascular Disease Care

New Zealand guidelines suggest good primary care will include assessing the risk for cardiovascular disease at least once every 5 years. All males aged 45-74 and females 55-74 should be included, with Māori, Pacific and South Asian starting 10 years earlier. The proportion of the eligible population having their cardiovascular risk assessed and recorded as such within the past 5 years (Health Targets Q4 2011/12) is shown in Table 7.5. Pacific people appear to be being appropriately targeted for CVD risk screening in primary care.

Table 7.5: Proportion of the eligible population having their CVD risk assessed over 5 years

DHB	Pacific	Total
WDHB	54%	56%
ADHB	65%	48%
CMDHB	61%	52%

Source: Ministry of Health Health Targets Q4 2011/12.

The types of pharmaceuticals dispensed in the Northern region DHBs (includes Northland DHB in addition to the 3 metro-Auckland DHBs) for CVD management between April 2011 and March 2012 are presented in Table 7.6.

Table 7.6: Medications dispensed to Pacific CVD patients in the Northern region DHBs, Apr 2011-Mar 2012

Medication type	Pacific	Total
On Statins	66%	67%
On Anti-HT	72%	74%
On Anti-platelet/coagulant	68%	71%
On All Three	57%	56%

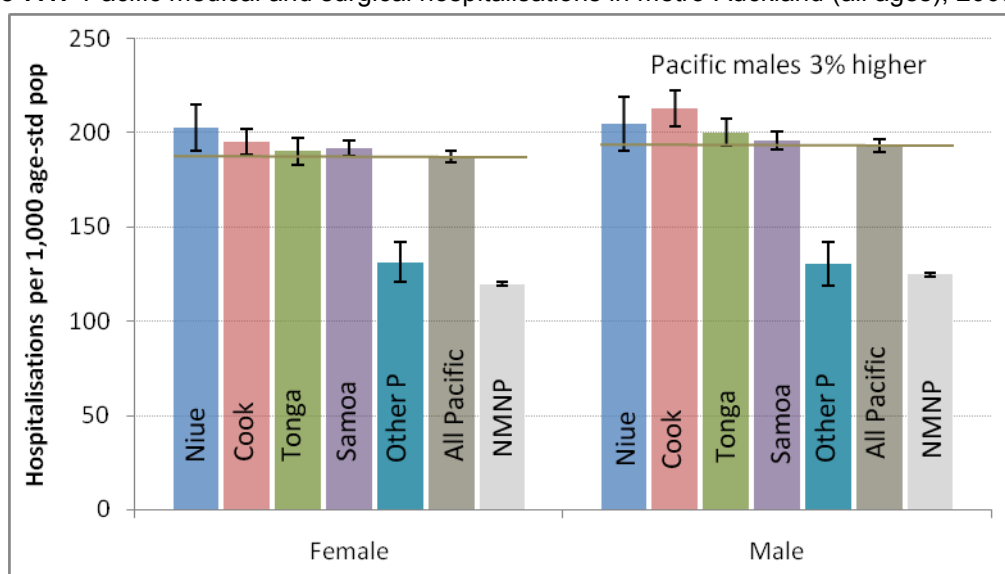
7.2 Secondary Care

7.2.1 Medical and Surgical Hospitalisations

Pacific people in metro-Auckland have high rates of medical and surgical hospitalisations. During 2009-2011, the medical/surgical hospitalisation rate for All Pacific people was 1.6 times higher than the NMNP rate, with slightly more hospitalisations among Pacific males (Figure 7.1). This pattern was the same for each of the three metro-Auckland DHBs during 2009-2011 (see *Workbook Figure 6.2*).

Within the metro-Auckland Pacific population, Samoans had the highest number of hospitalisations, followed by Tongans, Cook Islanders, Niueans, then Other Pacific people. For the Other Pacific group, medical and surgical admissions were significantly lower than the rate for the total Pacific ('All Pacific') population in metro-Auckland.

Figure 7.1: Pacific medical and surgical hospitalisations in metro-Auckland (all ages), 2009-2011

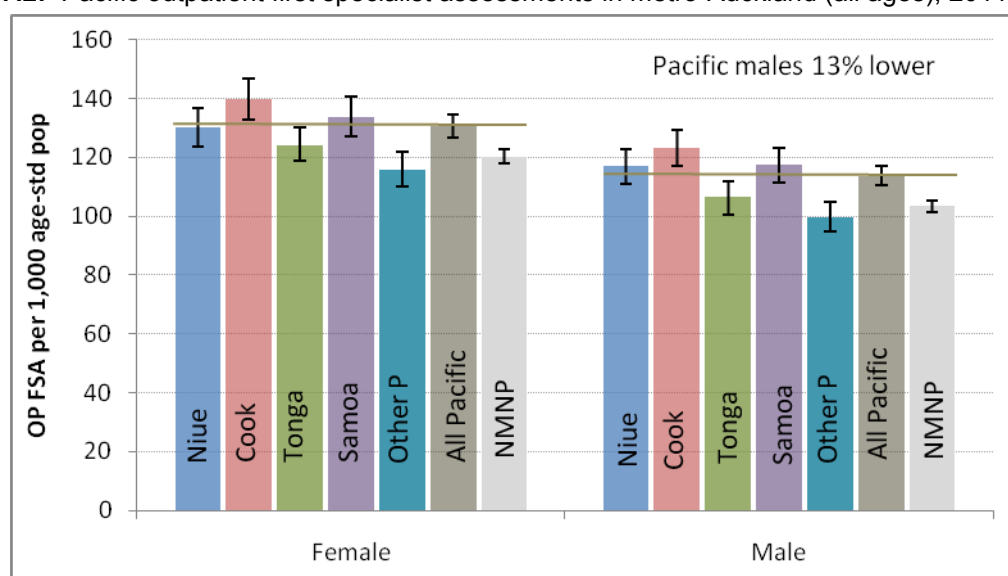


7.2.2 Outpatients and Did Not Attends (DNAs)

The rate of outpatient and first specialist assessments was slightly higher among the metro-Auckland Pacific population in 2011 compared to the NMNP population. This was similar across the three DHBs in the region, although the difference was slightly larger in WDHB. For the Other Pacific group the rate of outpatient and first specialist assessments were slightly lower than the total Pacific ('All Pacific') rate (Figure 7.2).

Pacific people seem to have high rates of "Did Not Attends" (DNAs), especially for referrals to secondary care. Of the outpatient and first specialist assessments in metro-Auckland DHBs for 2011, Pacific people had high DNAs for general diabetes appointments, diabetes education and management appointments, as well as nurse-led clinic, retinal screening, paediatric, renal and gynaecology appointments (details in *Workbook Tables 8.2 and 8.4*). The recent moves to establishing integrated models of care in New Zealand will need to address this issue for Pacific people.

Figure 7.2: Pacific outpatient first specialist assessments in metro-Auckland (all ages), 2011



Of those Pacific people who did make their first specialist outpatient visit, rates were generally slightly higher compared to NMNP in metro-Auckland in 2011. The only exception was the Other Pacific group, where the outpatient follow-up visit rate was similar to the NMNP rate.

7.2.3 Outpatient Attendances Associated with Diabetes

Pacific people living in metro-Auckland had a higher rate of outpatient attendances associated with diabetes in 2011 (over 7 times the NMNP rate), reflecting the higher prevalence of diabetes among the Pacific population. "Diabetes-related" for the purposes of this report were diabetes outpatients, endocrinology outpatients, retinal screening, diabetes education and management, renal outpatients and dialysis. Diabetes related outpatient attendances were most common in Pacific adults aged 45-64 years and also 65+ years (see *Workbook sheets 8b, 9*)

Within the metro-Auckland Pacific population compared to the overall Pacific rate, outpatient attendances for diabetes were higher among Tongan, Cook Island Māori and Niuean groups, but significantly lower among Other Pacific and Samoan groups (Figure 7.3).

Figure 7.3: Pacific outpatient attendances associated with diabetes. metro-Auckland (all ages), 2011

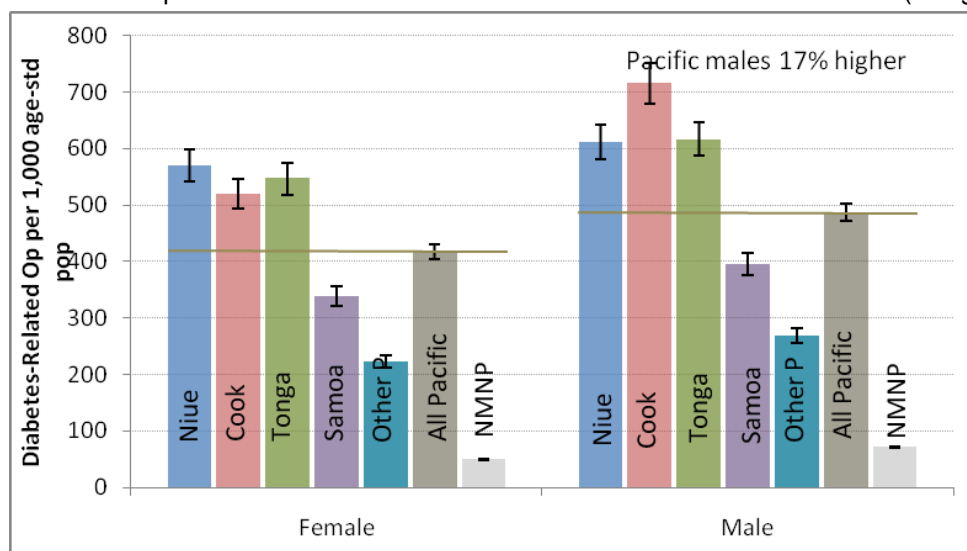
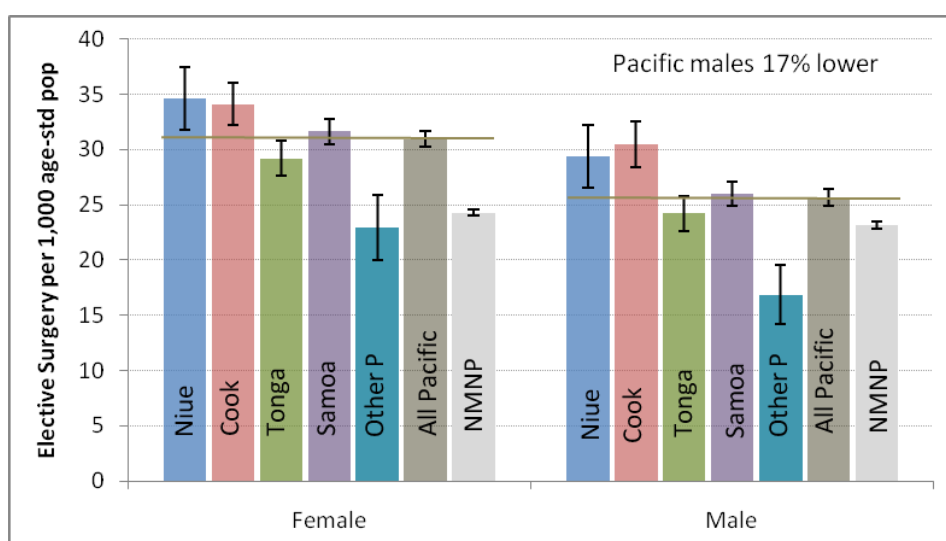


Figure 7.4: Pacific elective surgery in metro-Auckland (all ages), 2009- 2011



7.2.4 Elective Surgery

For publicly funded elective surgery, Pacific people had a slightly higher rate compared to NMNP during 2009-11, although there was some variability between the three DHBs (Pacific and NMNP elective surgery rates were the same in CMDHB) (see *Workbook sheet 44*). In particular Pacific people had very high rates of cataract surgery – 3 times the NMNP rate *Workbook sheet 45*).

Elective surgery was more common in Pacific adults aged 45-64 years and also 65+ years. Within the metro-Auckland Pacific population elective surgery was significantly lower among the Other Pacific group and significantly higher among Cook Island Māori (Figure 7.4).

