

Health Needs Assessment for Asian People in Waitemata



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Foreword

This report represents a 'first' for Waitemata District Health Board, as it draws together all the available data on the health needs of our Asian population for the first time. Together with companion reports on Maori and Pacific health needs, it forms the basis of our Overall Health Needs Assessment or HNA. In turn, the HNA sets the background for strategic planning of health care in Waitemata over the next few years. It is a considerable achievement for a new and young team and I hope the fruits of their labour will be widely used by local health professionals and the public.

It was a challenge for the new team to achieve this detailed analysis, particularly when undertaking the more detailed analysis at level 2 ethnicity. However, everyone rose to the challenge and the resulting paper- with its companion reports- is a testament to their efforts.

For the first time, we have a comprehensive picture of the special health needs of the Asian population in Waitemata. This will enable health professionals in a range of disciplines to plan and target their services more effectively. It also reflects the views we gathered from Asian people at two rounds of consultation events.

The planning process for the next ten years will get underway early in 2009, and it will use the HNA reports as its basis. We will reflect back our findings to the community and look towards the outcomes and solutions we want to see, to provide the best possible health for the people of Waitemata.

The authors will be pleased to receive any comments or suggestions on the report, so that they can fine-tune it and ensure it reflects Asian health needs as well as possible.

Finally, special thanks are due to Lifeng Zhou, the lead author and to all the other staff of Waitemata DHB who contributed to the report. In particular, I would like to thank Sue Lim and her support staff for assisting us so well in the consultation process for this report.

Duncan Innes
December 2008

Executive summary

Introduction

Asian is the fastest growing ethnic group in New Zealand and comprises the second largest ethnic group (approximately 14%) in Waitemata. However, the Asian ethnic group is also very diverse in language, culture, traditions and health needs. The purpose of this report is to identify the health needs of Asian people living in Waitemata, including the differences and inequalities in health status and health services utilisation between Asian and European/Other ethnic groups and within the Asian ethnic group.

Methods

Consideration was given to the identification of key issues for the Asian population in areas including demography, social-economic determinants of health, risk and protective factors of health, health status, health service utilisation and child and maternal health. Whenever possible, three Asian subgroups i.e. Chinese, Indian and Other Asian were compared. In some cases, such as when data at Asian sub-group level was not available or the numbers were too small to produce reliable results, the Asian ethnic group as a whole was also compared with the European/Other ethnic group.

This report was written using routinely collected data and results from published national surveys and statistical reports. Most information is of a quantitative nature. Data were usually aggregated for 3 years or 4 years (to increase the reliability of results). Both total response and prioritised ethnicity were used (and labelled accordingly). Where appropriate, rates in this report were standardised for age to enable valid comparisons between different populations. 95% confidence intervals have been provided for a good proportion of analyses, though it should be noted that many of these analyses were for population, as opposed to sample survey data.

Two rounds of consultation were undertaken: Round 1 (prior to drafting the Asian HNA) and Round 2 (after data collation). The purpose of Round 1 consultation was to engage with community leaders and to determine the content/framework/scope of the Asian HNA, while Round 2 was a public consultation mainly to prioritise the most important health needs for Asian communities in Waitemata.

Summary of key findings

In Waitemata, Chinese were the largest Asian ethnic subgroup, comprising 40% of Asian population. Indian was the second largest group (about 22%) and Korean was the third largest group (approximately 18%).

About 35% of the population in Waitemata were under the age of 25 while around 11% were 65 years and older. There were some differences in the population age structure of the Asian ethnic subgroups (Chinese, Indian, Korean, Other Asian). The most common age groups were 20-24 years (among Chinese people) and 10-19 and 35-49 years (among Korean people). There was a greater proportion of females than males among the Korean

and Other Asian populations. The age structure for Indian people was similar to the pattern of the general population in Waitemata.

Among Asian ethnic groups, Indian people had the largest proportion (20%) born in NZ, followed by Other Asian (excluding Korean, 18%) and Chinese (17%) people, while Korean people had the lowest proportion (7%). By territorial authority (TA), North Shore had the largest proportion of Asian people (55.4%) followed by Waitakere (40.9%).

Compared with European/Other in Waitemata, Asian people were well educated but with a higher unemployment rate, lower income, lower prevalence of regular physical activity and lower prevalence of 3+ servings of vegetables per day. Asian people had higher life expectancy (which may partly reflect the healthy migrant effect), but with lower use of primary care services and significantly lower cervical screening coverage. Asian people had lower rates of potentially avoidable hospitalisation and surgical procedures.

However, Asian as a whole in Waitemata did better in these important indicators compared with the NZ average of Asian: life expectancy, adult potentially avoidable mortality (PAM), all cardiovascular disease (combined) mortality rate, suicide rate, breast screening rate, overall infant mortality, overall child mortality and full immunisation coverage rate (at 2 years).

Within Asian subgroups, Chinese and Korean ethnic subgroups had a higher proportion of people not speaking English (which is associated with their lower health care service use including cancer screening) than Other Asian or Indian people, while Chinese people experienced higher life expectancy and lower avoidable mortality than Other Asian and Indian people. Indian people had a higher prevalence of self-reported high cholesterol, high blood pressure, heart disease, diabetes and asthma than Other Asian and Chinese people. Indian people also had higher use of secondary care services, particularly those related to cardiovascular disease and diabetes than Other Asian and Chinese people. Indian newborns were also more likely to experience low birth weight than Other Asian and Chinese people.

Participation at the 2 rounds of community consultation was high (74 community leaders in Round 1 and 75 people in Round 2). All participants strongly supported the preparation of an Asian HNA for Waitemata. Priority areas for action included: Asian workforce development (Asian doctors/nurses), improved availability of and access to preventative services (HEHA [Healthy Eating Healthy Action], smoke-free, regular health checks especially in the old, screening programmes, improving PHO [Primary Health Organisation] enrolment), mental health (risk factor control, health education and promotion, early intervention and service access) and control of CVD/diabetes in South Asian people.

Strengths

This is the first Asian health needs assessment report for Waitemata and the second nationwide. Whenever possible, important health indicators such as prevalence, mortality and hospitalisation rates were analysed/collated/reported at level 2 ethnicity for the Asian population (Chinese, Indian and Other Asian).

Another important feature of the report is that two rounds of consultation were undertaken, which has made the report unique so far nationwide.

Limitations

This report was undertaken within a short time frame, which made data collection and analysis difficult for some indicators. Analysis of the Korean subgroup (the third largest group of Asian people in Waitemata) was limited because of the way in which this ethnic group is coded (level 3). Data at level 2 ethnicity at a DHB level are difficult to obtain, for both the numerator and denominator. Therefore, for some indicators, only level 1 ethnicity data was able to be included. Data at level 2 was not yet available for the 2006/07 New Zealand Health Survey so 2002/03 data had to be used instead. Even when data at level 2 was available, it was not always possible to undertake rate calculations as frequently the numerators were too small to undertake meaningful analyses. Level 1 and 2 denominators (for calculating health outcome and hospitalisation rates) came from different sources and therefore might not be directly comparable.

Most indicators did not take into consideration duration of residence in New Zealand despite the likely effects of migration, acculturation and settlement on health status and health service utilisation.

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I would like to sincerely thank

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- § All members of our Waitemata communities in particular the Asian communities and volunteers for their time and contribution in knowledge and thoughts/perspectives/suggestions to us during the two rounds of community consultations.

Abbreviations

ACC	Accident Compensation Corporation
AHSS	Asian Health Support Service
AMHS	Accommodation for Mental Health Society
ARPHS	Auckland Regional Public Health Service
ASC	Asian Smokefree Communities Service
ASH	Action on Smoking and Health
ASR	Age-Standardised Rate
AUT	Auckland University of Technology
BMI	Body Mass Index
CABG	Coronary Artery Bypass Graft
CADS	Community Alcohol and Drug Services
CALD	Culturally and Linguistically Diverse
CI	Confidence Interval
CNSST	Chinese New Settlers Services Trust
COPD	Chronic Obstructive Pulmonary Disease
CORD	Chronic Obstructive Respiratory Diseases
CSW	Community Support Work Service
CVD	Cardiovascular Disease
DAP	District Annual Plan
DHB	District Health Board
DSP	District Strategic Plan
ED	Emergency Department
ENT	Ear, Nose and Throat
FTE	Full Time Equivalent
GP	General Practitioner
HDIU	Health and Disability Intelligence Unit (Ministry of Health)
HEHA	Healthy Eating Health Action
HNA	Health Needs Assessment
ICD	International Classification of Disease
IHD	Ischaemic Heart Disease
LBW	Low Birth Weight
MHINC	Mental Health Information National Collection
MoH	Ministry of Health
NA	Not Available
NCEA	National Certificate of Educational Achievement
NDSA	Northern District Health Board Support Agency
NFD	Not Further Defined
NGO	Non Governmental Organisation
NIR	National Immunisation Register
NMDS	National Minimum Dataset
NNPAC	National Non-admitted Patient Collection
NZ	New Zealand
NZDS	New Zealand Disability Strategy
NZHS	New Zealand Health Survey
PAH	Potentially Avoidable Hospitalisation
PAM	Potentially Avoidable Mortality
PHI	Public Health Intelligence (now Health & Disability Intelligence Unit)

PHO	Primary Health Organisation
RR	Rate Ratio
SMR	Standardised Mortality Rates
SNZ	Statistics New Zealand
SRR	Standardised Rate Ratio
TA	Territorial (Local) Authority
TANI	The Asian Network Incorporated
TFR	Total Fertility Rate
UR	Usually Resident Population
WATIS	Waitemata Translation & Interpreting Service
WDHB	Waitemata District Health Board
WHO	World Health Organization

1 Introduction

1.1 Health needs assessment

Definition of health needs assessment

A health needs assessment (HNA) is an analysis of a population's demand and need for health services (Ministry of Health, 2000a). A health needs assessment can help to create a picture of the health status of a District Health Board's (DHB) population at a given time. It provides the foundation for the District Strategic Plans (DSP) that DHBs are required to write, or update, every three years.

Responsibility of DHBs in relation to HNAs

The New Zealand Public Health and Disability Act 2000 identifies that one of the functions of DHBs is:

To regularly investigate, assess, and monitor the health status of its resident population, any factors that the DHB believes may adversely affect the health status of the population, and the needs of that population for services (Clause 23(1)(g)).

Health needs assessments are a way for DHBs to carry out this function, and provide them with evidence to ensure that funding decisions maximise health gains for their population.

HNA and DHB's planning cycle

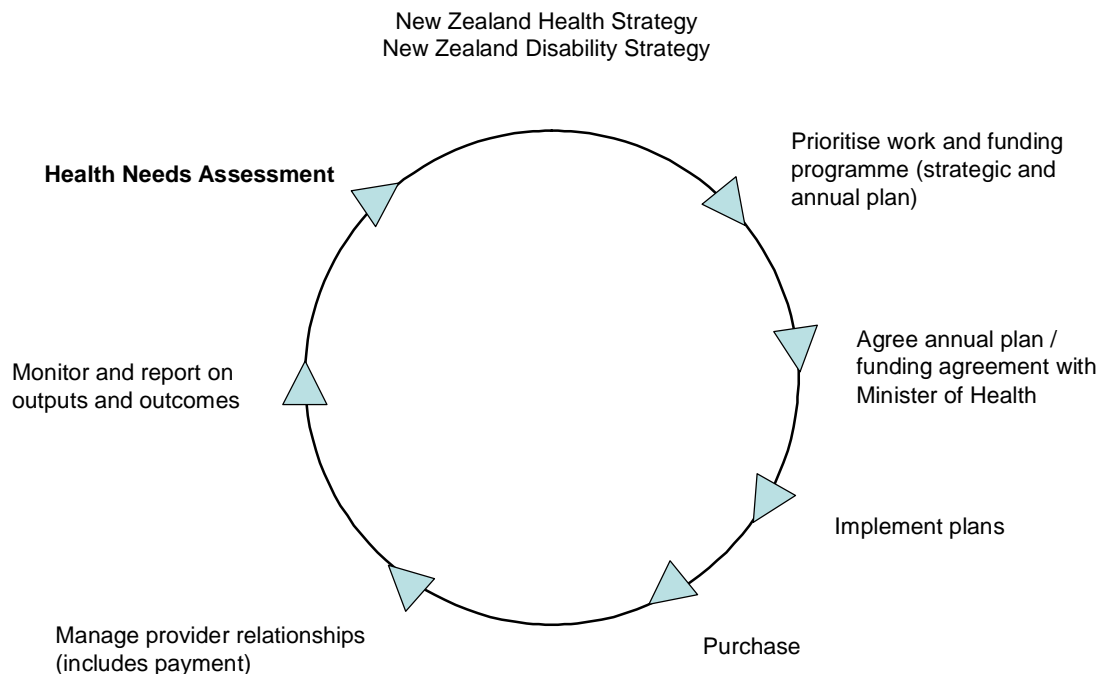
At a national level, priority areas for health and disability services, such as those described in the Minister of Health's Letter of Expectations to DHBs, reflect the directions established by the two overarching strategies of the New Zealand health and disability sector: the New Zealand Health Strategy and the New Zealand Disability Strategy (NZDS). These strategies are supported by other more targeted strategies that provide guidance and advice in specific areas.

At a DHB level, priorities for the population of the DHB area are determined by the DHB, within the context of the national priorities. Health needs assessments provide DHBs with evidence to make decisions about the priorities for health and disability services for people living in their district.

DHBs compile DSPs using the evidence supplied in the health needs assessment. The District Annual Plans (DAP) are based on the DSP and outline how the DHB plans to provide health and disability services for people in their district over the relevant year.

The following diagram summarises how health needs assessments fit into the DHB planning cycle.

Figure 1 The DHB planning cycle (from Ministry of Health 2000)



Health needs assessment is an iterative process and this document is recognised as a starting point. Regular updates of health needs assessment will take place each year when the data sources are updated, which will benefit the DHB planning cycle and improve the process of health needs assessments constantly.

In Waitemata DHB, a total of four HNAs have been produced in 2009, including an overall HNA, Maori HNA, Pacific specific HNA, and Asian HNA.

1.2 'Asian' population in Waitemata/New Zealand

Definition of 'Asian'

Consistent with other reports of Asian health needs in New Zealand (Gala, 2008), this report uses the Statistics New Zealand (SNZ) definition of 'Asian'. According to this definition, 'Asian' includes people with origins in the Asian continent from Afghanistan in the west to Japan in the east, and from China in the north to Indonesia in the south. This definition excludes people originating from the Middle East (including Iran and Iraq), Central Asia (except Afghanistan) and Asian Russia. Further, this definition is unique to New Zealand and does not necessarily correspond to colloquial usage of the term 'Asian' (Rasanathan, Craig, & Perkins, 2006).

Meaningfulness of 'Asian'

Groups that comprise the Asian ethnic group have a number of commonalities including a large proportion of migrants, relatively high education levels, and similar values such as a strong emphasis on family, education and community ties (Inoguchi T, 1997). However, the diversity of country of origin means that there is significant heterogeneity among those that are classified as 'Asian'. These differences include mother tongue, English language

competence (which is closely associated with country of birth, duration of residence in New Zealand and immigration history), traditional culture, socio-economic status, health status and health service use (Rasanathan, Ameratunga, & Tse, 2006).

'Asian' as a category of ethnicity has been widely used in the public health area, such as National Minimum Data Set (NMDS, for hospital morbidity data), the Mortality Data Collection, National Non-Admitted Patient Collection (NNPAC, for outpatient data), Cancer Registration, Mental Health Information National Collection (MHINC), the censuses, the 2002/03 and 2006/07 New Zealand Health Surveys.

Chinese and Indian are the two largest groups among Asian New Zealanders and have had a long immigration and settlement history. In the Asian group, there will be a third group 'Other Asian' to be analysed in this report, so that the health needs of this group can also be addressed.

It's known that Chinese and Indian also contain many various 'ethnicities', e.g. Chinese can include Mainland Chinese, Hong Kong Chinese, Taiwan Chinese, Malaysian Chinese and Singaporean Chinese, and Indian can include Indian NFD, Bengali, Fijian Indian, Gujarati, Tamil, Punjabi and Sikh. However, there are many similarities among the people they describe and research in New Zealand and overseas show that they have similar risk factors affecting their health, e.g. a relatively high proportion of Chinese who could not talk in English and lower access to health care services and Indian had a higher prevalence of high cholesterol and high blood pressure and CVD/Diabetes.

'Other Asian' in this report includes Korean, Japanese, Southeast Asian NFD, Filipino, Cambodian, Vietnamese, Burmese, Indonesian, Lao, Malayan and Thai etc. Although it is also thought that these ethnicities might have different health needs and risk factors affecting health, it is usually hard to undertake any further analysis at this level, as health data are usually not available or lack of quality. Moreover, the small populations at this level usually make the analysis unreliable.

Effects of migration, health selection and acculturation

The majority (approximately 80%) of Asians in New Zealand are migrants. Migrants are typically healthier than native-born citizens (the "healthy migrant" effect) because of (self) selection into migration (Tse, 2006). However, this "healthy migrant" effect can dissipate because of healthy system access barriers (e.g. language), as well as the process of acculturation (e.g. adoption of unhealthy host country behaviours) (Tse, 2006). It should be noted that while acculturation can have negative effects on health, positive effects can also occur through this process (Tse, 2006).

1.3 Why does Waitemata DHB need to address Asian health needs?

Addressing Asian health needs is necessary to meet legislative and Ministry of Health requirements as well as strategic priorities (national and local).

Legislative requirements

Health practitioners and service providers are required to provide culturally responsive and competent services to consumers from culturally and linguistically diverse backgrounds, including Asian groups to meet their requirements under the following Acts.

- New Zealand Public Health and Disability Act (2000)
 - DHB objectives include:
 - § To reduce health disparities by improving health outcomes for Maori and other population groups
 - § To reduce, with a view to eliminating, health outcome disparities between various population groups within New Zealand by developing and implementing, in consultation with the groups concerned, services and programmes designed to raise their health outcomes to those of other New Zealanders
- Health Practitioners Competence Assurance Act (2003)
 - Cultural competence standards are set by the authorities health practitioners are required to be registered with to practice.
- Health and Disability Commissioner Act (1994)
 - The associated Code of Health and Disability Services Consumers' Rights (1996) includes the following provisions:
 - § Right to be provided with services that take into account the needs, values, and beliefs of different cultural, religious, social and ethnic groups
 - § Right to be free from discrimination
 - § Right to effective communication in a form, language and manner that enables the consumer to understand the information provided. Where necessary and reasonably practicable, this includes the right to a competent interpreter.

Ministry of Health requirements

The Ministry of Health's 'Operational Policy Framework' (2008-2009) requires DHBs to undertake the following in relation to 'ethnic' peoples (people whose ethnic heritage distinguishes them from the majority of other people in New Zealand):

- Establish a policy framework for the consultation of Ethnic peoples in the service planning process
- Initiate/continue to build Ethnic peoples' capacity for providing for Ethnic peoples' needs
- Reduce health disparities by improving health outcomes for Ethnic peoples
- Establish and maintain processes to enable Ethnic peoples' to participate in, and contribute to, strategies for Ethnic peoples' health improvement. These processes include the development of effective relationships with Ethnic communities, and consultation with Ethnic peoples, as well as service delivery and monitoring
- Foster the development of Ethnic capacity for participating in the health and disability sector, and providing for the needs of Ethnic peoples (including contributing to ethnic specific provider workforce development)
- Ensure effective participation by Ethnic communities (where there are Ethnic communities of significant size in the DHB) in PHOs

- Ensure that PHOs demonstrate how they are involving their Ethnic communities in their governance, population health need assessments and service design, development and planning
- Ensure that Ethnic communities know how to participate in PHOs
- Deliver services in a culturally appropriate and competent manner, ensuring that the integrity of each consumer's culture is acknowledged and respected
- Include significant local groups or service-specific ethnic and other cultural groups in assessing satisfaction with services
- Implementing strategies to address the high prevalence of diabetes amongst Ethnic groups
- Implement data quality initiatives to improve the collection of ethnicity data, particularly to assist in improving planning and service delivery for Ethnic populations

Strategic priorities

Reducing inequalities in health status and the provision of accessible and appropriate health care services are goals of the New Zealand Health Strategy (2000).

Reducing inequalities is identified as a strategic priority in WDHB's District Strategic Plan 2005-2010 (2005). Asian people are one of the groups identified as experiencing a disproportionate burden of health inequalities.

2 Aims and objectives

The aim of this report was to ascertain the health needs of Asian people living in Waitemata to inform Waitemata DHB's District Strategic Plan.

The objectives were as follows:

- To describe the demography and determinants of health for Asian people in Waitemata DHB;
- To identify any significant differences/inequalities in health status and health service utilisation between Asian ethnic groups (Chinese, Indian, Other Asian) where possible;
- To identify any significant differences/inequalities in health status and health service utilisation between Asian and European/Other;
- Ultimately to contribute to an improvement in Asian health and reduce the inequalities between Asian ethnic groups and between Asian and European/Other people

3 Methodology

3.1 Selection of indicators

Consideration was given to the identification of key issues for the Asian population in the following areas: demography, socio-economic determinants of health, risk and protective factors of health, health status, health service utilisation and child and maternal health. Mortality, hospitalisations and cancer registrations were coded using the International

Classification of Diseases, tenth revision (ICD-10-AM). Potentially Avoidable Mortality (PAM) and Potentially Avoidable Hospitalisations (PAH) were generally coded according to the methods employed by the Health & Disability Intelligence Unit (HDIU). Where possible the indicators used in this report were aligned with those used in Waitemata DHB's overall HNA.

Migration status and residence are important factors affecting health status and health service utilisation. Unfortunately, we're not always able to adjust for or stratify the data by these two factors. However, 'duration of residence' will be considered when reporting the risk and protective factors of health in the report.

3.2 Ethnicity

Ethnicity is complex and multidimensional concept. Ethnicity has been defined as 'the ethnic group or groups that people identify with or feel they belong to' (Ministry of Health, 2004a). The key features of this definition are that: (1) ethnicity is a measure of cultural affiliation, as opposed to race, ancestry, nationality or citizenship; (2) ethnicity is self-identified and (3) people can belong to more than one ethnic group (Gala, 2008). It should be noted that people can and do change their ethnic affiliation, both over time and in different contexts (Ministry of Health, 2004a).

The Statistics New Zealand Ethnicity Classification is a four level hierarchical structure. Individual ethnic group information is aggregated into progressively broader ethnic categories from level 4 (the most detailed) to level 3, level 2 and then to level 1 (the broadest), according to geographic location, origin or cultural similarities.

The level 1 codes are: European, Maori, Pacific, Asian, Other. As with WDHB's overall HNA, at level 1 Asian was compared with European/Other, Maori and Pacific. Level 2 codes that map to Asian at level 1 are: Chinese, Indian, Southeast Asian, Other Asian, Asian Not Further Defined. For the purpose of this report, at level 2 Southeast Asian, Other Asian and Asian Not Further Defined were combined into 'Other Asian' because of the smaller size of these groups compared with the Chinese and Indian population in Waitemata, i.e. where possible, three Asian subgroups: Chinese, Indian and Other Asian were compared.

Korean population is the third largest group of Asian in Waitemata DHB, however, Korean as an ethnicity group couldn't be analysed in most of the analyses as it is a level 3 ethnicity. For example, the mortality and hospitalisation rate can only be analysed at level 2 ethnicity so Korean had to be combined into 'Other Asian'.

In this report, 'Asian' means 'Asian' as a whole, 'Other' in tables and figures means 'European/Other' (which is the case in comments of this report).

3.3 Data sources

Data presented in this report were collated from various sources, as listed in the table below, and the most recently available data have been presented. Re-analyses of existing datasets formed the majority of this report.

Table 1 Data sources

Data source	Data
Statistics New Zealand, 2006 Census of Population and Dwellings. Wellington.	Demography Socioeconomic determinants of health Disability
Sector Services, Information Directorate, Ministry of Health (formerly New Zealand Health Information Service)	Mortality (2002-2005) Hospitalisations (public hospitals, 2005-2007) Cancer registrations Type of birth Low birth weight Pregnancy complications
The Department of Internal Affairs: Birth, Deaths and Marriages	Number of births (for birth rate calculations)
Royal New Zealand Plunket Society	Breastfeeding
The School Dental Service Oral Health Database	Caries-free teeth, and decayed, missing or filled teeth
Ministry of Health. 2008. <i>A Portrait of Health. Key Results of the 2006/07 New Zealand Health Survey</i> . Wellington: Ministry of Health.	Risk and protective factors Prevalence of diseases/conditions Self-reported health status Primary health care utilisation Use of public hospital and emergency department
Ministry of Health. 2006. <i>Asian Health Chart Book 2006</i> . Wellington: Ministry of Health.	Risk and protective factors Prevalence of diseases/conditions
Gala G. March 2008. <i>Health Needs Assessment for Asian People in Counties Manukau</i> . Counties Manukau District Health Board.	Total Fertility rate Teenage deliveries Delivery complications
White, P, Gunston J, Salmond C, et al. 2008. <i>Atlas of Socioeconomic Deprivation in New Zealand NZDep2006</i> . Wellington: Ministry of Health.	Index of deprivation
National Screening Unit/Cancer Screening, Health & Disability National Services Directorate, Ministry of Health	Breast screening coverage
Epsom Day Unit Dataset	Public termination of pregnancies (2004-2006)
Ministry of Health. 2000. <i>Health needs assessment for New Zealand: An overview and guide</i> . Wellington: Ministry of Health.	General commentary

3.4 Statistical methods

Identifying the years of data collection

In this report '2006' denotes one full calendar year (i.e. 1 January 2006 to 31 December 2006) and a range of years denotes full calendar years of data and are inclusive (e.g. '2005-07' denotes 2005, 2006 and 2007).

The following full calendar years are used in this report: 2006 and 2007. The following range of years is used in this report: 2005–07 (hospitalisation data), 2004-06 (fertility rate), 2002-05 (mortality data) and 2003-05 (mortality data). Data from the New Zealand Health Survey 2006/07 were collected from October 2006 to November 2007. Data from the New Zealand Health Survey 2002/03 were collected from September 2002 to January 2004.

'Total response' vs. 'prioritised' ethnicity

Ethnicity data are presented in two ways; 'total response' and 'prioritised'. In 'total response', a respondent is counted in each of the ethnic groups they selected. This means that the sum of separate ethnic group populations will exceed the total population because people can select more than one ethnic group.

In the 'prioritised' method, each respondent is allocated to a single ethnic group using the priority system (Maori > Pacific people > Asian > Other). For example a person who selects (when asked their ethnicity) both Maori and European would only be counted as Maori using the prioritised method. The priority order at level 2 is listed in Appendix 1. The table headings show which method is used for a particular indicator.

Ethnicity data on hospitalisations, mortality rates and cancer registrations were usually presented as prioritised, while data on demography and New Zealand health surveys usually presented as total response.

Population concepts

Census population is a count of total population on the night of the census.

Population estimates are retrospective counts of the population, based on the last census data and adjusted for births, deaths and migration for the period since the last census. *Population estimates* are prepared once every three months.

Population projections provide the future expected population under various assumptions about trends in vital statistics (births, deaths and migration). The medium series (series 4, Stats NZ) is often used.

Resident population is a count of all people who usually reside in a given area at a given time, which is different from the concept of *de facto population* (count of all people present in a given area at a given time). *Resident population* was used in the analysis of this report.

Census *usually resident population* (UR) is a count of all people who usually live in New Zealand or in an area of New Zealand, and are present in New Zealand on a given census night. UR excludes visitors from overseas and residents who are temporarily overseas on the census night.

Most analyses in this report were based on either census usually resident population or modelled estimated population.

Denominators

The denominators used for calculating ethnicity-related rates are described below according to ethnicity level.

Level 1 ethnicity:

In general the denominators used for calculating the rates in this report were derived from Census population data matching the year of the numerator. For the perinatal indicators such as type of birth and pregnancy complications, the rates were calculated using numbers of births or numbers of live births as the denominators. The method used is clearly stated in the relevant sections of the report.

Level 2 ethnicity for Asian:

Both the numerator and denominator for demography and socio-economic determinants of health calculations were obtained from census 2006. Mortality, hospitalisation and cancer registration numerator data was obtained from non-census years. It was therefore necessary to estimate the population at level 2 ethnicity using a linear interpolated population estimation method to provide an appropriate denominator. There are limitations to this method as, in a small number of cases, these rates did not align exactly with the rates for Asian people as a whole.

Rates

Rates are expressed per 100 (percent), per 1000, per 10,000 or per 100,000.

Where appropriate, rates in this report are standardised for age to enable a valid comparison between populations where age structure differs. Rates are age-standardised using the World Health Organization's World Standard population age weights (Appendix 2). Age-specific rates are presented for indicators relating to a defined age group. However, several indicators are presented with crude rates (that is, no adjustment has been made). Please note that crude rates cannot be compared between population groups with different age distributions e.g. Asian compared with European/Other. The titles of the tables state which rates have been used.

Rate ratios

To quantify the difference between the rates for the DHB district population compared with the total New Zealand population, rate ratios (RRs) are provided, where possible. A rate ratio in this report is the ratio of the rate for the population of the DHB compared with the rate for New Zealand as a whole. Rate ratios are presented as age-standardised rate ratios.

A rate ratio greater than one means that the DHB's rate exceeds the New Zealand average, whereas a rate ratio of less than one means that the DHB's rate is below the national average.

Confidence intervals

In this report 95% confidence intervals are presented, where appropriate, for both rates and rate ratios. The confidence intervals give an indication of the margin of error associated with a point estimate. When the 95% confidence intervals of two rates do not overlap, the difference in rates between the groups is said to be statistically significant with 95% confidence (although ideally a formal statistical test should be undertaken). If the two confidence intervals do overlap, the difference could be due to chance, and may not be statistically significant.

With rate ratios, if the 95% confidence interval does not include 1, the two rates are said to be significantly different from each other. For example, a rate ratio of 1.5 with 95% confidence intervals of 1.2–1.8 means that the rate is 1.5 times higher in the particular DHB than the New Zealand average with 95% confidence.

Larger populations and more common conditions usually have narrower confidence intervals and so have a greater likelihood of achieving a statistically significant difference than results with smaller numbers.

It was not thought necessary to calculate the confidence intervals of either mortality rate or hospitalisation rate as these rates were from 'populations' rather than from a sample. However, to ensure consistency with the overall health needs assessment for Waitemata DHB, these have been provided for analyses at level 1 ethnicity only.

Another important point to note that some numerators for rate calculations were small even after data aggregation thus it is likely that the rates may not be stable or reliable. For this reason, the rate of Asian people as a whole should also be referred to, although there might be a risk of 'averaging' Asian sub-groups.

Use of synthetic estimates for small numbers

The New Zealand Health Survey 2006/07 used a statistical method known as 'synthetic estimates', to produce DHB district population estimates by ethnicity and sex. These estimates are given in this report to help DHBs with planning and should not be used to evaluate targeted health programmes. For indicators with very small numbers the synthetic estimates method was not applicable.

3.5 Limitations

Level 2 ethnicity data for Asian people at the DHB level was unavailable for many indicators. For example, results from the 2002/03 and 2006/07 New Zealand Health Survey were not routinely reported at level 2 ethnicity for Asian people. Fortunately, the *Asian Health Chart Book* and *Asian Health in Aotearoa: an analysis of the 2002/03 New Zealand Health Survey* have analysed the 2002/03 NZ Health Survey at level 2 ethnicity for Asian people at the national level, and these findings were thought to be relevant to Asian people in Waitemata.

It was not always possible to undertake rate calculations at level 2 ethnicity for Asian people as frequently the numerators were too small to make the calculations meaningful, even when aggregated over several years. In this case, the rates for Asian people combined had to be reported despite the risk of 'averaging'. When rate calculations were reported at level 2, it should be noted that these might be unstable or unreliable over time. For this reason, comparison of the rates between ethnicities at level 2 should be made cautiously.

Analysis of the Korean subgroup (the third largest group of Asian people in Waitemata) was limited because of the way in which this ethnic group is coded (level 3).

Most indicators did not take into consideration duration of residence in New Zealand, which overlooks the effects of migration, acculturation and settlement on health status and health service utilisation.

The number of indicators (e.g. service utilisation of disability and number/rate of Asian people in prison) that could be investigated was limited by the short time frame available for the preparation of this report.

4 Population demography

This section presents data from the 2006 Census on the following:

- Population characteristics, size and growth
- Population age structure
- Country of origin
- Population distribution

'Total response' and 'Prioritised' were both used in this section, depending on the situation.

4.1 Population characteristics, size and growth

The number of people in New Zealand identifying as Asian in 2006 was 354,534 (9% of the total population; see Table 2), an increase of approximately 49% from 2001. Waitemata's Asian population experienced the greatest growth of a level 1 ethnic group in a DHB area between 2001 and 2006 (62.8%), while over the same time period the growth of Waitemata's total population was the 3rd greatest.

The Asian ethnic group was the second largest ethnic group in Waitemata (14%) followed by Maori and then Pacific people irrespective of whether ethnicity is output as total response or prioritised (see Table 2, Table 3, and Figure 2).

Table 2 Population counts by ethnicity (total response) and sex, 2006

Ethnic Group	Waitemata DHB			New Zealand		
	Female	Male	Total	Female	Male	Total
Maori	21,945	20,931	42,876	290,469	274,860	565,329
Pacific	17,997	17,193	35,190	134,967	131,010	265,974
Asian	35,589	32,562	68,151	185,178	169,374	354,549
Other	192,360	182,919	375,282	1,636,992	1,558,332	3,195,324

Source: 2006 Census, HDIU

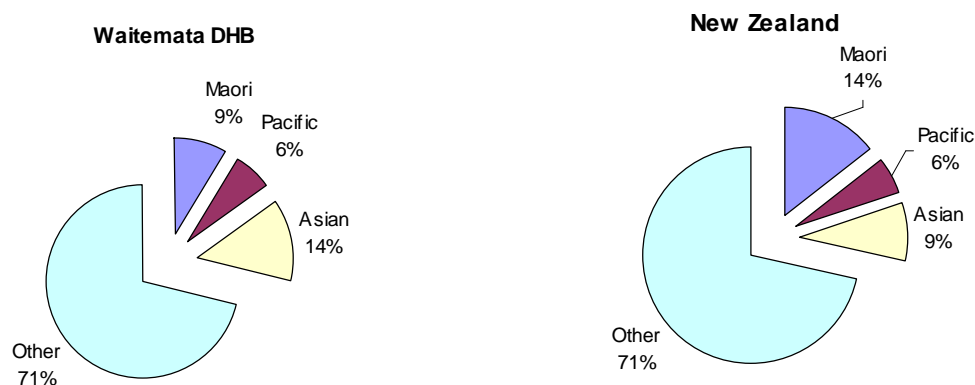
Table 3 Population counts by ethnicity (prioritised) and sex, 2006

Ethnic Group	Waitemata DHB			New Zealand		
	Female	Male	Total	Female	Male	Total
Maori	21,798	20,772	42,570	289,455	273,678	563,142
Pacific	15,606	14,793	30,402	115,035	111,180	226,206
Asian	34,602	31,650	66,252	178,107	162,645	340,767
Other	175,152	167,226	342,396	1,479,525	1,417,758	2,897,355

Note: Counts may not sum to total due to rounding

Source: 2006 Census, HDIU

Figure 2 Population proportion (%) by ethnicity (prioritised) in Waitemata and NZ, 2006



Source: 2006 Census

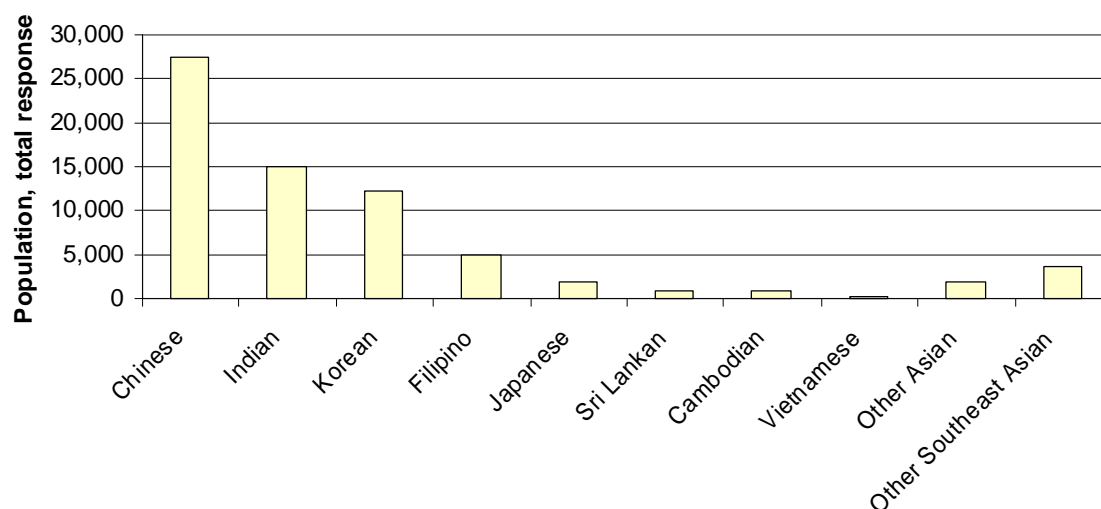
Within the Asian ethnic group in Waitemata, Chinese were the largest group (40%), followed by Indian (22%) and Korean (18%; see Table 4).

Table 4 Population counts by Asian ethnic group (total response) in Waitemata, 2006

Ethnic Group	Female	Male	Total
Chinese	14,199	13,128	27,327
Indian	7533	7482	15,018
Korean	6369	5841	12207
Filipino	2721	2220	4941
Japanese	1137	693	1830
Sri Lankan	420	450	870
Cambodian	399	411	813
Vietnamese	132	135	267
Other Asian	966	978	1941
Other Southeast Asian	2127	1590	3717
Total Asian Ethnic Group	35,589	32,559	68,148

Source: 2006 Census (Asian Health Support Services, 2007)

Figure 3 Population counts by Asian ethnic group (total response) in Waitemata, 2006



The population data in Table 5 uses a slightly different base than that used in previous sections because this is what is provided from Statistics New Zealand. It uses a 2006 base of 504,710 for Waitemata DHB (compared with 481,611).

The population in Waitemata DHB is projected to increase by a greater percentage than the national population between 2006 and 2026. Like the national population, the population is aging, with the highest percentage increase for 2006–26 occurring in the 65+ age group which is projected to increase by 107.0%. Unfortunately, there is no data specifically for Asian, as is combined with European and Other in this series of projection. However, it was thought the Asian population would continue to increase if migration policy remained stable and also at medium death and birth rates (series 4) (Gala, 2008; Ho, 2008).