7.3 Acute Demand Management

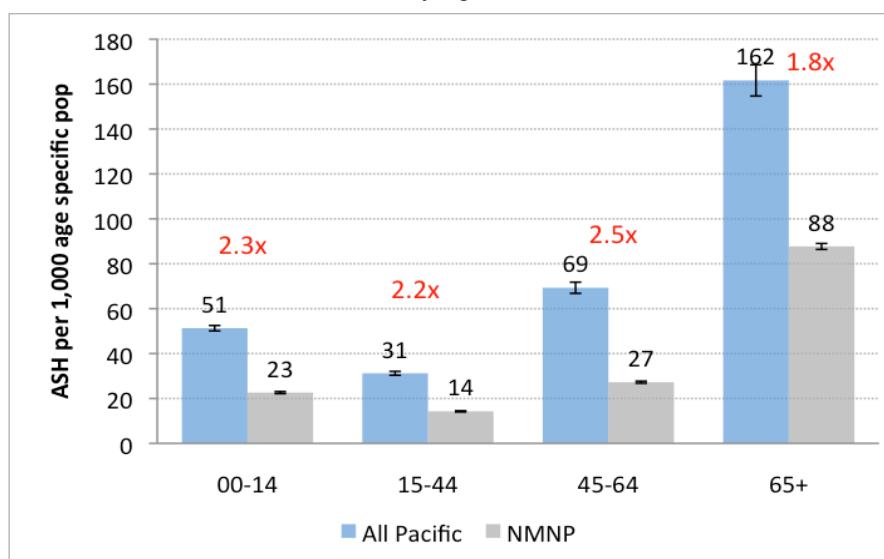
7.3.1 Ambulatory Sensitive Hospitalisations (ASH)

Ambulatory sensitive hospitalisations are an attempt to use hospital admissions to assess the primary care system. The theory is that early intervention and well-managed primary health care will be able to prevent hospitalisation for selected conditions¹¹. Pacific people living in metro-Auckland had high rates of ASH across multiple health conditions, during 2009-2011. Across all age categories, Pacific male ASH rates were slightly higher than Pacific female ASH rates. The total Pacific ('All Pacific') ASH rate was over twice (2.3 times) the non-Māori non-Pacific (NMNP) rate in metro-Auckland during 2009-2011; and this gap was consistent in magnitude across all three DHBs in the region see *Workbook sheet 10*). Significant gaps between Pacific and NMNP ASH rates were seen across all age categories (Figure 7.5).

Within each age category ASH makes up a considerable proportion of all medical and surgical hospitalisations in the metro-Auckland Pacific population, particularly among Pacific children aged 0-14 years (Table 7.7). During 2009-2011, the top causes for ASH in total metro-Auckland Pacific population were (*Workbook Table 10.2*):

- Cellulitis
- Pneumonia
- Asthma
- Angina/other ischaemic heart disease
- Gastroenteritis

Figure 7.5: Pacific ASH in metro-Auckland, by age, 2009-11



¹¹ Conditions with ICD-10 codes are listed in Appendix 2 (see *Workbook*).

Table 7.7: Proportion of all medical and surgical hospitalisations caused by ASH conditions in metro-Auckland, 2009-11

	0-14	15-44	45-64	65+	Total
Pacific	34%	23%	30%	32%	29%
NMNP	24%	16%	21%	24%	21%

For all illnesses and conditions resulting in ASH among Pacific, those where the gap between the Pacific and NMNP rate was largest were:

- Congestive heart failure
- Diabetes
- Cellulitis
- Pneumonia/LRTI

During 2009-2011 ASH rates were approximately the same across most Pacific groups in metro-Auckland. The only exception is the Other Pacific group, whose ASH rates were significantly lower than the average Pacific rate ('All Pacific') in the region, but still significantly higher than the NMNP rate (Figure 7.6).

ASH rates varied little by DHB across metro-Auckland (see *Workbook Figure 10.2*). There was however a slight difference in the relative frequency of the top conditions included in ASH at the 3 DHBs (Table 7.8). In particular Auckland DHB residents had a relatively low rate of admission for angina but a relatively high rate of admission for asthma. Waitemata Pacific residents also had a higher rate of admission for asthma than Counties Manukau residents, perhaps in line with their apparently higher prevalence (*Workbook Figure 16.2*).

Table 7.8: Top 5 ASH conditions for Pacific (ages 0-74 years) in the metro-Auckland DHBs, 2009-11.

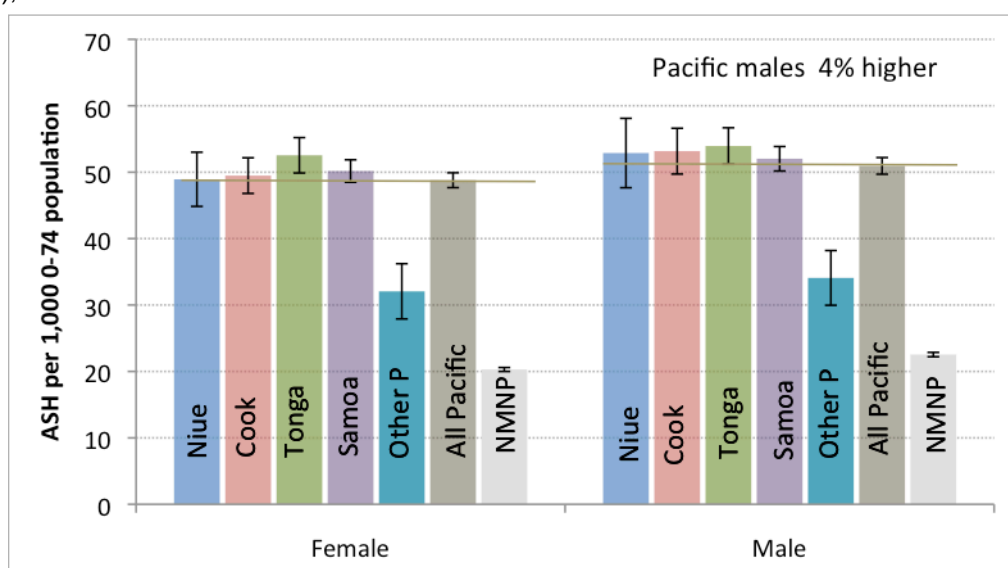
DHB	Cellulitis		Angina/chest pain		Pneumonia		Asthma		Gastroenteritis	
	rate	rank	rate	rank	rate	rank	rate	rank	rate	rank
WDHB	8.3	1	6.7	2	5.7	3	5.5	4	4.6	5
ADHB	7.4	1	5.1	4	5.5	3	5.5	2	4.9	5
CMDHB	8.0	1	6.3	2	5.3	3	4.2	5	4.3	4
Total AKL region	7.9	1	6.0	2	5.4	3	4.8	4	4.5	5

Note: Age-standardised rates are per 1000 population.

Pacific adults aged 45-64 years in metro-Auckland had a significantly high ASH rate during 2009-2011 (2.5 times the NMNP rate) (Figure 7.7). During this time, the top causes of ASH for metro-Auckland Pacific adults aged 45-64 years were (Figure 7.8):

- Angina/other ischaemic heart disease
- Diabetes (age-specific Pacific rate was 5 the times NMNP rate)
- Cellulitis
- Pneumonia/LRTI
- Gastroenteritis

Figure 7.6: Ambulatory sensitive hospitalisations (ASH) in metro-Auckland Pacific population (0-74 years), 2009-11.



Again, as with other ASH patterns in metro-Auckland Pacific ASH rates were higher among Pacific males in the 45-64 years age category. Similarly, the Other Pacific group in the 45-64 years age category had a significantly lower ASH rate compared to the average ('All Pacific') ASH rate; although, the ASH rate for Other Pacific was still higher than the NMNP rate (Figure 7.7).

Figure 7.7: Pacific adult ASH (45-64 years) in metro-Auckland, 2009-2011.

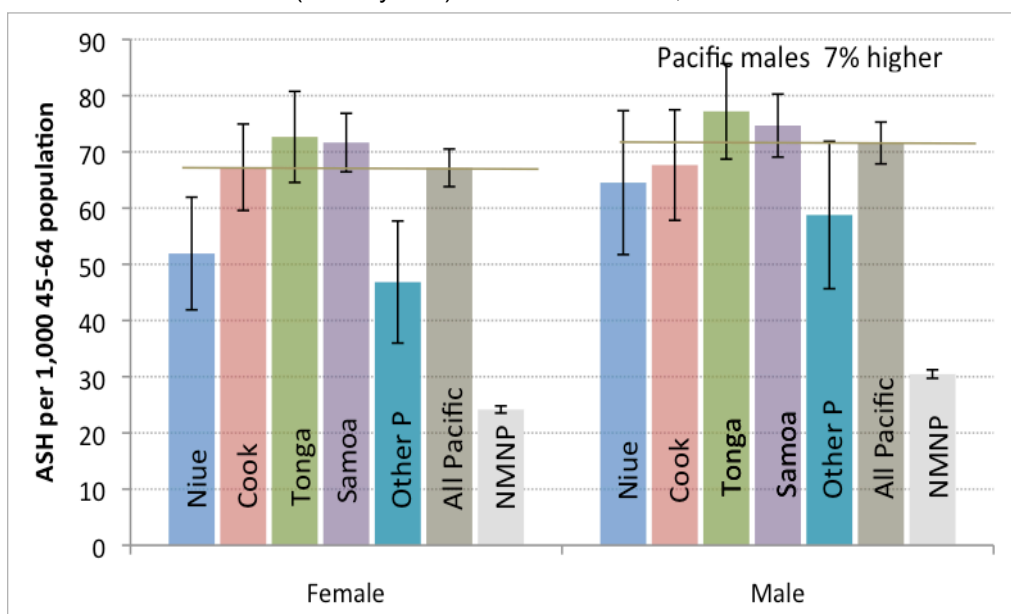
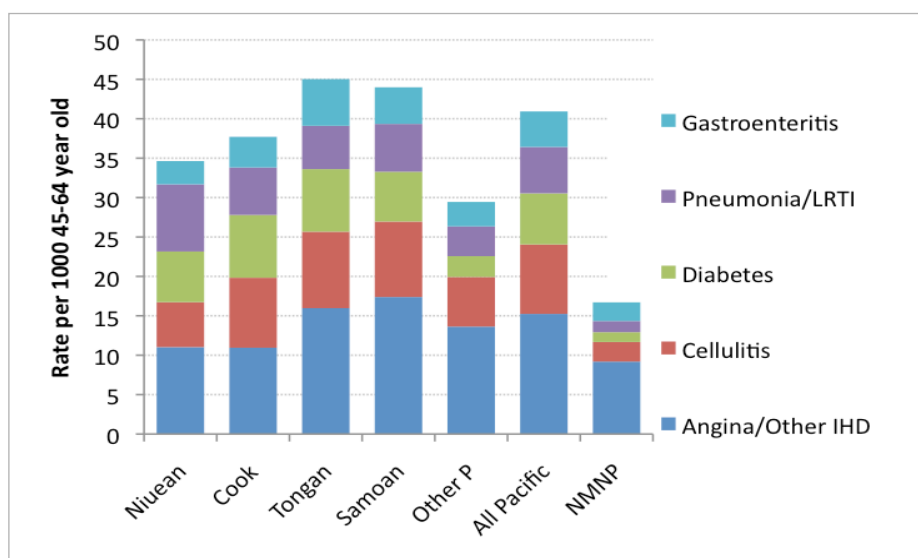


Figure 7.8: Top 5 causes of ASH among Pacific adults (45-64 years) in metro-Auckland, 2009-2011

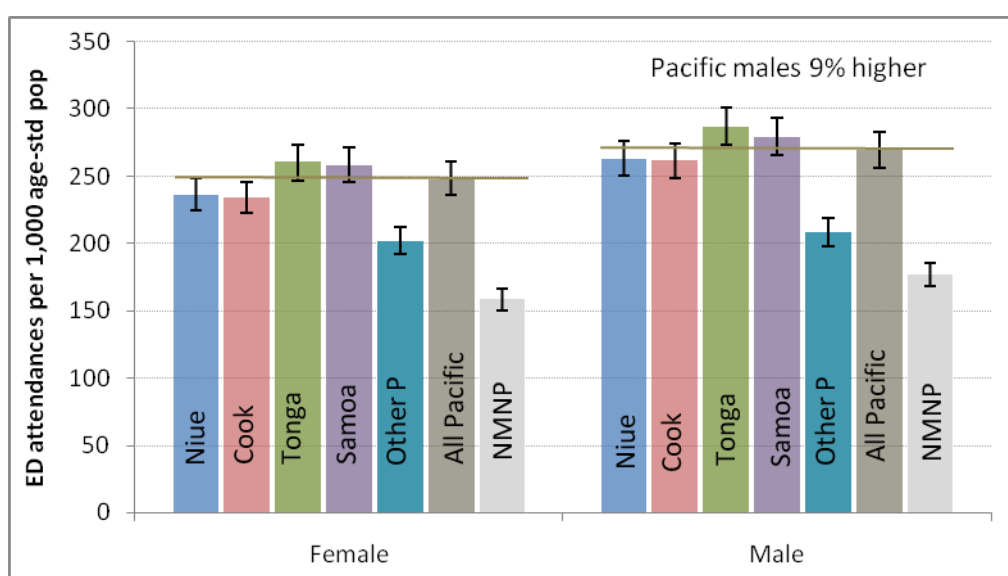


7.3.2 Emergency Department (ED) Use

Pacific people in metro-Auckland had a significantly higher rate of emergency department (ED) attendances compared to NMNP in 2011 and this was consistent across all age categories. The rate of Pacific ED attendances for all ages was 1.6 times the NMNP rate and this was similar across the three DHBs in the region.

Within the Pacific population in metro-Auckland, ED attendances were significantly lower among the Other Pacific group (Figure 7.9, *Workbook sheet 7*).