Table 5 Population counts in 2006, and projected population counts to 2026, in Waitemata by age group and ethnicity (total response)

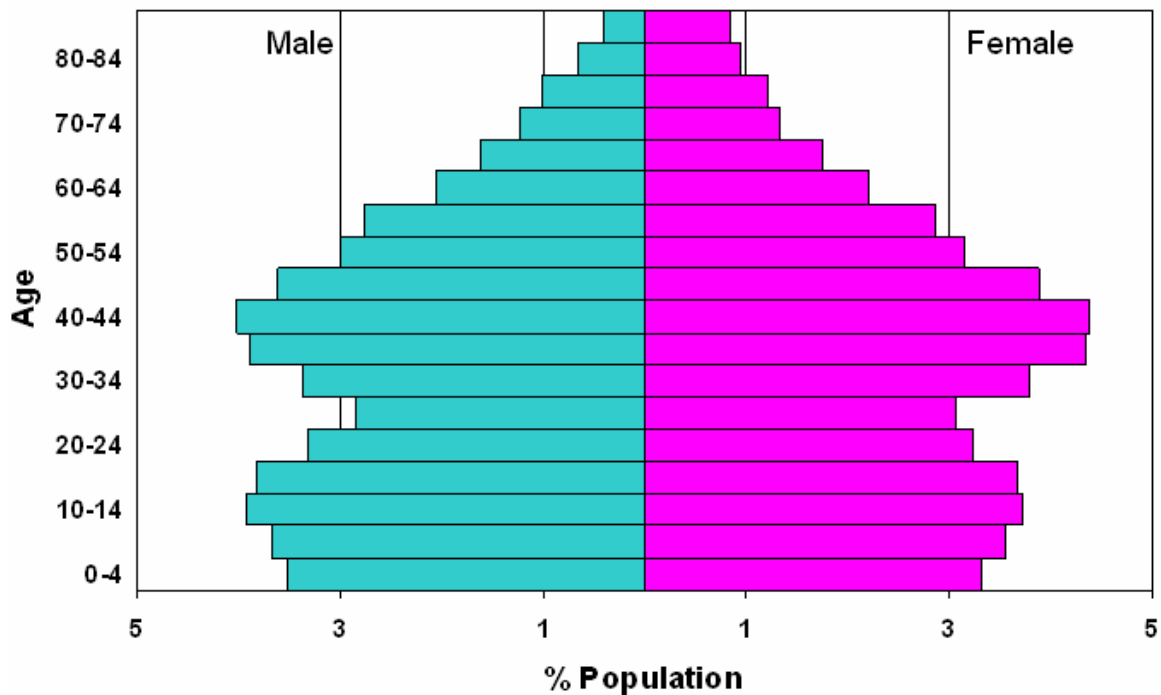
	Age	2006	2011	2016	2021	2026	% increase 2006–26
Age group	0–14	107,500	110,680	113,660	117,100	120,300	11.9
	15–64	342,110	368,490	389,160	408,950	424,580	24.1
	65+	55,100	65,430	80,180	95,150	114,060	107.0
	Total	504,710	544,600	583,000	621,200	658,940	30.6
Ethnicity	Maori	48,860	53,870	58,900	64,130	69,610	42.5
	Pacific	34,320	39,660	44,900	50,340	56,020	63.2
	Other (including Asian)	421,530	451,070	479,200	506,730	533,310	26.5

Source: Statistics NZ, HDIU

4.2 Population age structure

Approximately 35% of Waitemata's total population were under the age of 25 while approximately 11% were 65 years and older (see Figure 4).

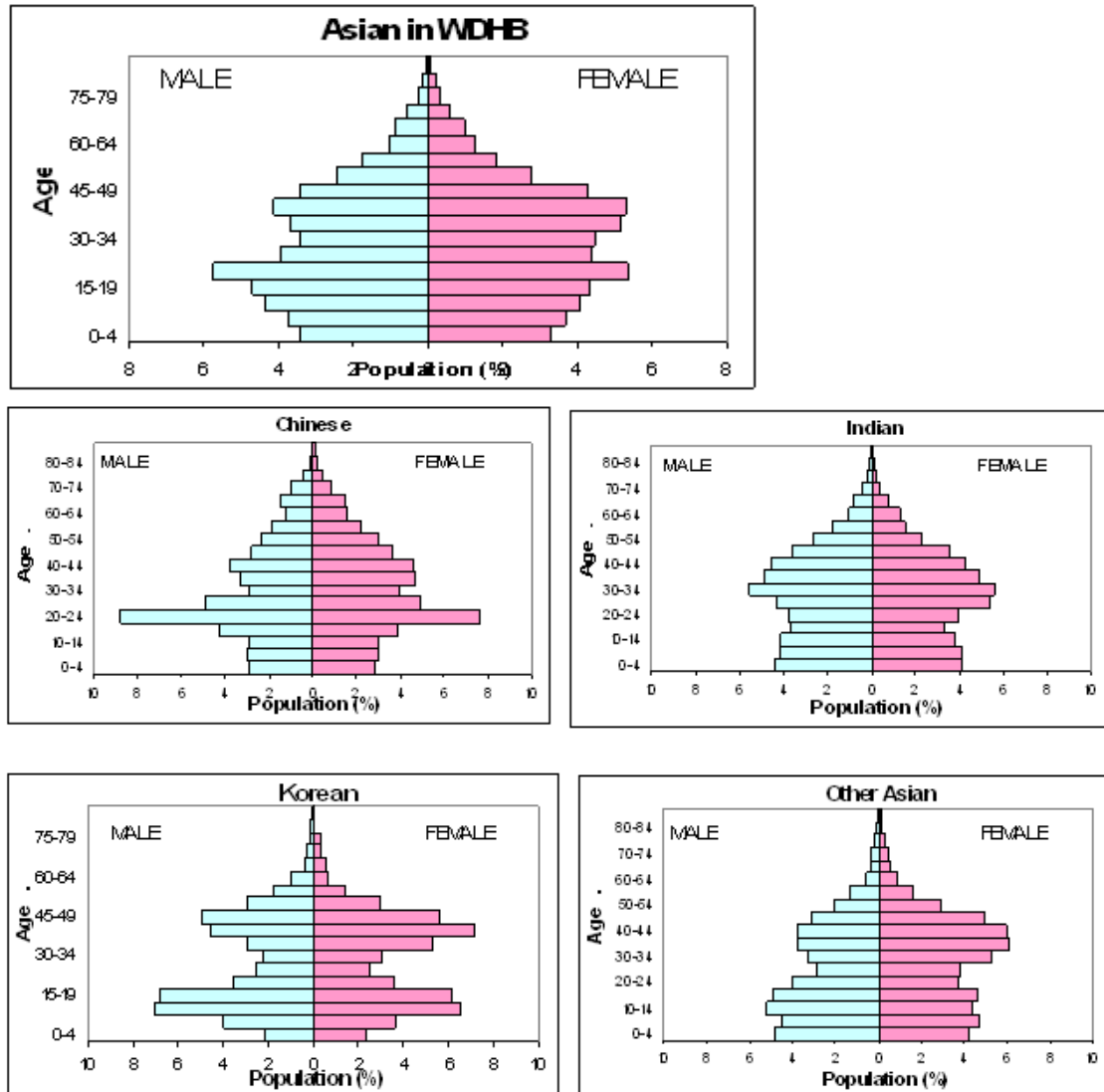
Figure 4 Population age structure in Waitemata, 2006



Source: 2006 Census (Ratana A Walker, 2007)

Figure 5 shows the Asian age structure group for different Asian ethnic groups in Waitemata. The Asian ethnic groups tended to have a greater proportion of people in the younger age groups and a greater proportion of women than the population as a whole. Chinese had the greatest proportion of 20-24 year olds. High proportions of teenagers and middle-aged adults were evident among the Korean population. The age structure for the Indian population was the most similar among the Asian ethnic groups to that of the total population in Waitemata.

Figure 5 Population age structure for the Asian ethnic groups (total response) in Waitemata, 2006



Source: 2006 Census (Asian Health Support Services, 2007)

4.3 Proportion born in New Zealand

The Asian ethnic group had the lowest proportion of people born in New Zealand among level 1 ethnic groups in Waitemata (see Table 6 and Figure 6). This was also true at the national level.

Table 6 Proportion (%) born in NZ in Waitemata, by ethnicity (total response) and sex, 2006

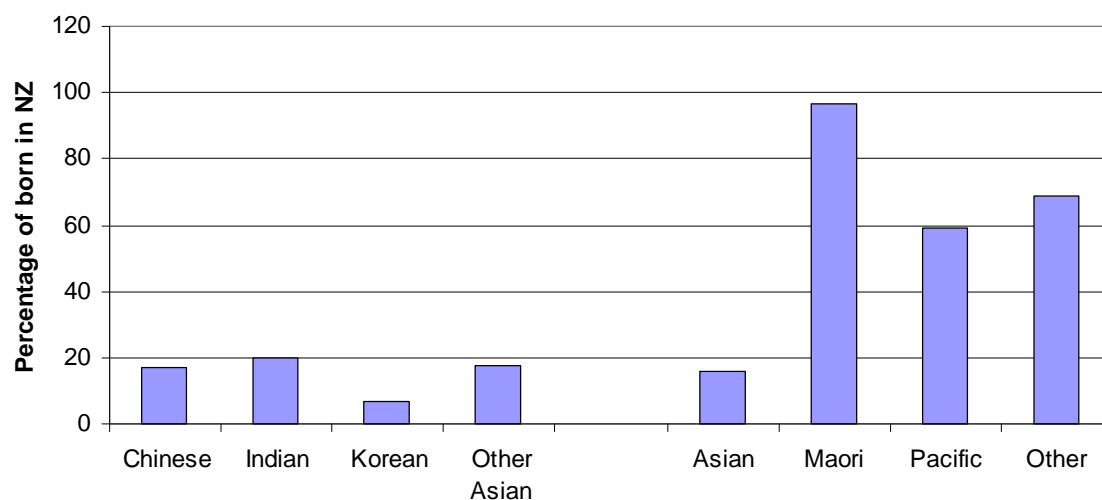
Ethnic Group	Female	Male	Total
Asian	15.1	16.7	15.9
Maori	96.8	96.6	96.7
Pacific	57.4	60.9	59.1
Other	69.0	68.2	68.6

Among Asian ethnic groups, Indian people had the largest proportion (20%) born in NZ, followed by Other Asian (excluding Korean) and Chinese, while Korean had the lowest proportion (7%; see Table 7 and Figure 6). Proportion of born in NZ may be associated with socio-economic determinants of health such as English language competence, employment status and income.

Table 7 Proportion (%) born in NZ for Asian ethnic groups (total response) in Waitemata, 2006

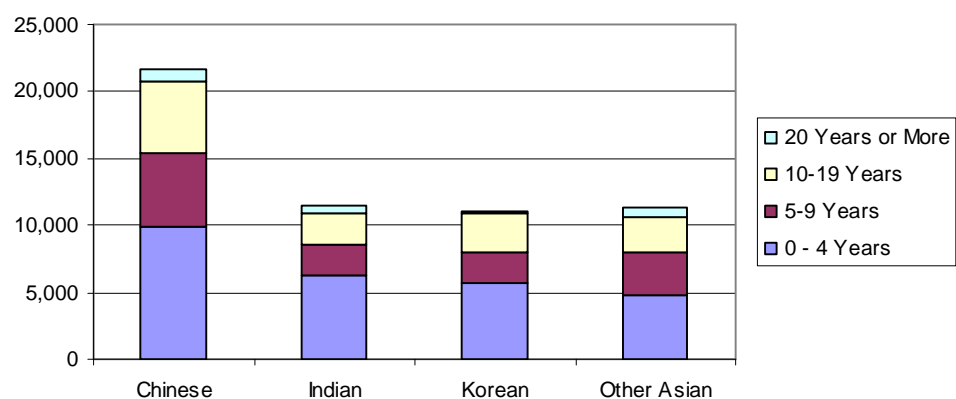
Age group	Chinese	Indian	Korean	Other Asian	All Asian
0-14	66.4	55.1	25.4	54.3	52.1
15-24	9.5	19.5	0.6	11.7	9.8
25-44	6.1	6.0	0.2	1.5	4.1
45-64	4.7	6.0	0.0	1.0	3.3
65+	3.2	3.7	0.0	0.0	2.4
Total	17.1	20.1	6.7	17.8	15.9

Figure 6 Proportion (%) born in NZ by ethnicity (total response) in Waitemata, 2006



Significant numbers of Waitemata residents of Asian ethnicity born overseas lived in New Zealand for less than four years in 2006 Census, which reflected the close relationship between recent migrants and the Asian population (Figure 7).

Figure 7 Waitemata residents of Asian ethnicities born overseas, by ethnicity (total response) and years in New Zealand, 2006



4.4 Population map

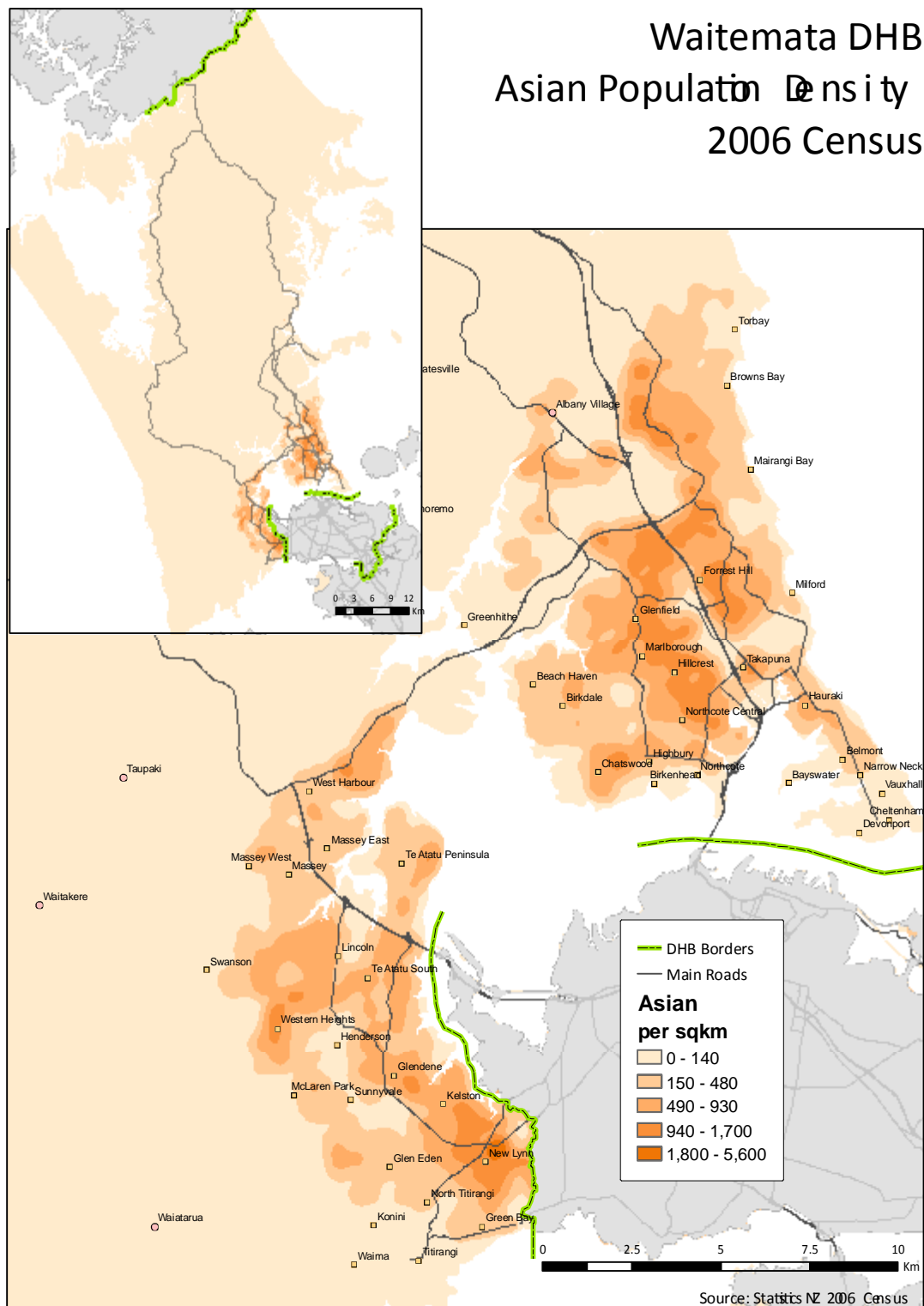
Map of Waitemata is shown in Figure 8. Waitemata DHB contains Rodney district, North Shore city and Waitakere city. Figure 9 shows the distribution of Asian in Waitemata DHB.

Figure 8 Map of Waitemata DHB



Source: <http://www.moh.govt.nz/dhbmmaps>

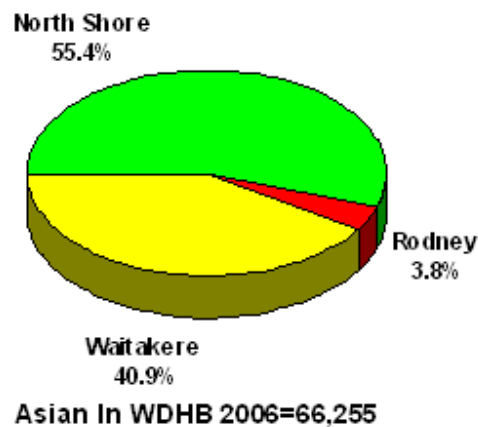
Figure 9 Asian people in Waitemata in 2006 census



4.5 Area of residence by TA

Waitemata comprises 3 territorial authorities (TAs): Rodney, North Shore and Waitakere. The North Shore had the largest Asian population (55.4%) followed by Waitakere (40.9%) and Rodney (3.8%). Asian population maps of Rodney, North Shore and Waitakere are shown in Figure 11.

Figure 10 Asian population (total response) by territorial authority in Waitemata, 2006



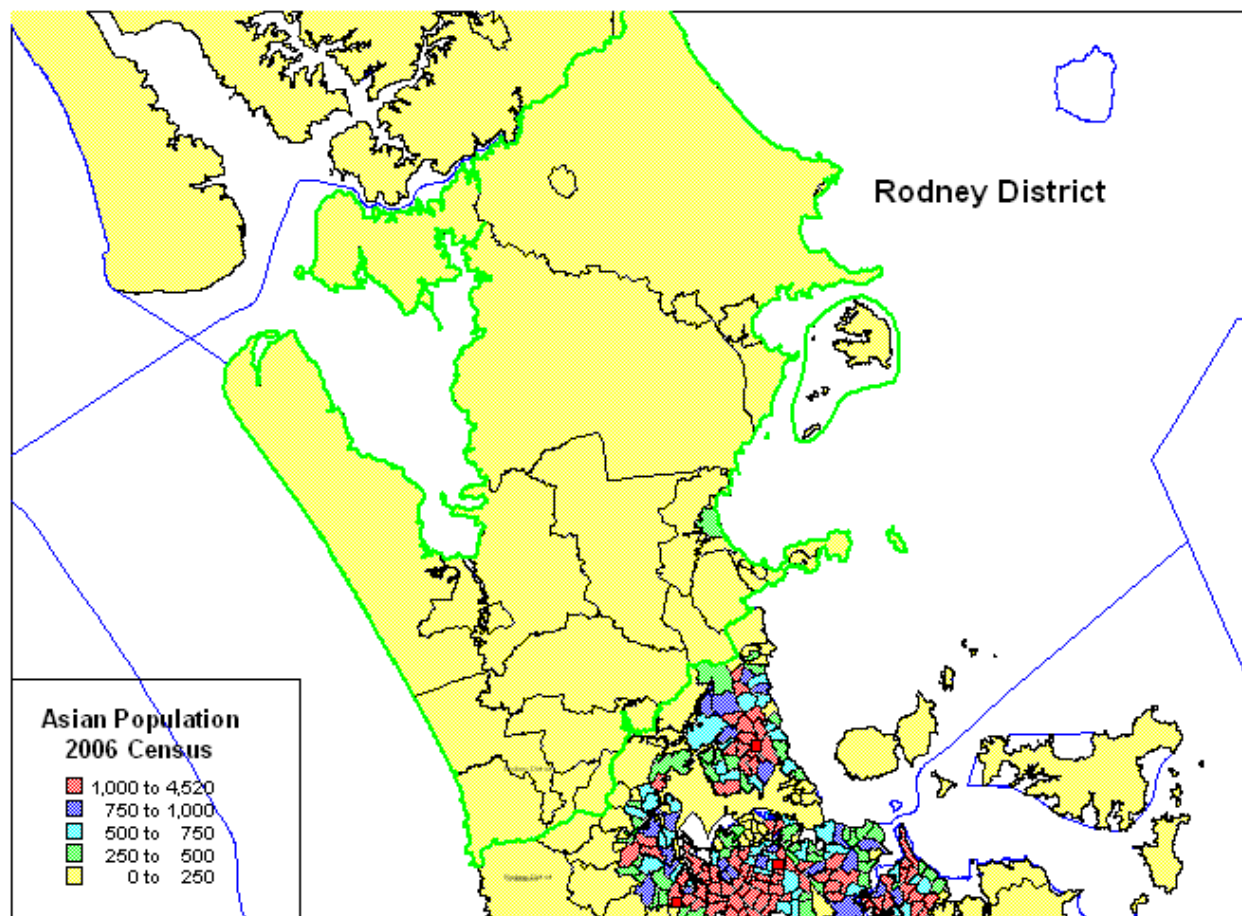
Source: 2006 Census (Asian Health Support Services, 2007)

Table 8 Population by ethnicity (total response) and territorial authority in Waitemata, 2006

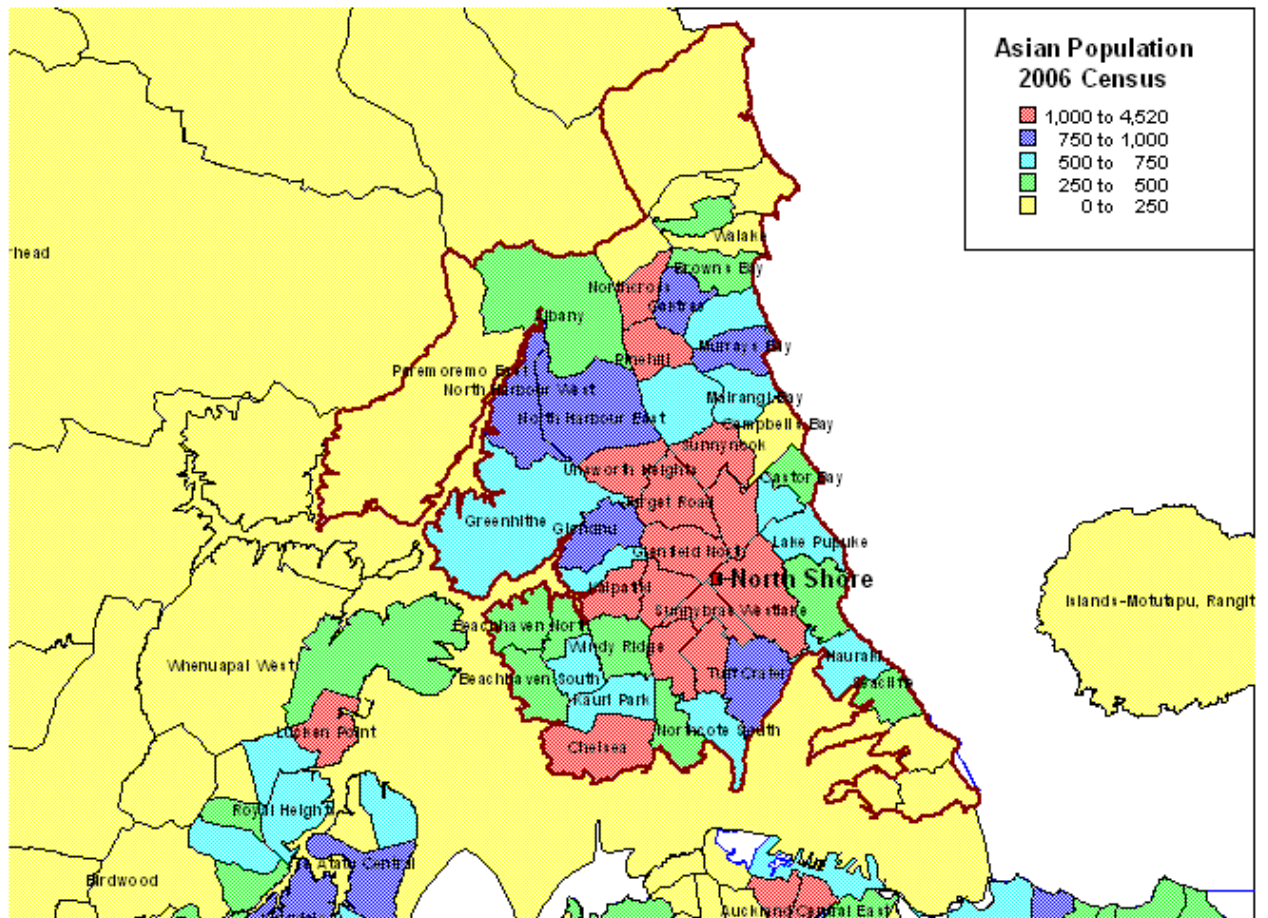
Area of residence	Other	Maori	Pacific	Asian	New Zealander	Other	Total
Rodney	64,680	7,422	1,317	2,499	9,627	4,014	89,559
North Shore	124,878	12,423	5,562	36,681	16,956	9,108	205,608
Waitakere	87,102	22,689	23,532	27,075	12,168	13,881	186,447
Total	276,636	42,603	30,378	66,255	38,751	26,988	481,611

Source: 2006 Census (Ratana A Walker, 2007)

Figure 11 Asian people by TA in Waitemata, 2006 census



Source: 2006 Census (Asian Health Support Services, 2007)



Source: 2006 Census (Asian Health Support Services, 2007)

4.6 Summary – population demography

- Asian was the second largest group (14%) followed by Maori and Pacific people in Waitemata DHB in 2006. Asian took about 9% of the total population in New Zealand in 2006.
- Chinese had the highest number and made up of about 40% of Asian population in Waitemata. Indian was the second largest group of about 22% and Korean was the third largest group, made up of approximately 18%.
- The population in Waitemata DHB is projected to increase by a greater percentage than the national population between 2006 and 2026. Unfortunately, there is no data specifically for Asian, as is combined with European and Other in the series of projection. However, it was thought the Asian population would continue to increase if migration policy remained stable and also at medium death and birth rates.
- About 35% of the total population in Waitemata DHB were under the age of 25 while around 11% were 65 years and older.
- Chinese had the highest percent of population among 20-24 years old. High percentages for Korean were found among teenager and working age group. The proportion for female was also higher than males in Korean population. Age structure for Indian was similar to the pattern of the general population in Waitemata DHB.
- By Asian ethnic group, Indian had the largest proportion (20%) of born in NZ, followed by Other Asian (excluding Korean) and Chinese, while Korean had the lowest proportion.
- By territorial authority (TA), North Shore had the highest Asian population of 55.4% followed by Waitakere (40.9%).

5 Socio-economic determinants of health

5.1 Education

Education is positively associated with health (The National Advisory Committee on Health and Disability, 1998). A person who has achieved National Certificate of Educational Achievement (NCEA) Level 2 or higher is more likely to have better health than a person without educational qualifications.

In Waitemata, the proportion who had achieved NCEA Level 2 certificate (or its equivalent), or higher, at school was highest among the Asian ethnic group, followed by Other, Pacific people and then Maori. A significantly higher proportion of males than females achieved NCEA Level 2 or higher (Health Information for Action Team, 2009). Compared with the New Zealand average, rates of educational achievement were significantly higher in all groups in Waitemata DHB.

Table 9 NCEA Level 2 or higher in adults over 15, age-standardised rate (ASR) and rate ratio (SRR) with 95% confidence intervals by ethnicity (total response), 2006

	Waitemata ASR, percent	New Zealand ASR, percent	SRR
Maori	47.2 (46.3-48.0)	42.1 (41.8-42.3)	1.1 (1.1-1.1)
Pacific	49.9 (48.9-50.9)	47.2 (46.8-47.5)	1.1 (1.0-1.1)
Asian	82.9 (82.1-83.7)	79.6 (79.1-79.9)	1.0 (1.0-1.0)
Other	67.6 (67.2-67.9)	63.1 (62.8-63.2)	1.1 (1.1-1.1)

ASR = age-standardised rate; CI = confidence interval, NCEA = National Certificate of Educational Achievement; SRR = age-standardised rate ratio
Source: 2006 Census, HDIU

In Waitemata the proportion of Asian people who had achieved tertiary-level education or higher was 43.3%; the proportion among European/Other people was 38.8%. The greater level of educational achievement among Asian people is likely to be at least in part a reflection of selection through migration (Tse, 2006). Among Asian ethnic groups in Waitemata, the Indian population had the highest proportion who had achieved tertiary-level education higher (51.5%), followed by Chinese (44.0%) and Korean (29.8%).

Table 10 Percentage of tertiary and higher by Asian ethnic group (total response) in Waitemata, 2006 census usually residents

	Chinese	Indian	Korean	Asian	Other
Crude rate	44.0	51.5	29.8	43.3	38.8

Source: 2006 census

Figure 12 Percentage of tertiary and higher by Asian ethnic group in Waitemata, 2006 census usually residents, total response



5.2 English language competence

English language competence is closely related to income, employment, health status and health service utilisation for Asian people (Wayne Reid, 2008).

Asian people were the most likely, both within Waitemata (15.4%) and nationally (13.3%), to not have English language competence (see Table 11).

Table 11 Percentage of people speaking English and other ethnic languages, 2006 census, total response ethnicity (crude rate)

Ethnic Group	Waitemata DHB			New Zealand		
	English only	English & other	No English	English only	English & other	No English
Maori	75.8	18.7	0.9	70.6	23.1	1.4
Pacific	43.3	44.3	5.7	41.7	45.1	6.3
Asian	21.1	58.9	15.4	23.4	58.5	13.3
Other	81.7	9.9	0.4	83.9	7.9	0.2

Source: 2006 census

Among Asian groups in Waitemata, Korean had the highest percentage of 'No English' (close to 30%), followed by Chinese (18%), while Indian had the strongest English language competence (only 5%) (see Table 12).

These rates were 'crude'; however, they helped to inform rates for populations with particular age structure.

Table 12 Percentage of people in Waitemata speaking English and other ethnic language, by ethnicity, 2006 census usually residents, total response ethnicity (crude rate)

Language competence	Chinese	Indian	Korean	Other Asian
English only	20.3	31.1	9.6	22.2
English & other	56.4	57.7	54.7	63.8
No English	17.9	5.3	29.6	7.4

Source: 2006 census

5.3 Unemployment

Unemployment is associated with increased mortality, lower levels of general health, more anxiety and depression, higher rates of smoking and higher suicide rates (Goldney, 1998; The National Advisory Committee on Health and Disability, 1998). Unemployment is also associated with greater use of health services (Goldney, 1998).

Unemployment among Asian people in Waitemata was higher than that among European/Other people but lower than that among Maori and Pacific people (see Table 13).

Table 13 Unemployment rates in adults over 15 years, age-standardised rate (ASR) and rate ratios (SRR) with 95% confidence intervals by ethnicity (total response), 2006

	Waitemata ASR, percent	New Zealand ASR, percent	SRR
Maori	5.6 (5.3- 5.9)	6.9 (6.8- 6.9)	0.8 (0.8-0.9)
Pacific	5.4 (5.2- 5.7)	6.1 (6.0- 6.2)	0.9 (0.8-0.9)
Asian	4.7 (4.5- 4.9)	4.8 (4.7- 4.9)	1.0 (0.9-1.0)
Other	3.1 (3.0- 3.1)	3.3 (3.2- 3.3)	0.9 (0.9-1.0)

ASR = age-standardised rate; CI=confidence interval; SRR = age-standardised rate ratio

Source: 2006 Census, HDIU

Among Asian people in Waitemata, Indian people had the highest employment (72%), followed by Other Asian (65%) and Chinese (50%), while Korean had the lowest employment (44%) (see Table 14).

Table 14 Percentage of people in Waitemata, 15+ years of age, by work and labour force status and ethnicity (total response), 2006 census usually residents

Work & labour force status	Chinese	Indian	Korean	Other Asian
Employed	49.5	71.9	43.7	64.9
Unemployed	5.9	4.1	4.3	4.8
Not in the labour force	44.6	23.8	51.8	30.2

5.4 Income

Income is positively associated with health (The National Advisory Committee on Health and Disability, 1998).

A greater proportion of women in Waitemata report lower income (total before tax personal income of \$10,000 or less in the 12 months prior to the census) than men (data not shown). By ethnic group, Asian people are most likely to report lower income, followed by Pacific, Maori and then European/Other people (see Table 15). While a significantly lower proportion of the Waitemata DHB population than the New Zealand population reported lower income (data not shown), lower income was reported by a significantly greater proportion of Asian people in Waitemata than across New Zealand.

Table 15 Lower income in adults over 15, age-standardised rate (ASR) and rate ratio (SRR) with 95% confidence intervals, 2006

	Waitemata ASR, percent	New Zealand ASR, percent	SRR
Maori	21.1 (20.6-21.7)	24.0 (23.8-24.2)	0.9 (0.9-0.9)
Pacific	27.1 (26.4-27.9)	29.7 (29.4-30.0)	0.9 (0.9-0.9)
Asian	44.6 (43.9-45.2)	42.2 (41.9-42.4)	1.1 (1.0-1.1)
Other	20.3 (20.1-20.5)	21.1 (21.0-21.2)	1.0 (1.0-1.0)

Lower income = total before tax personal income of \$10,000 or less in the 12 months prior to the census; ASR = age-standardised rate; CI=confidence interval; SRR = age-standardised rate ratio
Source: 2006 Census (HDIU)

Among Asian ethnic groups, a higher proportion of Korean (62%) and Chinese (61%) people reported a personal income of less than \$20,000 than Indian people (38%) (see Table 16 and Figure 13). In contrast, a higher proportion of Indian people reported a personal income of more than \$50,000 than Chinese (7%), Korean (4%) and Other Asian (9%).

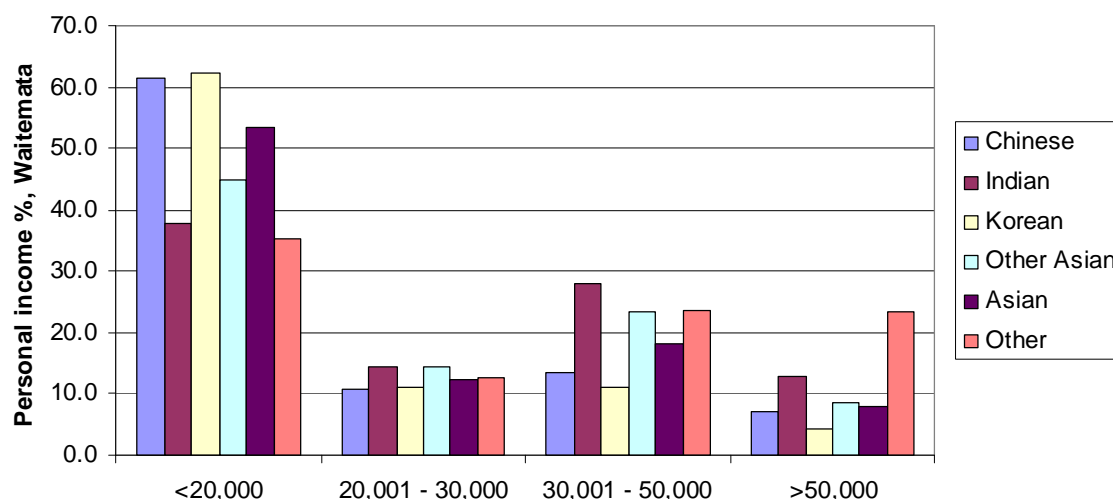
It is of note that the percentages reported here are 'crude'. They reflected the level of personal income for a specific ethnicity with particular age structure, but they are not suitable for formal comparisons between ethnicities as the proportion of 'not in labour force' was different across ethnicities.

Table 16 Percentage of people in Waitemata, 15+ years of age, by personal income and ethnicity (total response), 2006 census usually residents

Personal income	Chinese	Indian	Korean	Other Asian	Asian	Other
<20,000	61.4	37.7	62.4	44.8	53.3	35.4
20,001 - 30,000	10.7	14.5	11.0	14.4	12.3	12.6
30,001 - 50,000	13.4	27.9	11.1	23.4	18.0	23.7
>50,000	7.0	12.9	4.4	8.7	8.1	23.4

Source: 2006 census

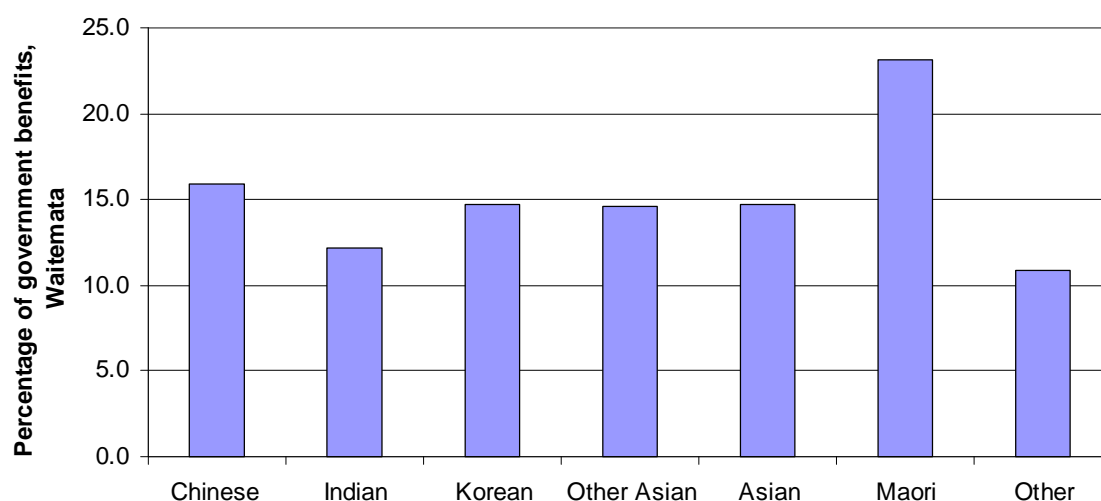
Figure 13 Percentage of people in Waitemata, 15+ years of age, by personal income and ethnicity (total response), 2006 census usually residents



5.5 Benefit receipt

A higher proportion of Asian people in Waitemata received a benefit, compared with European/Other people. Among Asian people, a lower proportion of Indian people received a benefit, compared with Chinese, Korean and Other Asian people.

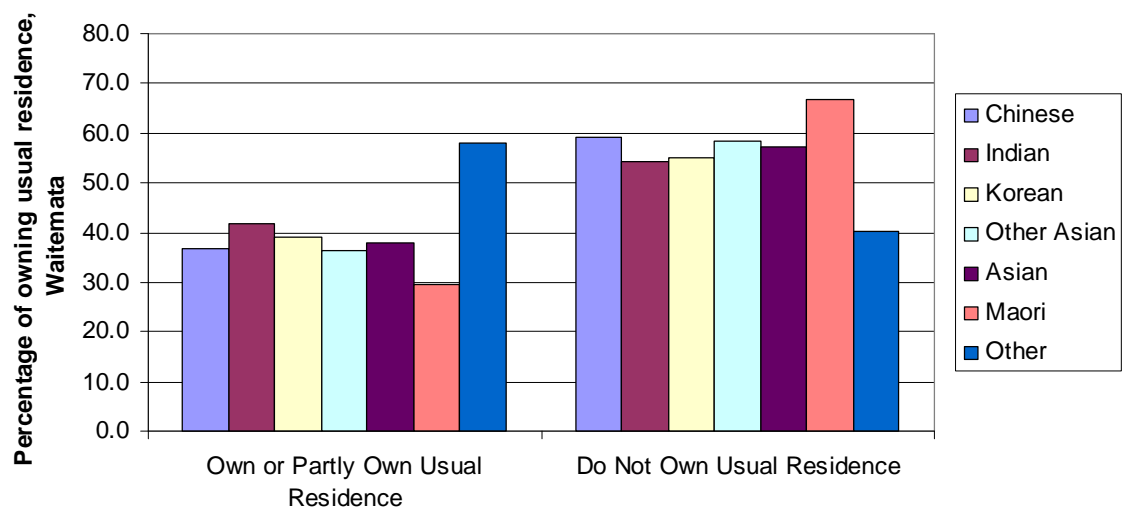
Figure 14 Percentage of people receiving government benefits in Waitemata, 15+ years of age, by ethnicity (total response), 2006 census usually residents



5.6 Home ownership

In Waitemata in 2006 approximately 57% of Asian people didn't own their usual residence, compared with 40% of European/Other people (see Figure 15). Among Asian ethnic groups, approximately 54% of Korean and Indian and 59% of Chinese and Other Asian people did not own their usual residence. It should be noted that because of the association between home ownership and population age structure, it is difficult to draw conclusions from these findings in the absence of age-standardised rates.

Figure 15 Percentage of people in Waitemata, 15+ years of age, by home ownership and ethnicity (total response), 2006 census usually residents



5.7 Deprivation

NZDep06 provides a numerical rating of socioeconomic status of a neighbourhood using the following nine variables from the 2006 Census: receiving a means-tested benefit, low household income, not owning the home you live in, single-parent family, unemployment, no school qualifications, household overcrowding, no access to a telephone and no access to a car. Seven of these variables are reported on individually in the rest of this chapter.

NZDep06 scores are grouped into deciles (from 1 to 10), where a score of 1 is allocated to the 10% of areas with the lowest deprivation and 10 is allocated to the 10% of areas with the greatest deprivation.

In the Waitemata more people live in areas with low NZDep06 scores (lowest deprivation) than areas with high scores (greatest deprivation) (see Table 17).

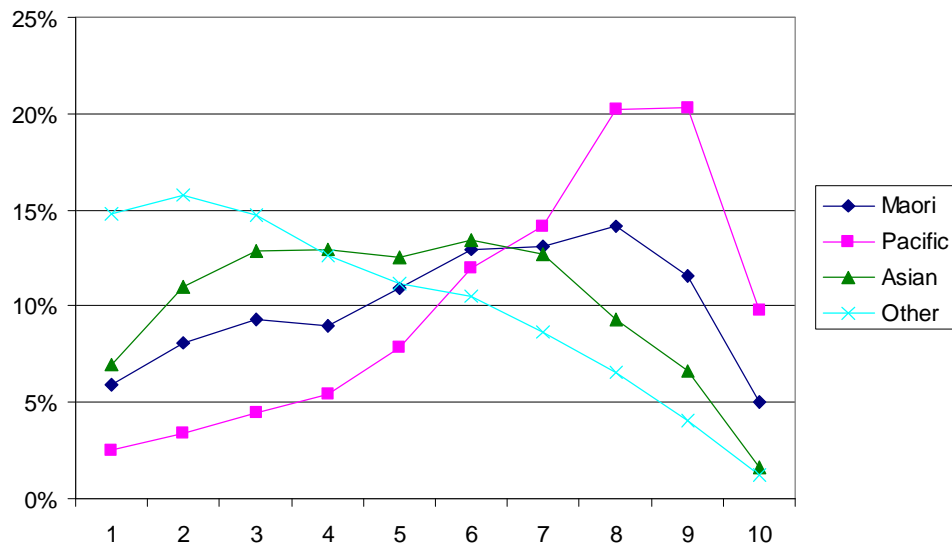
Table 17 The New Zealand Index of Deprivation 2006 (NZ Dep2006) distribution in Waitemata and New Zealand (all ages)

NZDep2006 deciles	Waitemata		New Zealand	
	Count	Percent	Count	Percent
1	59547	12.4	415155	10.3
2	66567	13.8	410361	10.2
3	64320	13.4	409266	10.2
4	57063	11.8	401736	10.0
5	53055	11.0	397242	9.9
6	53529	11.1	399828	9.9
7	47451	9.9	397074	9.9
8	40188	8.3	394425	9.8
9	28572	5.9	401916	10.0
10	10503	2.2	396219	9.8
Unspecified	909	0.2	4923	0.1
Total	481704	100	4028145	100

Source: 2006 Census, HDIU

Maori and Pacific people in Waitemata were more likely to live in more deprived areas whereas most European/Other lived in areas of low deprivation. The distribution for Asian people tended to be more even. 64% of Pacific people, 44% of Maori, 30% of Asian people, and 20% of European/Other lived in decile 7-10 areas (Figure 16).

Figure 16 NZ Dep2006 distribution in Waitemata by ethnicity (total response), 2006 census usually residents

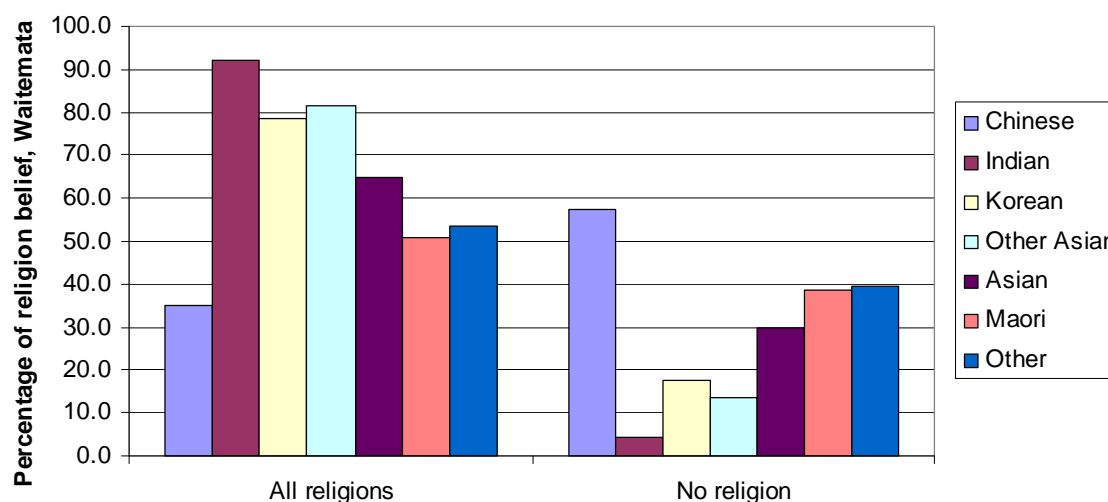


Source: Statistics NZ (Health Information for Action Team, 2009)

5.8 Religion

The proportion of Asian people reporting 'No religion' (30%) was lower than that for other ethnic groups (approximately 39% for Maori and European/Other). Among Asian ethnic groups, the proportion of Chinese people reporting 'No religion' was the highest (58%), followed by Korean (18%), Other Asian (14%) and Indian (4%) people.

Figure 17 Percentage of people in Waitemata, by religion and ethnicity (total response), 2006 census usually residents



5.9 Summary – social and economic health determinants

- The percentage of the Waitemata DHB to gain NCEA Level 2 certificate, or higher, at school was highest among Asian, followed by European/Other, Pacific people and then Maori. A significantly higher proportion of males than females achieved NCEA Level 2 or higher.
- Among Asian, Indian had the highest proportion of tertiary and higher, followed by Chinese and Korean. The percentage of tertiary and higher among Asian (43.3%) was higher than the European/Other (38.8%).
- Asian had a higher proportion of population that couldn't speak English (15.4% in Waitemata and 13.3% in NZ).
- Asian had a higher unemployment rate than European/Other, but a lower rate than Maori or Pacific people in Waitemata and NZ. Among Asian, Indian had the highest percentage of employment (72%), followed by Other Asian (65%) and Chinese (50%), while Korean had an employment rate of only about 44%. The percentage of employment is also related to the population (age) structure of Asian ethnic groups.
- A significantly higher proportion of females than males were in the lower income bracket in the Waitemata DHB. A higher percentage of Asian reported lower incomes, followed by Pacific and Maori. Among Asian, Korean and Chinese had more than 60% with personal income less than 20,000, while it was only 38% for Indian.

- A lower proportion of Asian people in Waitemata received benefit, compared with Maori; however, it was slightly more than the European/Other. Among Asian people, Indian had a relatively lower percentage of people receiving benefit.
- In Waitemata, about 57% Asian adults didn't own their usual residence, which was higher than that of European/Other (40%), but lower than Maori did (67%). Among Asian, Korean and Indian had a proportion of approximately 54% not owning usual residence, while it was about 59% for Chinese and Other Asian.

6 Risk and protective factors of Health

A 'risk factor' is something that increases a person's chances of getting a disease (Burt, 2001; "Risk factor"). If the risk arises from the person's behaviour it is said to be 'modifiable'. Smoking increases the risk of developing colon cancer, so it is a modifiable risk factor for colon cancer. Some risk factors cannot be changed (for example, more people over the age of 50 get colon cancer) and these are regarded as 'non-modifiable' (Burt, 2001). Some risk factors, such as high blood cholesterol and high blood pressure, are partly modifiable and partly non-modifiable.

A 'health behaviour' is an action taken by a person to maintain, attain, or regain good health and to prevent illness (for example, vegetables and fruit, and physical activity).

This chapter is about modifiable risk factors (or risk factors with a modifiable component) and health behaviours that are aligned to national and district health priorities (Ministry of Health, 2000b).

6.1 Risk factors

High cholesterol and high blood pressure

High cholesterol

The prevalence of self-reported high cholesterol was greater (although not statistically significantly greater) among Indian people in New Zealand – particularly men – than that among Chinese and Other Asian people in the 2002/03 NZ Health Survey (see Table 18). The rates of self-reported high cholesterol of Asian ethnic groups were not significantly different from the one of European/Other, after adjusting for age, sex, deprivation and duration of residence. Moreover, further analysis also show longer duration of residence was significantly related to likelihood of self-reporting high cholesterol among Asian.

It's also of note that the rate of self-reporting high cholesterol for Indian was almost significantly different from European/Other in the above multi-variable analysis (Ministry of Health, 2006).

In 2006/07 NZ Health Survey, Asian as a group didn't seem significantly different from European/Other (Table 19). Of course, there might be a risk of 'averaging' Asian population (particularly when realising Indian could be different from Chinese and other Asian in these indicators), but unfortunately, no level 2 ethnicity data for Asian is available now.

High blood pressure

As for high blood pressure, Indian males also had a higher prevalence, compared with Chinese and Other Asian although not statistically significant in 2002/03 survey (see Table 18). Asian as a group was not significantly different from other ethnic groups in 2006/07 survey (Table 19).

Table 18 Prevalence (per 100) of self-reported high cholesterol and high blood pressure, by Asian ethnic group and sex in NZ, 15+ years of age, 2002/03 NZHS

	Chinese		Indian		Other Asian	
	Male	Female	Male	Female	Male	Female
High blood cholesterol	7.7 (2.2-13.1)	9.4 (3.8-15.1)	19.2 (9.0-29.4)	10.2 (3.1-17.2)	8.9 (2.9-15.0)	7.1 (0.6-13.7)
High blood pressure	8.5 (2.8-14.1)	7.0 (2.3-11.7)	19.3 (9.4-29.2)	9.4 (2.2-16.6)	6.4 (1.5-11.3)	10.5 (3.1-18.0)

Source: 2002/03 New Zealand Health Survey (Asian Health Chart book 2006)

Table 19 Age-standardised prevalence rates of medicated high cholesterol and mediated high blood pressure in Waitemata, 15+ yrs, by sex and ethnicity (with 95% confidence intervals), 2006/07 NZHS

		Maori	Pacific	Asian	Other	Total
	Female	3.8 (2.1 - 6.4)	6.2 (3.3 - 10.4)	3.1 (1.3 - 6.1)	6.2 (4.6 - 8.2)	5.9 (4.3 - 7.9)
High cholesterol	Male	5.3 (3.3 - 8.1)	4.9 (2.6 - 8.5)	7.9 (5.0 - 11.8)	8.2 (6.4 - 10.3)	7.9 (6.2 - 9.9)
	Total	4.5 (2.8 - 6.8)	5.6 (3.3 - 8.7)	5.4 (3.4 - 8.0)	7.2 (5.5 - 9.1)	6.9 (5.3 - 8.4)
High blood pressure	Female	9.0 (6.6 - 11.8)	9.3 (6.5 - 12.8)	6.2 (3.7 - 9.7)	13.1 (10.9 - 15.5)	12.3 (10.1-14.6)
	Male	9.0 (6.5 - 12.2)	9.2 (6.1 - 13.3)	9.7 (6.8 - 13.2)	11.7 (9.5 - 14.3)	11.5 (9.4 - 14.0)
	Total	9.0 (6.8 - 11.6)	9.3 (6.6 - 12.5)	7.8 (5.5 - 10.8)	12.4 (10.4 - 14.8)	11.9 (9.9 - 13.9)

Source: 2006/07 New Zealand Health Survey, HDIU

Figure 18 Age-standardised prevalence rates of medicated high cholesterol in Waitemata, 15+ yrs, by sex and ethnicity, 2006/07 NZHS

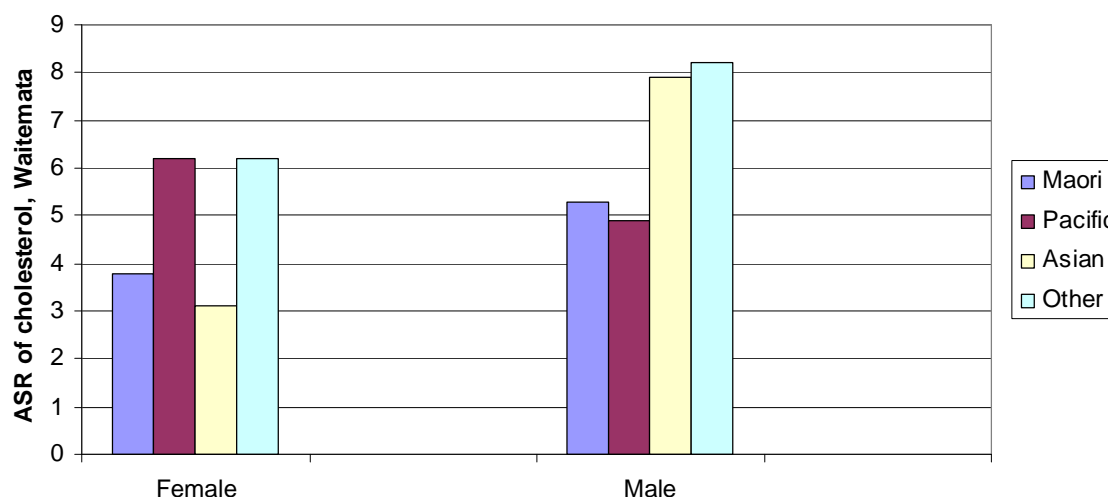
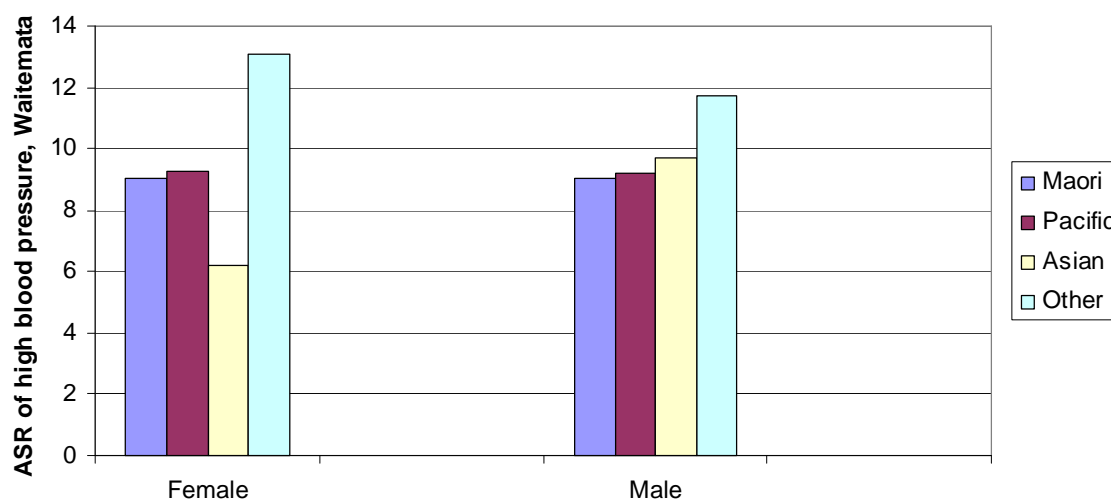


Figure 19 Age-standardised prevalence rates of mediated high blood pressure in Waitemata, 15+ yrs, by sex and ethnicity, 2006/07 NZHS



Overweight and obesity

Overweight

Excess body fat is an important risk factor for a number of conditions, such as cardiovascular diseases, type 2 diabetes and some cancers (Australian Institute of Health and Welfare (AIHW) and National Heart Foundation of Australia, 2004; McNee, Mason, Neave, & Kay, 1987; Ni Mhurchu et al., 2006).

In the 2002/03 New Zealand Health Survey, the proportion of overweight Indian women was greater than that among Chinese women (see Table 20). In Waitemata DHB, Asian as a group was not different from European/Other in the 2006/07 survey (see Table 21).

Obesity

The proportion of obesity didn't show any difference between Asian ethnic groups in 2002/03 survey (see Table 20). Asian people in Waitemata were the ethnic group with the lowest prevalence of obesity in the New Zealand Health Survey 2006/07 (see Table 21).

Table 20 Standard cut-point prevalence (%) of overweight and obesity, by Asian ethnic group and sex, 15+ years of age in NZ, 2002/03

	Chinese		Indian		Other Asian	
	Male	Female	Male	Female	Male	Female
Overweight BMI 25-29	16.1 (8.7-23.4)	9.6 (5.1-14.1)	27.1 (15.4-38.8)	38.1 (25.8-50.5)	28.3 (16.0-40.6)	13.3 (7.3-19.2)
Obesity BMI ≥30	4.0 (1.0-7.1)	-	7.1 (0.6-13.6)	14.8 (7.7-21.8)	-	6.2 (0.4-12.1)

Source: 2002/03 New Zealand Health Survey (Asian Health Chart book 2006)

Table 21 Age-standardised prevalence rates of overweight and obesity in Waitemata, 15+ yrs, by sex and ethnicity (with 95% confidence intervals), 2006/07 NZHS

		Maori	Pacific	Asian	Other	Total
Overweight	Female	29.2 (24.7 - 34.1)	22.9 (17.1 - 29.7)	23.9 (19.1 - 29.3)	32.3 (28.5 - 36.4)	30.8 (27.1-34.8)
	Male	33.6 (28.7 - 38.8)	27.0 (21.1 - 33.7)	38.1 (31.9 - 44.5)	43.8 (39.8 - 47.9)	42.0 (38.1-46.0)
	Total	31.3 (27.3 - 35.6)	25.0 (20.2 - 30.2)	30.7 (26.1 - 35.6)	38.1 (34.4 - 41.9)	36.4 (32.9-39.9)
Obesity	Female	31.4 (26.9 - 36.2)	47.9 (41.6 - 54.2)	9.3 (5.5 - 14.4)	18.4 (14.7 - 22.6)	20.1 (16.6-24.1)
	Male	30.8 (26.0 - 36.0)	47.3 (41.1 - 53.5)	7.1 (3.3 - 13.0)	17.8 (14.2 - 22.0)	19.4 (15.8-23.4)
	Total	31.1 (27.2 - 35.3)	47.6 (42.4 - 52.8)	8.2 (4.7 - 13.1)	18.1 (14.6 - 22.0)	19.7 (16.4-23.1)

Source: 2006/07 New Zealand Health Survey, HDIU

Figure 20 Age-standardised prevalence rates of overweight in Waitemata, 15+ yrs, by sex and ethnicity, 2006/07 NZHS

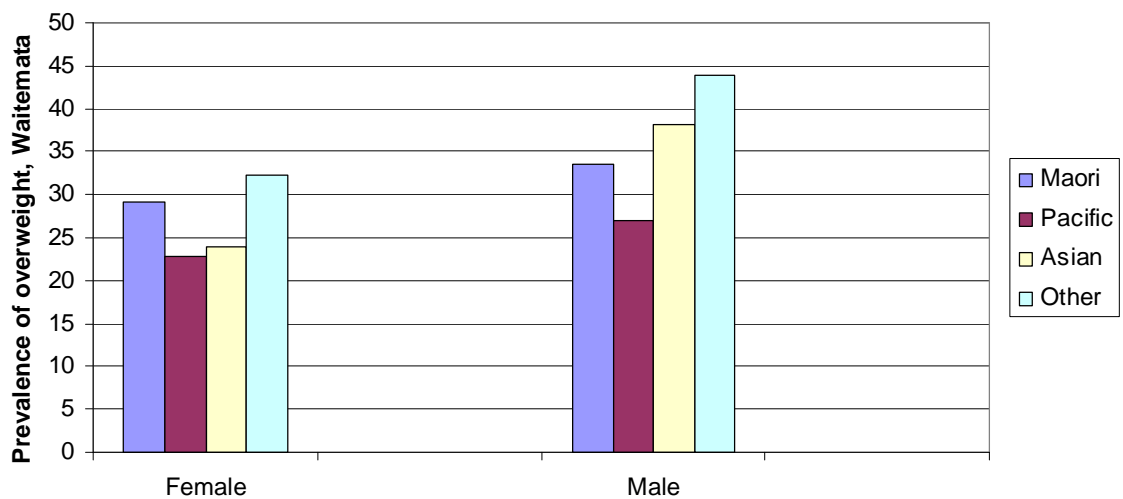
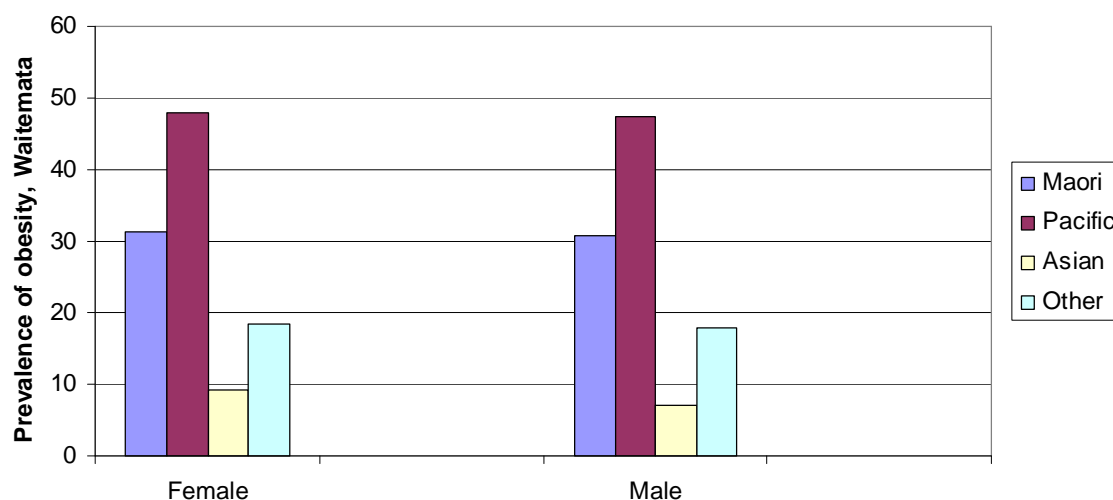


Figure 21 Age-standardised prevalence rates of obesity in Waitemata, 15+ yrs, by sex and ethnicity, 2006/07 NZHS



Alcohol consumption

The international definition of hazardous drinking is defined as an Alcohol Use Disorders Identification Test (AUDIT) score greater than or equal to 8, and is the definition used here. This represents an established pattern of drinking that carries a high risk of future damage to physical or mental health.

Asian people (men and total) had a significantly lower prevalence of hazardous drinking than European/Other people in Waitemata in the 2006/07 New Zealand Health Survey (see Table 22 and Figure 22). In 2002/03 survey, no significant difference was found between Asian ethnic groups nationwide (Table 23).

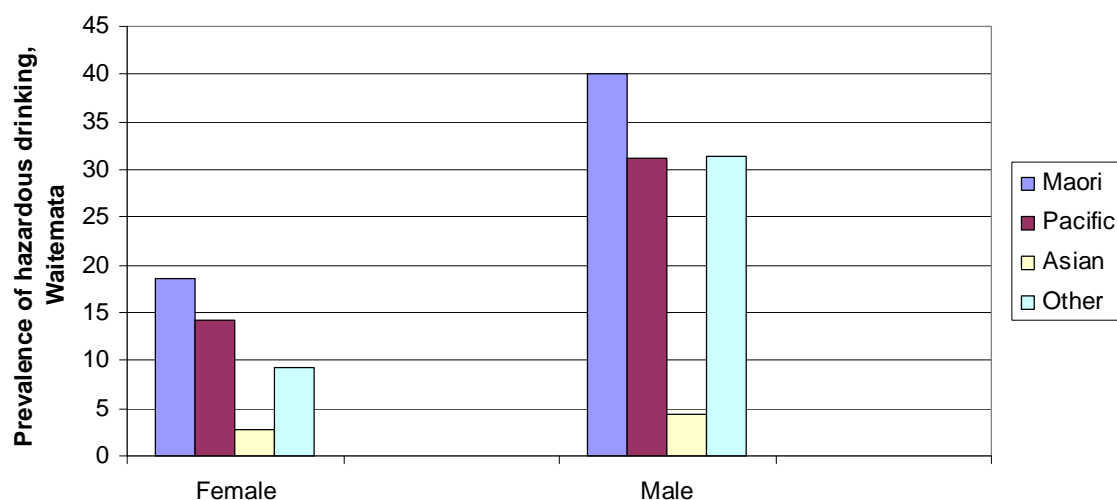
Table 22 Age-standardised prevalence rates of hazardous drinking in Waitemata, 15+ yrs, by sex and ethnicity (with 95% confidence intervals), 2006/07 NZHS

	Maori	Pacific	Asian	Other	Total
Female	18.6 (11.1 - 28.2)	14.3 (5.3 - 29.1)	2.7 (0.5 - 7.7)	9.2 (5.5 - 12.8)	8.3 (5.7 - 11.0)
Male	40.1 (19.1 - 64.1)	31.2 (15.7 - 50.4)	4.3 (1.3 - 9.9)	31.4 (24.9 - 38.0)	27.7 (22.2 - 33.3)
Total	28.6 (19.3 - 37.9)	22.0 (13.1 - 33.3)	3.3 (1.4 - 6.7)	20.4 (16.4 - 24.5)	17.7 (14.4 - 20.9)

Hazardous drinking = AUDIT score \geq 8

Source: 2006/07 New Zealand Health Survey, HDIU

Figure 22 Age-standardised prevalence rates of hazardous drinking in Waitemata, 15+ yrs, by sex and ethnicity, 2006/07 NZHS



Hazardous drinking = AUDIT score \geq 8

Table 23 Prevalence (%) of self-reported hazardous drinking, by Asian ethnic group in NZ, 15+ years of age, 2002/03

	Chinese	Indian	Other Asian
AUDIT score >8 (95% CI)	2.3 (0.1-4.5)	6.8 (2.0-11.5)	5.4 (1.4-9.4)

Hazardous drinking = AUDIT score \geq 8; CI = confidence interval

Source: 2002/03 New Zealand Health Survey (Asian Health Chart book 2006)

Smoking

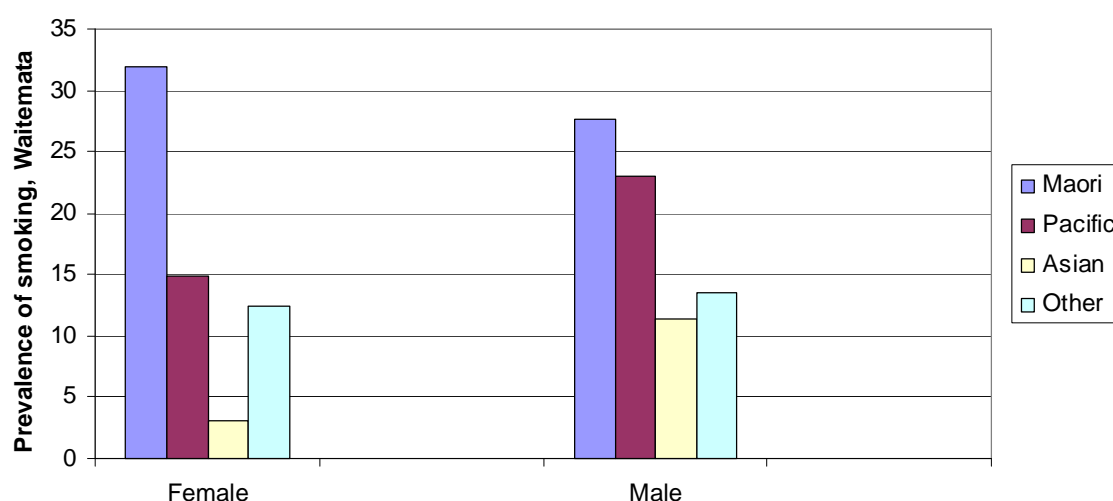
Tobacco smoking is the leading modifiable risk factor in New Zealand, and was responsible for about 18% of all deaths in this country (Ministry of Health, 2004b). Asian people had a lower prevalence of smoking compared with other ethnicities at level 1 in the 2006/07 New Zealand Health Survey (see Table 24 and Figure 23). This difference was statistically significant for Asian women compared with all other ethnicities, and was statistically significant for Asian men compared with Maori and Pacific men.

Table 24 Age-standardised prevalence rates of current daily smokers in Waitemata, 15+ yrs, by sex and ethnicity (with 95% confidence intervals), 2006/07 NZHS

	Maori	Pacific	Asian	Other	Total
Female	31.9 (27.6 - 36.4)	14.9 (10.2 - 20.6)	3.1 (0.7 - 8.3)	12.4 (9.4 - 15.9)	12.9 (10.0 - 16.4)
Male	27.6 (22.9 - 32.7)	23.0 (17.4 - 29.5)	11.4 (7.4 - 16.6)	13.5 (10.5 - 17.1)	14.7 (11.7 - 18.1)
Total	29.9 (26.3 - 33.7)	18.7 (14.6 - 23.4)	7.0 (4.0 - 11.2)	12.9 (10.0 - 16.3)	13.8 (10.9 - 16.6)

Source: 2006/07 New Zealand Health Survey, HDIU

Figure 23 Age-standardised prevalence rates of current daily smokers in Waitemata, 15+ yrs, by sex and ethnicity, 2006/07 NZHS



No significant differences in self-reported tobacco use were observed between Asian ethnic groups in the 2002/03 New Zealand Health Survey (see Table 25). Men were more likely to be current smokers among both Chinese and Other Asian.

Table 25 Prevalence (%) of self-reported tobacco use, by Asian ethnic group in NZ, 15+ years of age, 2002/03

	Chinese		Indian		Other Asian	
	Male	Female	Male	Female	Male	Female
Current smoker	20.4 (12.5-28.2)	7.0 (2.4-11.6)	18.4 (9.7-27.0)	-	20.7 (11.6-29.8)	3.9 (1.2-6.6)
Ex-smoker	16.1 (8.0-24.2)	3.9 (0.0-8.1)	12.3 (4.6-20.1)	-	16.9 (8.7-25.1)	6.5 (1.4-11.6)
Never smoker	63.5 (54.6-72.3)	89.1 (82.2-96)	69.3 (57.5-81.1)	94.3 (90.8-97.8)	62.4 (52.2-72.6)	89.6 (83.7-95.6)

Source: 2002/03 New Zealand Health Survey (Asian Health Chart book 2006)

Drug use

In Waitemata, the prevalence of marijuana use was lower among Asian compared with European/Other people and Maori (Table 26).

Table 26 Age-standardised prevalence rates of marijuana use in last 12 months, 15+ yrs, by sex and ethnicity (with 95% confidence intervals), 2002/03 NZHS

	Maori	Pacific	Asian	Other	Total
Female	35.6 (14.5 - 61.8)	12.2 (2.2 - 33.7)	1.0 (0.0 - 5.6)	14.8 (10.4 - 19.2)	12.7 (8.8 - 16.6)
Male	42.7 (21.4 - 66.3)	14.0 (4.8 - 29.6)	N/A	20.6 (14.6 - 26.7)	18.0 (12.9 - 23.2)
Total	39.3 (23.0 - 55.7)	13.1 (5.3 - 25.4)	0.5 (0.0 - 2.7)	17.6 (14.0 - 21.3)	15.3 (12.1 - 18.5)

Source: 2002/03 New Zealand Health Survey, HDIU

Between Asian ethnic groups, there is some evidence of greater use of cannabis among South-East Asian people (see Table 27).

Table 27 Cannabis use (%) among Asian people aged 15+ yrs in NZ by sex and ethnicity, 2002/03

Frequency of Cannabis use	Chinese	South Asian	Korean	South-East Asian
	%	%	%	%
Both sexes				
Monthly or more often	<1	1	1	4
Less than monthly	<1	2	0	4
Not in last 12 months	4	4	1	6
Never used	95	93	99	86
Males				
Monthly or more often	<1	3	1	6
Less than monthly	<1	2	0	8
Not in last 12 months	7	5	0	8
Never used	93	90	99	78
Females				
Monthly or more often	1	<1	1	2
Less than monthly	1	2	0	0
Not in last 12 months	2	3	1	5
Never used	97	95	98	93

Source: 2002/03 New Zealand Health Survey (Robert Scragg, 2005)

Gambling

A higher proportion of Asian people (59%) had not gambled in the previous 12 months compared with Maori (26%), European people (28%) and Pacific people (46%) (see Table 28). Asian people tended to have lower levels of gambling, with the exception of casino and internet gaming, where their levels were comparable to that of other ethnic groups.

Of note, participation in gambling is not a reliable indicator of gambling harm caused to the Asian communities.

Table 28 Gambling in the last 12 months (%) among people aged 15+ yrs in NZ by ethnicity, 2002/03

Type of Gambling*	Asian	Maori	Pacific	European
	%	%	%	%
Do not gamble	59	26	46	28
Lotto, Instant Kiwi, Daily Keno	35	66	48	68
Casino (main ones)	8	9	7	8
Pokies (not in casinos)	5	22	11	12
TAB	4	12	8	12
Overseas betting	1	3	2	2
Track (horses & dogs)	1	3	2	4
Housie	<1	7	6	1
0900 gambling games	0	<1	0	<1
Internet gaming	2	2	2	<1
Spent >\$30 in a week (if gambler)	18	22	26	12

* More than one type could be selected

Source: 2002/03 New Zealand Health Survey (Robert Scragg, 2005)

Among Asian ethnic groups, the proportion not gambling in the previous 12 months ranged from 73% (Korean people) to 54% (South-East Asian) (see Table 29).

Table 29 Gambling in the last 12 months (%) among Asian people aged 15+ yrs in NZ by Asian ethnic group, 2002/03

Type of Gambling*	Chinese	South Asian	Korean	South-East Asian
	%	%	%	%
Do not gamble	59	61	73	54
Lotto, Instant Kiwi, Daily Keno	31	38	23	41
Casino (main ones)	11	4	5	7
Pokies (not in casinos)	5	4	1	6
TAB	5	3	0	4
Overseas betting	1	1	0	0
Track (horses & dogs)	1	1	0	0
Housie	0	<1	2	0
0900 gambling games	0	0	0	0
Internet gaming	3	1	0	1
Spent >\$30 in a week (if gambler)	25	11	16	16

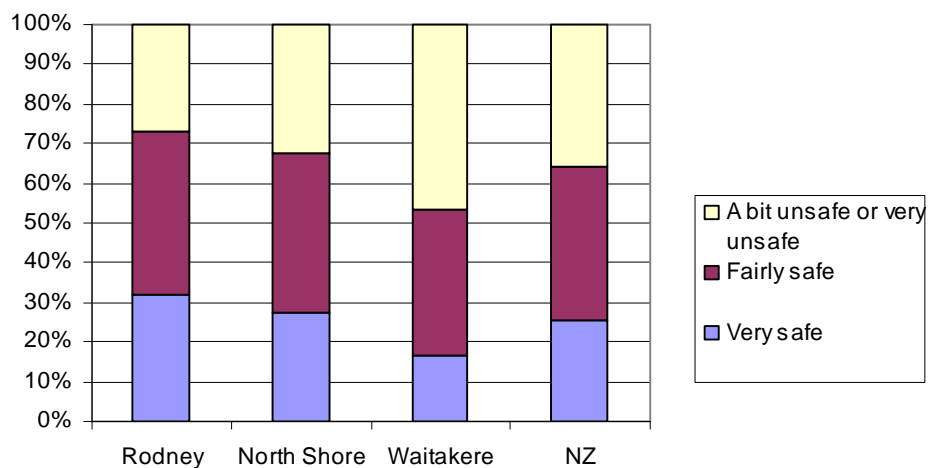
* More than one type could be selected

Source: 2002/03 New Zealand Health Survey (Robert Scragg, 2005)

Violence and safety

People in Waitakere City were less likely to feel safe walking alone after dark than people in Rodney and North Shore or in New Zealand as a whole.