Figure 7.9: Pacific emergency department attendances in metro-Auckland (all ages), 2011



8. Mental Health of Metro-Auckland Pacific Peoples

- *Pacific mental health varies by place of birth (mental health disorders are more common among NZ-born Pacific) and sex (mood disorders are more common among Pacific females; substance use disorders are more common among Pacific males).*
- *Mental health issues vary between the Pacific groups. In 2010, the prevalence of diagnosed mood disorders, psychosis, and other serious mental illness was higher among Cook Island Māori and Niueans, and lower in Tongans, compared to the total Pacific prevalence in the region.*
- *Younger Pacific people in New Zealand are more likely to experience mental illness compared to older Pacific people. Suicide is a leading cause of death for Pacific males aged 15-24 years (with a suicide rate similar to the total population).*
- *Pacific people in New Zealand are low users of mental health and addiction services. In the metro-Auckland Pacific population, people aged 20-64 years were the highest users of mental health and addiction services in 2011.*

This section presents information on the mental health of Pacific peoples from metro-Auckland. The following information is included in this section:

- Pacific mental health in New Zealand
- Mood disorders
- Psychosis
- Other serious mental illnesses
- Mental health and addiction service utilisation

As with the other health issues presented for metro-Auckland Pacific people in this report, it is important to remember that, for some Pacific people, the health beliefs underlying their mental illnesses may differ from other people in New Zealand. Pacific health beliefs are often holistic (Minister of Health and Minister of Pacific Island Affairs, 2010) and, consequently, high quality mental health care for Pacific people with mental illnesses may require including family in the care processes, alongside other culturally appropriate models of care. Readers can refer to the discussions on issues related to Pacific mental health care presented in the Health Service Utilisation chapter.

Some of the estimates presented in this section are derived from the databases of mental health service providers. This means that they only reflect those Pacific people who have been diagnosed with mental illness and utilised a mental health care service. The true prevalence of some of these mental illnesses among Pacific people are therefore likely to be underestimated, as there will always be members of the population who have symptoms of mental illness, but are yet to be diagnosed. Note also figures relate to 2010 as the full mental health data sets were not available for 2011 at the time this report was prepared.

8.1 Pacific Mental Health in New Zealand

In New Zealand, the Pacific population tends to have a higher prevalence of mental disorders. Pacific people tend to utilise community mental health services less compared to other New Zealanders; and this trend holds true even after adjusting for education and household income (Foliaki et al., 2006).

The 2006/07 NZ Health Survey showed that the prevalence of high or very high probability of an anxiety or depressive disorder (K-10 score 12-40) among Pacific adults aged 15 years and over was twice that of non-Pacific adults (Ministry of Health, 2012).

There is some variability in mental health issues within the Pacific population in New Zealand. The previous New Zealand Mental Health Survey, for example, showed that the 12-month prevalence of having any mental health disorder was higher among New Zealand-born Pacific people (31.4%) compared to those Pacific people who migrated to New Zealand after the age of 18 (Foliaki et al., 2006).

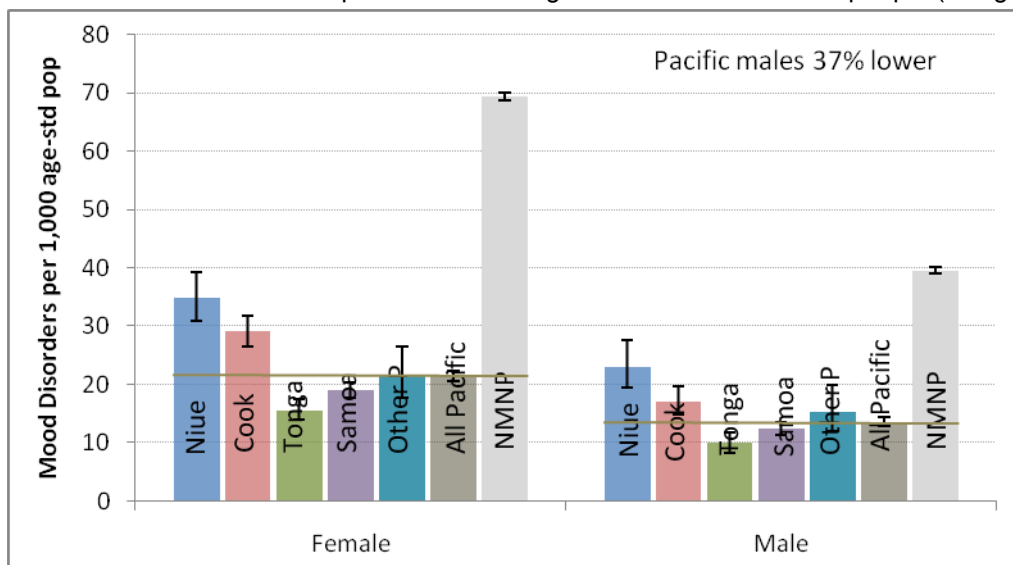
There are also some significant differences in the prevalence of mental health disorders between Pacific males and females. Pacific females tend to have higher prevalence of anxiety and mood disorders; whereas, Pacific males tend to have a higher prevalence of substance use disorders (Foliaki et al., 2006).

8.2 Mood Disorders

The estimated prevalence of diagnosed mood disorders (major depression, bipolar disorder and hypomania) was significantly lower among Pacific people in metro-Auckland compared to NMNP in 2010 (Figure 8.1). This pattern was consistent in each of the three DHBs. Diagnosed mood disorders were most common in Pacific people aged over 65 years (see *Workbook sheet 33*).

Within the metro-Auckland Pacific population, Pacific males were less likely than Pacific females to be diagnosed with a mood disorder in 2010. For Cook Island Māori and Niuean groups, the prevalence of a diagnosed mood disorder was significantly higher than the overall Pacific ('All Pacific') prevalence; whereas, for Tongans, the prevalence was slightly lower than the All Pacific prevalence (Figure 8.1).

Figure 8.1: Estimated mood disorder prevalence among metro-Auckland Pacific people (all ages), 2010



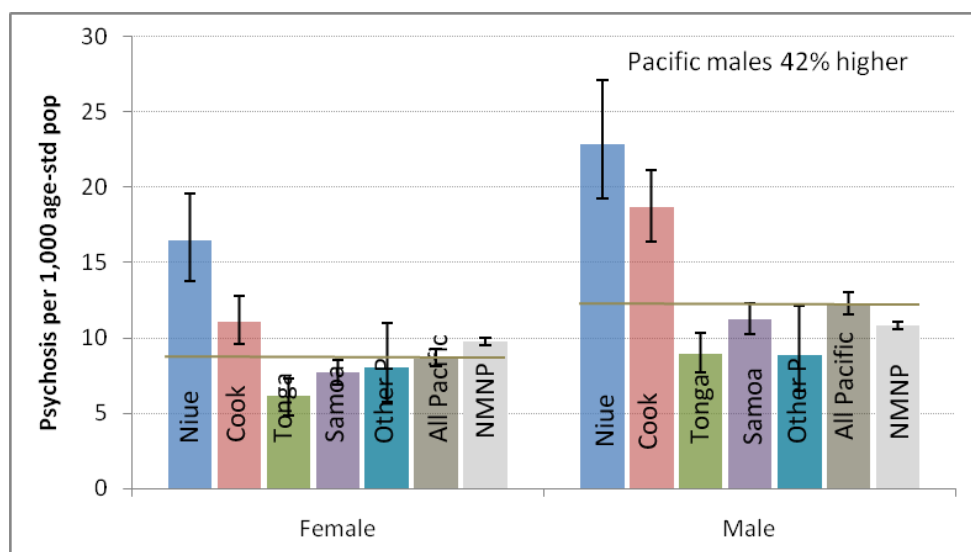
It is important to note that the estimated Pacific mood disorder prevalence presented above are based on people with a hospital or mental health service diagnosis of a mood disorder, and also those obtaining treatment for a mood disorder from a general practitioner (measured via pharmaceutical dispensing data). This means that only those who have been *diagnosed* with a mood disorder are captured in these

prevalence estimates. As such, it is likely that the prevalence of metro-Auckland Pacific mood disorders has been underestimated, as there could be a number of Pacific people living with the symptoms of a mood disorder who have not yet received a diagnosis or treatment.

8.3 Psychosis

The estimated prevalence of diagnosed psychosis among metro-Auckland Pacific people, based on health care utilisation datasets, was the same as the psychosis prevalence among NMNP in 2010. There was some variability in estimated psychosis prevalence within the metro-Auckland Pacific population. Similar to mood disorders, psychosis was estimated to be more prevalent among Cook Island Māori and Niuean groups, but also less prevalent among Tongans (Figure 8.2, *Workbook sheet 34*).

Figure 8.2: Estimated prevalence of psychosis among metro-Auckland Pacific people (all ages), 2010



Little has been published on mental health in the Cook Islands or Niue, as noted by Allen and Laycock in 1997. They noted that Murphy indicated that "the rate of mental disorder among the Niueans is higher than among other Polynesian peoples visited". He also speculated that Niue was different from other Pacific communities in that New Zealand was their frame of reference rather than Tonga or Samoa. In this sense, he seemed to suggest that Niue was in effect more like a developed country and hence displayed rates of mental illness consistent with that status.' (Allen & Laycock, 1997)

As with the estimated prevalence on mood disorders in metro-Auckland, it is difficult to say whether any differences between Pacific and NMNP, or within the Pacific population, represent actual (true) differences, or represent differences in how these groups utilise mental health services, and obtain diagnoses.

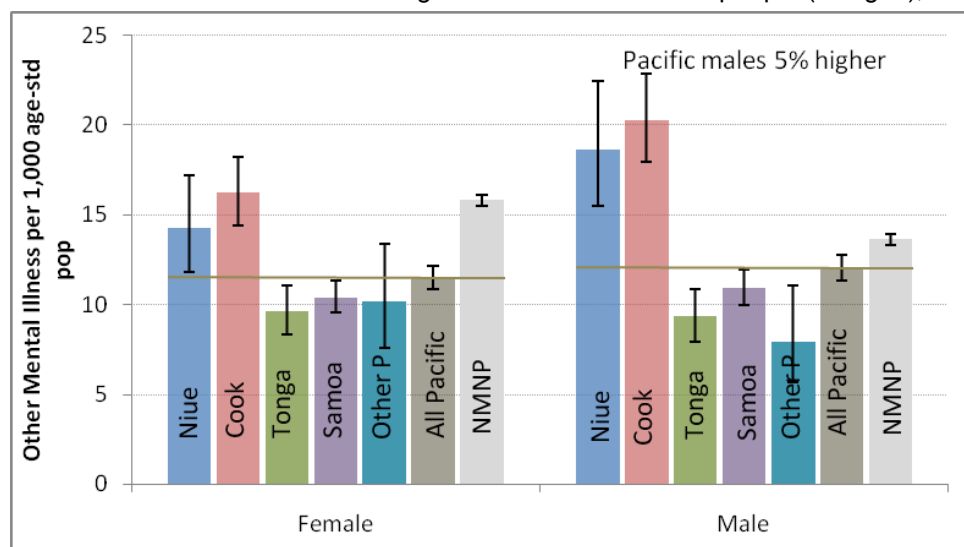
8.4 Other Serious Mental Illness

In 2010, the prevalence of other serious mental illnesses (illnesses other than psychoses, major mood disorders and dementia) was significantly lower in the total metro-Auckland Pacific ('All Pacific') population compared to the NMNP population in the region (Figure 8.2). This pattern was consistent in all three metro-Auckland DHBs, and also in every age category (see *Workbook sheet 36*).

There was some variability in other serious mental illness prevalence between the various metro-Auckland Pacific groups. In 2010, the prevalence of other serious mental illnesses was higher in Cook Island Māori and Niuean Pacific groups, but significantly lower in Tongan and Samoan groups (Figure 8.3).

As with the estimates presented for metro-Auckland Pacific mood disorders and psychoses, the estimates for other serious mental illness should also be interpreted with some caution because they are based on diagnosed illnesses.

Figure 8.3: Other serious mental illness among metro-Auckland Pacific people (all ages), 2010



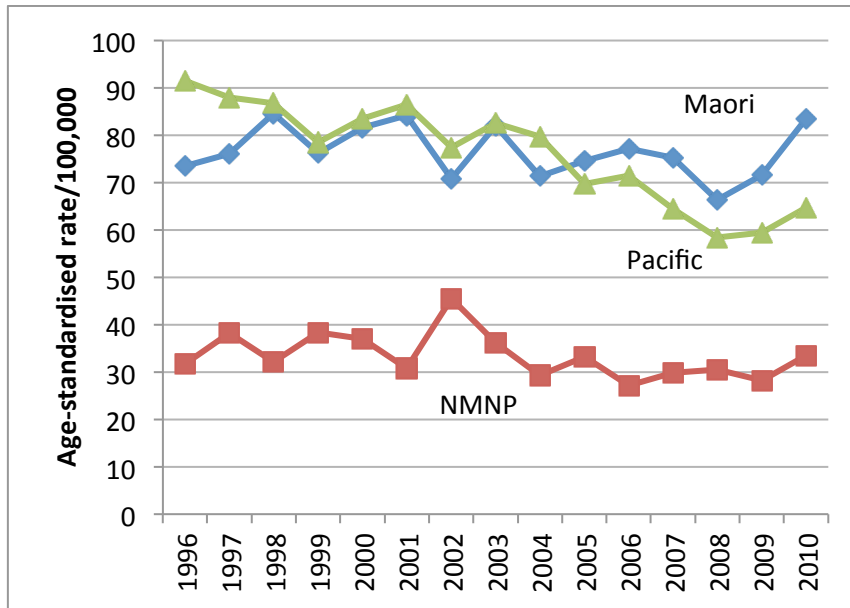
8.5 Youth Mental Health and Suicide

Younger Pacific people are more likely to experience any mental disorder, and also more serious mental illness, compared to older Pacific people (Foliaki et al., 2006). The Youth2007 Survey showed that 15 percent of Pacific female students and 7 percent of Pacific male students, reported significant symptoms of depression (Helu et al., 2009).