Figure 24 Sense of safety walking alone in neighbourhood after dark, by territorial authority, 2006

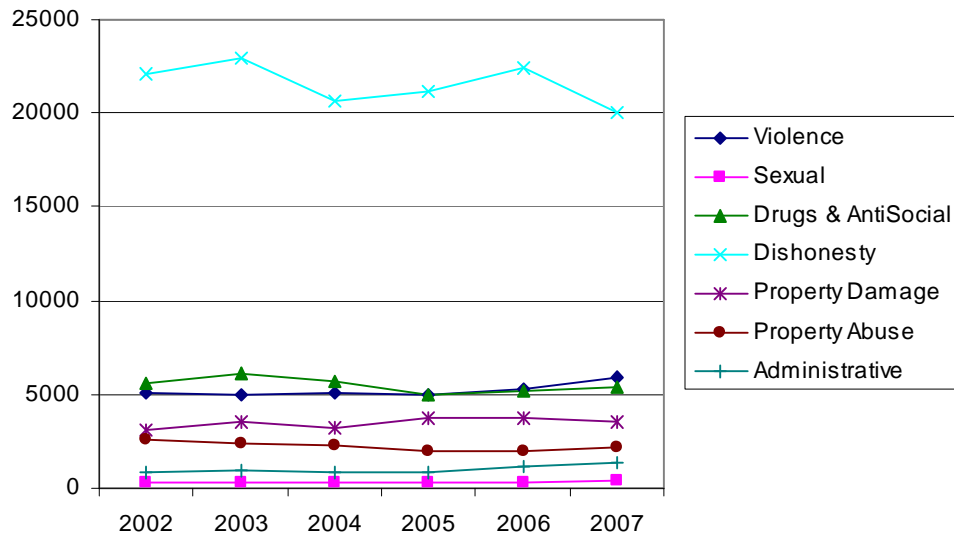


Source: Quality of Life Survey 2006 (Health Information for Action Team, 2009)

Crime, and particularly violent crime, makes a community feel less safe. It is important to realise that the following numbers were for reported crime and that many crimes remained unreported. For example, it was estimated that over 80% of sexual assaults against women and over 50% of assaults were not reported (Morris & Reilly, 2003).

The rate of reporting of most crimes in Waitemata district has not increased since 2002. However reporting of violence has increased 17% in that period due to an increase over the last two years.

Figure 25 Total numbers of offences reported to the Police in Waitemata, 2002-2007



Source: Statistics NZ (Health Information for Action Team, 2009)

It's also recognised that there is a growing number of Asian in prison and the Paremoremo prison is in the catchments of Waitemata DHB. However, analysis about the number and rate in prison by ethnicity (level 1 and level 2 for Asian) needs to be undertaken when the data are available.

6.2 Protective factors

Physical activity

Physical activity means all movement produced by skeletal muscles that increases energy expenditure, whether it is incidental, occupational or recreational. Physical activity can reduce the risk of many major diseases, such as cardiovascular diseases, certain cancers, diabetes, osteoporosis, overweight and obesity, and possibly depression (Ministry of Health, 2006).

Regular physical activity is defined as at least 30 minutes of physical activity per day on five or more days of the week (Ministry of Health, 2006, 2008). This equates to at least 150 minutes of physical activity per week.

In Waitemata, Asian women were less likely to undertake regular physical activity (32%) than European/Other (46%) and Maori women (47%), but for Asian men the difference between ethnic groups was not significant (see Table 30 and Figure 26).

Table 30 Regular physical activity (% ASR) among people aged 15+ in Waitemata by sex and ethnicity (with 95% confidence intervals), 2006/07

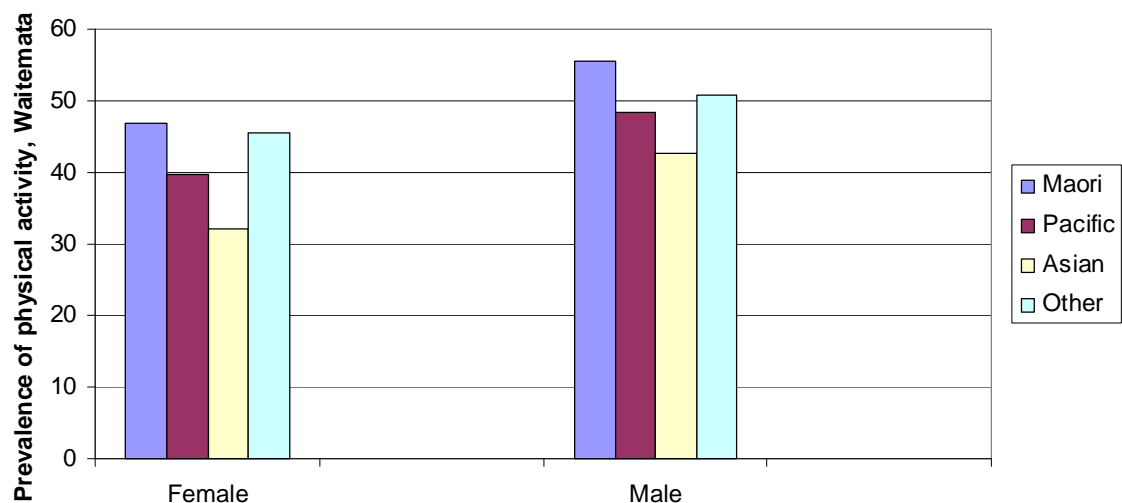
	Maori	Pacific	Asian	Other	Total
Female	46.8 (41.1 - 52.5)	39.8 (32.0 - 47.9)	32.1 (26.1 - 38.6)	45.6 (40.4 - 50.7)	44.0 (38.9 - 49.1)
Male	55.5 (49.7 - 61.2)	48.4 (40.8 - 56.1)	42.6 (35.8 - 49.7)	50.8 (45.7 - 56.0)	50.2 (45.2 - 55.3)
Total	50.8 (45.5 - 56.1)	43.9 (37.4 - 50.6)	37.0 (31.3 - 43.1)	48.1 (43.1 - 53.1)	47.0 (42.3 - 51.6)

Regular physical activity = 30+ minutes of physical activity per day on 5+ days of the week

ASR = Age-standardised rate

Source: 2006/07 New Zealand Health Survey, HDIU

Figure 26 Regular physical activity (% ASR) among people aged 15+ in Waitemata by sex and ethnicity, 2006/07



Regular physical activity = 30+ minutes of physical activity per day on 5+ days of the week

ASR = Age-standardised rate

Source: 2006/07 New Zealand Health Survey

No significant difference was found between Asian ethnic groups in the 2002/03 New Zealand Health Survey (see Table 31).

Table 31 Prevalence (%) of self-reported physical activity rates among Asian people aged 15+ in New Zealand by sex and ethnicity, 2002/03

Sex	Chinese	Indian	Other Asian
Male	66.7 (58.3-75.0)	68.8 (59.4-78.3)	72.9 (62.0-83.7)
Female	50.5 (40.9-60.2)	58.0 (47.1-69.0)	46.4 (35.8-57.0)

Source: 2002/03 New Zealand Health Survey (Ministry of Health, 2006)

Fruit and vegetable consumption

Adequate fruit and vegetable intake protects against cardiovascular diseases and possibly some cancers. Recommended vegetables intake is at least 3 servings per day, while it is at least 2 servings per day for fruit (Ministry of Health, 2006).

In Waitemata, Asian people had a lower prevalence of consuming 3 or more servings of vegetables per day (39.7%) than European/Other people (57.1%) (see Table 32 and Figure 27). The prevalence of consuming 2 or more servings of fruit per day was also lower for Asian than for European/Other people, but the difference was not statistically significant (see Table 32 and Figure 28).

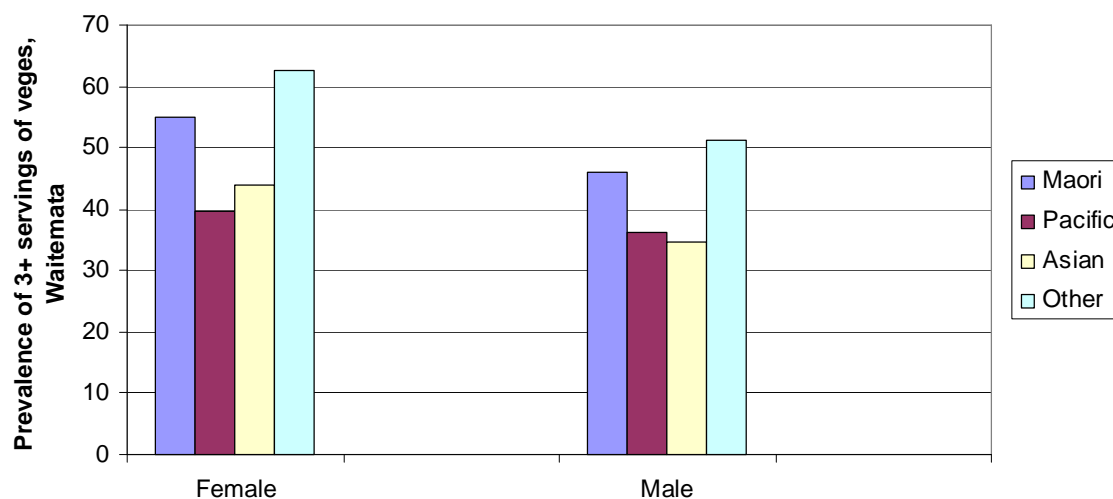
Table 32 3+ servings of vegetables and 2+ servings of fruit per day (% ASR) among people aged 15+ in Waitemata by sex and ethnicity, 2006/07

		Maori	Pacific	Asian	Other	Total
Three or more servings of vegetables (95% CI)	Female	54.9 (49.1 - 60.7)	39.6 (32.3 - 47.2)	44.0 (37.2 - 51.1)	62.5 (57.2 - 67.5)	59.1 (53.9 - 64.2)
	Male	46.0 (39.9 - 52.2)	36.1 (28.4 - 44.4)	34.7 (27.6 - 42.4)	51.3 (46.1 - 56.4)	48.7 (43.6 - 53.8)
	Total	50.8 (45.4 - 56.1)	37.9 (31.4 - 44.8)	39.7 (33.4 - 46.3)	57.1 (52.0 - 62.0)	54.1 (49.4 - 58.9)
Two or more servings of fruit (95% CI)	Female	63.5 (59.0 - 67.9)	67.0 (60.9 - 72.8)	63.1 (57.4 - 68.5)	70.8 (66.8 - 74.6)	69.5 (65.6 - 73.2)
	Male	47.2 (42.0 - 52.5)	51.2 (43.8 - 58.5)	50.5 (45.0 - 56.0)	51.4 (47.4 - 55.3)	51.0 (47.2 - 54.8)
	Total	56.0 (51.8 - 60.1)	59.5 (54.3 - 64.6)	57.2 (52.5 - 61.8)	61.4 (57.7 - 65.1)	60.6 (57.3 - 63.9)

ASR = Age-standardised rate, CI = confidence interval

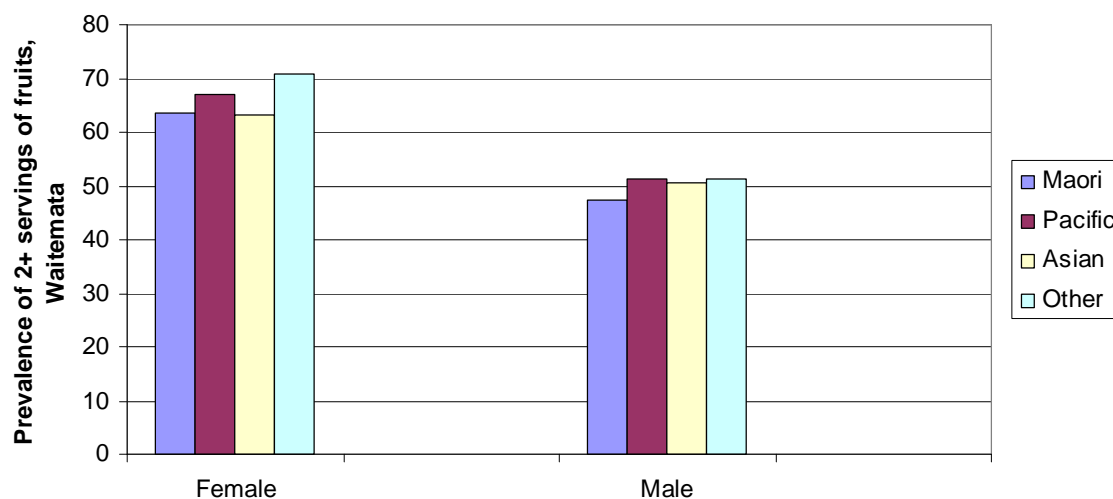
Source: 2006/07 New Zealand Health Survey, HDIU

Figure 27 3+ servings of vegetables per day (% ASR) among people aged 15+ in Waitemata by sex and ethnicity, 2006/07



ASR = Age-standardised rate
Source: 2006/07 New Zealand Health Survey

Figure 28 2+ servings of fruits per day (% ASR) among people aged 15+ yrs in Waitemata by sex and ethnicity, 2006/07



ASR = Age-standardised rate
Source: 2006/07 New Zealand Health Survey

Among Asian ethnic groups, the prevalence of consuming 3 or more servings of vegetables and 2 or more servings of fruit per day, particularly for females, tended to be lower for Indian compared with Chinese and Other Asian people, but the difference was not significant (see Table 33).

Table 33 Self-reported consumption of 3+ servings of vegetables and 2+ servings of fruit per day (%) among Asian people aged 15+ yrs by sex and ethnicity, 2002/03

Sex	Chinese	Indian	Other Asian
Male	25.9 (16.4-35.4)	21.2 (12.1-30.2)	22.5 (11.8-33.1)
Female	39.8 (29.2-50.5)	23.0 (13.1-32.9)	36.7 (24.7-48.6)

Source: 2002/03 New Zealand Health Survey (Ministry of Health, 2006)

6.3 Summary of risk and protective factors

- Indian had higher rates of self-reported high cholesterol for males and females, compared with Chinese and Other Asian in 2002/03 NZ Health Survey, though not statistically significant. However, the rate of self-reporting high cholesterol for Indian was almost significantly higher than European/Other.
- Indian males also had a higher prevalence of self-reported high blood pressure, compared with Chinese and Other Asian although not statistically significant in 2002/03 survey.
- In 2002/03 survey, Indian females had a higher proportion of overweight compared with Chinese and Other Asian; for males, Chinese had a lower percentage of overweight, but all the differences were not statistically significant.
- In Waitemata, when compared with European/Other, Asian had a lower proportion of obesity, adjusted for age and sex.
- Asian as a group had a significantly lower prevalence of hazardous drinking than European/other, in Waitemata in 2006/07 national survey. In 2002/03 survey, no significant difference was found between Asian ethnic groups nationwide.
- Asian had a significantly lower rate of current daily smokers, compared with Maori and Pacific people in Waitemata 2006/07 national survey. No significant differences of self-reported tobacco use were found between Asian ethnic groups. In general, males had higher rate of self-reported tobacco use than females.
- In Waitemata, Asian had a lower prevalence of marijuana use than European/Other.
- A higher proportion of Asian (59%) did not gamble in the past 12 months, compared with European (28%) in 2002/03 survey. The most common type of gambling was Lotto for Asian people (36%).

- Asian females had a significantly lower prevalence of regular physical activity (32%) than European/Other (close to 46%), but for males the difference was not significant. Also no significant difference was found between Asian ethnic groups.
- In Waitemata DHB, Asian had a lower prevalence (39.7%) of 3 or more servings of vegetables than European/Other (57.1%), adjusted for age.

7 Health outcomes

7.1 Overall health

Life expectancy

Life expectancy at birth is defined as the number of years a newborn would be expected to live based on the current pattern of death rates. The life expectancy for women is longer than that for men.

People living in Waitemata had longer life expectancy at birth for all ethnicities and sexes with the exception of Pacific men compared with the national average between 2002 and 2005 (see Table 34).

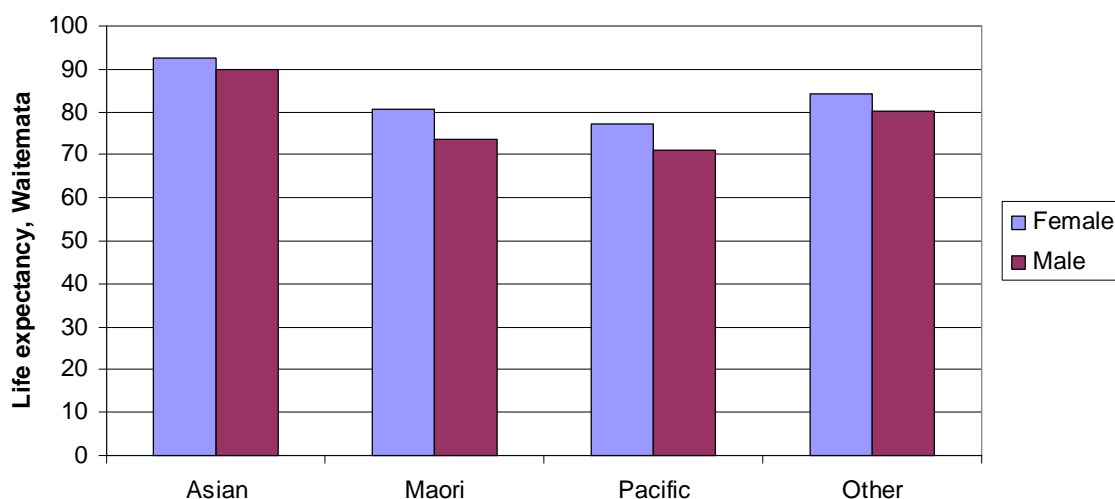
In Waitemata, Asian people had the longest life expectancy at birth (92.5 years for women and 89.8 for men), followed by European/Other people (84.1 years for women and 80.3 for men) (see Table 34 and Figure 29). However, caution is required in interpreting this finding given the large proportion of Asian people that are migrants. Dissipation of the healthy migrant effect is likely to mean that life expectancy is overestimated.

Table 34 Life expectancy at birth (years) among Waitemata and NZ people by sex and ethnicity (prioritised), 2002-2005¹

Ethnicity	Waitemata		NZ	
	Female	Male	Female	Male
Maori	80.7	73.5	74.8	69.9
Pacific	77.0	71.0	76.9	72.1
Asian	92.5	89.8	87.8	84.5
Other	84.1	80.3	82.9	76.8

¹ Note: life expectancy at birth in Table 35 is slightly different from that Table 34 as the denominators for calculating age-specific mortality rates (an essential component of the life expectancy calculation) were derived from different sources. Data sources are consistent within each table.

Figure 29 Life expectancy at birth (years) among people in Waitemata by sex and ethnicity (prioritised), 2002-2005



Among Asian ethnic groups in Waitemata, Chinese men had a longer life expectancy at birth (89.8 years), followed by Indian (84.0 years) and Other Asian (81.4 years) men (see Table 35 and Figure 30). There was no difference in life expectancy at birth among female Asian ethnic groups (all were approximately 90 years).

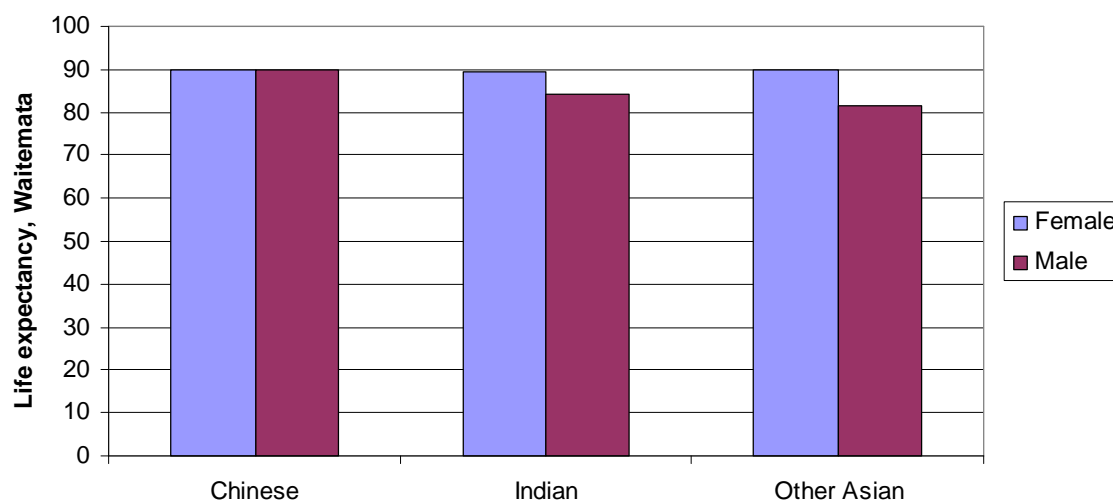
All Asian ethnic groups in Waitemata did better in life expectancy for both females and males than in New Zealand as a whole (Table 35).

Table 35 Life expectancy at birth (years) among Asian people in Waitemata and NZ by sex and ethnicity (prioritised), 2002-2005²

Ethnicity	Waitemata		NZ	
	Female	Male	Female	Male
Chinese	90.1	89.8	87.6	84.1
Indian	89.6	84.0	83.2	80.4
Other Asian	90.1	81.4	84.1	80.7

² Note: life expectancy at birth in Table 35 is slightly different from that Table 34 as the denominators for calculating age-specific mortality rates (an essential component of the life expectancy calculation) were derived from different sources. Data sources are consistent within each table.

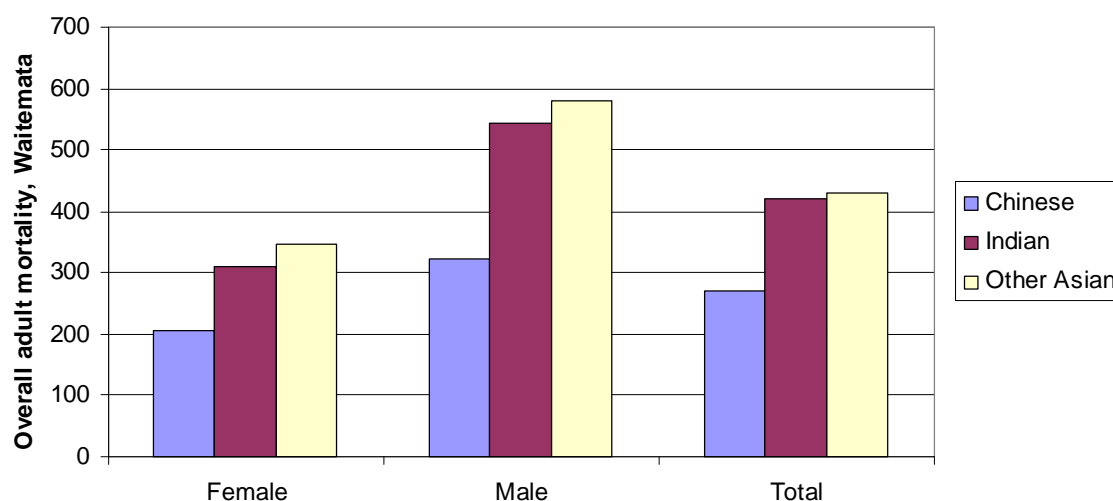
Figure 30 Life expectancy at birth (years) among Asian people in Waitemata, by sex and ethnicity (prioritised), 2002-2005



Adult mortality – all cause

In Waitemata, the adult (15+) mortality rate was higher for men than for women among Asian ethnic groups (see Figure 31); this pattern was also true for European/Other people (data not shown). Chinese people had the lowest adult mortality rate, followed by Indian and Other Asian people.

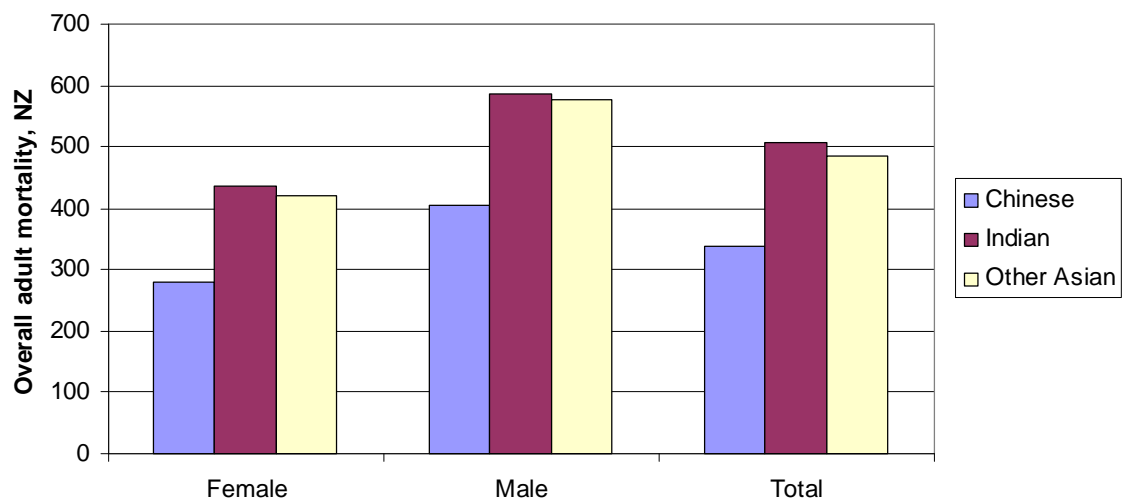
Figure 31 Total mortality rate (ASR) per 100,000 among Asian people aged 15+ in Waitemata by sex and ethnicity (prioritised), 2002-2005



ASR = Age-standardised rate

Nationwide, Chinese also had the lowest adult mortality rate compared with Indian and Other Asian people (see Figure 32).

Figure 32 Total mortality rate (ASR) per 100,000 among Asian people aged 15+ years in New Zealand by sex and ethnicity (prioritised), 2002-2005



ASR = Age-standardised rate

Adult potentially avoidable mortality

Potentially Avoidable Mortality (PAM) is an important concept from the perspective of public health and epidemiology. It refers to deaths in people under the age of 75 years that are potentially preventable through population-based interventions as well as those responsive to preventive and curative interventions at an individual level (Ministry of Health, 2006).

Among Asian ethnic groups in Waitemata and also in NZ, men had a higher potentially avoidable mortality rate than women (see Table 36, Figure 33 and Figure 34); this pattern is also evident among non-Asian ethnic groups (data not shown). Chinese people had the lowest avoidable mortality rate compared with the other Asian ethnic groups.

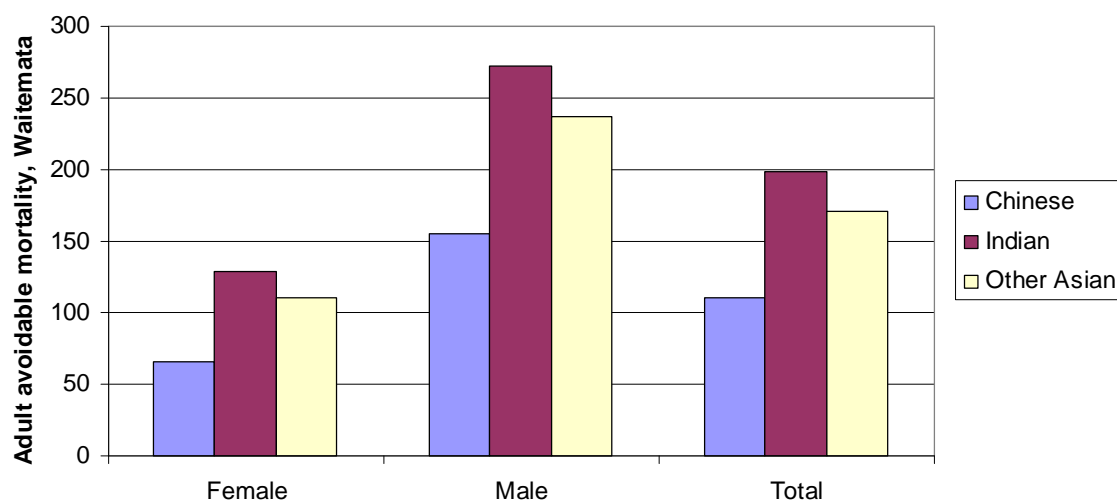
Asian as a group in Waitemata had lower PAM rates than in NZ as a whole (Table 36). This is also observed in Chinese and Other Asian groups, but not for Indian males.

Table 36 Potentially avoidable mortality rate (ASR) per 100,000 among Asian people aged 15-74 years old in Waitemata and NZ by ethnicity (prioritised), 2002-2005

		Chinese	Indian	Other Asian	Total Asian
Waitemata	Female	66.1	129.1	110.5	86.8
	Male	154.9	273.0	237.2	198.5
	Total	110.4	198.3	170.9	140.7
New Zealand	Female	87.8	167.9	146.9	121.1
	Male	157.5	269.5	247.2	209.4
	Total	122.1	218.6	190.2	163.3

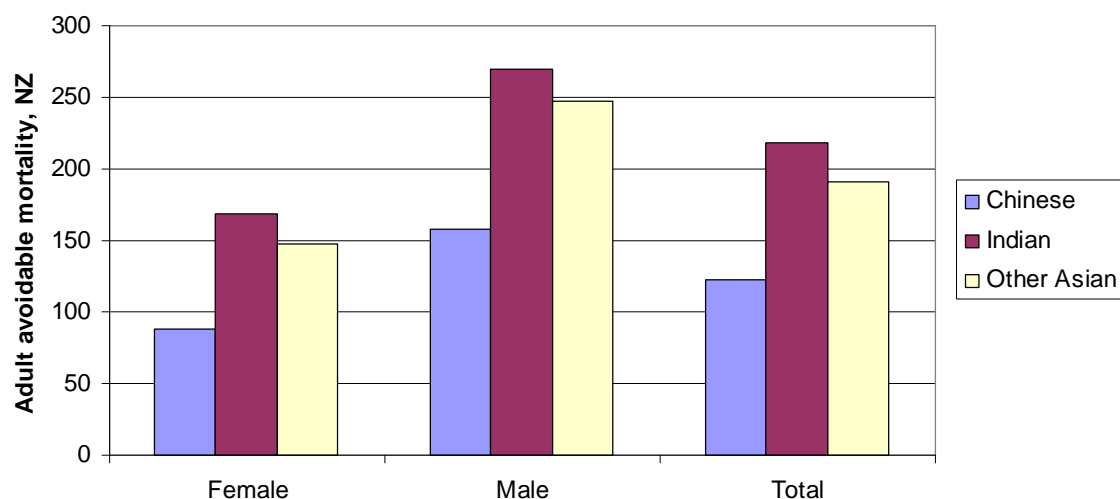
ASR = Age-standardised rate

Figure 33 Potentially avoidable mortality rate (ASR) per 100,000 among Asian people aged 15-74 in Waitemata by ethnicity (prioritised), 2002-2005



ASR = Age-standardised rate

Figure 34 Potentially avoidable mortality rate (ASR) per 100,000 among Asian people aged 15-74 in New Zealand by ethnicity (prioritised), 2002-2005



ASR = Age-standardised rate

Leading causes of adult avoidable mortality

The following tables rank the leading causes of avoidable mortality among adults according to the number of absolute deaths (regarded as avoidable) for each ethnicity. As these tables do not provide age-standardised rates care should be taken when comparing the ranking of one ethnic group to another.

The leading causes of avoidable mortality among Asian adults in Waitemata were Ischaemic heart disease, Road traffic injuries, Diabetes, Lung cancer, and Suicide during 2002-05 (see Table 37).

Table 37 Leading causes of avoidable mortality among people aged 15-74 in Waitemata by ethnicity (prioritised), 2002-05

Ethnic group	Waitemata	
	Causes	Rank
Maori	Ischaemic heart disease	1
	Lung cancer	2
	Diabetes	3
	COPD*	4
	Suicide	5
Pacific	Ischaemic heart disease	1
	Diabetes	2
	Cerebrovascular disease	3
	Lung cancer	4
	Suicide	5
Asian	Ischaemic heart disease	1
	Road traffic injuries	2
	Diabetes	3
	Lung cancer	4
	Suicide	5
Other	Ischaemic heart disease	1
	Lung cancer	2
	Colorectal cancer	3
	COPD*	4
	Cerebrovascular disease	5

*: COPD = Chronic obstructive pulmonary disease

The leading causes of avoidable mortality among adult Asians in Waitemata varied by ethnic group (see Table 38). It should be noted that there was some variation in the leading causes of avoidable mortality over time. This could be a reflection of random variation due to small number of deaths.

Table 38 Leading causes of avoidable mortality among Asian people aged 15-74 in Waitemata by ethnicity (prioritised), 2002-05

Ethnic group	Waitemata	
	Causes	Rank
Chinese	Lung cancer	1
	Cerebrovascular disease	2
	Liver cancer	3
	Road traffic injuries	4
	Ischaemic heart disease	5
Indian	Ischaemic heart disease	1
	Diabetes	2
	Suicide	3
	Road traffic injuries	4
	Alcohol-related disease	5
Other Asian	Road traffic injuries	1
	Ischaemic heart disease	2
	Aortic aneurysm	3
	Lung cancer	4
	Colorectal	5

The leading causes of avoidable mortality among adult Asians in NZ are shown in Table 39.

Table 39 Leading causes of avoidable mortality among Asian people aged 15-74 in New Zealand by ethnicity (prioritised), 2002-05

Ethnic group	Waitemata	
	Causes	Rank
Chinese	Ischaemic heart disease	1
	Lung cancer	2
	Cerebrovascular diseases	3
	Road traffic injuries	4
	Colorectal cancer	5
Indian	Ischaemic heart disease	1
	Diabetes	2
	Cerebrovascular diseases	3
	Road traffic injuries	4
	Suicide	5
Other Asian	Ischaemic heart disease	1
	Road traffic injuries	2
	Cerebrovascular diseases	3
	Suicide	4
	Breast cancer	5

Self-reported health

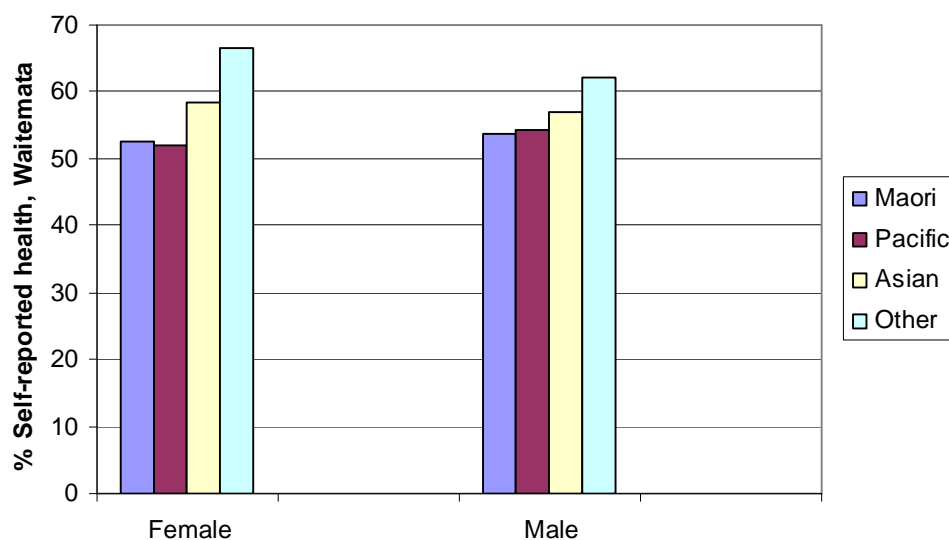
In Waitemata, Asian people had a lower prevalence of excellent or very good self-reported health (57.8% for females and males combined) compared with European/Other people (64.3%), but this difference was not significant (see Table 40 and Figure 35). However, this difference was statistically significant nationally.

Table 40 Excellent or very good self-reported health (% ASR) among adults aged 15+, 2006/07

		Maori	Pacific	Asian	Other	Total
Waitemata (95% CI)		52.6 (47.8 - 57.5)	52.1 (46.0 - 58.2)	58.5 (52.9 - 64.0)	66.4 (62.1 - 70.5)	64.0 (59.9 - 68.0)
	Female	53.6 (47.8 - 59.3)	54.2 (48.0 - 60.3)	56.9 (50.2 - 63.5)	62.1 (57.7 - 66.4)	60.7 (56.5 - 64.9)
	Male	53.1 (48.4 - 57.7)	53.1 (47.7 - 58.4)	57.8 (52.6 - 62.8)	64.3 (60.1 - 68.3)	62.4 (58.8 - 66.1)
	Total	51.6 (48.3 - 55.0)	51.1 (46.1 - 56.0)	57.4 (53.1 - 61.6)	65.1 (62.7 - 67.3)	62.8 (60.6 - 64.8)
New Zealand (95% CI)		52.5 (48.0 - 57.1)	53.1 (48.1 - 58.1)	55.8 (50.1 - 61.4)	60.9 (58.3 - 63.4)	59.6 (57.2 - 61.9)
	Female	52.0 (49.0 - 55.0)	52.1 (48.0 - 56.1)	56.6 (52.9 - 60.3)	63.0 (60.9 - 65.1)	61.2 (59.8 - 62.6)
	Male					
	Total					

ASR = Age-standardised rate, CI = confidence interval
Source: New Zealand Health Survey 2006/07, HDIU

Figure 35 Excellent or very good self-reported health (% ASR) among adults aged 15+ in Waitemata by ethnicity, 2006/07



ASR = Age-standardised rate

7.2 Important conditions

The prevalence of heart disease (11%), diabetes (14%) and asthma (16%) were highest among South Asian people in 2002/03 (see Table 41).

Table 41 Chronic diseases (prevalence, %, ASR) among Asian people aged 15+ in New Zealand by ethnicity, 2002/03

Chronic diseases	Chinese	South Asian	Korean	South-east Asian
Heart Disease	2	11	2	4
Stroke	<1	<1	0	1
Diabetes	6	14	7	6
Asthma	7	16	3	8
Bronchitis/Emphysema	<1	10	0	0
Total Arthritis	9	13	0	12
Osteoarthritis	2	4	0	3
Rheumatoid	4	6	0	0
Gout	1	2	0	3
Neck and back disorder	16	13	5	17
Osteoporosis	1	1	0	3
Cancer	1	2	6	4
Other long-term illness	14	17	10	26

ASR = Age-standardised rate

Source: Asian health in Aotearoa: an analysis of the 2002/03 New Zealand Health Survey (Robert Scragg, 2005)

Cardiovascular disease

In Waitemata men experienced a significantly higher rate of mortality from cardiovascular disease than women in 2003-2005 (Health Information for Action Team, 2009). Pacific people had the highest rate, followed by Maori, then European/Other people, with Asian people having the lowest rate (Health Information for Action Team, 2009).

Among Asian people aged 15-74 years in Waitemata, during 2002-2005, Indian men had a higher cardiovascular disease avoidable mortality rate (3 times that for Chinese men), followed by Other Asian men, while Chinese men had the lowest cardiovascular mortality rate (see Table 42 and Figure 36). This pattern was also true nationwide.

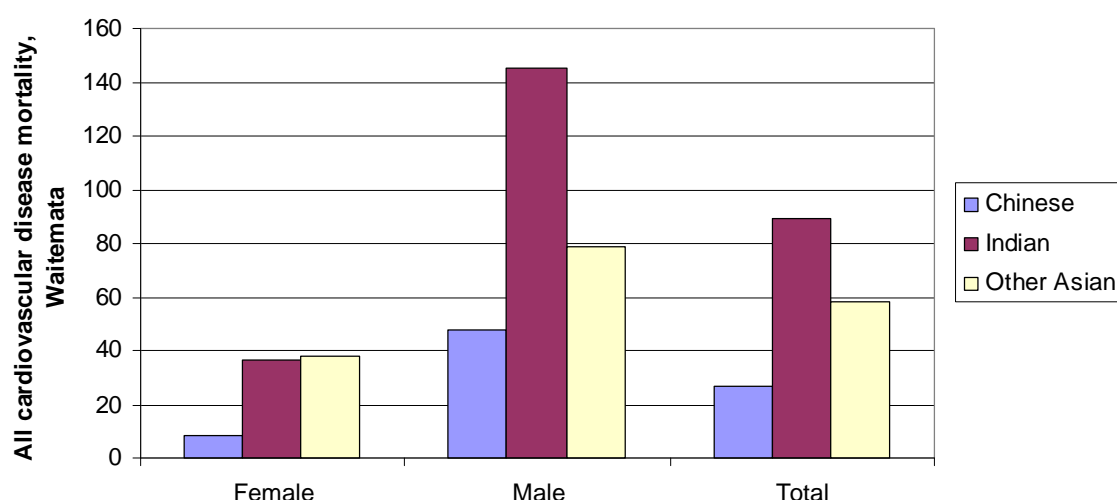
Asian as a group in Waitemata had lower mortality rates of all cardiovascular diseases combined than in NZ as a whole. This is also observed in Chinese and Other Asian groups, but not for Indian males (Table 42).

Table 42 All cardiovascular disease mortality (per 100,000, ASR) among Asian people aged 15-74 by ethnicity (prioritised), 2002-2005

		Chinese	Indian	Other Asian	Total
Waitemata	Female	8.1	36.4	37.7	21.2
	Male	47.8	145.4	78.4	75.9
	Total	26.9	89.2	58.1	47.1
New Zealand	Female	20.9	57.7	49.2	36.3
	Male	53.7	131.4	95.1	85.9
	Total	37.1	94.8	68.6	59.9

ASR = Age-standardised rate

Figure 36 All cardiovascular disease mortality (per 100,000, ASR) among Asian people in Waitemata aged 15-74 by sex and ethnicity (prioritised), 2002-2005



ASR = Age-standardised rate

Ischaemic heart disease

As with all cardiovascular disease mortality, the ischaemic heart disease mortality rate was higher for men than women among people aged 25+ years in Waitemata during 2003-2005 (Health Information for Action Team, 2009). The ischaemic heart disease mortality rate was highest for Maori and Pacific people, followed by European/Other people and then Asian people (Health Information for Action Team, 2009).

Among Asian adults aged 15-74 years in Waitemata, Indian people had the highest rates of ischaemic heart disease, particularly for men (more than 6 times that for Chinese men and over 2 times that for Other Asian men) during 2002-2005 (see Table 43 and Figure 37). A similar pattern was evident nationwide.

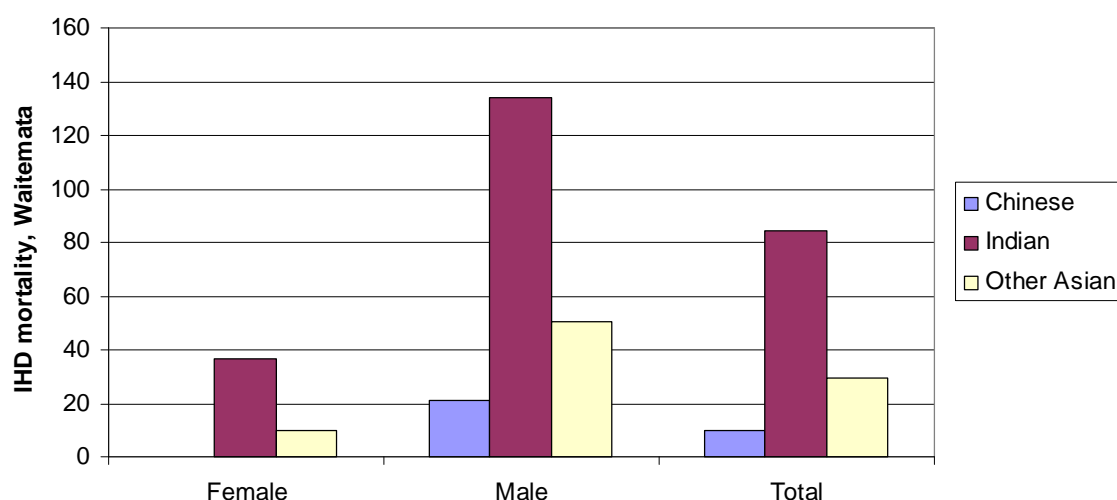
Table 43 Ischaemic heart disease mortality (per 100,000, ASR) among Asian people aged 15+ by ethnicity (prioritised), 2002-2005

		Chinese	Indian	Other Asian	Total
Waitemata	Female	N.A.	36.4	9.6	8.6
	Male	21.3	134.3	50.7	51.7
	Total	9.9	84.1	29.8	28.9
New Zealand	Female	7.4	36.3	22.3	17.6
	Male	25.7	111.6	66.5	59.5
	Total	16.4	74.2	41.0	37.5

ASR = Age-standardised rate

N.A.: rate not calculated due to small number of deaths.

Figure 37 Ischaemic heart disease mortality (per 100,000, ASR) among Asian people in Waitemata aged 15+ by ethnicity (prioritised), 2002-2005



ASR = Age-standardised rate

Diabetes

The prevalence of diabetes among Asian people in Waitemata did not significantly differ from those for other ethnicities in the 2006/07 New Zealand Health Survey (see Table 44). Unfortunately level 2 ethnicity data are not currently available to enable Asian ethnic group comparisons from this survey.

Table 44 Age standardised prevalence of self-reported diabetes, adults 15+ yrs, 2006/07 NZHS

		Maori	Pacific	Asian	Other	Total
Waitemata DHB		3.2 (1.9 - 5.1)	6.0 (3.6 - 9.3)	2.9 (1.5 - 5.2)	2.6 (1.5 - 4.1)	3.0 (1.9 - 4.3)
	Female	4.5 (2.9 - 6.6)	7.2 (4.1 - 11.6)	5.8 (3.8 - 8.6)	3.1 (2.0 - 4.5)	3.7 (2.6 - 5.1)
	Male	3.8 (2.6 - 5.5)	6.6 (4.6 - 9.0)	4.3 (2.9 - 6.1)	2.8 (1.8 - 4.2)	3.3 (2.3 - 4.3)
	Total	4.1 (3.0 - 5.4)	7.5 (5.2 - 10.4)	3.7 (2.4 - 5.4)	3.3 (2.6 - 4.1)	3.7 (3.1 - 4.4)
New Zealand	Female	5.7 (4.3 - 7.4)	9.1 (6.0 - 13.1)	7.4 (5.4 - 9.7)	3.9 (3.1 - 4.7)	4.7 (4.0 - 5.4)
	Male	4.8 (3.9 - 5.9)	8.3 (6.5 - 10.4)	5.4 (4.3 - 6.8)	3.6 (3.0 - 4.2)	4.2 (3.8 - 4.5)
	Total					

ASR = Age-standardised rate

Source: New Zealand Health Survey 2006/07, HDIU

Cancer

Lung cancer

In Waitemata, lung cancer registrations were more common among men than women aged 25+ years during 2003-2005 (see Table 45). There was no significant difference between lung cancer registrations among Asian and European/Other people in Waitemata.

Table 45 Lung cancer registration (per 100,000, ASR) among people in Waitemata aged 25+ by ethnicity (prioritised), 2003–05

	Maori	Pacific	Asian	Other	Total
Female (95% CI)	79.6 (43.5–133.6)	48.6 (23.3–89.4)	16.0 (5.9–34.9)	35.3 (30.3–41.0)	36.1 (31.3–41.4)
Male (95% CI)	124.0 (77.7–187.8)	138.8 (83.6–216.8)	52.2 (27.8–89.3)	52.9 (46.4–60.1)	58.6 (52.0–65.7)
Total (95% CI)	99.8 (69.9–138.2)	85.7 (57.4–123.1)	32.0 (19.3–50.0)	42.7 (38.7–47.0)	45.8 (41.9–50.0)

ASR = Age-standardised rate, CI = confidence interval

Source: HDIU

Lung cancer registrations among men and women were combined to enable Asian ethnic comparison in Waitemata (see Table 46). Registrations were more common among Other Asian people than Chinese or Indian people during 2002-05.

Table 46 Lung cancer registration (per 100,000, ASR) among people in Waitemata by Asian ethnic group, adults 25-74yrs, age-standardised rate per 100,000 for 2002-2005

Chinese	Indian	Other Asian	Total
17.7	12.1	30.2	20.6

Overall for the lung cancer mortality in Waitemata was significantly lower than the national rate; the rate for males was significantly higher than that for females (Health Information for Action Team, 2009). Lung cancer mortality for Asian people was significantly lower than that for Maori but was otherwise not significantly different to the other ethnic groups (see Table 47).

Table 47 Lung cancer mortality (per 100,000, ASR) among people in Waitemata aged 25+ by ethnicity (prioritised), 2003–05

	Maori	Pacific	Asian	Other	Total
Female (95% CI)	81.8 (45.8–134.9)	25.0 (8.1–58.3)	*	24.5 (20.5–29.2)	25.5 (21.6–29.9)
Male (95% CI)	126.1 (75.9–196.9)	96.2 (49.7–168.0)	34.3 (15.7–65.1)	42.8 (36.9–49.2)	46.8 (41.0–53.2)
Total (95% CI)	99.5 (68.9–139.0)	54.0 (31.4–86.4)	20.1 (10.0–35.9)	32.4 (29.0–36.2)	34.8 (31.4–38.5)

*: rate not calculated due to small number of deaths

Source: HDIU

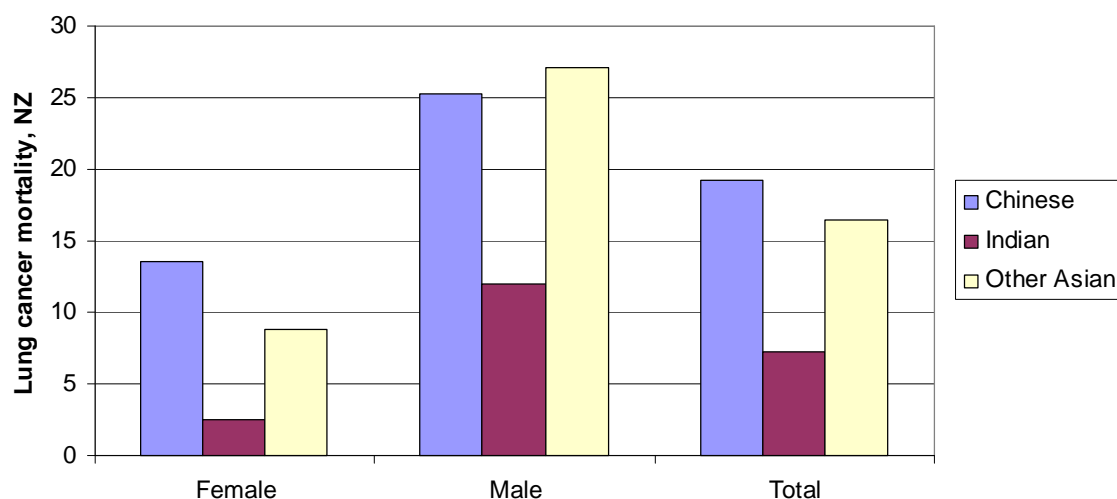
Among Asian ethnic groups, Indian people had the lowest rate of lung cancer in both Waitemata and nationally (see Table 48 and Figure 38).

Table 48 Lung cancer mortality (per 100,000, ASR) among people in Waitemata aged by ethnicity (prioritised), 2002-2005

		Chinese	Indian	Other Asian	Total
Waitemata DHB	Female	12.2	6.2	N.A.	8.0
	Male	29.9	N.A.	46.1	28.7
	Total	20.9	3.1	21.1	18.2
New Zealand	Female	13.5	2.5	8.8	9.5
	Male	25.3	12.0	27.1	21.6
	Total	19.2	7.3	16.4	15.3

ASR = Age-standardised rate

Figure 38 Lung cancer mortality (per 100,000, ASR) among Asian people aged 25+ in New Zealand by ethnicity (prioritised), 2002-2005



ASR = Age-standardised rate

Breast cancer

Breast cancer registrations in Waitemata did not differ significantly from the national rates (Health Information for Action Team, 2009). Asian women had a lower rate of breast cancer registration than European/Other women, both in Waitemata (Table 49) and New Zealand (Health Information for Action Team, 2009).

Table 49 Breast cancer registration (per 100,000, ASR 95%, CI) among women aged 25+ in Waitemata, 25+ years by ethnicity (prioritised), 2003–05

Maori	Pacific	Asian	European/ Other	Total
165.7 (117.8–226.5)	113.6 (72.8–169.0)	119.7 (92.8–152.0)	157.1 (145.5–169.4)	153.2 (142.8–164.2)

ASR = Age-standardised rate, CI = confidence interval

Source: HDIU

Among Asian women, Chinese women had a slightly lower rate of breast cancer registration than Indian and Other Asian in women aged 25-74 years (Table 50).

Table 50 Breast cancer registration (per 100,000, ASR) among Asian women aged 25-74 in Waitemata by ethnicity (prioritised), 2002-2005

Chinese	Indian	Other Asian	Total
112.2	134.1	131.2	123.4

ASR = Age-standardised rate

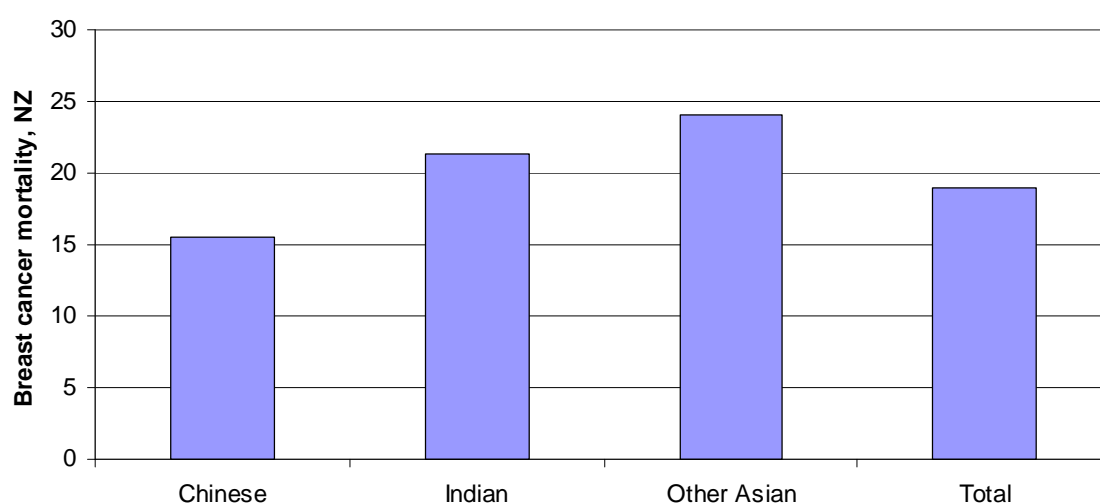
Nationally, Chinese women also had a lower breast cancer mortality rate than Indian and Other Asian women (see Table 51 and Figure 39).

Table 51 Breast cancer mortality (per 100,000, ASR) among Asian women aged 25+ by ethnicity, 2002-2005

DHB/NZ	Chinese	Indian	Other Asian	Total
Waitemata DHB	19.8	N.A.	14.9	13.5
New Zealand	15.5	21.3	24.1	18.9

ASR = Age-standardised rate

Figure 39 Breast cancer mortality (per 100,000, ASR) among Asian women aged 25+ in NZ by ethnicity, 2002-2005



ASR = Age-standardised rate

Prostate cancer

Prostate cancer registrations among Asian men were significantly lower than those for European/Other men in both Waitemata and New Zealand (see Table 52).

Table 52 Prostate cancer registration (per 100,000, ASR) among men aged 25+ by ethnicity (prioritised), 2003–05

	Maori	Pacific	Asian	Other	Total
Waitemata (95% CI)	126.3 (76.0–197.2)	203.8 (130.6–303.2)	56.0 (33.7–87.5)	185.7 (172.9–199.2)	175.8 (164.2–188.1)
New Zealand (95% CI)	141.8 (127.1–157.8)	164.6 (140.0–192.1)	61.6 (50.3–74.7)	184.5 (180.3–188.8)	175.3 (171.5–179.2)

ASR = Age-standardised rate, CI = confidence interval

Source: HDIU

In New Zealand, Asian men also experienced significantly lower prostate cancer mortality than European/Other men (see Table 53 and Figure 40).

Table 53 Prostate cancer mortality (per 100,000, ASR) among men aged 25+ by ethnicity (prioritised), 2003–05

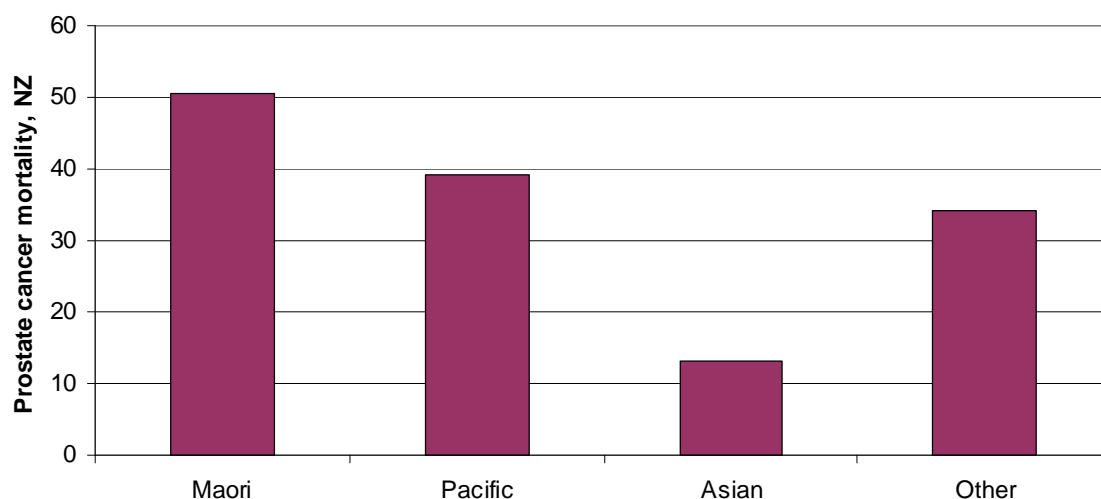
	Maori	Pacific	Asian	Other	Total
Waitemata (95% CI)	*	70.2 (28.2–144.7)	*	33.0 (28.0–38.5)	32.8 (28.1–38.1)
New Zealand (95% CI)	50.4 (40.7–61.7)	39.3 (26.3–56.5)	13.2 (7.2–22.1)	34.3 (32.6–36.0)	34.4 (32.8–36.1)

* Rates not presented for groups with small numbers

ASR = Age-standardised rate, CI = confidence interval

Source: HDIU

Figure 40 Prostate cancer mortality (per 100,000, ASR) among men aged 25+ in New Zealand by ethnicity (prioritised), 2003–05



ASR = Age-standardised rate

Cervical cancer

Asian women had a higher cervical cancer registration rate than European/Other women in Waitemata and New Zealand although this effect was only statistically significant nationally (see Table 54).

Table 54 Cervical cancer registration (per 100,000, ASR) among women aged 25+, 2003–05

	Maori	Pacific	Asian	Other	Total
Waitemata (95% CI)	*	*	14.6 (6.7–27.8)	10.2 (7.2–14.0)	11.1 (8.4–14.5)
New Zealand (95% CI)	19.2 (15.2–24.0)	21.6 (15.0–30.2)	20.3 (15.2–26.6)	9.7 (8.7–10.9)	11.3 (10.3–12.4)

* Rates not presented for groups with small numbers.

ASR = Age-standardised rate, CI = confidence interval

Source: HDIU

However, cervical cancer mortality was no different between Asian and European/Other women nationally (see Table 55 and Figure 41).

Table 55 Cervical cancer mortality (per 100,000, ASR) among women aged 25+ years by ethnicity (prioritised), 2003–05

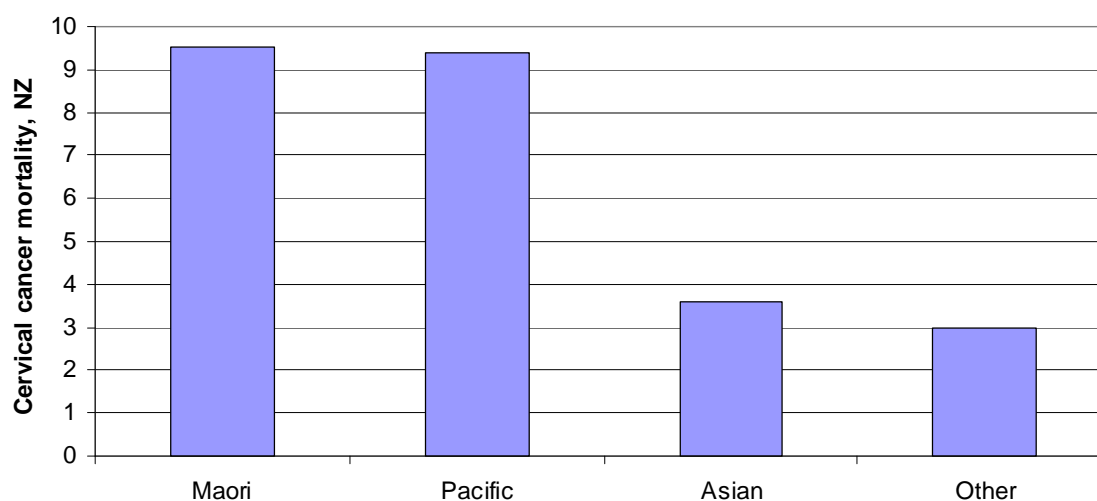
		Maori	Pacific	Asian	Other	Total
Waitemata (95% CI)	Female	*	26.5 (8.6–62.0)	*	5.1 (3.2–7.7)	5.2 (3.5–7.5)
New Zealand (95% CI)	Female	9.5 (6.7–13.2)	9.4 (5.1–15.7)	3.6 (1.5–7.5)	3.0 (2.5–3.5)	3.7 (3.2–4.3)

* Rates not presented for groups with small numbers.

ASR = Age-standardised rate, CI = confidence interval

Source: HDIU

Figure 41 Cervical cancer mortality (per 100,000, ASR) among people in NZ aged 25+ by ethnicity (prioritised), 2003–05



ASR = Age-standardised rate

Colorectal cancer

Overall, the rate of colorectal cancer registrations in Waitemata was significantly lower than that observed nationally (Health Information for Action Team, 2009). Males had a significantly higher rate than females (Health Information for Action Team, 2009). In Waitemata, European/Other people had a significantly higher rate than Asian people (Table 56).

Table 56 Colorectal cancer registrations (per 100,000, ASR) among people in Waitemata aged 25+ years by ethnicity (prioritised), 2003–05

	Maori	Pacific	Asian	Other	Total
Female (95% CI)	46.6 (21.3–88.5)	46.9 (22.5–86.3)	28.6 (14.8–50.0)	70.8 (63.8–78.5)	66.9 (60.5–73.8)
Male (95% CI)	39.0 (14.3–84.8)	66.6 (26.8–137.2)	58.8 (35.9–90.8)	85.6 (77.1–94.7)	82.3 (74.5–90.8)
Total (95% CI)	41.8 (23.4–68.9)	52.5 (30.6–84.1)	42.7 (29.2–60.3)	77.1 (71.6–82.9)	73.5 (68.5–78.8)

ASR = Age-standardised rate, CI = confidence interval

Source: HDIU

Among Asian ethnic groups nationally, Indian men and women had a lower rate of colorectal mortality compared with Chinese and Other Asian people (see Table 57). In Waitemata Chinese women had the lowest rate of colorectal mortality among Asian women (see Table 57 and Figure 42).

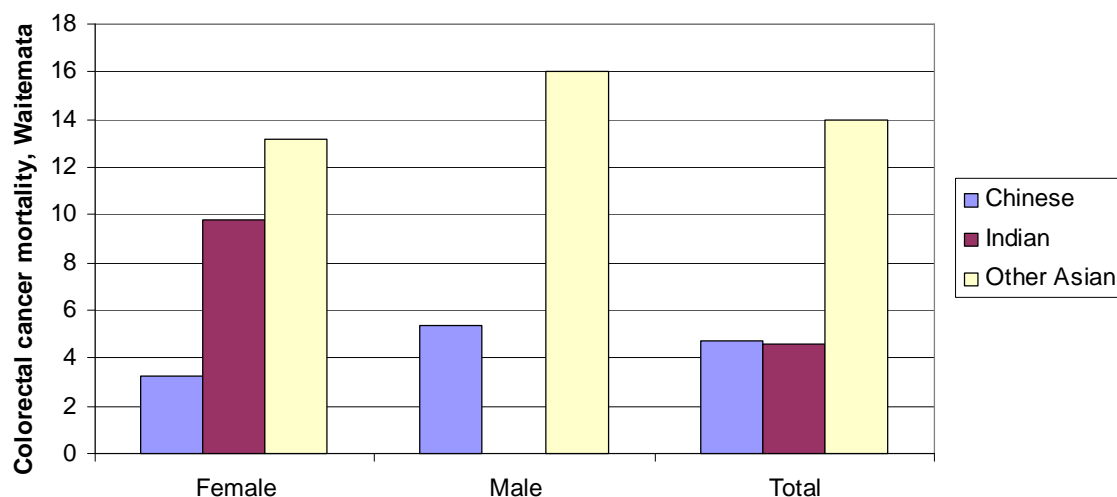
Table 57 Colorectal cancer mortality (per 100,000, ASR) among Asian people aged 25+ by sex and ethnicity (prioritised), 2002-2005

		Chinese	Indian	Other Asian	Total Asian
Waitemata	Female	3.2	9.8	13.2	6.7
	Male	5.4	N.A.	16.0	6.3
	Total	4.7	4.6	14.0	6.7
New Zealand	Female	5.9	3.6	9.2	6.2
	Male	13.4	4.5	11.0	10.7
	Total	9.7	4.1	9.9	8.4

ASR = Age-standardised rate

N.A. rate not calculated due to very small number.

Figure 42 Colorectal cancer mortality (per 100,000, ASR) among Asian people in Waitemata aged 25+ yrs by sex and ethnicity, 2002-2005



ASR = Age-standardised rate

Respiratory disease

Asian people were less likely to report taking asthma medication than European/Other people in Waitemata and New Zealand, in the 2006/07 National Health survey (see Table 58).

Table 58 Medicated asthma (%) among people aged 15+ by sex and ethnicity, 2006/07

		Maori	Pacific	Asian	Other	Total
Waitemata (95% CI)	Female	16.4 (13.3 - 20.0)	9.4 (5.9 - 14.1)	4.6 (2.2 - 8.4)	11.8 (9.2 - 14.7)	11.3 (8.8 - 14.1)
	Male	10.1 (6.9 - 14.0)	5.9 (2.8 - 10.7)	3.0 (0.8 - 7.4)	8.7 (6.3 - 11.7)	8.1 (5.7 - 11.0)
	Total	13.5 (10.7 - 16.6)	7.7 (4.9 - 11.5)	3.8 (1.7 - 7.4)	10.3 (8.0 - 13.1)	9.7 (7.4 - 12.0)
New Zealand (95% CI)	Female	19.3 (16.8 - 21.9)	11.0 (8.0 - 14.7)	5.4 (3.7 - 7.5)	13.8 (12.3 - 15.3)	13.2 (11.9-14.6)
	Male	11.8 (9.3 - 14.7)	6.9 (4.2 - 10.5)	3.5 (1.9 - 5.8)	10.2 (8.9 - 11.7)	9.5 (8.3 - 10.8)
	Total	15.8 (14.0 - 17.7)	9.0 (6.9 - 11.6)	4.5 (3.2 - 6.2)	12.1 (10.9 - 13.3)	11.4 (10.6-12.2)

ASR = Age-standardised rate, CI = confidence interval

Source: 2006/07 New Zealand Health Survey, HDIU

Injury

In Waitemata, Asian people had similar unintentional injury mortality to European/Other people; however, the mortality rate for Asian people was significantly lower than those of European/Other people nationwide (see Table 59).

Table 59 Unintentional injury mortality (per 100,000, ASR) among people of all ages by sex and ethnicity (prioritised), 2003-05

		Maori	Pacific	Asian	Other	Total
Waitemata (95% CI)	Female	9.2 (3.7 - 19.1)	N/A	11.6 (5.6 - 21.3)	8.7 (6.9 - 10.9)	9.2 (7.5 - 11.3)
	Male	45.6 (27.9 - 70.4)	17.0 (6.8 - 35.1)	16.6 (9.3 - 27.4)	20.9 (17.3 - 24.9)	22.1 (18.8 - 25.7)
	Total	25.5 (16.8 - 37.0)	8.1 (3.3 - 16.7)	13.9 (9.0 - 20.6)	14.7 (12.7 - 16.8)	15.4 (13.6 - 17.4)
New Zealand (95% CI)	Female	24.2 (20.9 - 27.9)	9.9 (6.6 - 14.2)	8.9 (6.4 - 12.1)	11.4 (10.7 - 12.2)	13.3 (12.5 - 14.1)
	Male	62.2 (56.6 - 68.3)	32.6 (26.3 - 40.0)	18.2 (14.4 - 22.8)	28.3 (26.9 - 29.8)	32.2 (30.9 - 33.7)
	Total	42.0 (38.8 - 45.4)	20.7 (17.2 - 24.7)	13.1 (10.9 - 15.7)	19.7 (18.9 - 20.5)	22.4 (21.7 - 23.2)

ASR = Age-standardised rate, CI = confidence interval

Source: HDIU

Mental Health

Concepts of mental health are strongly culture-specific, so estimates based on self-report should be interpreted with care. Further, reliable estimates of the prevalence of psychiatric morbidity (e.g. anxiety and depressive disorders) in the Asian population are not currently available for New Zealand (Ministry of Health, 2006). In the absence of such information, the following indicators have been used in this report: self-reported chronic mental health, high or very high probability of having an anxiety or depressive disorder, three scales from the eight-scale SF-36 and suicide mortality rate.

Approximately 12% of adults reported a chronic mental health condition in Waitemata (see Table 60). Asian people (men and women combined) were less likely to report a chronic mental health condition than European/Other people, Maori and all ethnic groups combined.

Table 60 Self-reported chronic mental health condition (% ASR) among people aged 15+ in Waitemata by sex and ethnicity, 2006/07

	Maori	Pacific	Asian	Other	Total
Female (95% CI)	15.2 (11.9–19.0)	8.3 (5.2–12.4)	4.6 (2.1–8.5)	15.2 (12.6–18.1)	13.8 (11.2–16.6)
Male (95% CI)	9.2 (6.3–12.9)	6.9 (3.6–11.6)	3.7 (1.5–7.6)	10.9 (8.4–13.9)	9.9 (7.5–12.8)
Total (95% CI)	12.4 (9.6–15.7)	7.6 (4.8–11.3)	4.2 (2.0–7.7)	13.1 (10.7–15.9)	11.9 (9.4–14.1)

ASR = Age-standardised rate, CI = confidence interval

Source: 2006/07 New Zealand Health Survey, HDIU

The prevalence of high or very high probability of having an anxiety or depressive disorder did not differ significantly between Waitemata and NZ (data not shown). There was no difference in the prevalence of high or very high probability of having an anxiety or depressive disorder between Asian people and the other ethnic groups (see Table 61).

Table 61 High or very high probability of having an anxiety or depressive disorder (% ASR) among people in Waitemata aged 15+ years by sex and ethnicity, 2006/07

	Maori	Pacific	Asian	Other	Total
Female (95% CI)	9.3 (7.0–12.0)	10.4 (7.1–14.5)	6.5 (3.8–10.3)	4.8 (3.2–6.8)	5.4 (3.8–7.4)
Male (95% CI)	6.4 (4.3–9.2)	8.7 (5.0–13.9)	4.2 (1.9–7.9)	3.7 (2.2–5.9)	4.1 (2.6–6.1)
Total (95% CI)	8.0 (6.1–10.2)	9.6 (6.8–13.0)	5.4 (3.4–8.2)	4.3 (2.8–6.2)	4.8 (3.3–6.3)

ASR = Age-standardised rate, CI = confidence interval

Source: 2006/07 New Zealand Health Survey, HDIU

As reported in 'Asian Health Chart Book', reliable estimates of the prevalence of psychiatric morbidity (e.g. anxiety and depressive disorders) in the Asian population are not currently available for New Zealand. In the absence of such information, three scales from the eight-scale SF-36 (a standardised health status instrument included in the 2002/03 New Zealand Health Survey) were used: mental health, vitality and social functioning.

Scores for each of the three scales were expressed on a 0–100 scale, with higher scores representing better self-perceived health (Table 62).

Table 62 Mean SF-36 scores (ASR) among Asian people in New Zealand by sex and ethnicity, 2002/03

	Chinese		Indian		Other Asian	
	Female	Male	Female	Male	Female	Male
SF-36 mental health (95% CI)	83.6 (81.2-85.9)	84.8 (82.2-87.5)	81.9 (77.8-85.9)	81.5 (77.1-86)	80.5 (77.1-83.9)	85.1 (82.2-87.9)
SF-36 vitality (95% CI)	70.7 (67.6-73.8)	75.1 (71.7-78.5)	69.7 (65.6-73.8)	72.9 (67-78.7)	67.9 (63.2-72.5)	77.3 (73.4-81.2)
SF-36 social functioning (95% CI)	94.2 (91.3-97.2)	95.3 (92.5-98.2)	94.7 (92.1-97.3)	94.4 (90.8-98.1)	90.2 (84.5-95.8)	91.0 (85.8-6.1)

ASR = Age-standardised rate, CI = confidence interval, SF-36 = Short Form Health Survey, SF-36 scores = self-perceived health on a scale from 0-100, with a higher number representing better health
Source: 2002/03 New Zealand Health Survey (Ministry of Health, 2006)

Asian people had a lower suicide rate than European/Other people, both in Waitemata and NZ (see Table 63). Asian in Waitemata also had a lower suicide mortality rate for females and males combined than in New Zealand during 2003-2005 (Table 63).

Table 63 Suicide mortality (per 100,000, ASR) among people aged 5+ by sex and ethnicity (prioritised), 2003-05

		Maori	Pacific	Asian	Other	Total
Waitemata (95% CI)	Female	N/A	N/A	N/A	5.5 (3.7 - 7.9)	4.6 (3.2 - 6.5)
	Male	17.6 (8.4 - 32.4)	12.8 (4.1 - 29.8)	N/A	18.7 (15.1 - 22.9)	17.1 (14.1-20.5)
	Total	10.9 (5.7 - 19.1)	8.3 (3.3 - 17.2)	3.0 (1.0 - 7.0)	11.9 (9.9 - 14.2)	10.6 (8.9 - 12.4)
New Zealand (95% CI)	Female	9.0 (7.1 - 11.4)	3.8 (2.0 - 6.7)	4.8 (3.0 - 7.3)	6.1 (5.4 - 6.8)	6.5 (5.8 - 7.1)
	Male	32.3 (28.2 - 36.8)	15.5 (11.3 - 20.8)	7.9 (5.3 - 11.4)	19.7 (18.4 - 21.1)	20.6 (19.4-21.8)
	Total	19.9 (17.7 - 22.3)	9.5 (7.2 - 12.3)	6.1 (4.6 - 8.1)	12.7 (12.0 - 13.5)	13.3 (12.6-14.0)

ASR = Age-standardised rate, CI = confidence interval
Source: HDIU

Indian men had higher suicide mortality rates compared with Chinese nationally during the period 1998-2002 (see Table 64).

Table 64 Crude suicide mortality per 100,000 among Asian people in New Zealand by sex and ethnicity, 1998-2002

	Chinese		Indian		Other Asian	
	Female	Male	Female	Male	Female	Male
All-age mortality	4.4 (2.2-7.8)	7.4 (4.3-11.8)	6.2 (2.8-11.8)	21.9 (15.0-30.9)	6.6 (3.5-11.2)	9.3 (5.2-15.4)
15-24 years	5.3 (1.1-15.6)	13.3 (5.8-26.3)	19.7 (6.4-45.9)	50.0 (25.9-87.4)	14.8 (5.4-32.2)	13.1 (4.3-30.7)

Source: Public Health Intelligence, MoH (Ministry of Health, 2006)

7.3 Disability

In this section, disability for adults includes people with disability in hearing, seeing, speaking, mobility, agility, or people having intellectual, psychiatric or psychological disability. Child disability includes children with disability in hearing, seeing, or speaking, or children who use specialised or technical equipment, or who receive special education, or who have intellectual, psychiatric or psychological disability, or who have a chronic condition.

The disability rates provided in the table below were calculated based on the estimated number of people with a disability divided by the estimated number of people with and without disability from the 2006 Household Disability Survey. Due to survey design and sample issues, data cannot be broken down to DHB level. Instead, estimates were provided by four combined DHB regions.

The rates are provided by age group breakdown, however comparisons shouldn't be made between males and females in the 65+ age group, as there are more older women than men.

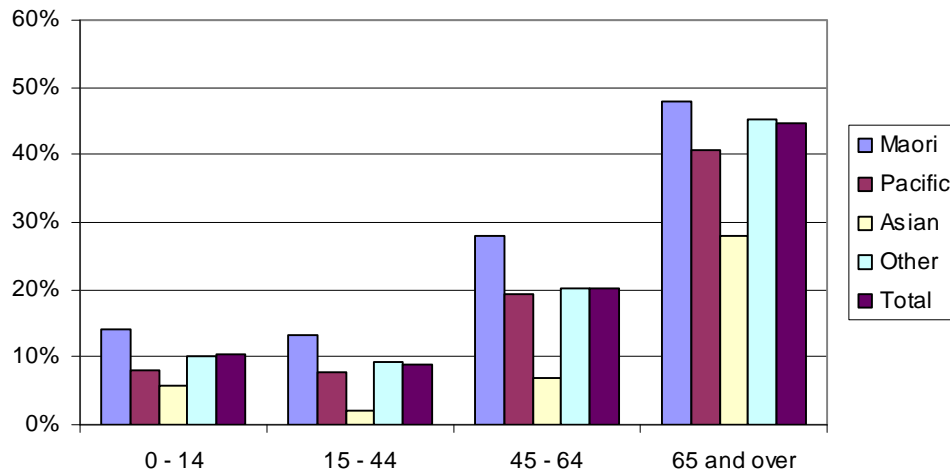
The Northern region had lower proportions of people with experience of disability than New Zealand as a whole.