Suicide is a leading cause of death among Pacific males aged 15-24, but the rate of suicide is similar to the rate among the total NZ population aged 15-24 years. Suicides are low among Pacific females (Ministry of Health, 2012). In 2010 there were 21 Pacific suicides nationally and 19 Pacific hospitalisations for self-harm. The age-standardised rate of intentional self-harm hospitalisations decreased from 1996 to 2010 (Ministry of Health 2012a).

In the previous New Zealand Mental Health Survey, Pacific people (and Māori) reported higher prevalence of suicide ideation, plans and attempts compared to the total population. Suicide ideation rates were highest among those aged 16-24 years. Some of these differences became insignificant when sociodemographic factors were controlled for in the analyses (Foliaki et al., 2006).

Figure 8.4: Age-standardised rates of intentional self-harm hospitalisations in New Zealand, 1996-2010.



8.6 Mental Health and Addiction Service Utilisation

In New Zealand, the age-standardised rate of Pacific people using a mental health and addictions service was 24.3 per 1,000 in 2009/10. This compares to a Māori rate of 40.3 per 1,000, an Other rate of 27.8 per 1,000 and an Asian rate of 8.3 per 1,000. The rate was higher for Pacific males compared to Pacific females (Ministry of Health, 2012d).

Information from the Programme for the Integration of Mental Health Data (PRIMHD)¹² showed that, during 2011, the highest users of mental health and addiction services in the metro-Auckland Pacific population were those aged 20-64 years.

The DHB with the largest proportion of Pacific people using a mental health and addiction service was ADHB (3.6%), with similar proportions of Pacific people using mental health and addiction services in CMDHB (2.7%) and WDHB (2.9%).

¹² The information from the PRIMHD database should be interpreted with caution as there has been some underreporting of utilisation statistics from mental health service providers (particularly NGOs) in New Zealand (Ministry of Health, 2012d).

9. Metro-Auckland Pacific Child and Youth Health

- *Pacific immunisation rates are high, and exceed total population rates, in all three metro-Auckland DHBs.*
- *The Pacific child ambulatory sensitive hospitalisation (ASH) rate in metro-Auckland was over twice the rate for NMNP children during 2009-2011. ASH was more common in Pacific male children.*
- *Asthma and cellulitis were the most common causes of ASH in metro-Auckland Pacific children during 2009-2011. The Pacific rate of rheumatic fever was 65 times the NMNP rate.*
- *Over one half (54%) of all metro-Auckland Pacific child hospitalisations during 2009-2011 were for infectious diseases.*
- *Metro-Auckland Pacific children are more likely to be hospitalised for dental procedures compared to NMNP children. Hospitalisations for dental procedures were lower among the Other Pacific group, and higher among Tongans, compared to the total Pacific.*
- *Modifiable risk factors such as nutrition and physical activity are important for helping reduce the high prevalence of Pacific obesity, and related illnesses such as diabetes.*
- *The teenage birth rate is high among metro-Auckland Pacific youth.*
- *Hazardous alcohol use, injuries and mental health (see Mental Health chapter) are also significant health issues for Pacific youth.*

This section presents key indicators for Pacific children (0-14 years) and Pacific youth (15-24 years) in metro-Auckland. In addition to information on the metro-Pacific population (constructed specifically for this report), some of the information contained in this section was sourced from an existing report on child and youth health in the Northern Region DHBs¹³. For an in-depth discussion on broader policy issues, particularly regarding avoidable hospitalisations among Northern Region children and youth, refer to Craig et al. (2011).

9.1 Metro-Auckland Pacific Children and Youth

The Pacific child and youth populations make up a significant proportion of the total Pacific population in metro-Auckland – almost one half (44%) of the region's Pacific population was aged under 25 years in 2011.

The key issues for metro-Auckland Pacific children and youth mirror the issues for the national Pacific child and youth populations. In particular, Pacific children have high rates of ambulatory sensitive hospitalisations (ASH) for conditions, both chronic and acute, which are manageable and treatable through primary care.

High Pacific child hospitalisation rates for infectious diseases (including gastrointestinal, respiratory and skin infections), as well as rheumatic fever, point towards a complex interplay of factors where intervention is needed. Rheumatic fever, repeat bronchiolitis, and other respiratory infections leading to permanent lung damage (e.g. bronchiectasis), have a lasting and lifelong impact on the quality of life of those

¹³ The Northern Region DHBs include: Northland DHB and the three metro-Auckland DHBs (WDHB, ADHB and CMDHB).

affected. Factors accounting for the high hospitalisation rates among Pacific children include broader socioeconomic influences (e.g. housing), as well as more specific issues, such as: quality of care; health literacy (i.e. knowing when to seek professional care); and barriers that prevent Pacific children accessing timely healthcare (e.g. lack of after-hours services). These issues are discussed in more depth in the Social Determinants and Health Service Utilisation chapters in this report.

For metro-Auckland Pacific youth, as with the national Pacific youth population, key issues include: obesity, nutrition, physical activity, binge drinking, teenage pregnancies and sexual health. Given that obese young people are more likely to become obese adults and develop diseases such as diabetes and CVD (WHO, 2004; WHO, 2012), modifying risk factors for obesity (diet and physical activity) among the Pacific youth population, could substantially improve the health of the Pacific population as a whole (SNZ & MPIA, 2011).

“The future health and well-being of Pacific peoples is dependent on improving nutrition, reducing the proportion of the population who are overweight, reducing the prevalence of smoking, and changing the pattern of alcohol consumption. Failure to improve the health status of children and young people will perpetuate the current state of Pacific health inequalities” (SNZ & MPIA, 2011, p. 12)

9.2 Key Issues for Metro-Auckland Pacific Children

Across metro-Auckland there are local pockets where Pacific children are highly concentrated. The DHB with the largest Pacific child population is CMDHB, where Pacific children made up over one third (35%) of the DHB’s Pacific population in 2011. Within CMDHB, Pacific children reside in the most deprived areas, and make up the majority of the child populations in Mangere (70% Pacific children) and Otara (73% Pacific children) (see *Workbook Table 1.3*).

9.2.1 Immunisation

Pacific immunisation rates have increased markedly since national targets and campaigns to improve coverage began in 1996. In 1991/92, the proportion of fully immunised Pacific children was less than 60 percent. Pacific immunisation rates in New Zealand are now level with, and in some regions higher, than European/Other rates (Ministry of Health, 2007). For Pacific children in the metro-Auckland DHBs, immunisation rates are above the total immunisation rate across all three DHBs (Table 9.1), and have met the 95% Health Target required of them for 2011/12. Primary care is doing extremely well in the immunisation arena. Attention is now turning to improving timeliness, with the 2012/13 Target being set on immunisations completed by children at age 8 months.

Table 9.1: Immunisation rates (fully immunised) at age 2 years (Q4, 2011/12)

DHB	Pacific	Total
WDHB	98%	95%
ADHB	98%	95%
CMDHB	97%	95%

Source: DHBs, 2012

9.2.2 Ambulatory Sensitive Hospitalisations (ASH)

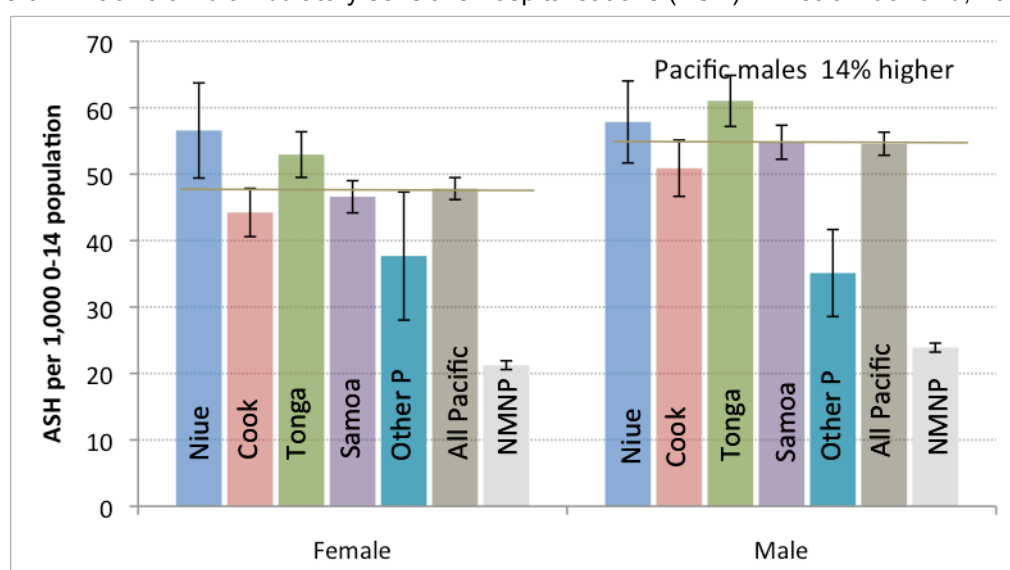
Pacific child and youth have high hospitalisation rates – 60% higher than NMNP (*Workbook sheet 37*) – but rate differences are even higher for ambulatory sensitive hospitalisations (ASH). ASH represent hospital admissions for medical conditions that could have been avoided through the provision of primary care (see Section 7.3.1). ASH is an indicator of the effectiveness of primary care (Craig et al.,

2011), although it is important to remember that ASH rates do not distinguish between the various socioeconomic issues that also impact on primary care effectiveness. High ASH rates could reflect a number of inadequacies in primary care including: cost and other barriers to access; cultural appropriateness of services; and other quality of care issues.

In metro-Auckland the Pacific child ASH rate (51 per 1000) was just over twice the non-Māori non-Pacific (NMNP) children during 2009-2011 (Figure 9.1). In all three metro-Auckland DHBs, Pacific children aged 0-4 years had the highest ASH rates of all ethnic groups during 2000-2010 (Craig et al., 2011).

Pacific male children had a higher overall ASH rate compared to female Pacific children. ASH rates were similar across all specific Pacific groups, except for the Other Pacific group. For Other Pacific children, the ASH rate was significantly lower than overall Pacific ('All Pacific') rate, but still higher than the NMNP rate (Figure 9.1).

Figure 9.1: Pacific child ambulatory sensitive hospitalisations (ASH) in metro-Auckland, 2009-2011



The top causes of ASH among metro-Auckland Pacific children were: rheumatic fever; cellulitis, pneumonia and lower respiratory tract infections (LRTI); asthma; dental conditions; upper respiratory tract infections (URTI) and gastroenteritis (Figure 9.2).

Across the entire metro-Auckland Pacific child population the most frequent cause of ASH during 2009-2011 was asthma, followed by cellulitis (Table 9.2). Asthma hospital admissions were significantly higher for Pacific children (and young people) in all three metro-Auckland DHBs during 2000-2010 (Craig et al., 2011).

Within the metro-Auckland Pacific child population, asthma was the top cause of ASH among Samoan and Niuean groups, whereas cellulitis was the top cause among Cook Island Māori and Tongan groups during 2009-2011. Again, the 'Other Pacific' group shows a slightly different ASH causal profile compared to rest of the Pacific population. For Other Pacific people, the top cause of ASH was gastroenteritis, and this was the same for the NMNP child population in the region (Table 9.2).

The gap in ASH rates between metro-Auckland and Pacific and NMNP children was by far the largest for Rheumatic Fever; here, the Pacific rate was 65 times the NMNP rate during 2009-2011. Significant gaps in child ASH rates were also observed between Pacific and NMNP children for cellulitis, where the Pacific rate was almost 5 times the NMNP rate. (see *Workbook Table 10.5*)

Figure 9.2: Top causes of Pacific child ambulatory sensitive hospitalisations (ASH) in metro-Auckland, 2009-2011

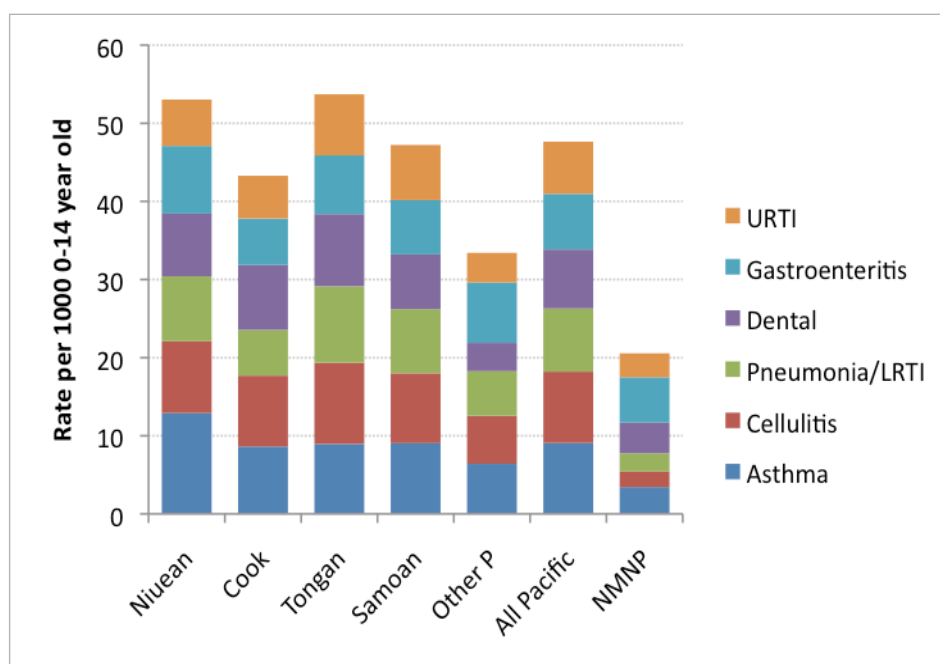


Table 9.2: Top two causes of Pacific child ambulatory sensitive hospitalisations (ASH) in metro-Auckland, 2009-2011

Group	Most frequent	Second
Niuean	Asthma	Cellulitis
Cook Island	Cellulitis	Asthma
Tongan	Cellulitis	Pneumonia
Samoan	Asthma	Cellulitis
Other Pacific	Gastroenteritis	Asthma
All Pacific	Asthma	Cellulitis
NMNP	Gastroenteritis	Dental

The high Pacific child ASH rates for asthma and cellulitis are influenced by multiple factors, including the family socioeconomic circumstances, such as cold, damp and crowded housing. Asthma hospital admissions are higher in children living in average to more deprived areas (Craig et al., 2011). A large proportion of Pacific children live in the most deprived areas across metro-Auckland, and the condition itself is more prevalent among metro-Auckland Pacific children (1.3 times the asthma prevalence for NMNP children in the region (see *Workbook Table 16.2*).

Higher hospital admissions for asthma, and similarly cellulitis, among Pacific children also point towards issues with disease management (and also possibly timely diagnosis) in primary care. (Crengle, 2008). Adequate disease management in primary care for Pacific children requires a complex combination of: removing barriers to primary care access, ensuring cultural appropriateness of care, and improving Pacific caregiver's knowledge and understanding of the disease (Craig et al., 2011; SNZ and MPIA, 2011).

9.2.3 Infectious Diseases

In New Zealand, infectious disease hospitalisations have increased dramatically in recent years; they were the largest contributor to all hospital admissions from 1989 to 2008. This contrasts with other developed countries, where infectious disease hospitalisations show a declining trend over time. Children under 5 years of age were more likely to be hospitalised for infectious diseases from 1989 to 2008 (Baker et al., 2012).

The gap between Pacific (and Māori) infectious disease hospitalisations and other ethnic groups has increased significantly over the last 20 years, with rates being double the NZ European/Other group for both Pacific and Māori populations. These inequalities occur even in the least deprived (NZDep quintile 1-2) neighbourhoods, but are largest for those Pacific people living in the most deprived neighbourhoods (NZDep quintile 9-10) (Baker et al., 2012).

Over one half (54%) of all metro-Auckland Pacific child hospitalisations during 2009-2011 were for infectious diseases (Table 9.3). The Pacific child hospitalisation rate for infectious diseases was over twice (2.3 times) the rate for NMNP children during this time period.

Table 9.3: Proportion of hospitalisations due to infectious disease in metro-Auckland, by age, 2009-2011

	0-14	15-44	45-64	65+	total
Pacific	54%	25%	22%	26%	34%
NMNP	38%	19%	14%	15%	18%

The most common infectious disease hospitalisations in the metro-Auckland Pacific child population during 2009-2011 are shown in descending order in Table 9.4. Approximately 3 percent of Pacific 0-14 year olds are admitted each year with pneumonia or some other lower respiratory tract infection.

Table 9.4: Most common infectious disease hospitalisations in metro-Auckland Pacific children (aged 0-14 years)

	Average hosps/yr	Rate/1000 0-14 yr olds
Lower respiratory tract	2,290	26
Skin infections	762	9
Gastrointestinal	700	8
Other viral infections	652	8
Upper respiratory tract	652	8
Ear infections	619	8
Oral infections	543	7
All IDH	6879	81
IDH as % of all hospitalisations	54%	

During 2000-2010, Pacific children in CMDHB, ADHB and WDHB had the highest rates of infectious disease hospitalisations for:

- URTIs
- ear infections (particularly in children under 4 years)
- LRTIs (bronchiolitis, pneumonia and asthma) (Craig et al., 2011).

Bronchiolitis, in particular, disproportionately affects the Pacific child populations in the metro-Auckland DHBs. Bronchiolitis hospital admissions were significantly higher among Pacific children, particularly Pacific boys, in all three DHBs during 2006-2010. In CMDHB, where Pacific children make up a substantial majority of the DHB's child population, bronchiolitis admissions in infants during 2006-2010 were significantly higher than the New Zealand rate (Craig et al., 2011). A recent study at

Auckland hospital showed the incidence of empyema was also higher among Pacific (and Māori) children, with particularly severe cases among Pacific children (Wright et al., 2011).

Pacific child and youth infectious disease admissions, during 2000-2010, were the highest of all ethnic groups in CMDHB, ADHB and WDHB for:

- pneumonia
- pertussis
- meningitis
- serious skin infections
- gastroenteritis (Craig et al., 2011).

Admissions for bronchiectasis, although declining over recent years in New Zealand, are also significantly higher among Pacific children and youth. During 2006-2010, hospital admissions for bronchiectasis were significantly higher than New Zealand rate in both CMDHB and ADHB (Craig et al., 2011). There were 40 bronchiectasis hospitalisations a year for the constructed metro-Auckland Pacific population over 2009-2011. This was a rate 13 times higher than for NMNP. The relatively high rates of this chronic lung disease in Pacific children is attributed to repeated lower respiratory tract infections. Pacific children have a 3.4 times higher rate of hospitalisations than NMNP (*Workbook Table 10.5*). A pilot study in South Auckland followed up almost a hundred children who had had an admission for severe respiratory tract infection (bronchiolitis or pneumonia) one year later to discover two thirds were having chronic respiratory problems. However, families had not sought additional follow up because of individual difficulties in accessing care (Byrnes & Trenholme, 2012).

One intervention study based in Auckland has been designed to prevent progression of lower respiratory infections to bronchiectasis. The Bronchiectasis Interventional Study (BIS), with Alaska and Australia, compared an antibiotic with placebo but asked families to commit to one to two years of study with a visiting nurse going into the home weekly to deliver treatment. Completed at the end of 2011, 42 families enrolled reflecting 98% of those approached, and of those enrolled 98% completed at least one year. All the children had improved by the end of the study period (Byrnes & Trenholme, 2012).

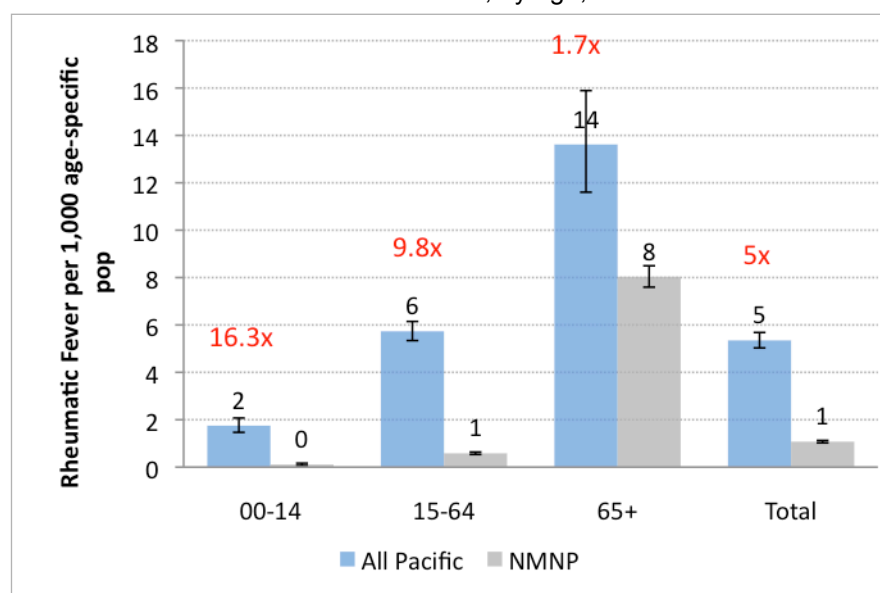
As with the high ASH rates among Pacific children, high rates of infectious disease hospitalisations implicate both broader socioeconomic issues (e.g. poor quality housing), and also issues with access to, and the quality of, primary care services for Pacific families. For further data and discussion on infectious disease hospitalisations among metro-Auckland Pacific people, refer to the Serious Illnesses chapter.

9.2.4 Rheumatic Fever

New Zealand has some of the highest hospitalisation rates for rheumatic fever compared to other similarly developed countries. Admission rates for rheumatic fever are significantly higher among Pacific children (and young people), and children living in the most deprived areas (Craig et al., 2011).

In metro-Auckland, the age-specific prevalence of rheumatic fever for Pacific children was just over 16 times higher than the non-Māori non-Pacific (NMNP) prevalence in 2011 (Figure 9.3). For further data and discussion on rheumatic fever hospitalisations among metro-Auckland Pacific people, refer to the Serious Illnesses chapter, Section 5.6, *Workbook sheet 25*.

Figure 9.3: Pacific rheumatic fever in metro-Auckland, by age, 2011



9.2.5 Oral Health

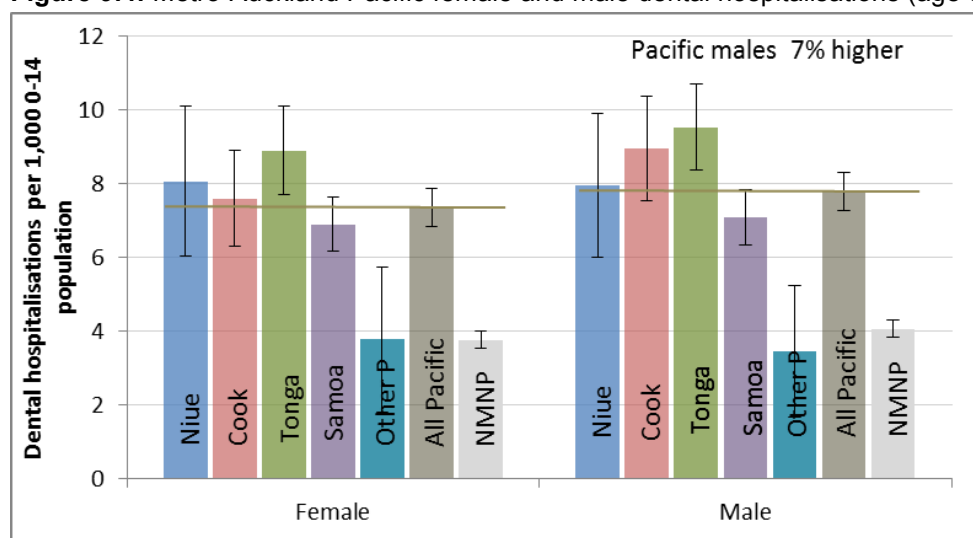
Pacific and Māori children have poorer oral health compared to European/Other children in New Zealand, and are less likely to be caries free at 5 years (Ministry of Health, 2012; Craig et al., 2011). In WDHB, ADHB and CMDHB, and in both fluoridated and non-fluoridated areas in these DHBs, a higher proportion of European/Other children were caries free at 5 years compared to Pacific and Māori children during 2003-2010 (Craig et al., 2011).

Metro-Auckland Pacific children are more likely to be hospitalised for dental procedures compared to NMNP children. Table 9.5 shows that the dental hospitalisation rate for All Pacific children in metro-Auckland was almost twice the NMNP rate in 2009-2011. Hospitalisations for dental procedures were significantly higher among the Tongan group, and lower among the Other Pacific group, compared to the total Pacific ('All Pacific') group (Figure 8.4).