Table 65 Disability (%) among people (all ages) living in private households by age-group and sex, 2006

	Northern region*				New Zealand			
	0-14 years	15-44 years	45-64 years	65+ years	0-14 years	15-44 years	45-64 years	65+ years
Female	7.7	6.4	15.1	37.0	8.6	8.3	19.1	41.0
Male	10.7	6.7	14.5	36.6	12.1	9.5	20.8	41.2
Total	9.2	6.5	14.8	36.8	10.4	8.9	19.9	41.1

Source: 2006 Disability Survey (Health Information for Action Team, 2009)

Figure 43 Prevalence of any disability by ethnicity (total response) and age, New Zealand, 2006



Source: 2006 Disability Survey (Health Information for Action Team, 2009)

National data shows that Asian people have a low rate of disability in all age groups. This is likely to be mainly due to people with disabilities being less likely to migrate to New Zealand. Disability rates increase with age for adults of all ethnicity and 45% of people 65 years and older have some disability.

7.4 Summary of health outcomes

- Asian had a higher life expectancy than European/Other in 2002-05 in Waitemata and New Zealand. All Asian ethnic groups in Waitemata did better in life expectancy for both females and males than New Zealand as a whole. Among Asian ethnic groups in Waitemata, Chinese males had a higher life expectancy at birth (89.8 years), followed by Indian (84 years) and Other Asian (81.4 years), while it was quite similar for females between Asian ethnic groups (around 90 years).
- Chinese had the lowest adult mortality rate (age-standardised), followed by Indian and Other Asian in Waitemata and NZ.
- Chinese had the lowest avoidable mortality rate than Indian and Other Asian, adjusted for age and sex, in Waitemata and New Zealand.
- The leading causes of adult avoidable mortality for Asian were Ischaemic heart disease, Road traffic injuries, Diabetes, Lung cancer, and Suicide in Waitemata during 2002-05.
- In Waitemata DHB, Asian had a lower prevalence of self-reported excellent or very good health (57.8% for females and males combined) compared with European/Other (64.3%), though not significant.

- The prevalence of heart disease (11%), diabetes (14%) and asthma (16%) were highest in South Asian among Asian sub-groups in 2002/03 national survey.
- For adults during 2002-2005, Indian had a higher avoidable mortality rate of all cardiovascular disease, especially in Indian males, followed by Other Asian, while Chinese had the lowest mortality rate. It was also true with ischaemic heart disease.
- The registration rates of lung cancer in Asian were not significantly different from the ones of European/Other in Waitemata. Other Asian had a higher registration rate of lung cancer than Chinese and Indian in Waitemata 2002-05. The mortality rates of lung cancer in Asian were not significantly different from those of European/Other. Among Asian ethnic groups, Indian had a lower rate of lung cancer mortality than Chinese and Other Asian, in Waitemata and New Zealand.
- Among Asian in Waitemata, Chinese had a slightly lower rate of female breast cancer registration than Indian and Other Asian in adults 25-74 years. Nationwide, Chinese also had a lower mortality rate of female breast cancer than Indian and Other Asian.
- Asian had a significantly lower rate of prostate cancer registration than European/Other, in Waitemata and New Zealand. In New Zealand, Asian also had a significantly lower rate of prostate cancer mortality than European/Other.
- Asian had a higher cervical cancer registration rate than European/Other in New Zealand (2 times of the rate of European/Other nationwide). Nationwide, Asian had a similar rate of cervical cancer mortality to European/other.
- Asian people had a significantly lower rate of colorectal cancer registrations than European/Other in Waitemata. Among Asian ethnic groups, Indian had a relatively lower rate of colorectal cancer mortality compared with Chinese and Other Asian, in Waitemata and New Zealand.
- Compared with European/Other, Asian had a statistically significant lower rate of medicated asthma prevalence (less than half) in Waitemata and New Zealand, in 2006/07 national survey.
- In Waitemata DHB, Asian had a similar rate of unintentional injury mortality to the one of European/other, however, the mortality rates for Asian was significantly lower than those of European/Other nationwide.
- Asian had a lower prevalence of chronic mental health conditions than European/Other in Waitemata DHB, adjusted for age and sex. However, it should be borne in mind that mental health is strongly culture-specific, so estimates based on self-report should be interpreted with care.

8 Health services utilisation

In this chapter, utilisation of primary health care service (including preventive service) and secondary care (including emergency department and outpatient department utilisation, as well as hospitalisations) are reported. Some conditions resulting in hospitalisations are also included in the chapter on health outcomes.

8.1 Primary health care service

Enrolment and utilisation

Primary health organisations (PHOs) are the local structures for delivering and coordinating primary health care services. PHOs bring together doctors, nurses and other health professionals in the community (such as Maori health workers, health promoters, dieticians, pharmacists, physiotherapists, psychologists and midwives) to serve the needs of their enrolled populations. PHOs vary widely in size and structure. All PHOs must provide essential primary health care services to their local enrolled populations.

In the Waitemata DHB district, there are six established PHOs which provide primary health care services to their enrolled populations, as follows:

Coast to Coast PHO (North Rodney)
Harbour Health
HealthWest
Procure Network North Ltd
Te Puna PHO
Waiaora Healthcare Trust

PHO enrolment (self-reported) is lower among Asian people compared with all other ethnic groups in Waitemata (see Table 66). Separate analysis by the Planning and Funding Team within Waitemata DHB indicated a similar PHO enrolment rate of Asian (84%, prioritised ethnicity) in the fourth quarter of 2008 using Primary Health Organisation Enrolment Collection.

Table 66 PHO enrolment (% , ASR) among people aged 15+ years in Waitemata by sex and ethnicity (total response), 2006/07

		PHO Enrolment (95% CI)
Sex	Female	93.1 (90.5 - 95.2)
	Male	89.9 (87.4 - 92.2)
	Total	91.6 (89.4 - 93.8)
Ethnicity	Maori	90.5 (87.7 - 92.8)
	Pacific	90.7 (87.1 - 93.6)
	Asian	82.8 (79.2 - 86.0)
	Other	92.6 (90.1 - 94.7)

ASR = Age-standardised rate, CI = confidence interval
Source: 2006/07 New Zealand Health Survey, HDIU

Asian people in Waitemata were less likely to have visited a general practitioner in the past 12 months than European/Other people in Waitemata in 2006/07 (see Table 67 and Figure 44).

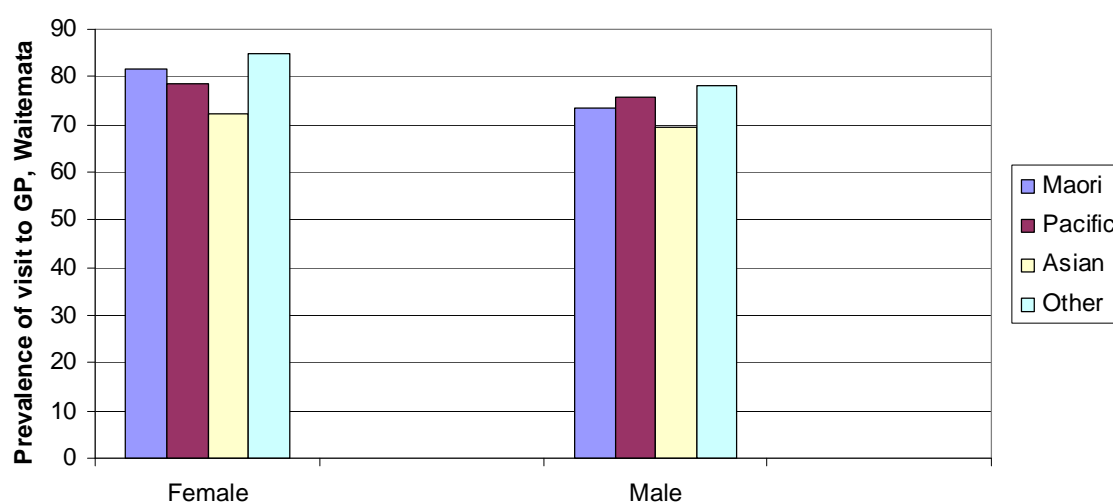
Table 67 Visit to a general practitioner in last 12 months (% ASR) among people in Waitemata aged 15+ by sex and ethnicity (total response), 2006/07

Sex	Maori	Pacific	Asian	Other	Total
Female (95% CI)	81.6 (77.1 - 85.5)	78.4 (72.7 - 83.3)	72.1 (66.1 - 77.6)	84.7 (80.6 - 88.2)	83.0 (79.1 - 86.5)
Male (95% CI)	73.4 (68.5 - 78.0)	75.6 (69.6 - 81.0)	69.3 (63.8 - 74.4)	78.0 (73.9 - 81.7)	76.8 (72.8 - 80.4)
Total (95% CI)	77.8 (73.5 - 81.7)	77.1 (72.0 - 81.6)	70.8 (66.0 - 75.3)	81.4 (77.6 - 84.9)	80.0 (76.6 - 83.5)

ASR = Age-standardised rate, CI = confidence interval

Source: 2006/07 New Zealand Health Survey, HDIU

Figure 44 Visit to a general practitioner in last 12 months (% ASR) among people in Waitemata aged 15+ by sex and ethnicity, 2006/07



ASR = Age-standardised rate

Source: 2006/07 New Zealand Health Survey

Use of primary care services

Compared with Europeans, Chinese, Indian and Other Asian were less likely to have a usual carer or have seen a doctor or dentist after controlling for age, sex and deprivation in the past 12 months (Ministry of Health, 2006). In addition, Chinese, Indian and Other Asian were also significantly less likely to have seen an alternative/complementary provider than European (Ministry of Health, 2006).

Table 68 Self-reported use of primary care services (%) among Asian people aged 15+ in New Zealand by sex and ethnicity, 2002/03

	Chinese		Indian		Other Asian	
	Male	Female	Male	Female	Male	Female
Usual carer	57.0 (45.3-68.7)	80.6 (73.9-87.3)	84.9 (77.8-92.1)	84.0 (75.2-92.8)	84.4 (75.1-93.8)	85.2 (75.8-94.5)
Been to the doctor	48.8 (39.1-58.4)	70.3 (62.7-77.8)	73.6 (63.1-84.1)	74.5 (64.1-84.9)	66.0 (54.9-77.1)	70.6 (60.2-81.1)
Been to a dentist	17.0 (10.5-23.5)	21.9 (15.5-28.2)	23.5 (10.7-36.4)	32.5 (20.4-44.5)	32.9 (21.9-43.9)	25.6 (16.4-34.9)
Complementary/alter native provider use	8.2 (3.5-13.0)	19.9 (13.4-26.5)	8.3 (2.7-13.9)	9.6 (3.2-16.1)	6.9 (1.3-12.6)	12.0 (5.4-18.5)

Source: 2002/03 New Zealand Health Survey (Ministry of Health, 2006)

8.2 Clinical preventive service use

Clinical preventive services are preventive services delivered to individuals within a primary health care setting (Ministry of Health, 2006). Examples of clinical preventive services are immunisation, Well Child care, contraception, antenatal care and screening programmes.

Cancer screening (mammography and cervical cancer screening)

Breast screening coverage (in the last two years) was significantly lower among Asian than European/Other women both in Waitemata and nationally in 2006/07 (see Table 69 and Figure 45). However, Asian people in Waitemata did better in breast screening coverage than in New Zealand (Table 69 and Figure 45).

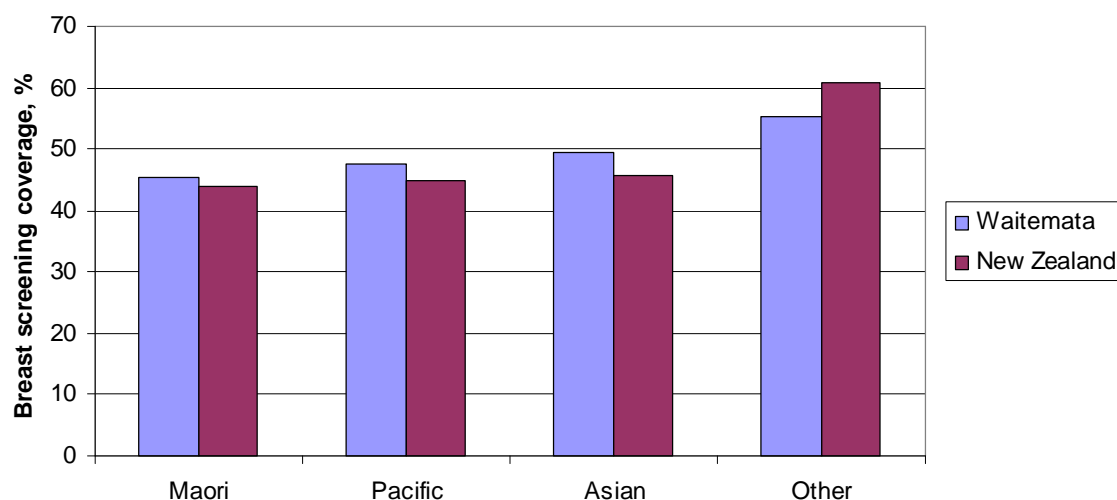
Table 69 Breast screening coverage (%) among women aged 45-69 years by ethnicity, 2006-2007

	Maori	Pacific	Asian	Other	Total
Waitemata (95% CI)	45.5 (43.4 - 47.7)	47.6 (45.1 - 50.1)	49.5 (48.0 - 51.1)	55.3 (54.7 - 56.0)	53.8 (53.3-54.3)
New Zealand (95% CI)	43.9 (43.4 - 44.5)	44.7 (43.8 - 45.6)	45.8 (45.1 - 46.5)	60.7 (60.3 - 60.9)	57.6 (57.2 - 57.8)

CI = confidence interval

Source: HDIU

Figure 45 Breast screening coverage (%) among women aged 45-69 years by ethnicity, 2006-2007



CI = confidence interval

Breast cancer screening uptake for Asian ethnic groups in New Zealand in 2002/03 was lower than for the total population (see Table 70).

Table 70 Breast cancer screening uptake (%) among Asian women aged 50-64 in NZ by ethnicity, 2001/2

	Chinese	Indian	Other Asian	Total population
Mammography (50–64 years)	57.0 (55.2–58.9)	57.5 (54.9–60.3)	56.4 (53.8–59.1)	66.8 (66.4–67.1)

Source: National Screening Unit, Ministry of Health

As with breast cancer screening, Asian women were less likely than European/Other women to have had a cervical smear at the appropriate interval (in the last 3 years) in both Waitemata and New Zealand in 2006/07 (see Table 71 and Figure 46).

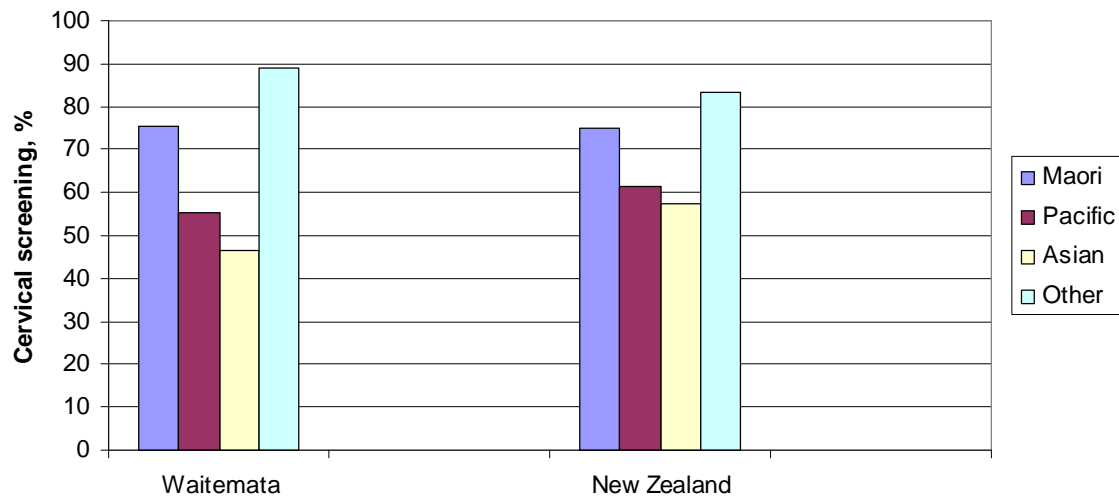
Table 71 Cervical smear in last 3 years (% ASR) among women aged 20-69 who had a primary health care provider by ethnicity, 2006/07

	Maori	Pacific	Asian	Other	Total
Waitemata (95% CI)	75.5 (65.3 - 85.7)	55.4 (36.1 - 74.6)	46.5 (33.5-59.5)	88.9 (84.0 - 93.8)	76.4 (71.2-81.5)
New Zealand (95% CI)	75.1 (72.0 - 78.1)	61.3 (56.0 - 66.6)	57.5 (51.5-63.4)	83.4 (81.3 - 85.5)	78.4 (76.6-80.3)

ASR = age-standardised rate, CI = confidence interval

Source: 2006/07 New Zealand Health Survey, HDIU

Figure 46 Cervical smear in last 3 years (% ASR) among women aged 20-69 who had a primary health care provider by ethnicity, 2006/07



ASR = age-standardised rate

Among Asian ethnic groups, cervical cancer screening uptake was lowest among Other Asian women, followed by Chinese and then Indian women in New Zealand in 2001/03 (see Table 72). Cervical cancer screening uptake was lower among all Asian ethnic groups than among the total population.

Table 72 Cervical cancer screening uptake (%) among Asian women aged 20-69 in NZ, by ethnicity, 2001/3

Cervical smear coverage (%)				
Age	Chinese	Indian	Other Asian	Total population
20-69 years	52.5 (51.7-53.2)	64.6 (63.4-65.7)	44.6 (43.8-45.4)	73.0 (72.6-73.1)

Source: National Screening Unit, Ministry of Health

A community-based survey was conducted recently in Auckland and 234 questionnaires (women were mainly identified through accessing the database of Chinese New Settlers Services Trust (CNSST), an NGO in Auckland), were administered to ascertain the uptake of cervical screening among Chinese women (Gao, Paterson, DeSouza, & Lu, 2008). Participants were asked whether they had ever been screened in New Zealand and whether it had occurred in the previous 3 years. The study found that 56.0% (95% CI: 49.4-62.4) reported they had been screened in the last 3 years. This rate was close to 57% among Asian women in 2006/07 NZHS. Factors independently associated with cervical cancer screening practice included age and duration of residence in New Zealand. The most frequently cited reason by women for never having had a smear test was that they “thought it is unnecessary” (39%), followed by “don’t know where to go” (36.6%).

Blood pressure test

The proportion of Asian people in Waitemata who have had a blood pressure check in the previous 12 months was less than that for European/Other people in 2006/07, although this difference was not statistically significant.

Table 73 Blood pressure checks in the previous 12 months (% ASR) among people in Waitemata aged 15+ by sex and ethnicity, 2006/07

	Maori	Pacific	Asian	Other	Total
Female (95% CI)	60.0 (54.5 - 65.4)	69.5 (60.9 - 77.3)	62.4 (55.4 - 69.0)	68.5 (63.6 - 73.1)	67.7 (63.0 - 72.2)
Male (95% CI)	58.3 (52.1 - 64.4)	61.4 (54.0 - 68.4)	57.4 (50.3 - 64.4)	65.9 (60.9 - 70.6)	65.0 (60.2 - 69.6)
Total (95% CI)	59.3 (54.1 - 64.4)	65.7 (59.2 - 71.9)	60.1 (54.1 - 66.0)	67.3 (62.6 - 71.8)	66.5 (59.3 - 67.7)

ASR = age-standardised rate, CI = confidence interval

Source: 2006/07 New Zealand Health Survey, HDIU

Cholesterol test

As with blood pressure testing, the proportion of Asian people in Waitemata who have had cholesterol checks in the last 12 months was less than that for European/Other people in the 2006/07, although this difference was not statistically significant.

Table 74 Cholesterol check in the last 12 months (% ASR) among people aged 15+ in Waitemata by sex and ethnicity, 2006/07

	Maori	Pacific	Asian	Other	Total
Female (95% CI)	25.4 (21.1 - 30.1)	32.9 (26.6 - 39.8)	28.4 (23.1 - 34.0)	33.0 (29.0 - 37.1)	32.6 (28.7 - 36.7)
Male (95% CI)	32.5 (27.4 - 38.0)	36.3 (30.1 - 42.8)	41.9 (36.0 - 47.9)	44.2 (40.1 - 48.4)	43.1 (39.1 - 47.2)
Total (95% CI)	28.4 (24.3 - 32.9)	34.5 (29.3 - 40.0)	34.4 (29.6 - 39.5)	38.0 (34.1 - 42.0)	37.3 (30.6 - 38.0)

ASR = age-standardised rate, CI = confidence interval

Source: 2006/07 New Zealand Health Survey, HDIU

Diabetes test

Interestingly, the proportion of people who had had a diabetes check in the last 12 months was higher (although not statistically significant) among Asian than European/Other people in Waitemata (see Table 75).

Table 75 Diabetes check in the last 12 months (% ASR) among people aged 15+ in Waitemata by sex and ethnicity, 2006/07

	Maori	Pacific	Asian	Other	Total
Female (95% CI)	29.1 (16.9 - 44.0)	27.0 (12.7 - 45.8)	23.0 (13.9 - 34.6)	16.8 (12.9 - 20.6)	18.8 (15.4 - 22.2)
Male (95% CI)	50.2 (14.5 - 85.7)	33.8 (17.1 - 54.2)	29.2 (15.6 - 46.3)	23.7 (18.4 - 29.0)	24.9 (20.2 - 29.6)
Total (95% CI)	37.1 (21.3 - 52.9)	30.0 (18.5 - 43.9)	25.2 (17.4 - 32.9)	20.0 (16.7 - 23.2)	21.5 (18.7 - 24.3)

ASR = age-standardised rate, CI = confidence interval

Source: 2006/07 New Zealand Health Survey, HDIU

Among Asian ethnic groups, after adjusting for age, sex and deprivation, all Asian groups apart from Indian people were less likely to self-report having had a blood pressure test than Europeans in New Zealand (Table 76, Ministry of Health, 2006). Using the same methodology for cholesterol test, Indian people were more likely to self-report having had such a test than European people in the previous 12 months (Table 76, Ministry of Health, 2006). Moreover, both Indian men and women were more likely to self-report having had a test of diabetes than the total population of New Zealand (Table 76, Ministry of Health, 2006).

Table 76 Self-reported cardiovascular screening (%) among Asian people aged 15+ in NZ, by sex and ethnicity, 2002/03

	Chinese		Indian		Other Asian	
	Male	Female	Male	Female	Male	Female
Blood pressure test	33.6 (22.5-44.7)	38.8 (30.7-46.9)	45.1 (32.3-57.9)	49.3 (37.5-61.2)	30.4 (19.2-41.7)	37.1 (25.9-48.2)
Cholesterol test	18.7 (9.3-28.1)	19.3 (12.9-25.7)	36.5 (23.8-49.1)	25.7 (14.5-37.0)	26.7 (16.1-37.3)	18.3 (8.7-28.0)
Diabetes test	17.0 (8.9-25.2)	19.5 (13.1-25.8)	39.4 (25.9-52.9)	28.8 (18.0-39.7)	14.6 (7.1-22.2)	17.6 (8.3-26.9)

Source: 2002/03 New Zealand Health Survey, Ministry of Health

Notes: The crude rate for the total population has not been presented so as to avoid invalid comparisons. Self-reported data on CVD screening are not very well reported.

8.3 Secondary care

Emergency department (ED) utilisation

Emergency department utilisation among Asian people in Waitemata was lower than for other ethnic groups, but this difference was not statistically significant.

Table 77 Age-standardised prevalence rates (percent, and 95% confidence intervals) of use of ED at public hospital in Waitemata, 15+ years, by ethnicity, 2006/07 NZHS

	Maori	Pacific	Asian	Other	Total
Female	8.2 (5.8 - 11.2)	7.3 (4.2 - 11.7)	4.2 (2.0 - 7.6)	6.5 (4.5 - 9.0)	6.4 (4.5 - 8.8)
Male	9.1 (6.1 - 12.8)	7.9 (4.1 - 13.4)	4.5 (2.1 - 8.2)	8.1 (6.1 - 10.6)	7.7 (5.7 - 10.2)
Total	8.6 (6.4 - 11.4)	7.6 (4.7 - 11.4)	4.3 (2.3 - 7.2)	7.3 (5.4 - 9.6)	7.0 (5.1 - 8.9)

Source: 2006/07 New Zealand Health Survey, HDIU

Outpatient department utilisation

Indian people had a higher mean number of visits to the outpatient department than Chinese and Other Asian people in Waitemata in 2007 (see Table 78).

Table 78 Weighted mean visits to outpatient department at public hospital in Waitemata, 15+ years, by Asian ethnic group, 2007

Sex	Chinese	Indian	Other Asian
Male	0.16	0.37	0.22
Female	0.23	0.45	0.25

Note: Weighted according to WHO standard population.

Source: National Non-admitted Patient Collection (NNPAC)

Asian people were less likely to use the outpatient department than other ethnic groups (see Table 79 and Figure 47).

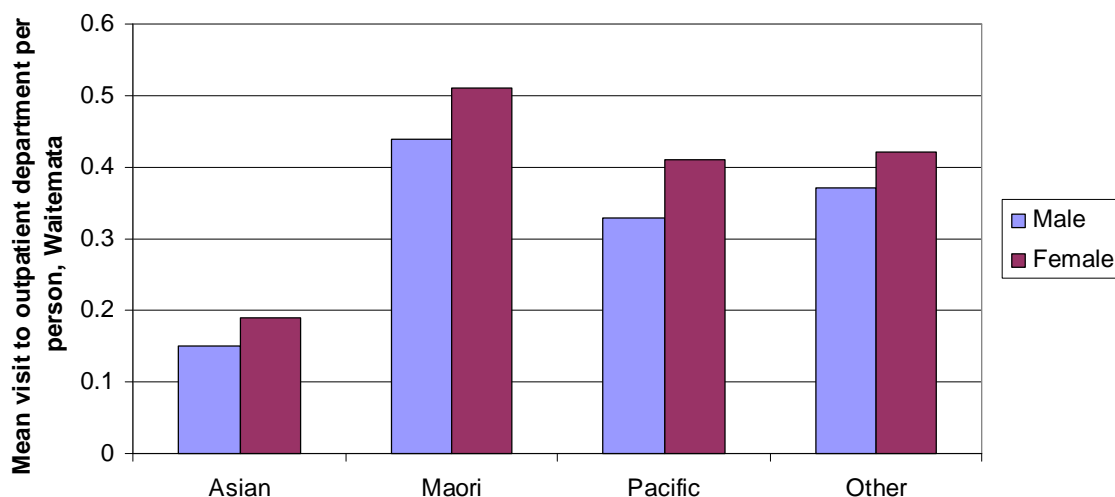
Table 79 Weighted mean visits to outpatient department at public hospital in Waitemata by ethnicity, 15+ years, 2007

Sex	Asian	Maori	Pacific	Other	Total
Male	0.15	0.44	0.33	0.37	0.34
Female	0.19	0.51	0.41	0.42	0.38

Note: Weighted according to WHO standard population.

Source: National Non-admitted Patient Collection (NNPAC)

Figure 47 Weighted mean visits to outpatient department at public hospital in Waitemata by ethnicity, 15+ years, 2007



Source: National Non-admitted Patient Collection (NNPAC)

Hospitalisation

In the 2006/07 New Zealand Health Survey, Asian people in Waitemata were less likely to report use of a public hospital than European/Other people, although the differences are not statistically significant.

Table 80 Age-standardised prevalence (%; 95% confidence intervals) of use of public hospital (excluding emergency department) in Waitemata, 15+ years, by ethnicity, 2006/07

	Maori	Pacific	Asian	Other	Total
Female	19.7 (16.6 - 23.0)	15.8 (11.2 - 21.3)	12.0 (8.5 - 16.3)	16.4 (14.0 - 19.0)	16.0 (13.7 - 18.5)
Male	15.4 (11.8 - 19.5)	10.0 (5.8 - 15.9)	6.0 (3.1 - 10.3)	12.7 (10.3 - 15.4)	12.1 (9.8 - 14.7)
Total	17.7 (15.0 - 20.7)	13.0 (9.6 - 17.2)	9.2 (6.5 - 12.5)	14.6 (12.4 - 17.1)	14.2 (11.2 - 15.2)

Source: 2006/07 New Zealand Health Survey, HDIU

Potentially avoidable hospitalisations – all cause

Potentially avoidable hospitalisations (PAH) are admissions to hospital among people aged under 75 years that might be considered to be avoidable and includes preventable hospitalisations and ambulatory sensitive hospitalisations (Gala, 2008; Ministry of Health, 2006). Preventable hospitalisations refer to hospitalisations resulting from diseases that may be prevented through population-based health promotion strategies (e.g. tobacco tax and smoke free laws, exercise and good diet) (Gala, 2008). Ambulatory sensitive

hospitalisations are hospitalisations resulting from disease able to be looked after in a primary health care setting (e.g. vaccine preventable diseases, diabetes control, asthma prevention) (Gala, 2008).

The avoidable hospitalisation rate for people aged 0-74 years in Waitemata did not differ significantly from the national rate (data not shown). In Waitemata Asian people had the lowest rate of all ethnic groups (see Table 81). Avoidable hospitalisations rates were higher among Asian males than females in Waitemata.

Table 81 Avoidable hospitalisations, 0-74 years, age-standardised rates per 100,000 (and 95% confidence intervals) in Waitemata, 2005-2007

	Maori	Pacific	Asian	Other	Total
Female	5690.4 (5496.5-5889.5)	6006.6 (5780.3-6239.5)	1922.3 (1833.4-2014.3)	2936.3 (2889.8-2983.5)	3178.2 (3137.1-3219.7)
Male	5625.9 (5428.1-5829.0)	6718.5 (6472.5-6971.4)	2210.0 (2109.9-2313.7)	3456.2 (3405.8-3507.2)	3645.5 (3601.0-3690.4)
Total	5663.2 (5524.2-5804.8)	6351.9 (6184.6-6522.5)	2062.2 (1995.2-2130.8)	3191.5 (3157.2-3226.1)	3406.8 (3376.5-3437.2)

Source: HDIU

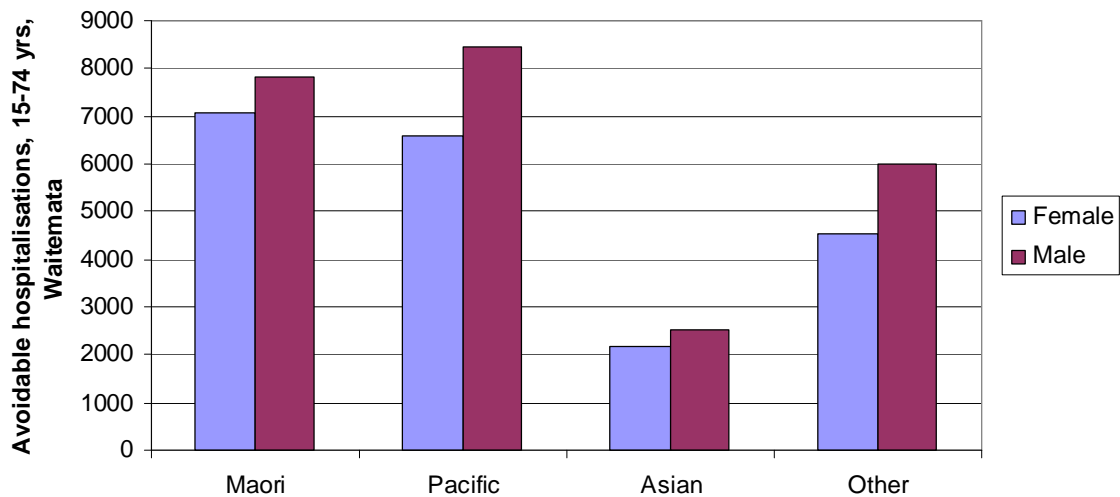
Adult potentially avoidable hospitalisations – all cause

Asian people had the lowest potentially avoidable hospitalisation rate among people aged 15-74 years in Waitemata, followed by European/Other people (see Table 82 and Figure 48).

Table 82 Avoidable hospitalisations, 15-74 years, age-standardised rates per 100,000 in Waitemata, 2005-2007, ethnicity prioritised

	Maori	Pacific	Asian	Other	Total
Female	7056.9	6609.4	2182.2	4524.5	4391.6
Male	7810.9	8434.1	2522.9	6014.5	5678.3
Total	7412.1	7472.0	2340.0	5257.5	5017.3

Figure 48 Age-standardised potentially avoidable hospitalisation rate (per 100,000) in Waitemata for all causes, 15-74 years old, by sex and ethnicity, 2005-2007



Adult potentially avoidable hospitalisations – top 5 causes

The following tables rank the leading causes of potentially avoidable hospitalisation (PAH) among adults according to the number of absolute hospitalisations (regarded as avoidable) for each ethnicity. As these tables do not provide age-standardised rates, care should be taken when comparing the ranking of one ethnic group to another.

The leading causes of PAH for Asian people in Waitemata in 2005-2007 were angina and chest pain, ischaemic heart disease, respiratory infections, cellulitis and kidney/urinary infection (see Table 83).

Table 83 Leading causes of potentially avoidable hospitalisations in Waitemata, 15-74 years old, by ethnicity, 2005-2007, prioritised

Ethnic group	Waitemata	
	Causes	Rank
Maori	Angina and chest pain	1
	Cellulitis	2
	Respiratory infections	3
	CORD*	4
	Road traffic injury	5
Pacific	Angina and chest pain	1
	Respiratory infections	2
	Cellulitis	3
	CORD	4
	Ischaemic heart disease	5
Asian	Angina and chest pain	1
	Ischaemic heart disease	2
	Respiratory infections	3
	Cellulitis	4
	Kidney/urinary infection	5
Other	Angina and chest pain	1
	Ischaemic heart disease	2
	Cellulitis	3
	Respiratory infections	4
	Road traffic injury	5

*: Chronic obstructive respiratory diseases, including bronchitis, emphysema, COPD and bronchiectasis.

The leading causes of Asian ethnic groups are shown in Table 84 and Table 85.

Table 84 Leading causes of potentially avoidable hospitalisations in Waitemata, 15-74 years old, by ethnicity for Asian, 2005-2007, prioritised

Ethnic group	Waitemata	
	Causes	Rank
Chinese	Angina and chest pain	1
	Sexually-transmitted diseases	2
	Respiratory infections	3
	Kidney/urinary infection	4
	Stroke	5
Indian	Angina and chest pain	1
	Ischaemic heart disease	2
	Respiratory infections	3
	Nutrition	4
	Cellulitis	5
Other Asian	Angina and chest pain	1
	Ruptured appendix	2
	Ischaemic heart disease	3
	Respiratory infections	3
	Cellulitis	3
	Road traffic injury	3

Table 85 Leading causes of potentially avoidable hospitalisations in Waitemata, 15-74 years old, by sex and ethnicity for Asian, 2005-2007, prioritised

Ethnic group		Waitemata	
		Causes	Rank
Chinese	Female	Angina and chest pain	1
		Sexually-transmitted diseases	2
		Kidney/urinary infection	3
		Cervical cancer	4
		Stroke	4
	Male	Angina and chest pain	1
		Ischaemic heart disease	2
		Cellulitis	3
		Respiratory infections	3
		Peptic ulcer/Ruptured appendix	4
Indian	Female	Angina and chest pain	1
		Respiratory infections	2
		Nutrition	3
		Sexually-transmitted diseases	4
		Asthma	4
	Male	Angina and chest pain	1
		Ischaemic heart disease	2
		Respiratory infections	3
		Cellulitis	4
		Congestive heart failure	5
Other Asian	Female	Angina and chest pain	1
		Kidney/urinary infection	2
		Sexually-transmitted diseases	3
		Respiratory infections	4
		Cellulitis/Road traffic injuries	5
	Male	Angina and chest pain	1
		Ruptured appendix	2
		Ischaemic heart disease	3
		Hepatitis and liver cancer	4
		Cellulitis/Road traffic injuries	5

Adult potentially avoidable hospitalisations – individual causes

The major causes of potentially avoidable hospitalisations (PAH) among adults will be explored in further detail in this section: ischaemic heart disease, stroke, kidney/urinary tract infections, preventable injuries, respiratory infections.

The denominators that have been used for calculating the avoidable hospitalisation rate at level 1 ethnicity and level 2 ethnicity (for Asian people i.e. Chinese, Indian and Other Asian) have come from different data sources. Direct comparison of a level 2 ethnicity rate with a level 1 ethnicity rate should be avoided.

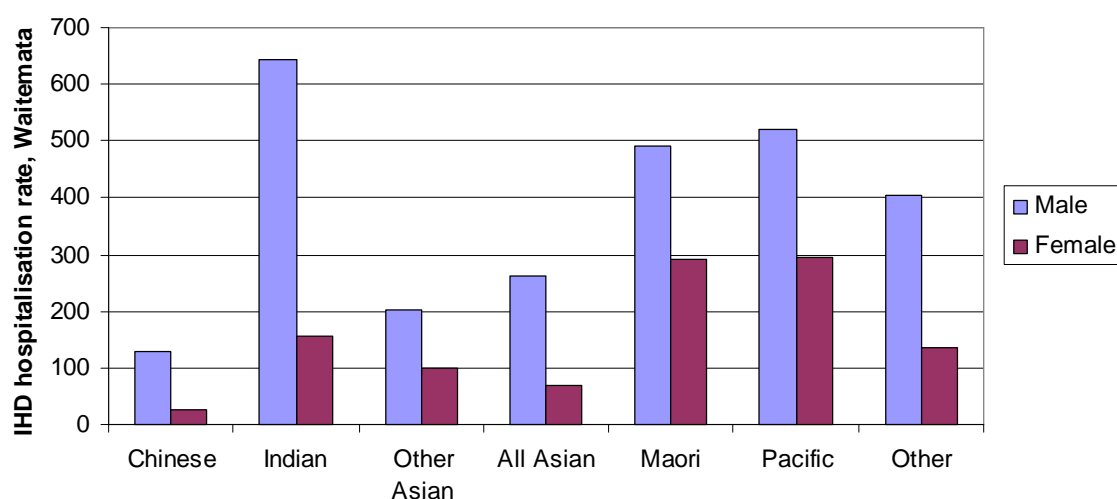
Ischaemic heart disease

Indian people had a higher rate of ischaemic heart disease (IHD) PAH than Chinese and Other Asian people in Waitemata, while Asian people as a whole had a lower rate than European/Other people (Table 86 and Figure 49).