Table 9.5: Dental hospitalisations (ASH) by Pacific constructed population, ages 0-14, metro-Auckland 2009-2011

	Average hosps per year			Age-specific rate/1,000 pop			
	Female	Male	Total	Female	Male	Total	
Niuean	24	25	49	8.1	8.0	8.0	
Cook Island	49	61	111	7.6	9.0	8.3	
Tongan	85	99	184	8.9	9.5	9.2	*
Samoan	126	135	261	6.9	7.1	7.0	
Other Pacific	11	11	21	3.8	3.4	3.6	*
All Pacific	294	332	626	7.3	7.8	7.6	***
NMNP	368	419	787	3.8	4.1	3.9	
Total	806	923	1,729	5.0	5.4	5.2	
Pacific difference from NMNP - rate ratio				2.0	1.9	1.9	

Figure 9.4: Metro-Auckland Pacific female and male dental hospitalisations (age 0-14), 2009-2011



In all three metro-Auckland DHBs, pre-school dental enrolments increased for all ethnic groups from 2007-2009 (figure 9.5). However, the percentage of caries-free 5 year olds remains lower among Pacific children with less than half Pacific children being caries-free at 5 years in all three metro-Auckland DHBs (figure 9.6).

Figure 9.5: Metro-Auckland dental pre-school enrolments (age 0-4), 2007-2011

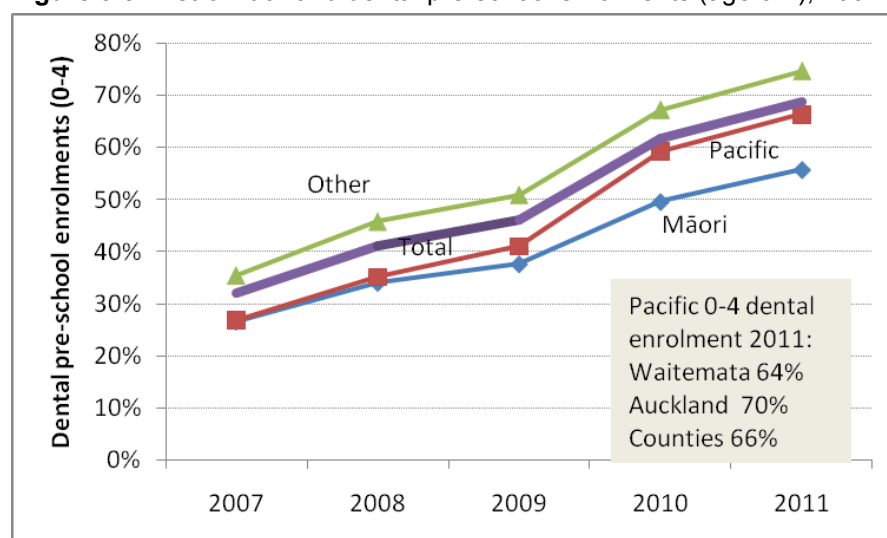
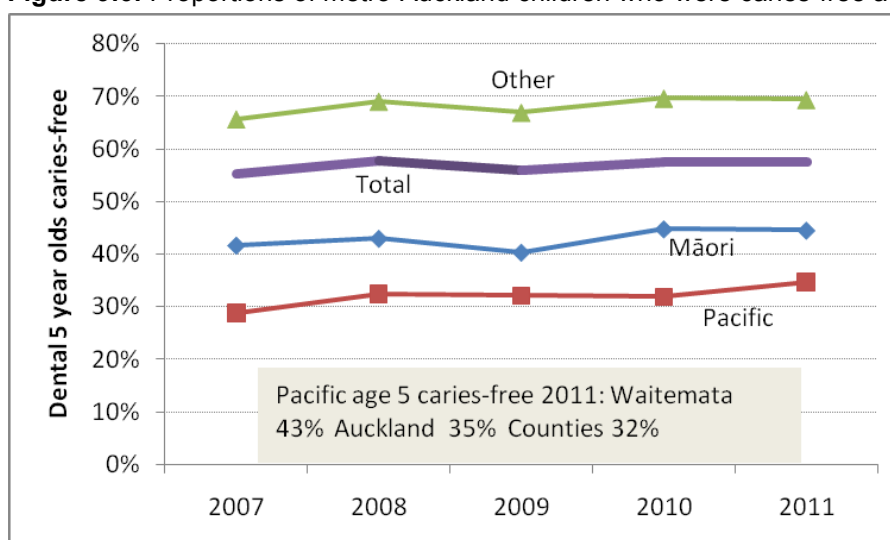


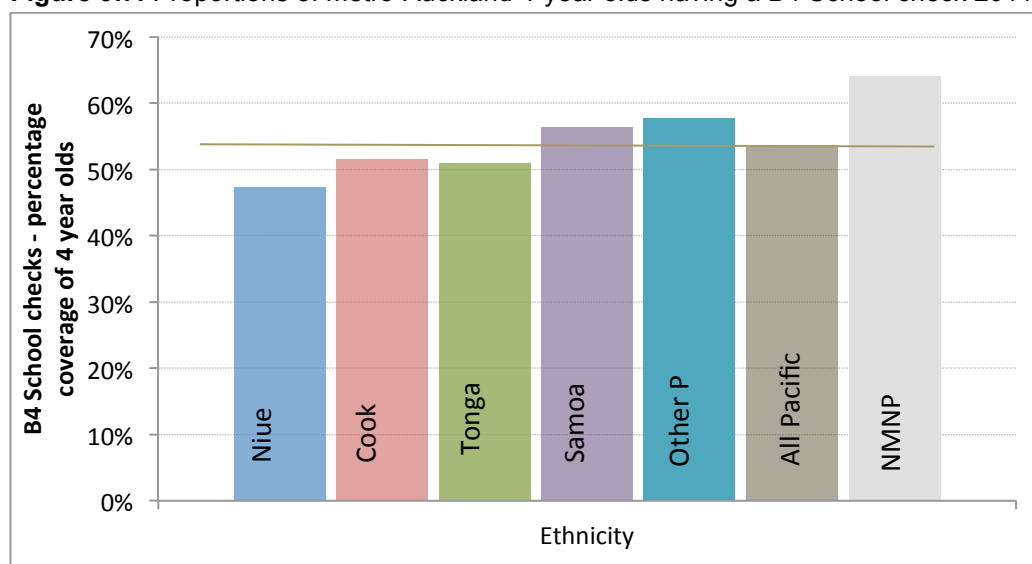
Figure 9.6: Proportions of metro-Auckland children who were caries-free at 5 years, 2007-2011



9.2.5 Health Check at Age 4

The B4 School Check is a free health and development check for four year olds introduced in 2008. Preliminary data was available from the DHBs to enable a combined view of coverage in 2011/12 (Figure 9.7). Overall 54% of Pacific 4 year olds were checked compared with 64% of NMNP. There was no significant difference across the Pacific groups. The CMDHB programme was able to supply data on referrals. For all Pacific, 44% had at least one referral, compared with 31% of NMNP. Some children had referrals for more than one problem - there were 57 referrals per 100 children checked for Pacific, compared with 37 for NMNP. As these programmes mature one hopes that the coverage of high need children will improve. Outcomes of referrals need to be monitored and followed up; otherwise it is an incomplete screening programme.

Figure 9.7: Proportions of metro-Auckland 4-year olds having a B4 School check 2011/12



9.3 Key Issues for Metro-Auckland Pacific Youth

The majority of young Pacific people living in New Zealand are also born in New Zealand and identify with multiple ethnicities (SNZ and MPIA, 2010). There was an estimated 43,900 Pacific youth (aged 15-24 years) in metro-Auckland in 2011. Pacific youth make up a significant proportion of the metro-Auckland population (20.5% of all in that age group).

Key issues to consider for the Pacific youth population include (SNZ & MPIA, 2011):

- preventing future illnesses, particularly diabetes, through improving nutrition and physical activity, and reducing obesity
- teenage pregnancies and sexual health
- mental health
- alcohol consumption patterns
- injuries

9.3.1 Modifiable Risk Factors: Physical Activity and Nutrition

Pacific youth have high prevalence of obesity. Findings from the Youth2007 study¹⁴ show that, in New Zealand, approximately 35 percent of male and female Pacific young students have a Body Mass Index (BMI) that classifies them as being overweight. Just over 1 in 4 Pacific students surveyed were obese (Helu et al., 2009).

High prevalence of overweight and obesity place young Pacific people at higher risk for developing non-communicable diseases, such as diabetes and CVD, in adulthood. Addressing the high rates of diabetes and CVD among the Pacific adult population should, therefore, involve addressing the risk factors associated with overweight and obesity in the Pacific youth population.

Nutrition and physical activity are two key modifiable risk factors associated with obesity. Many Pacific youth in New Zealand have poor nutrition; they are less likely to eat breakfast, eat takeaway meals regularly, and consume more fizzy drinks compared to other New Zealanders (Helu et al., 2009; Ministry of Health, 2008). Those Pacific youth living in the most deprived areas have worse nutrition than those living in less deprived areas (Helu et al., 2009). Affordability of healthy food as well as parental time constraints (e.g. shift-working) pose an important influence over Pacific young people's food choices (SNZ & MPIA, 2011).

In the Action Plan (2008-2013) for the Global Strategy for the Prevention and Control of Noncommunicable Diseases, the World Health Organization (WHO) emphasises the importance of controlling non-communicable diseases by reducing exposure to modifiable risk factors, including: tobacco use, diet, physical activity and harmful alcohol use (WHO, 2008). The WHO recognises the importance of taking a life-course approach to modifying diet and physical activity. For youth populations, implementing innovative school-based interventions and policies could help reduce young people's exposure to risk factors for developing obesity (WHO, 2004).

9.3.2 Teenage Pregnancies and Sexual Health

Pregnancy, delivery and post-natal care issues were the leading reasons for hospital admissions in the total youth population in the Northern DHBs during 2006-2010. In the three metro-Auckland DHBs Pacific teenage birth rates were lower than Māori, but higher than European and Asian women. It should be noted that Pacific and Māori populations in New Zealand have higher fertility rates across

¹⁴ These findings are based on a sample of Pacific students, randomly selected from 115 schools across New Zealand. Because the sample does not include Pacific students not attending school, and students in school are more likely to be healthier than non-attending students, some of the findings may be biased (Helu et al., 2009).

all ages, and some of this is accounted for in their slightly higher teenage birth rates (Craig et al., 2011).

In metro-Auckland Pacific teenage births made up 11 percent of all Pacific births during 2009-2011. This was over five times the NMNP teenage birth rate (see *Workbook Table 42.1*).

Compared to European students, fewer Pacific young people who are sexually active report using contraception and condoms. Pacific young people's rates of sexually transmitted infections (STI) are also high, and Pacific young people are more likely to attend an STI clinic with more than one infection (SNZ & MPIA, 2011).

At Middlemore hospital (CMDHB), data from screening in pregnancy showed rates of STI were very high in Pacific women (Ekeroma et al, 2012). Chlamydia and Trichomonas were tested for, with Pacific women having the highest STI rates for both. One in ten Pacific women attending antenatal care had a Chlamydia infection, twice the rate of European women, and 3% had Trichomonas (7 times the European rate).

9.3.3 Hazardous Alcohol Use

Findings from the Youth2007 survey showed that almost half (48%) of Pacific students drank alcohol and many were not routinely asked for identification when buying their alcohol. Almost one third of these Pacific students who drank alcohol also reported engaging in binge drinking (consuming 5 or more drinks within 4 hours) over the previous month (Helu et al., 2009).

9.3.4 Injuries

Injury is the main cause of mortality among young people in New Zealand aged 15-24 years, and hospitalisations for injuries among young people are also high (Craig et al., 2011).

During 2006-2010, Pacific young people's hospitalisations for most injuries were not significantly different from NZ Europeans; and were actually lower for cyclist injuries and vehicle occupant injuries. Where Pacific hospitalisations for injuries were higher than the NZ European rate, as was the case for falls, there were also socioeconomic differences (i.e. those living in more deprived areas had higher hospital admissions for injury). This makes it difficult to interpret whether the differences between Pacific and NZ European rates are accounted for by differences in area deprivation (NZDep).