Table 86 Age-standardised potentially avoidable hospitalisation rate (per 100,000) of IHD in Waitemata, 15-74 years old, by sex and ethnicity, 2005-2007

Ethnicity	Male	Female	Total
Chinese	129.7	27.7	75.6
Indian	644.6	155.9	400.4
Other Asian	201.0	100.7	150.4
All Asian	261.9	68.2	158.9
Maori	492.6	291.6	381.6
Pacific	519.7	295.7	400.6
Other	406.0	137.2	268.5

Figure 49 Age-standardised potentially avoidable hospitalisation rate (per 100,000) of IHD in Waitemata, 15-74 years old, by sex and ethnicity, 2005-2007



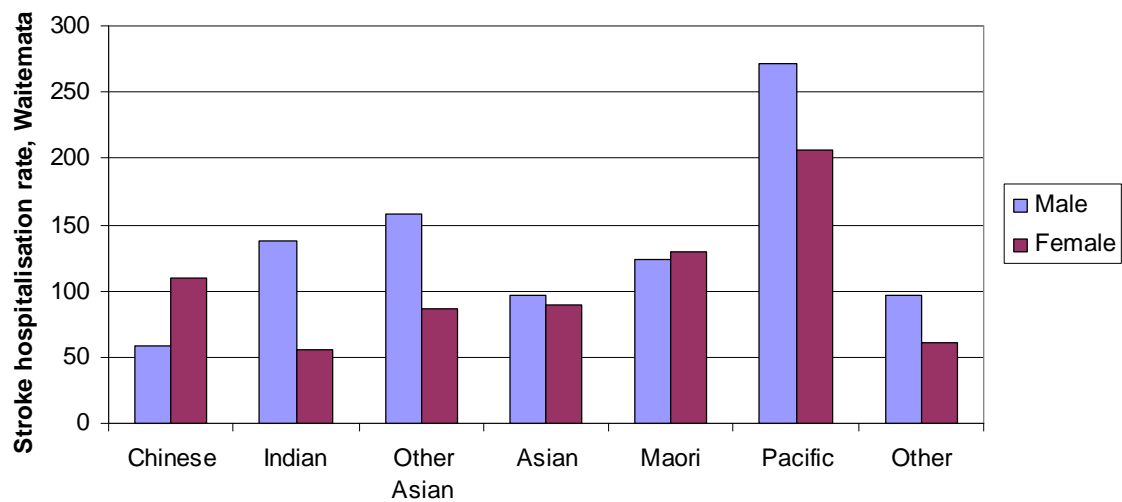
Stroke

Asian people had a very similar rate of stroke PAH to that of European/Other people. Among Asian sub-groups, for men and women & men combined, Chinese had the lowest rate, followed by Indian, while Other Asian had the highest rate among Asian sub-groups in Waitemata (see and Table 87 Figure 50).

Table 87 Age-standardised potentially avoidable hospitalisation rate (per 100,000) of Stroke in Waitemata, 15-74 years old, by sex and ethnicity, 2005-2007

Ethnicity	Male	Female	Total
Chinese	58.4	109.3	82.4
Indian	137.4	56.0	98.6
Other Asian	157.3	86.8	118.1
Asian	96.0	90.0	92.4
Maori	124.3	129.6	128.2
Pacific	272.2	206.4	236.4
Other	97.0	60.6	78.3

Figure 50 Age-standardised potentially avoidable hospitalisation rate (per 100,000) of Stroke in Waitemata, 15-74 years old, by sex and ethnicity, 2005-2007



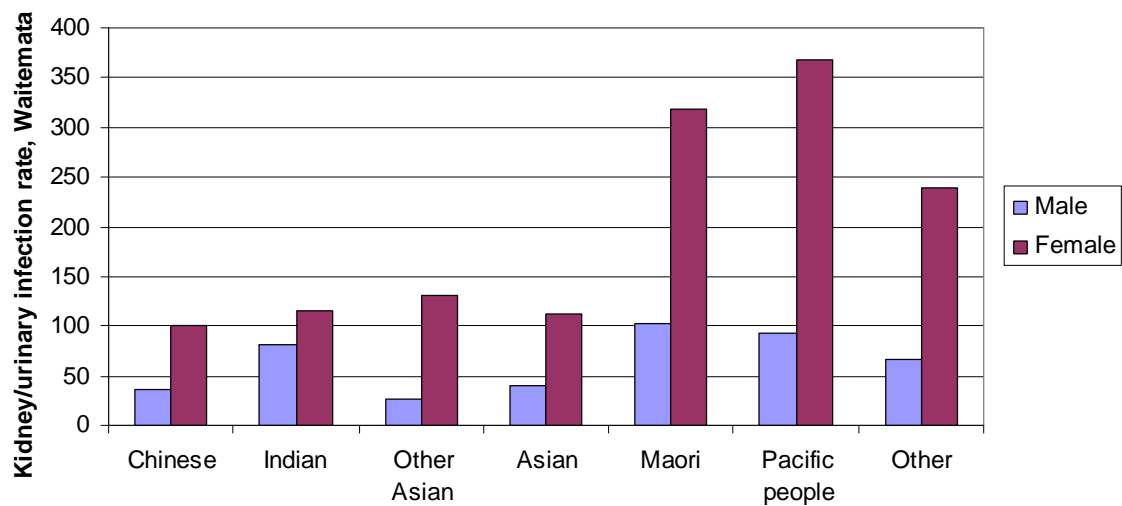
Kidney/urinary infection

Indian people had a slightly greater kidney/urinary infection PAH than Other Asian and Chinese people for women and men combined (see Table 88 and Figure 51). Asian people had the lowest rate among level 1 ethnic groups.

Table 88 Age-standardised potentially avoidable hospitalisation rate (per 100,000) of Kidney/urinary infections in Waitemata, 15-74 years old, by sex and ethnicity, 2005-2007

Ethnicity	Male	Female	Total
Chinese	36.0	100.9	70.3
Indian	81.7	116.3	100.7
Other Asian	26.9	131.0	83.8
Asian	39.6	111.1	77.6
Maori	102.8	317.6	212.8
Pacific	93.0	368.4	239.8
Other	66.4	239.8	153.4

Figure 51 Age-standardised potentially avoidable hospitalisation rate (per 100,000) of Kidney/urinary infections in Waitemata, 15-74 years old, by sex and ethnicity, 2005-2007



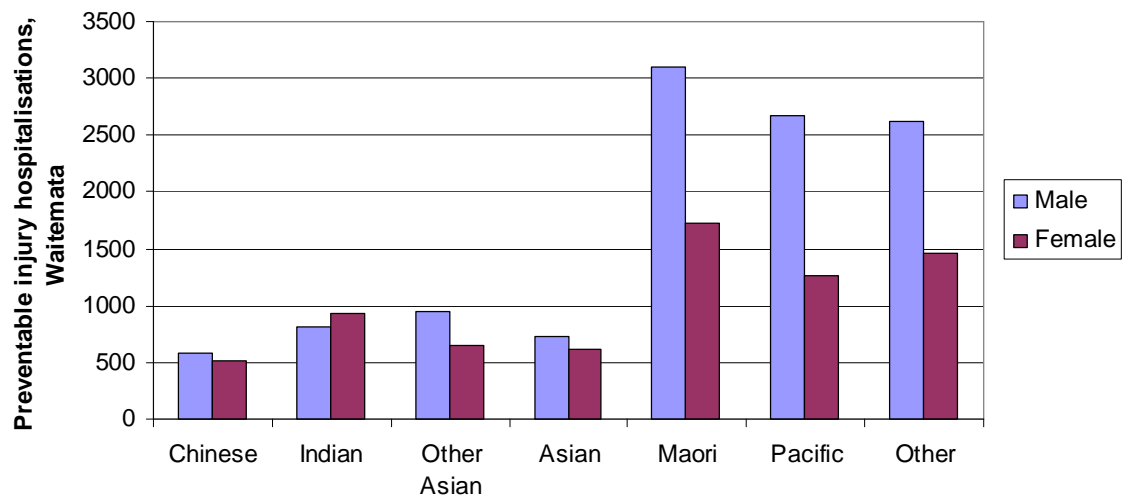
Preventable injuries

As for preventable injuries, Asian people had a lower PAH rate than other ethnic groups (see Table 89 and Figure 52). For women and men combined, Chinese people had the lower rate among Asian ethnic groups.

Table 89 Age-standardised potentially avoidable hospitalisation rate (per 100,000) of Preventable injuries in Waitemata, 15-74 years old, by sex and ethnicity, 2005-2007

Ethnicity	Male	Female	Total
Chinese	574.8	509.8	539.2
Indian	819.0	923.0	863.9
Other Asian	944.8	652.4	791.0
Asian	723.3	611.7	664.1
Maori	3094.9	1719.5	2370.5
Pacific	2671.6	1268.9	1946.1
Other	2628.5	1464.2	2041.6

Figure 52 Age-standardised potentially avoidable hospitalisation rate (per 100,000) of Preventable injuries in Waitemata, 15-74 years old, by sex and ethnicity, 2005-2007



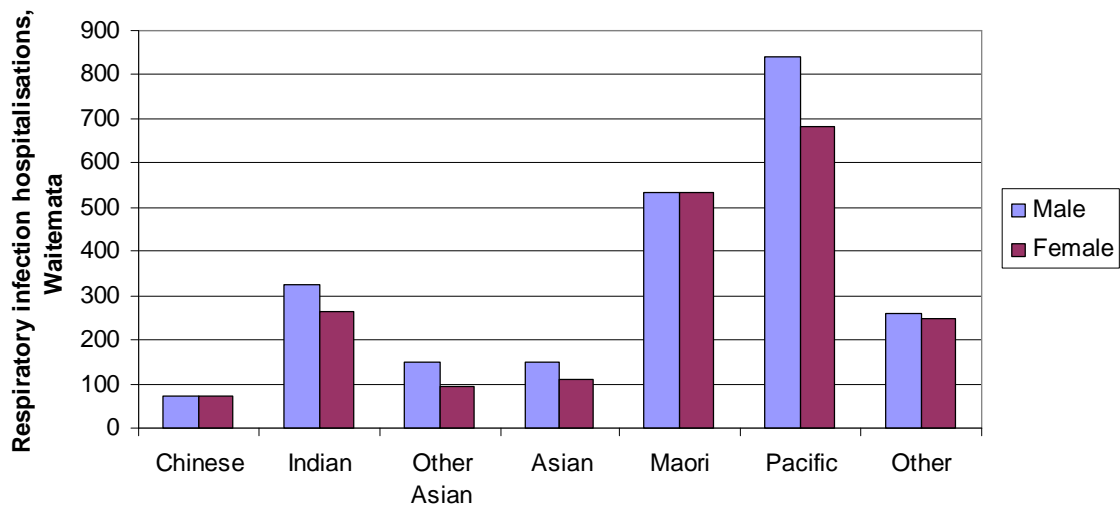
Respiratory infection

The respiratory infection PAH rate of Asian people was approximately half that for European/Other people (see Table 90 and Figure 53). Among Asian sub-groups, Indian people had a higher rate than Chinese people (more than 3 times the rate) and Other Asian people (more than 2 times the rate).

Table 90 Age-standardised potentially avoidable hospitalisation rate (per 100,000) of Respiratory Infections in Waitemata, 15-74 years old, by sex and ethnicity, 2005-2007

Ethnicity	Male	Female	Total
Chinese	73.8	74.1	75.7
Indian	325.1	263.0	288.2
Other Asian	147.8	95.4	117.2
Asian	147.8	111.9	129.2
Maori	532.6	533.6	532.6
Pacific	838.6	682.0	752.0
Other	262.1	249.4	255.3

Figure 53 Age-standardised potentially avoidable hospitalisation rate (per 100,000) of Respiratory Infections in Waitemata, 15-74 years old, by sex and ethnicity, 2005-2007



Adult surgical indicators

A selection of relatively high-cost surgical procedures have been reported in this section. As with hospitalisation rates, adult surgical indicators have been aggregated for 3 years – 2005, 2006 and 2007.

The denominators that have been used for calculating the adult surgical indicators at level 1 ethnicity and level 2 ethnicity (for Asian people i.e. Chinese, Indian and Other Asian) have come from different data sources. Direct comparison of a level 2 ethnicity rate with a level 1 ethnicity rate should be avoided.

Angioplasty

Angioplasty is a therapeutic procedure, usually non-invasive, to treat the narrowed coronary arteries of the heart found in coronary heart disease. In Waitemata and New Zealand, Asian people had a lower rate of angioplasty than other ethnic groups, particularly European/Other people (Figure 54 and Figure 55). Among Asian people, Indian people had the highest intervention rate with this procedure.

Figure 54 Age-standardised surgical intervention rate (per 100,000) of angioplasty in Waitemata, 15-74 years old, by ethnicity, 2005-2007

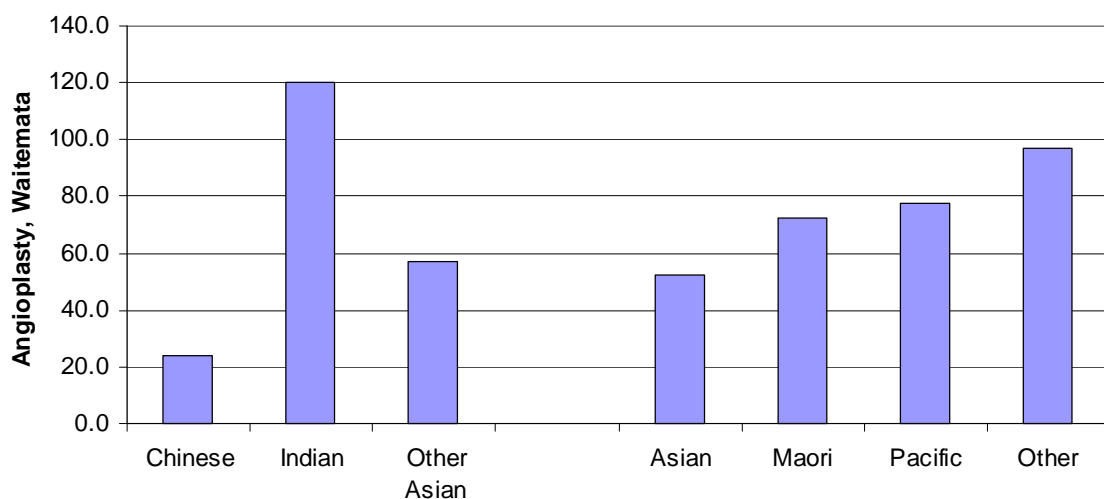
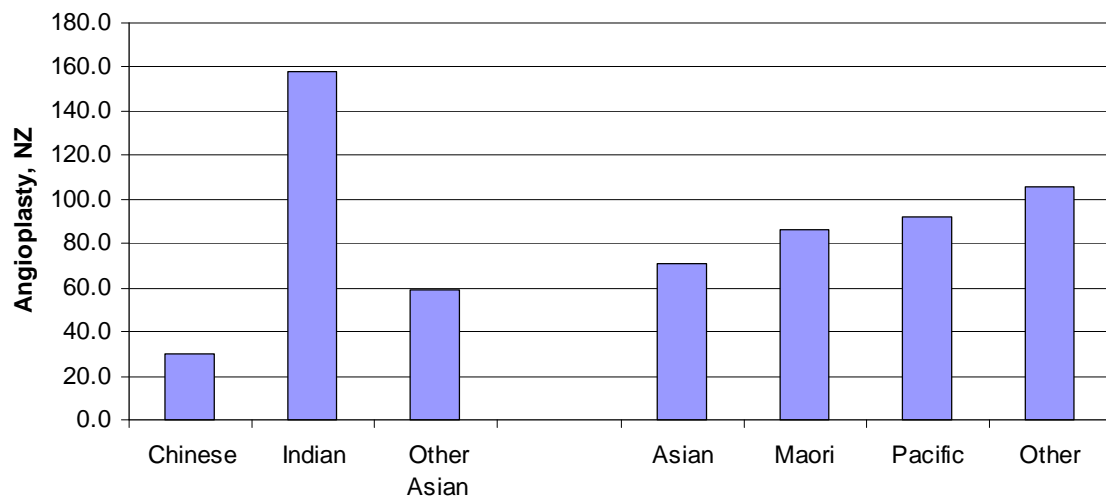


Figure 55 Age-standardised surgical intervention rate (per 100,000) of angioplasty in All NZ, 15-74 years old, by ethnicity, 2005-2007



Coronary artery bypass graft (CABG)

The CABG refers to a procedure in which arteries or veins from elsewhere of the patient are grafted to the coronary arteries to bypass the atherosclerotic narrowing. Indian people had the highest rate of CABG among Asian ethnic groups (Figure 56 and Figure 57). The intervention rate for Asian people combined is less than that for other ethnic groups.

Figure 56 Age-standardised surgical intervention rate (per 100,000) of CABG in Waitemata, 15-74 years old, by ethnicity, 2005-2007

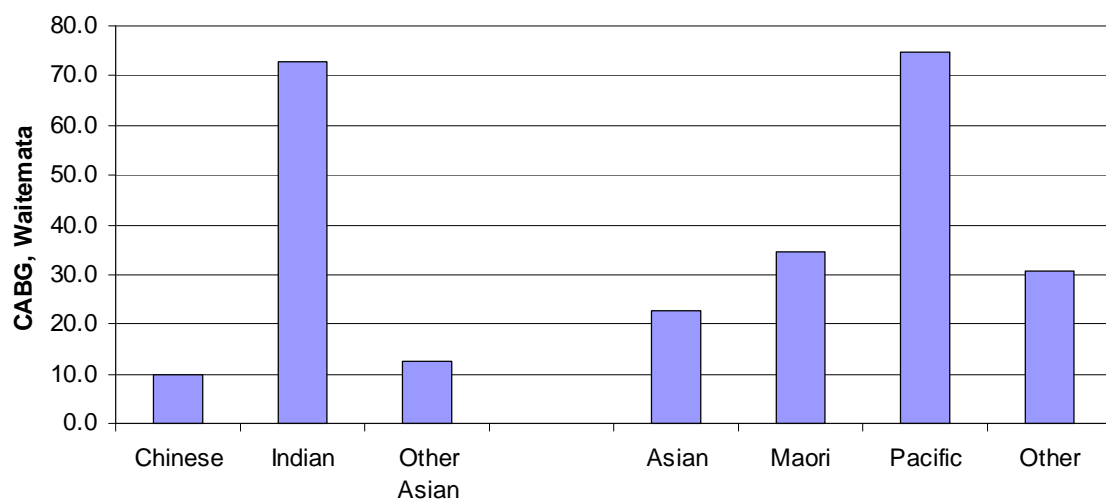
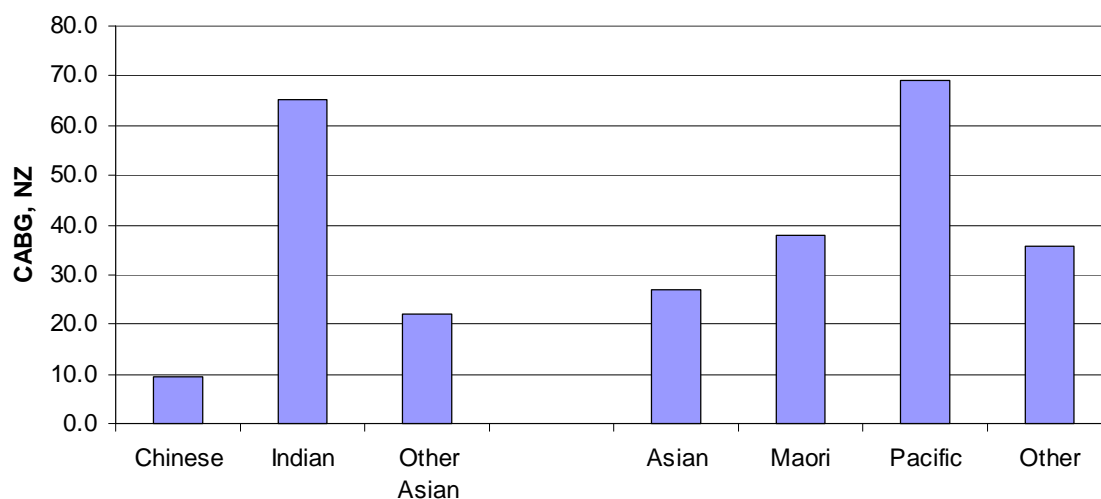


Figure 57 Age-standardised surgical intervention rate (per 100,000) of CABG in all NZ, 15-74 years old, by ethnicity, 2005-2007



Total hip joint replacement

Hip joint replacement surgery refers to the procedure conducted to relieve arthritis restrictions and pain or to fix severe physical joint damage as part of hip fracture treatment. Compared with European/Other people, Asian people had a lower rate of total hip joint replacement, while among Asian sub-groups Chinese people had a lower rate than Indian and Other Asian people (see Figure 58 and Figure 59).

Figure 58 Age-standardised surgical intervention rate (per 100,000) of total hip joint replacement in Waitemata, 15-74 years old, by ethnicity, 2005-2007

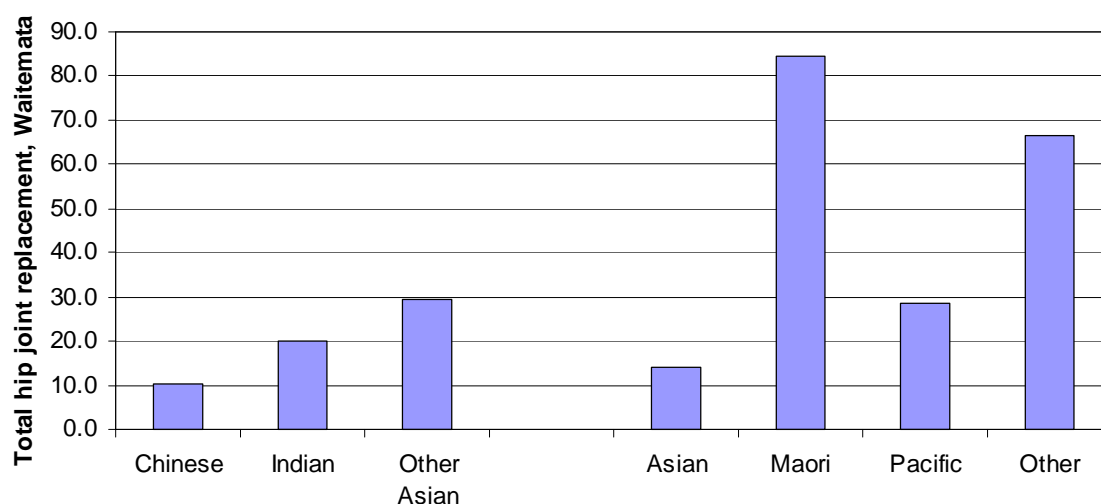
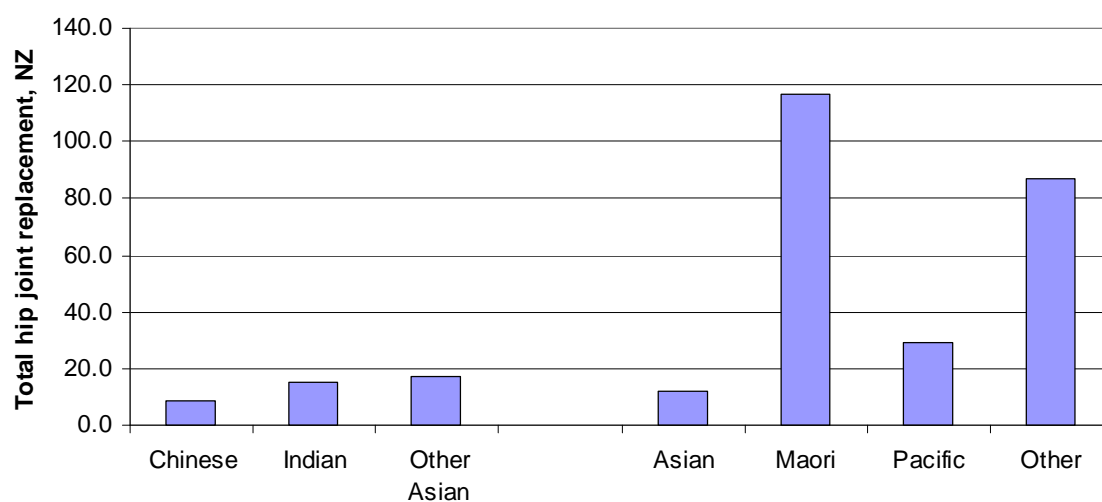


Figure 59 Age-standardised surgical intervention rate (per 100,000) of total hip joint replacement in all NZ, 15-74 years old, by ethnicity, 2005-2007



Total knee joint replacement

Knee joint replacement is a procedure used to relieve the pain and disability from degenerative arthritis, often osteoarthritis. In Waitemata, knee joint replacement was more common among Other Asian than among Chinese and Indian people, while in NZ overall, the rate for Indian people was much higher than that for Other Asian and Chinese people (see Figure 60 and Figure 61). In both Waitemata and NZ, total knee joint replacement was less common among Asian people than European/Other people.

Figure 60 Age-standardised surgical intervention rate (per 100,000) of total knee joint replacement in Waitemata, 15-74 years old, by ethnicity, 2005-2007

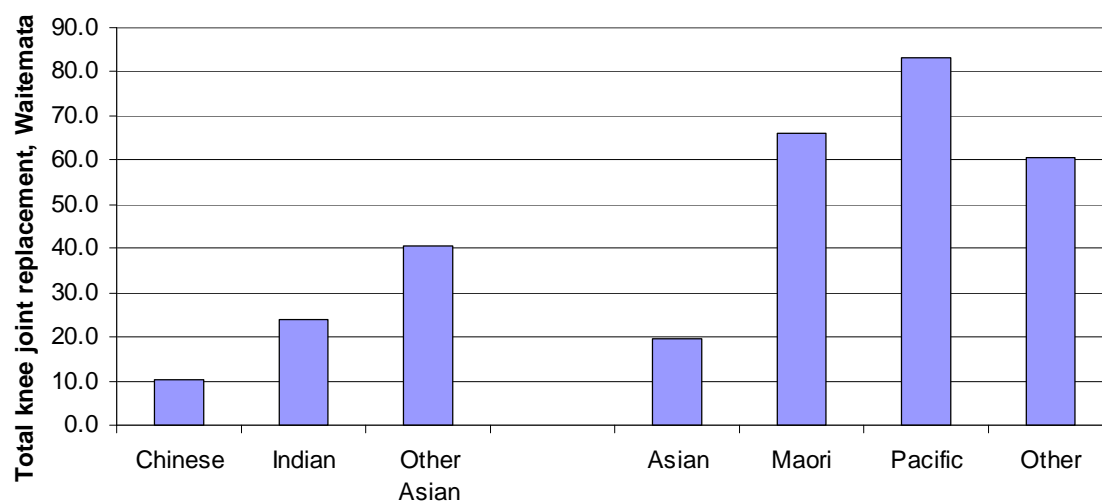
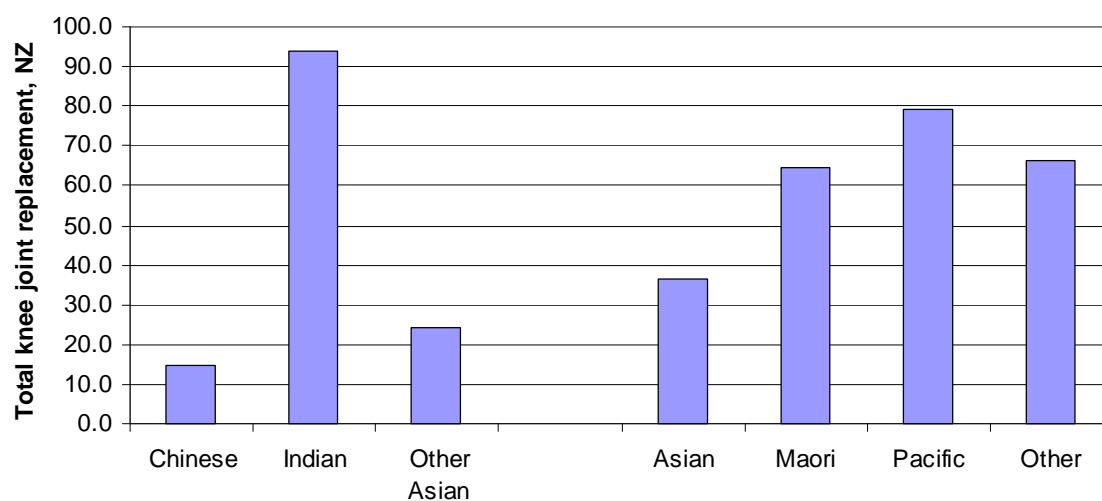


Figure 61 Age-standardised surgical intervention rate (per 100,000) of total knee joint replacement in all NZ, 15-74 years old, by ethnicity, 2005-2007



Cholecystectomy

Cholecystectomy is the often laparoscopic procedure in which the gallbladder is removed, usually for the treatment of symptomatic gallstones. In Waitemata and NZ, Asian people had a lower rate than European/Other people (see Figure 62 and Figure 63). Among Asian sub-groups, the rate of cholecystectomy for Other Asian was lower than that for Chinese and Indian people in Waitemata, while in NZ, there was little difference between the 3 ethnic groups. This discrepancy might be a reflection of random variation in Waitemata because of small numbers.

Figure 62 Age-standardised surgical intervention rate (per 100,000) of cholecystectomy in Waitemata, 15-74 years old, by ethnicity, 2005-2007

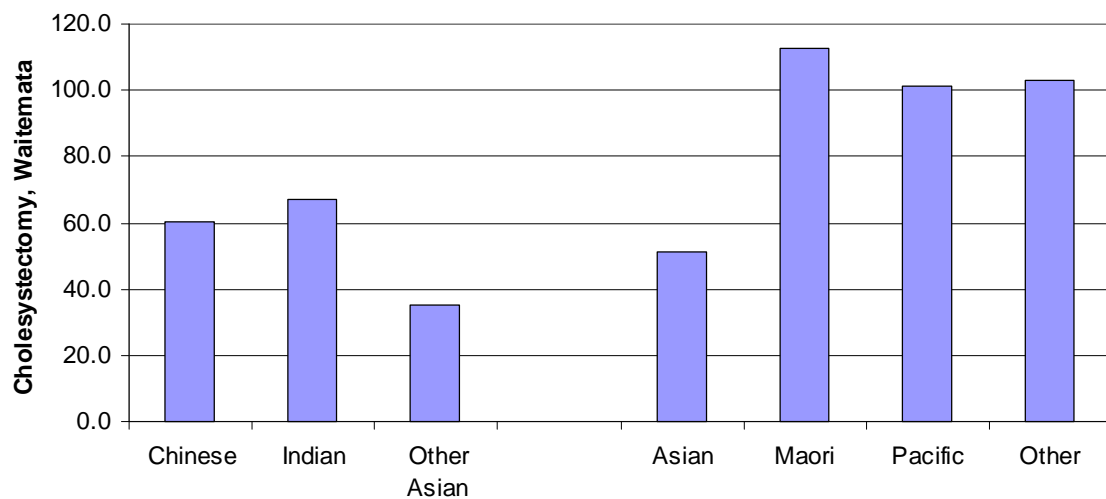
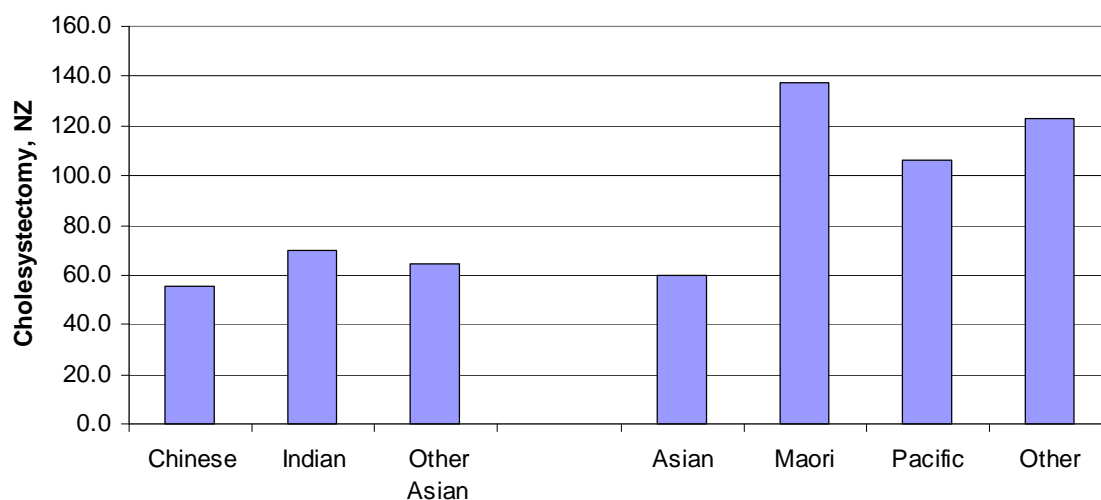


Figure 63 Age-standardised surgical intervention rate (per 100,000) of cholecystectomy in all NZ, 15-74 years old, by ethnicity, 2005-2007



Cataract extraction

Cataract extraction is the procedure of cataract removal, a very common ophthalmologic operation. In Waitemata and New Zealand, Indian people had a higher rate than Other Asian and Chinese people, and Asian people as a whole had a rate greater than that among European/Other people (see Figure 64 and Figure 65).

Figure 64 Age-standardised surgical intervention rate (per 100,000) of cataract extraction in Waitemata, 15-74 years old, by ethnicity, 2005-2007

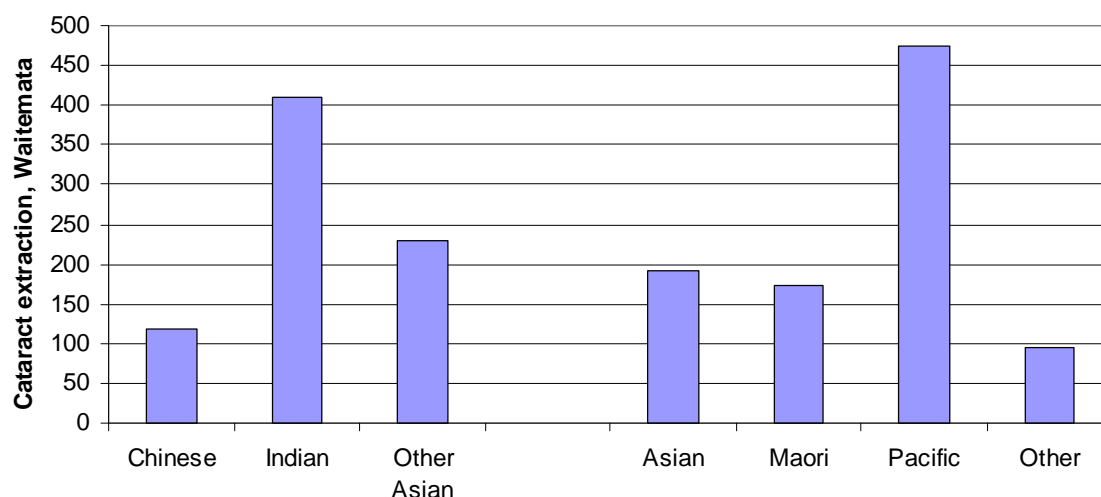
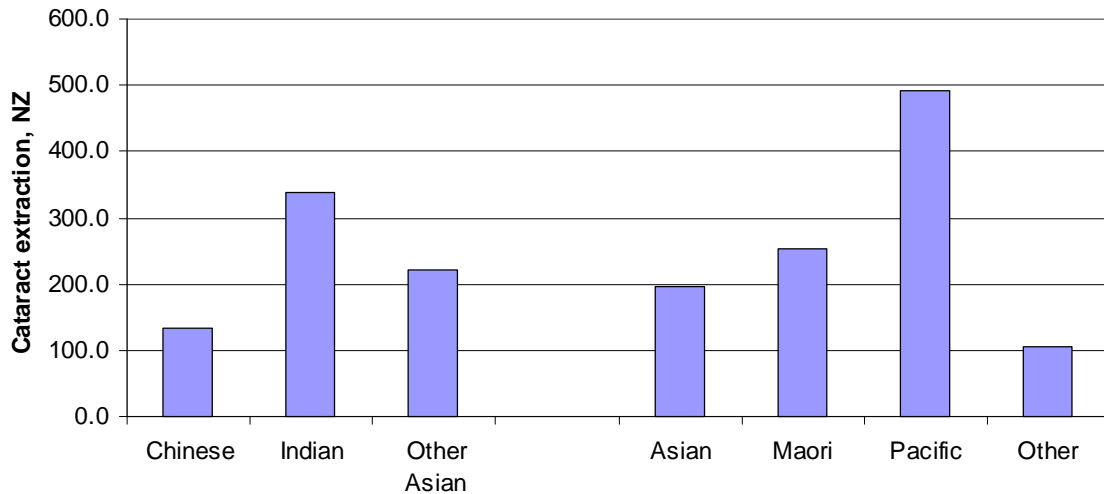


Figure 65 Age-standardised surgical intervention rate (per 100,000) of cataract extraction in all NZ, 15-74 years old, by ethnicity, 2005-2007



Prostatectomy

Prostatectomy is a procedure of surgically removing all or part of the prostate gland, usually due to abnormalities of the prostate, e.g. tumour or other enlargement. In Waitemata and NZ, the rate for Asian people was lower than that for European/Other people (see Figure 66 and Figure 67). Within Asian sub-groups, there was no difference in NZ between Chinese, Indian and Other Asian people, but in Waitemata, Other Asian people had a rate higher than that of Chinese and Indian. This discrepancy might be a reflection of random variation in Waitemata because of small numbers.