10. Maternity

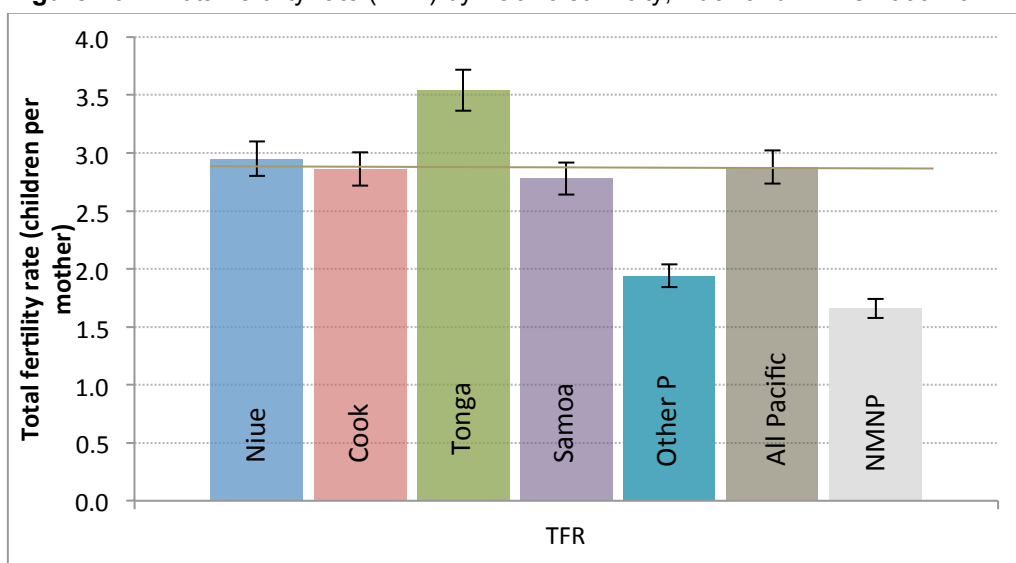
- *Pacific women have a high fertility rate and tend to give birth at younger ages compared to other women in New Zealand. In metro-Auckland the total fertility rate for Pacific women was almost twice the NMNP rate during 2009-2011.*
- *Pacific (and Māori) women tend to register with a Lead Maternity Carer (LMC) at later stages in their pregnancy compared to other women in New Zealand, receiving less antenatal care.*
- *Pacific have a higher perinatal mortality rate. Specific risk factors include obesity, smoking, and lack of antenatal care.*
- *Among the metro-Auckland DHBs, exclusive/full breastfeeding rates were below national averages at <3 weeks, 3 months and 6 months during 2004-2011 only in CMDHB.*

This section presents information on maternity for the metro-Auckland Pacific population.

In New Zealand, Pacific women had the highest overall birthrate of all ethnic groups during 2010. Just over 11 percent of reproductive-aged Pacific women gave birth that year (Ministry of Health, 2011).

The total fertility rate (TFR) is a synthetic measure giving the average number of children that would be born (live) to a woman over her lifetime if she were to experience the current age-specific fertility rates through ages 15-44, and she were to survive from birth through the end of her reproductive life. In metro-Auckland the TFR for the Pacific population (2.9 children per mother) was almost twice (1.7. times) the non-Māori non-Pacific (NMNP) rate during 2009-2011. TFRs were significantly higher among the Tongan group, and significantly lower among Other Pacific, compared to the overall ('All Pacific') rate (see, Figure 10.1, *Workbook Table 42.1*). The 'replacement rate' is generally considered to be around 2.1.

Figure 10.1 Total fertility rate (TFR) by Pacific ethnicity, Auckland DHBs 2009-2011



Pacific (and Māori) women tend to give birth, on average, at younger ages compared to European and Asian women in New Zealand. In 2006 the median age that Pacific mothers gave birth was 25-29 years. This compares to a national median age of 30.3 years (Ministry of Health, 2010a).

The most recent Maternity Consumer Survey (2011) showed most Pacific women in New Zealand (60%) reported they were very satisfied overall with their maternity care; and this was above the national average reported by all women (Ministry of Health, 2012e).

10.1 Pregnancy and Antenatal Care

When pregnant, Pacific women tend to make contact with a health provider about the pregnancy at a later stage compared to other women in New Zealand (Ministry of Health, 2012e).

About half of all women in New Zealand registered with a Lead Maternity Carer (LMC) during their first trimester of pregnancy in 2010. Pacific (and Māori) women were more likely to register with an LMC later in the pregnancy, with most registering in the second trimester (Ministry of Health, 2011). Almost forty percent (38.9%) of all Pacific women were not registered with an LMC during their pregnancy (Ministry of Health, 2011).

A significant in-depth study in Counties Manukau investigated the apparently high perinatal death rate in that DHB (Jackson C, 2011). Perinatal deaths include those that occur as a result of a late termination of pregnancy and stillbirths. The most important potentially modifiable risk factors identified by the study were obesity, advanced maternal age, smoking, pre-existing hypertension, pre-existing diabetes, and placental abruption. Other important risk factors were pregnancy-induced hypertension, foetal growth restriction, and no antenatal care. Women with no antenatal care had the highest rates of stillbirth and neonatal death. The report, while noting that ethnicity and socio-economic status were not independent risk factors for perinatal mortality, made specific recommendations for Pacific mothers. These are worth quoting in full:

“That the Maternal Care risk period be a primary focus for Pacific Women

For increased mortality in the Maternal Care risk period, actions include providing adequate antenatal care, screening, smoking cessation programmes, risk assessment and referral, and appropriate use of secondary maternity care. In addition, obesity is contributing to perinatal mortality during this period. There is some cross over in actions in this period, with those recommended for the Maternal Health / Prematurity risk period.

There is a role for audit of the implementation of recommendations made by the PMMRC with respect to:

- *Early initiation of antenatal care (before 10 weeks gestation)*
- *Use of customised fetal growth charts*
- *Diabetes screening, follow-up, and referral*
- *Screening and referral for fetal growth restriction*
- *Appropriate referral to secondary care”*

The report also makes the very important point that a high risk approach attempting to identify women at specific risk of a poor outcome is not viable in CMDHB, or by extension the Pacific population generally, as this would identify the majority of the population. Rather a population-wide approach will be needed, extending from the antenatal period (and preferably pre-pregnancy) through to age one year (or later).

A study on a large cohort of Pacific families from South Auckland showed a significant proportion of Pacific mothers initiated antenatal care later in the first trimester than the 14-week recommendation. Cook Island Māori women were more likely to initiate antenatal care late in the first trimester (Low et al., 2005). Another recent study showed that screening for sexually transmitted infections (STIs) was low at Middlemore Hospital, which is of particular concern given the higher prevalence of STIs among Pacific

women and the known impact that STIs can have on the pregnancy and neonatal baby (Ekeroma et al., 2012).

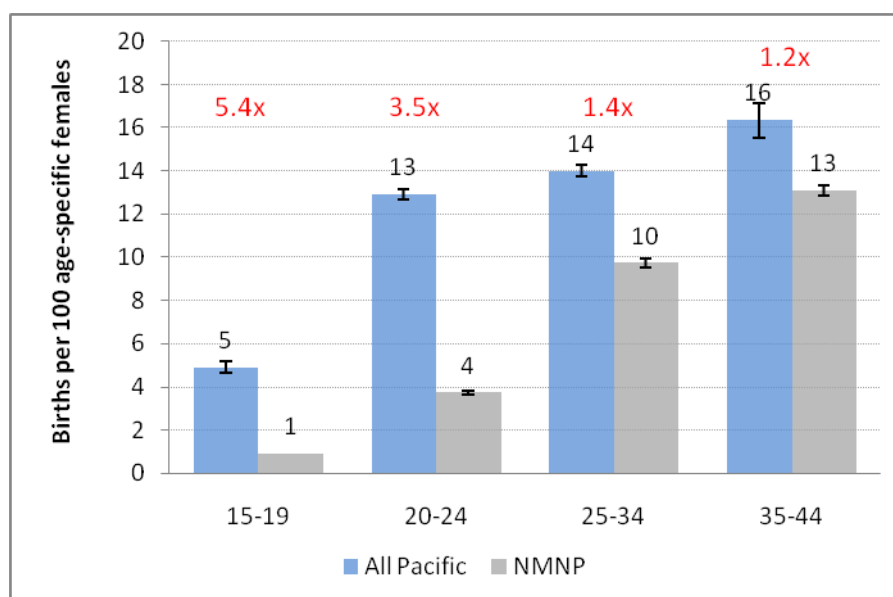
Receiving care at later stages of pregnancy mean that health issues, such as gestational diabetes, can go untreated and potentially impact the development of the baby in the uterus. Gestational diabetes is increasingly becoming a concern among Pacific mothers (Bristow et al., 2009), and it is equally important to ensure Pacific mothers with existing Type 2 diabetes and other obesity-related health concerns also receive timely maternal care.

10.2 Live Births

In 2010, almost 14 percent (13.7%) of all babies born in New Zealand were born in Counties Manukau. CMDHB had the highest proportion of Pacific babies born in 2010, and also the highest proportion of babies born into the most deprived (NZDep decile 10) areas (Craig et al., 2011). Pacific mothers tended to have less interventions during labour – for example 17% of deliveries were by Caesarean section compared with 29% for NMNP. Four percent were forceps or Ventoux compared with 12% for NMNP (*Workbook Table 42.2*). Overall 1.2% of deliveries involving Pacific mothers were twins or higher, compared with 1.4% for NMNP. Tongans and Fijians had the highest multiple birth rate of the Pacific groups (*Workbook Table 42.3*).

For metro-Auckland Pacific people, the birth rate is higher than the NMNP rate across all age categories. This difference is greatest in the younger age categories. The birth rate for the metro-Auckland Pacific teens aged 15-19 years was 5.4 times higher than the NMNP rate during 2009-2011 (Figure 10.2).

Figure 10.2: Birth rates by mother's age in the metro-Auckland DHBs, 2009-11



10.3 Postnatal Period

In New Zealand, Pacific postnatal mortality rates were significantly higher than European (but lower than Māori) rates during 2004-2008.

CMDHB was the only metro-Auckland DHB where sudden unexpected deaths in infancy (SUDI) and the DHB's neonatal and postnatal mortality rates were significantly higher than the overall New Zealand rates

(Craig et al., 2011). However once adjusting for demography the differences were explainable – see Section 10.1 (Jackson C, 2011).

For newborns entering neonatal intensive care or other special care units, Pacific had a rate of 11% compared with NMNP 14% (*Workbook Table 42.3*). More worryingly Pacific infants had a significantly higher rate of being re-admitted to hospital in their first year of life – 27% compared with 13% for NMNP. Section 9.2 above explores the conditions behind this in more detail. Such high rates suggest that specific interventions around newborn Pacific infants will have a high chance of making a difference.

10.4 Breastfeeding

Pacific and Māori populations have smaller proportions of mothers exclusively and fully breastfeeding their babies compared to other ethnic groups in New Zealand (Ministry of Health, 2012).

Among the metro-Auckland DHBs, exclusive/full breastfeeding rates were below national averages at <3 weeks, 3 months and 6 months during 2004-2011 only in CMDHB (Craig et al., 2011).

There has been some improvement in Pacific breastfeeding rates in CMDHB. Pacific breastfeeding rates were similar to the CMDHB average rate for children aged 6 weeks, 3 months and 6 months in the quarter from July to December, 2011.

11. Health of Older Pacific People

- *Pacific families are more likely to care for their elders than place them in residential care. Appropriate care support systems need to be in place to help Pacific families with the caring role.*
- *Metro-Auckland older Pacific people (65+ years) were significantly less likely than NMNP people to use assessment, treatment and rehabilitation services (AT&R) in public hospitals during 2009-2011.*
- *Older Pacific people in metro-Auckland have a high prevalence of chronic conditions such as diabetes and chronic obstructive pulmonary disease.*
- *Strokes were more common among older Pacific people (65+ years) compared to NMNP people of the same age.*
- *In 2009-2011, metro-Auckland Pacific adults aged 65 years and over were nearly 2 times more likely to be hospitalised for an ASH condition compared to NMNP adults of the same age.*
- *Metro-Auckland Pacific people aged 65 years and over are the biggest users of emergency departments of all age groups per head of population.*

This section presents information about the health of older Pacific people (aged 65 years and over) in metro-Auckland.

Because family is central to Pacific culture, many older Pacific people live in households where care is provided (informally) by other family members. For these Pacific families, adequate support systems must be in place to help facilitate aged care. Care is increasingly being provided in aged care residential facilities leading to its own issues around how those facilities manage the cultural differences.

Issues such as poor housing, lack of financial resources, and lack of knowledge about available care supports, all impact upon the caring role of Pacific families. For some Pacific families, language is a barrier to obtaining information about the support services available to assist with caring for their elderly (National Advisory Committee on Health and Disability, 2010).

Coordination of care and negotiating assistance from the various support agencies is also difficult for some Pacific people. This is especially the case for Pacific families where the older person is also living with chronic conditions and requires care support from multiple parts of the health system (National Advisory Committee on Health and Disability, 2010).

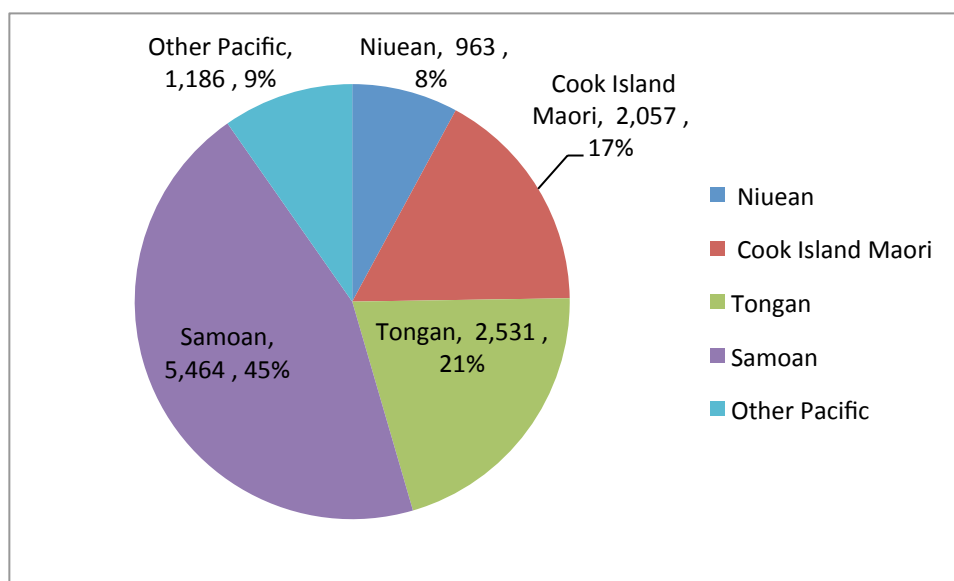
11.1 Older Pacific People in Metro-Auckland

Like the national Pacific population, the metro-Auckland Pacific population is young in age structure, with a smaller proportion of older people (aged over 65 years) compared to other ethnic groups in the region.

In the metro-Auckland Pacific population constructed for this report, Samoans made up the largest proportion of older Pacific people (aged 65 years and over) – almost half (45%) of the older Pacific population in the region. Tongans had the second largest older Pacific population (21% of the metro-

Auckland older Pacific population), followed by Cook Island Māori (17%), Niuean (8%) and Other Pacific (9%) people (Figure 11.1).

Figure 11.1: Metro-Auckland older Pacific population (65+ years), 2011



11.2 Family Carers

In the past 20 years in New Zealand, policy for aged care has shifted towards supporting ageing “in place”, and increasing emphasis on supporting ageing and self-care in the home (National Advisory Committee on Health and Disability, 2010).

Compared to other ethnic groups, Pacific people are more likely to care for their elderly in their home rather than place them in residential care. However, Pacific families are often unaware of the care support systems and resources available to assist with the caring role (National Advisory Committee on Health and Disability, 2010).

11.3 Housing

Having high quality and healthy housing is an already noted issue for Pacific families. Having cold and damp housing can increase the likelihood of serious respiratory infections requiring hospitalisation.

The older population has a higher incidence of disability. Living in the family home may require that the house is modified to support daily living and independence of the older family member. Organising and financing housing modifications for older Pacific people with disabilities can place pressures on Pacific families with already limited income.

11.4 Health Outcomes and Service Utilisation

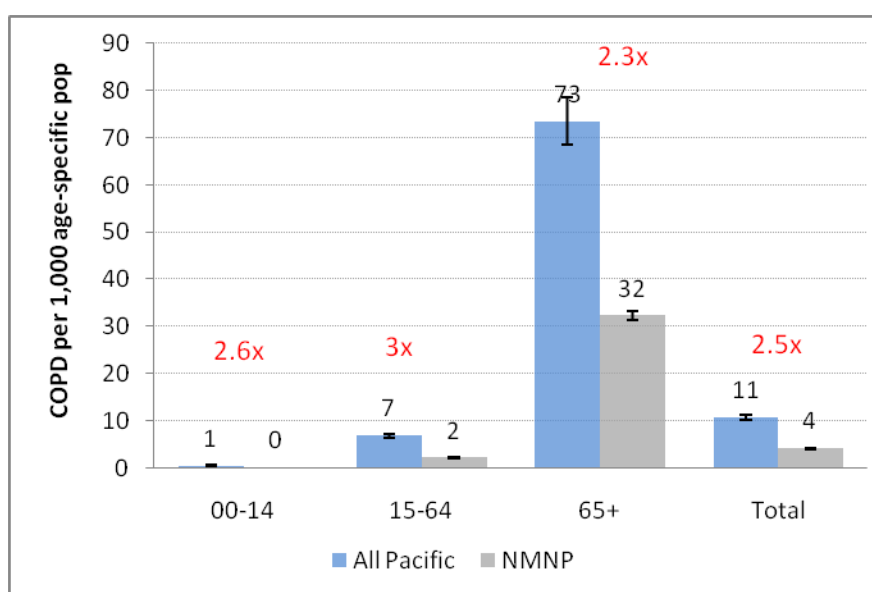
11.4.1 Older People Living with Chronic Conditions

Older Pacific people have a high prevalence of chronic conditions requiring complex care. In metro-Auckland, the estimated prevalence of diabetes was the highest among Pacific people aged 65 years and over in 2011 (411 per 1000 of the age-specific population). This is associated with a higher

prevalence of a number of risk factors for type 2 diabetes compared to other ethnic groups, particularly obesity.

The Older Pacific population in metro-Auckland has a high prevalence of chronic obstructive pulmonary disease (COPD) (73 per 1000 of the age-specific population). In 2011, the prevalence of COPD in Pacific adults aged 65 years and over was 2.3 times the prevalence of COPD among the non-Māori non-Pacific (NMNP) population (Figure 11.2, *Workbook sheet 19*).

Figure 11.2: COPD prevalence in metro-Auckland DHBs, 2011



Older Pacific people in metro-Auckland have a high prevalence of ischaemic heart disease, but this was similar to the non-Māori non-Pacific prevalence in 2011.

Older Pacific people have been noted to have views and belief around medications which can differ from NZ European people (Basset-Clarke et al, 2012). Pacific people had broad view as to what constituted a medicine, and were less likely to seek further information about the medicine, relying on the health practitioner for such answers. They were more likely to cite cost as a barrier to getting medications, and cite not understanding the purpose for the medication as a reason for not taking it – ie not knowing the mechanism of action led to a perceived lack of need for the medicine.

11.4.2 Strokes and Cancers

The prevalence of strokes and cancers is the highest among older metro-Auckland Pacific people aged 65 years and over. In 2011, older Pacific people of this age group were significantly more likely to have a stroke, but less likely to have a malignant cancer compared to NMNP of the same age group (*Workbook sheets 14, 15 & 43*).

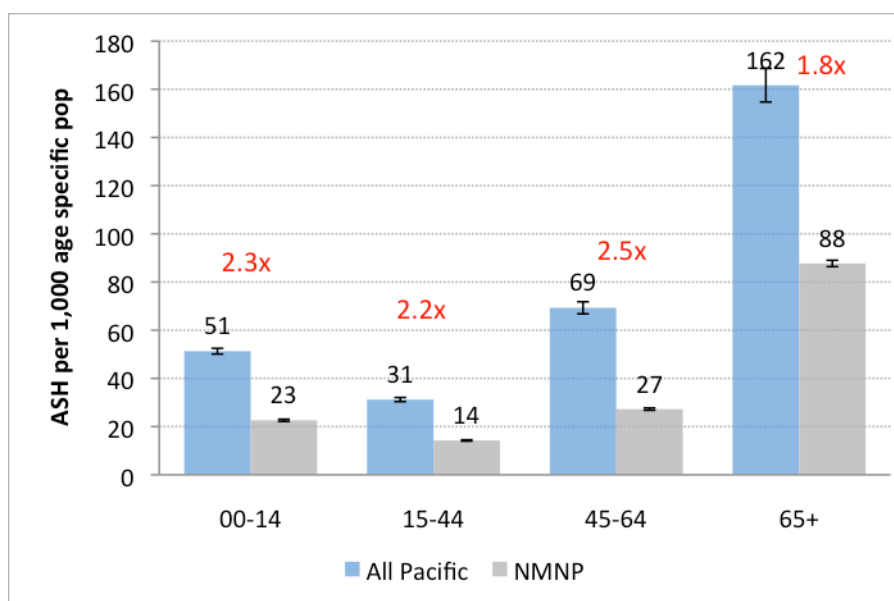
11.4.3 Ambulatory Sensitive Hospitalisations

As with other age groups in the Pacific population, older Pacific people experience high rates of ambulatory sensitive hospitalisations (ASH). In 2009-2011, metro-Auckland Pacific adults aged 65 years and over were nearly 2 times more likely to be hospitalised for an ASH condition compared to NMNP adults of the same age (Figure 11.3, *Workbook sheet 10*).

11.4.4 Influenza

The complications of influenza ('flu') in the elderly or those with chronic conditions can be serious or life threatening. Influenza vaccine is provided without cost to those people; PHOs have a target of reaching 75% of the eligible population, however only 64% of the Pacific 65+ metro-Auckland population were covered in 2011. Pacific people are at higher risk of the consequences of influenza infection, and of contracting the infection in the first place - the Immunisation Handbook notes that Pacific people had the highest seroprevalence (50 percent) of H1N1 in the recent epidemic (Ministry of Health, 2011a). Positive vaccination strategies are needed to improve the uptake of the influenza vaccine (Pritchard et al, 2011).

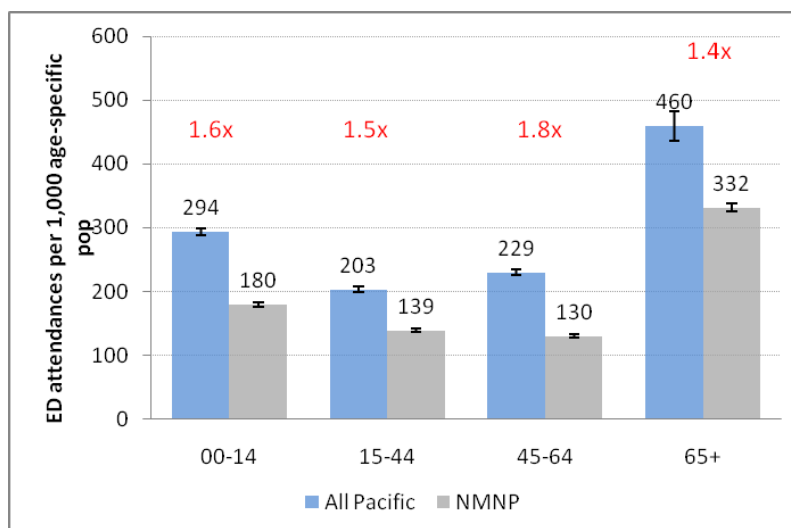
Figure 11.3: Metro-Auckland Pacific ASH by age group, 2011



11.4.5 Emergency Department Use

Metro-Auckland Pacific people aged 65 years and over are the biggest users of emergency departments of all age groups per head of population. They have a 40% higher rate of use than NMNP (Figure 11.4, *Workbook sheet 7*).

Figure 11.4: All emergency department attendances by age in metro-Auckland, 2009-11

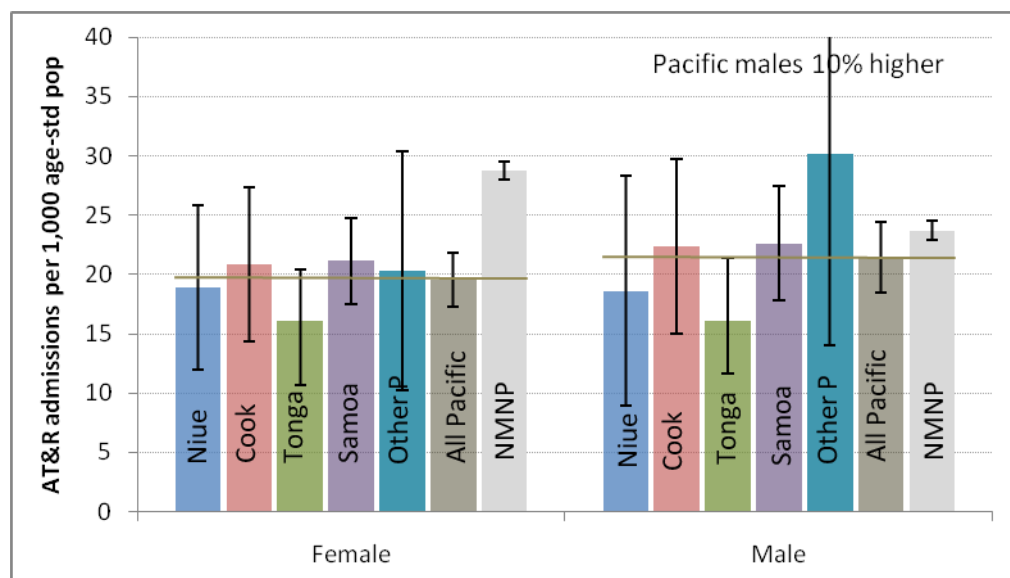


11.4.6 Assessment, treatment and rehabilitation (AT&R) service use: inpatient care by geriatricians in public hospitals

Metro-Auckland older Pacific people (65+ years) were significantly less likely than NMNP people to use assessment, treatment and rehabilitation services (AT&R) in public hospitals during 2009-2011 (Figure 11.5).

For both ADHB and CMDHB, older Pacific people had a lower AT&R admission rate compared to NMNP; whereas for WDHB the Pacific and NMNP AT&R admission rates were the same. (see *Workbook sheet 46*).

Figure 11.5: Pacific (age 65+) AT&R admissions in metro-Auckland, 2009-11



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