Figure 66 Age-standardised surgical intervention rate (per 100,000) of prostatectomy in Waitemata, 15-74 years old, by ethnicity, 2005-2007

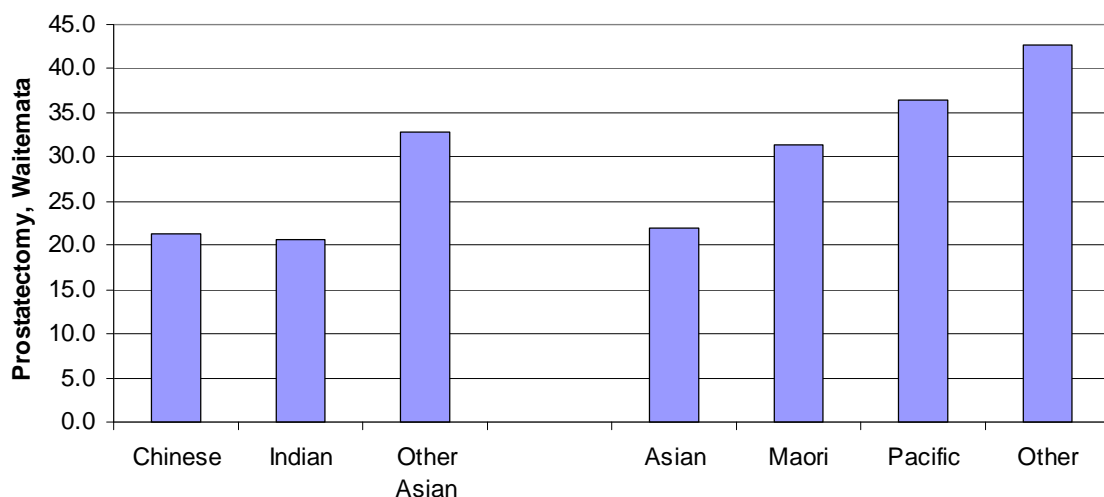
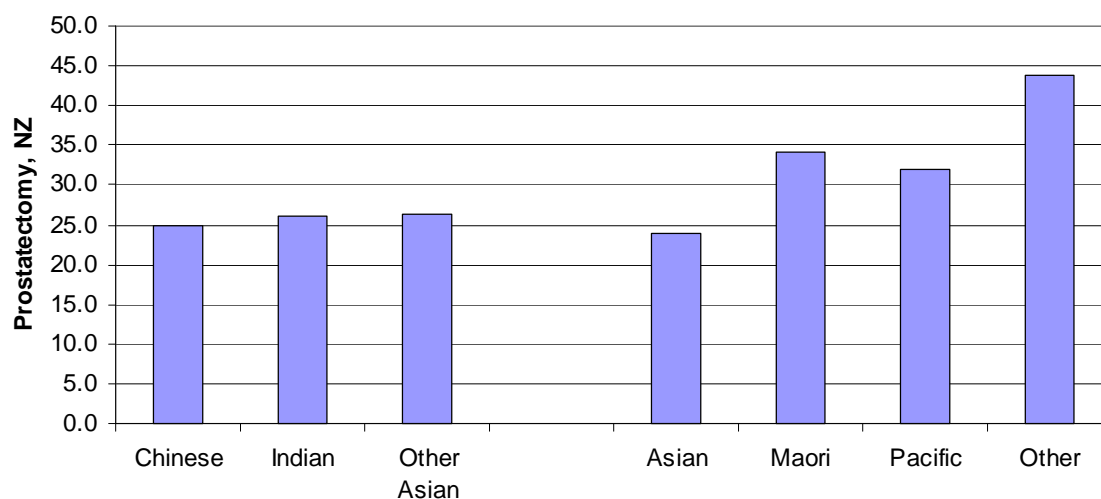


Figure 67 Age-standardised surgical intervention rate (per 100,000) of prostatectomy in all NZ, 15-74 years old, by ethnicity, 2005-2007



Hysterectomy

Hysterectomy is a procedure to remove all or part of the uterus in women. In both Waitemata and New Zealand, Asian people had a lower rate than European/Other people, and among Asian ethnic groups, Chinese people had a much lower rate than Indian and Other Asian people (see Figure 68 and Figure 69).

Figure 68 Age-standardised surgical intervention rate (per 100,000) of hysterectomy in Waitemata, 15-74 years old, by ethnicity, 2005-2007

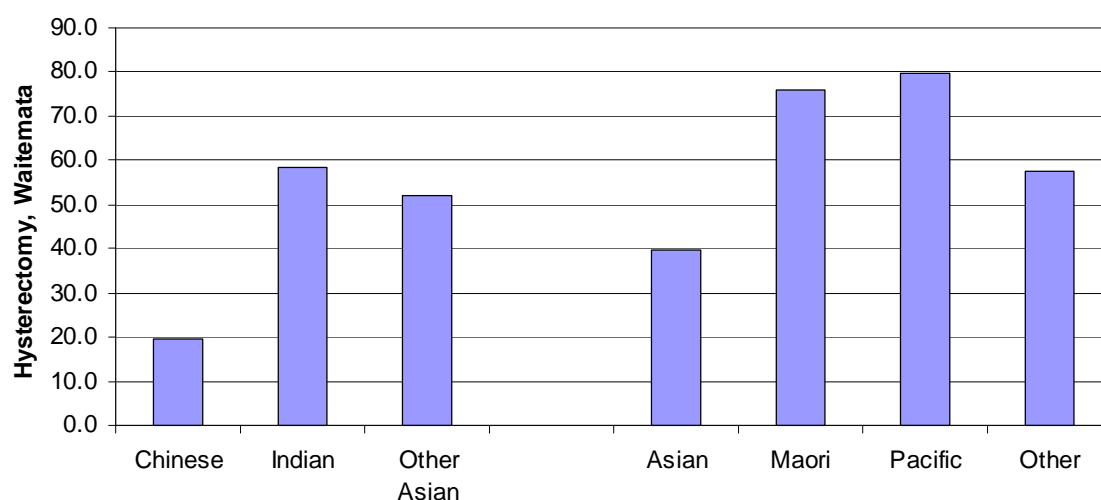
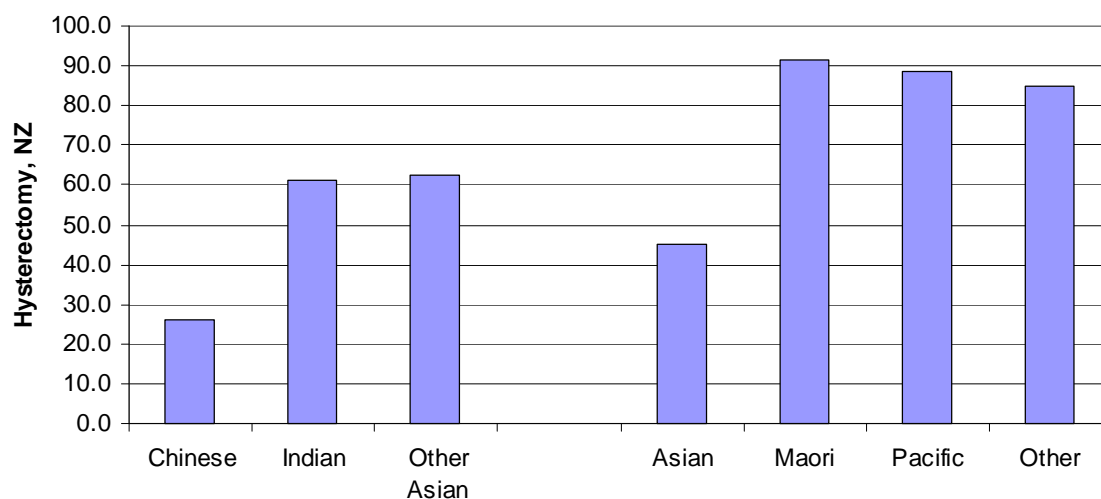


Figure 69 Age-standardised surgical intervention rate (per 100,000) of hysterectomy in all NZ, 15-74 years old, by ethnicity, 2005-2007



8.4 Mental health

Access to secondary mental health and addiction services in Waitemata were lower for Asian people compared with European/Other people (see Table 91), which seemed to be consistent to the prevalence of self-reported chronic mental health conditions in 2006/06 national survey. However, the prevalence of European/Other was approximately 3 times Asian (see Table 60), yet the access rate of European/Other was more than 4 times of that of Asian, which might suggest lower access to mental health and addiction services among Asian people even without referring to other sources of information such as qualitative studies.

Table 91 Access to secondary mental health and addiction services in Waitemata, for people aged 0-64 years, by ethnicity, 2007

	Maori	Pacific	Asian	Other	Total
Number of people seen	1709	681	397	7605	10,392
Access rate (%)	4.1	2.2	0.6	2.6	2.4
Age-standardised rate (per 100,000) and 95% CI	4235.6 (4037.1-4441.3)	2297.6 (2128.2- 2476.8)	535.1 (483.7- 590.4)	2532.3 (2475.7- 2589.9)	2289.1 (2245.3- 2333.5)

Source: Mental Health Information National Collection (MHINC), Ministry of Health.

Asian didn't seem to be different from European/Other regarding rate of acute inpatient admission as first contact.

Table 92 People with an acute inpatient admission as first contact with secondary mental health and addiction services, for people aged 0-64 years in Waitemata, by ethnicity, 2007

	Maori	Pacific	Asian	Other	Total
Number of people seen - all services	1709	681	397	7605	10,392
Number of people seen - acute inpatient admission as first contact	5	4	1	11	21
Percent of people seen - acute inpatient admission as first contact	0.3%	0.6%	0.3%	0.1%	0.2%

Source: Mental Health Information National Collection (MHINC), Ministry of Health.

8.5 Summary of health services utilisation

- Asian had a significantly lower PHO enrolment rate (82.8%), compared with any other ethnicities. There was an approximately 10% difference in coverage rate between Asian and European/Other.
- Compared with European/Other, Asian also had a lower prevalence of visit to a general practitioner in Waitemata in 2006/07 national survey. Again, this gap was about 10%.
- Compared with Europeans, Chinese, Indian and Other Asian were less likely to have a usual carer or have seen a doctor or dentist after controlling for age, sex and deprivation in the past 12 months. In addition, Chinese, Indian and Other Asian were also significantly less likely to have seen an alternative/complementary provider than European.
- Asian had a significantly lower breast screening coverage rate than European/Other with a difference of about 6% in Waitemata and approximately 15% in New Zealand in 2006/07. However, Asian people in Waitemata did better in breast screening coverage than in New Zealand.
- As for cervical screening, Asian had a significantly lower rate than European/Other in Waitemata – a difference of more than 42%. Among Asian ethnic groups, Other Asian had the lowest rate of cervical cancer screening followed by Chinese in New Zealand in 2002/03 survey. Factors independently associated with cervical cancer screening practice included age and duration of residence in NZ in a Chinese study.
- Asian had lower prevalence of blood pressure tests and cholesterol checks than European/Other in the 2006/07 national survey, though the differences were not statistically significant.

- The prevalence of diabetes checks for Asian was higher than European/Other, which might reflect the averaging effects of Asian subgroups, in particular Indian contributed to this.
- Asian had a lower prevalence of emergency department use compared with other ethnicities, but not statistically significant.
- Asian, compared with other ethnicities, had a lower use of outpatient department. Indian had a higher number of visits to outpatient department than Chinese and Other Asian in Waitemata DHB 2007 (using non-admitted patient dataset (NNPAC)).
- In Waitemata adults, Asian had the lowest potentially avoidable hospitalisation rate, followed by European/Other.
- The leading causes of PAH for Asian were angina and chest pain, ischaemic heart disease, respiratory infections, cellulitis and kidney/urinary infection.
- For ischaemic heart disease (PAH), Indian had a higher rate than Chinese and Other Asian in Waitemata, while Asian as a whole had a lower rate than European/Other, which might reflect the 'averaging' effects of Asian sub-groups.
- Asian had a very similar rate of stroke hospitalisation to European/Other. For males and females & males combined, Indian had higher rates than Chinese.
- Asian as a whole had the lowest rate of kidney/urinary infection hospitalisations, among level 1 ethnicities. Indian had a slightly increased rate than Other Asian and Chinese when females and males combined.
- As for preventable injuries (PAH), Asian had a significantly lower rate than other ethnicities (one third of European/Other). For females and males combined, Chinese had a lower rate while Indian and Other Asian had similar rates.
- The respiratory infection hospitalisation rate of Asian was about half of the one for European/Other. Among Asian sub-groups, Indian had a higher rate than Chinese (more than 3 times) and Other Asian (more than 2 times).
- In Waitemata and New Zealand, Asian had a lower rate of angioplasty than other ethnicities, particularly European/Other. Among Asian, Indian had the highest rate of the procedure, which might be associated with the higher prevalence of cardiovascular risk factors among Indian.
- Indian again had a significantly higher rate of CABG than Chinese and Other Asian among Asian sub-groups, although the 'averaging' rate of Asian was lower than European/Other.
- Compared with European/Other, Asian had a significantly lower rate of total hip joint replacement surgery, while among Asian sub-groups Chinese had a relatively lower rate than Indian and Other Asian.

- In Waitemata and NZ, Asian was associated with a lower rate of total knee joint replacement surgery than European/Other.
- In Waitemata and NZ, Asian had a lower rate of cholecystectomy than European/Other. Among Asian sub-groups, there seemed to be no big difference between the 3 ethnic groups in NZ.
- In Waitemata and New Zealand, Indian had a higher rate of cataract extraction than Other Asian and Chinese, and Asian as a whole had a rate less than half of the one of European/Other.
- In Waitemata and NZ, the rate of prostatectomy for Asian was again lower than that of European/Other. Within Asian sub-groups, there was no difference between Chinese, Indian and Other Asian in NZ.
- In both Waitemata and New Zealand, Asian had a lower rate of hysterectomy than European/Other, and among Asian, Chinese had a relatively lower rate.
- In Waitemata DHB, no matter for crude access rates or age-standardised rates, Asian had a lower level of secondary mental health and addiction services than that of European/Other.

9 Child health

In this chapter, the following indicators are provided:

- Infant mortality – all cause
- Child mortality (0-14 years) – all cause
- Low birth weight
- Child potentially avoidable hospitalisations
- Child potentially avoidable hospitalisations – top 5 causes
- Immunisation coverage
- Oral health

9.1 Infant mortality – all cause

Infant mortality rate is an important and commonly used indicator of child health. It means the number of deaths in the first year of life per 1000 live births.

The overall rate of infant mortality in Waitemata was significantly lower than New Zealand (see Table 93 and Figure 70). Asian infant mortality rates were similar to those of European/Other people in both Waitemata and New Zealand.

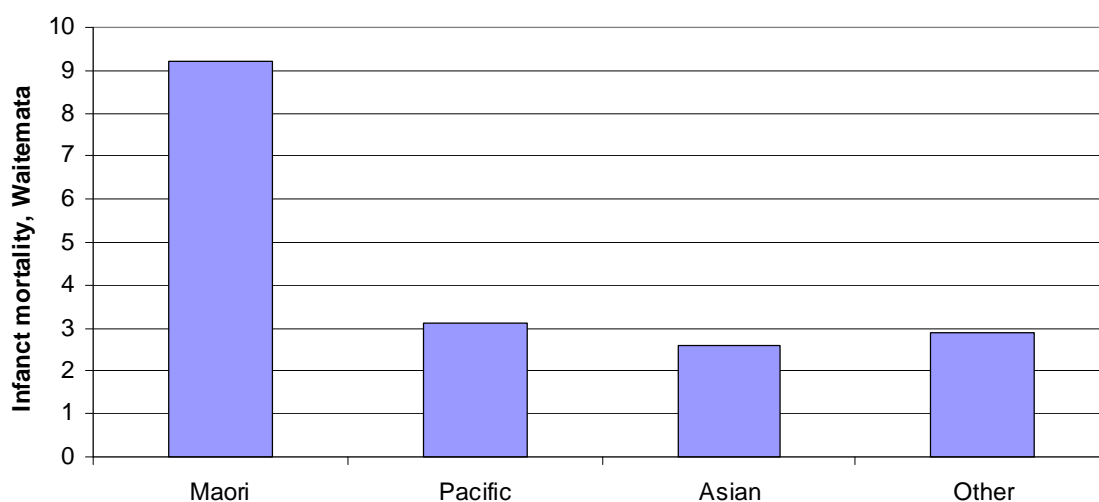
Table 93 Infant mortality, rate per 1000 live births (and 95% confidence intervals), 2003-05

		Maori	Pacific	Asian	Other	Total
Waitemata DHB	Female	8.3 (4.7 - 13.5)	*	*	2.8 (1.5 - 4.5)	3.9 (2.7 - 5.3)
	Male	10.1 (6.3 - 15.5)	*	*	3.0 (1.7 - 4.8)	4.3 (3.1 - 5.7)
	Total	9.2 (6.5 - 12.7)	3.1 (1.3 - 6.1)	2.6 (1.1 - 5.1)	2.9 (2.0 - 4.0)	4.1 (3.3 - 5.0)
New Zealand	Female	6.1 (5.2 - 7.2)	7.3 (5.6 - 9.3)	4.6 (3.2 - 6.4)	3.7 (3.1 - 4.3)	4.8 (4.4 - 5.3)
	Male	8.3 (7.2 - 9.5)	7.2 (5.6 - 9.1)	3.7 (2.5 - 5.3)	4.8 (4.2 - 5.5)	6.0 (5.5 - 6.5)
	Total	7.2 (6.5 - 8.0)	7.2 (6.1 - 8.6)	4.1 (3.2 - 5.3)	4.3 (3.8 - 4.7)	5.4 (5.1 - 5.8)

* Rates not presented for groups with small numbers.

Source: HDIU

Figure 70 Infant mortality (per 1000 live births) by ethnicity in Waitemata, 2003-05



There was no obvious difference in infant mortality rate between the 3 Asian ethnic groups in Waitemata and New Zealand (see Table 94).

Table 94 Infant mortality (per 1000 live births) and 95% confidence intervals by ethnicity in Waitemata and all NZ, 2002-05

Ethnicity	Waitemata		All NZ	
	Rate	95%CI	Rate	95%CI
Chinese (level 2)	4.5	0.6-8.4	4.6	2.8-6.3
Indian (level 2)	2.6	0.0-6.2	6.0	3.9-8.0
Other Asian (level 2)	3.7	0.1-7.2	5.3	3.3-7.3
All Asian (level 1)	3.3	1.3-5.2	4.7	3.7-5.7
Other (level 1)	2.5	1.8-3.3	3.8	3.5-4.1

* Level 1 and level 2 mortality not directly comparable.

9.2 Child mortality (0-14 years) – all cause

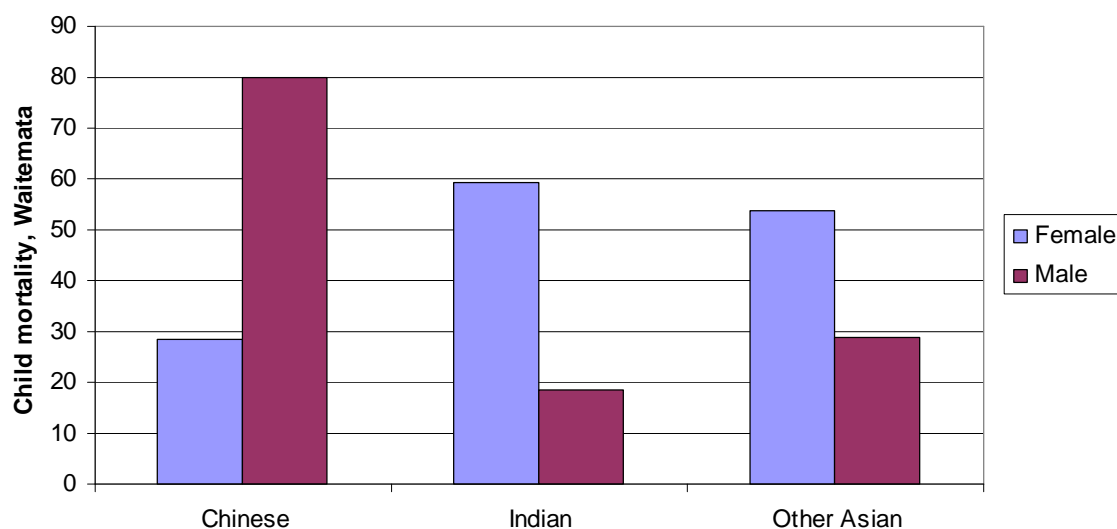
Mortality is higher among Indian children than among Chinese or Other Asian children in NZ (see Table 95). Asian ethnic subgroup child mortality in Waitemata appears highly variable. This could be a reflection of random variation due to the small number of deaths (see Table 95 and Figure 71).

Overall, Asian children in Waitemata had lower all cause mortality rates than New Zealand (Table 95).

Table 95 Child mortality (per 100,000) by ethnicity in Waitemata and all NZ, 0-14 years of age, 2002-05

		Chinese	Indian	Other Asian	Total Asian
Waitemata DHB	Female	28.5	59.1	53.7	46.9
	Male	80.0	18.6	29.0	42.1
	Total	54.8	38.8	41.3	44.7
New Zealand	Female	57.3	61.8	55.2	58.1
	Male	46.8	60.1	48.3	51.5
	Total	51.9	60.9	51.7	54.7

Figure 71 Child mortality (per 100,000) by ethnicity in Waitemata and all NZ, 0-14 years of age, 2002-05



9.3 Low birth weight

Low birth weight (LBW) is defined as a birth weight less than 2500 grams, caused by prematurity or to intrauterine growth retardation (small for gestational age). It is associated with higher neonatal morbidity and mortality. It has also been suggested that babies who are growth restricted at birth have a greater risk of coronary heart disease and diabetes in later life (Lindsay et al., 2000; Rich-Edwards et al., 1997).

LBW was more common among Asian and Maori babies than among babies from other ethnic groups in NZ; this effect was only statistically significant in comparison with Pacific babies in Waitemata in 2003-05 (see Table 96).

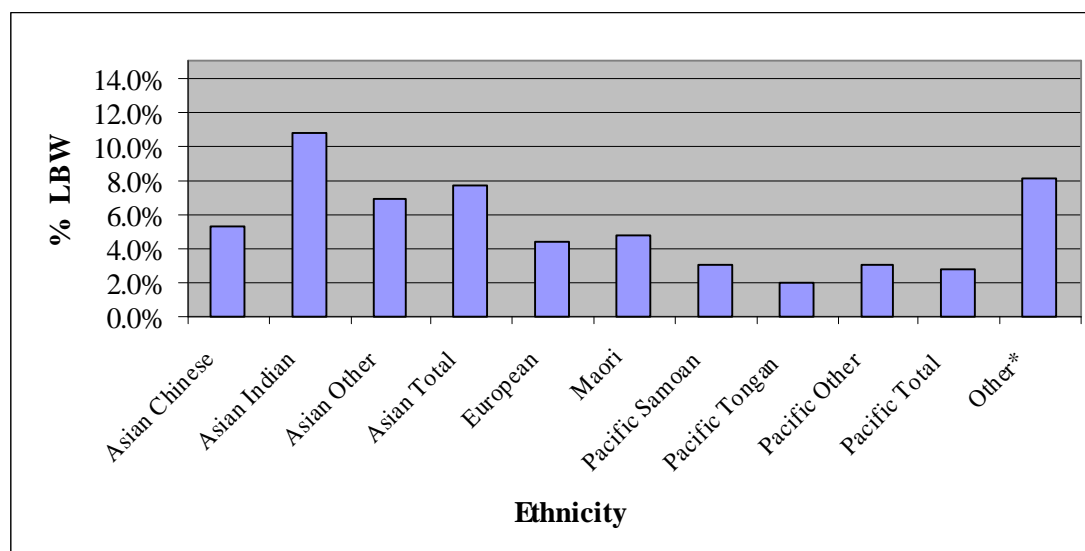
Table 96 Low birth weight rate per 1000 live births (and 95% confidence intervals), by ethnicity in Waitemata and all NZ, 2003-05

		Maori	Pacific	Asian	Other	Total
Waitemata	Female	61.2 (50.7 - 73.3)	42.4 (31.7 - 55.6)	83.6 (69.6 - 99.6)	64.1 (57.6 - 71.2)	63.8 (59.0 - 68.9)
	Male	69.9 (59.0 - 82.3)	37.6 (28.0 - 49.5)	54.1 (43.3 - 66.7)	50.7 (45.0 - 56.9)	53.3 (49.0 - 57.8)
	Total	65.7 (58.0 - 74.2)	39.9 (32.6 - 48.4)	68.3 (59.4 - 78.1)	57.2 (52.9 - 61.9)	58.4 (55.1 - 61.7)
New Zealand	Female	74.2 (70.8 - 77.8)	49.7 (45.2 - 54.6)	85.1 (78.7 - 91.9)	61.0 (58.7 - 63.3)	65.7 (64.0 - 67.5)
	Male	65.5 (62.4 - 68.8)	43.2 (39.1 - 47.6)	67.3 (61.8 - 73.1)	53.5 (51.4 - 55.7)	57.1 (55.5 - 58.7)
	Total	69.8 (67.4 - 72.1)	46.3 (43.3 - 49.6)	75.8 (71.6 - 80.2)	57.2 (55.6 - 58.8)	61.3 (60.1 - 62.5)

Source: HDIU

More recent data (2007) shows that LBW was most common among Asian babies (7.7%), followed by Maori (4.8%), European (4.4%) and Pacific (2.8%) babies in Waitemata (see Figure 72). Asian sub-group analyses show that the highest percentage of LBW was among Indian babies (10.7%).

Figure 72 Low birth weight babies by ethnicity, WDHB, 2007



*Other group small numbers

Source: Maternity: Update for WDHB Health Needs Assessment Report (Galgali, 2008)

9.4 Child potentially avoidable hospitalisations

Asian children had a lower rate of PAH than European/Other children in both Waitemata and NZ (see Figure 73 and Figure 74). Among the Asian ethnic groups, Indian children had a higher rate of PAH than Chinese and Other Asian children for females and males in Waitemata and females in New Zealand. All rates for females were lower than those for males.

Figure 73 Age standardised rate of potentially avoidable hospitalisation for all causes, 0-14 years, by ethnicity in Waitemata, 2005-07

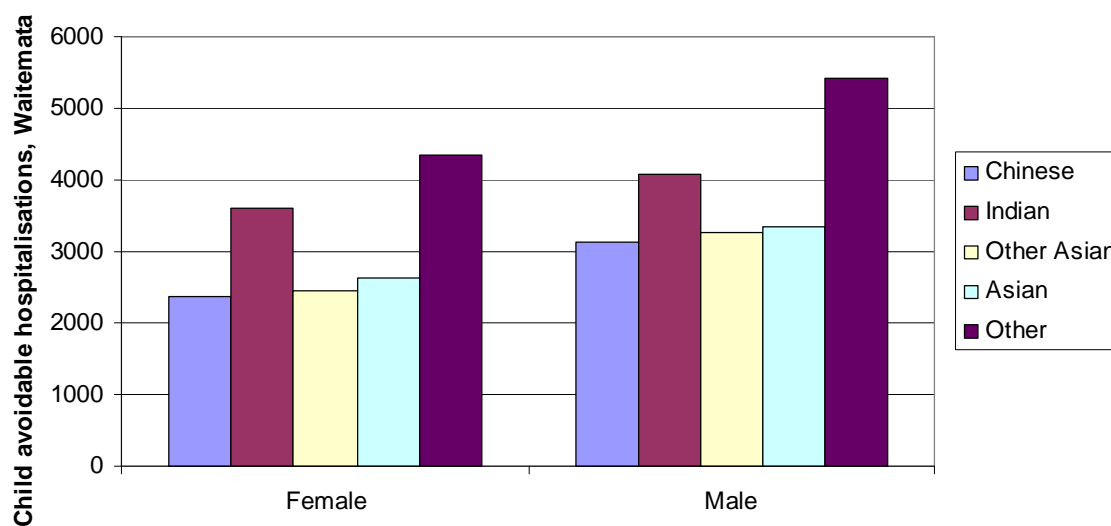
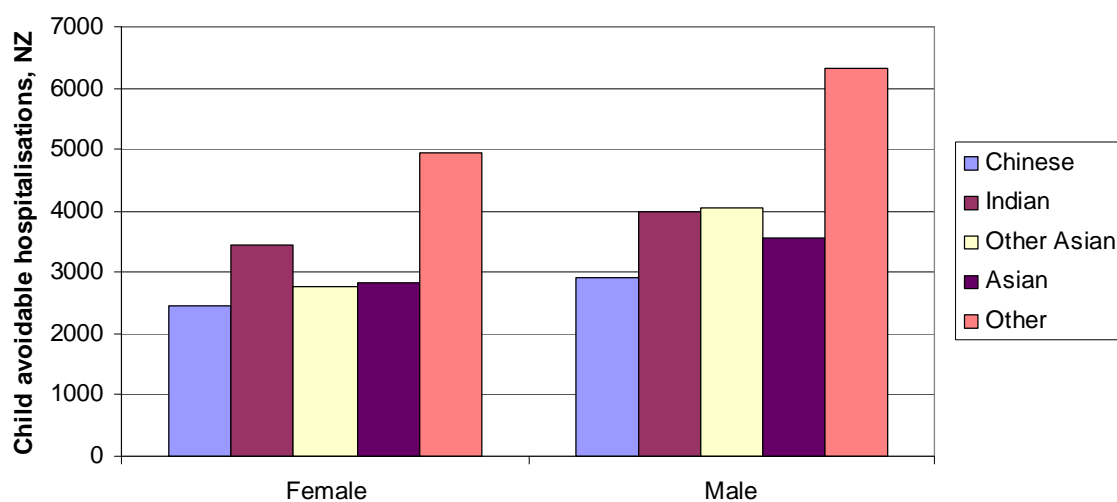


Figure 74 Age standardised rate of potentially avoidable hospitalisation for all causes, 0-14 years, by ethnicity in all NZ, 2005-07



9.5 Child potentially avoidable hospitalisations – top 5 causes

The following tables rank the leading causes of PAH among children according to the number of hospitalisations (regarded as avoidable) for each ethnicity. As these tables do not provide age-standardised rates care should be taken when comparing the ranking of one ethnic group to another.

The leading causes of PAH for Asian children in Waitemata were dental conditions, respiratory infections, asthma, ear, nose and throat (ENT) infections and gastroenteritis (see Table 97).

Table 97 Leading causes of avoidable hospitalisation, 0-14 years, by ethnicity in Waitemata, 2005-07

Ethnic group	Waitemata	
	Causes	Rank
Maori	ENT infections	1
	Respiratory infections	2
	Asthma	3
	Dental conditions	4
	Cellulitis	5
Pacific	Respiratory infections	1
	Asthma	2
	ENT infections	3
	Dental conditions	4
	Cellulitis	5
Asian	Dental conditions	1
	Respiratory infections	2
	Asthma	3
	ENT infections	4
	Gastroenteritis	5
Other	ENT infections	1
	Dental conditions	2
	Respiratory infections	3
	Gastroenteritis	4
	Cellulitis	5

Cellulitis = skin infection; ENT = Ear, nose and throat

Table 98 shows the leading causes of PAH among children by Asian ethnic group. Other Asian and Chinese children had the same top 5 leading causes of PAH as for Asian children as a whole. Indian children had a slightly different ranking of the same causes.

Table 98 Leading causes of avoidable hospitalisation, 0-14 years, by Asian ethnic group in Waitemata, 2005-07

Ethnic group	Waitemata	
	Causes	Rank
Chinese	Dental conditions	1
	Respiratory infections	2
	Asthma	3
	ENT infections	4
	Gastroenteritis	5
Indian	Respiratory infections	1
	ENT infections	2
	Dental conditions	3
	Asthma	4
	Gastroenteritis	5
Other Asian	Dental conditions	1
	Respiratory infections	2
	Asthma	3
	ENT infections	4
	Gastroenteritis	5

Cellulitis = skin infection, ENT = Ear, nose and throat

Child hospitalisations – individual causes

A number of significant causes of hospitalisation will be explored in this section: asthma, preventable injuries, poisoning, falls and respiratory infections.

The denominators that have been used for calculating the avoidable hospitalisation rate at level 1 ethnicity and level 2 ethnicity (for Asian people i.e. Chinese, Indian and Other Asian) have come from different data sources. Direct comparison of a level 2 ethnicity rate with a level 1 ethnicity rate should be avoided.

Asthma

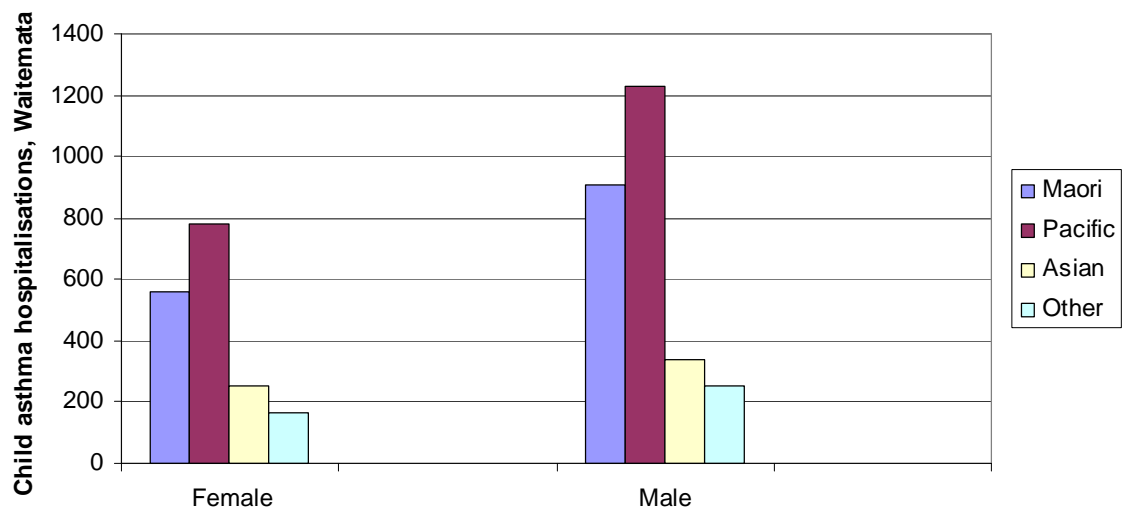
The Waitemata child asthma hospitalisation rate was significantly lower than the national rate (Health Information for Action Team, 2009). Males had a significantly higher rate than females in Waitemata (see Table 99 and Figure 75). Pacific people had the highest rate, followed by Maori then Asian people with European/Other people having the lowest rate. All ethnic group differences were significant.

Table 99 Asthma hospitalisation, 0–14 years, age-standardised rates per 100,000 (and 95% confidence intervals) in Waitemata, 2005–07

	Maori	Pacific	Asian	Other	Total
Female	559.6 (465.1–667.6)	779.2 (645.5–932.4)	251.8 (186.9–332.0)	168.3 (143.0–196.8)	300.3 (273.2–329.4)
Male	909.5 (792.0–1039.5)	1225.8 (1061.8–1407.9)	345.7 (270.0–436.0)	252.5 (221.7–286.4)	468.7 (435.2–504.0)
Total	740.7 (663.9–824.1)	1011.4 (903.4–1128.7)	301.2 (249.9–359.9)	211.3 (191.1–233.1)	386.9 (365.1–409.7)

Source: HDIU

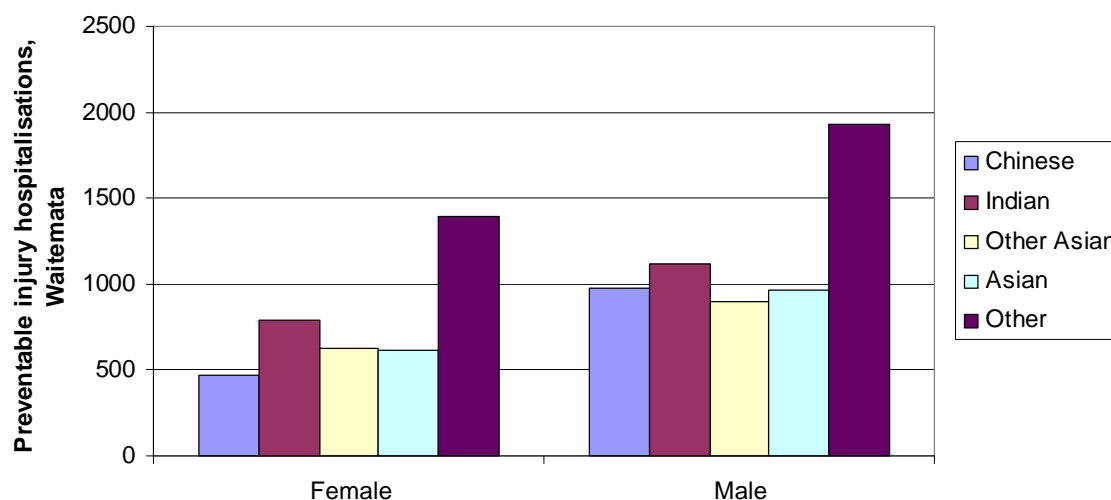
Figure 75 Age standardised rate of hospitalisation for asthma, 0-14 years, per 100,000, by ethnicity in Waitemata, 2005-07



Preventable injury

Asian children had a lower rate of preventable injury hospitalisations than European/Other children, adjusted for age and sex (see Figure 76). Indian children had a slightly higher rate than Chinese and Other Asian children. Female children had lower rates than males.

Figure 76 Age standardised rate of hospitalisation for Preventable injuries, 0-14 years, per 100,000, by ethnicity in Waitemata, 2005-07



Poisoning

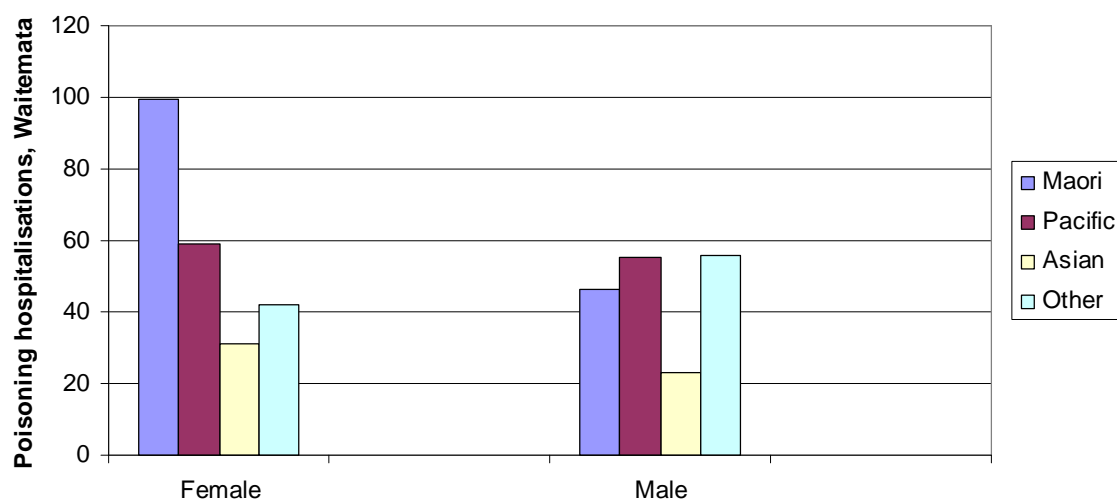
The child hospitalisation rate due to poisoning was significantly lower in Waitemata than nationally (Health Information for Action Team, 2009). The rate for Asian children was lower than that for children from other ethnic groups (see Table 100 and Figure 77).

Table 100 Poisoning hospitalisation, 0–14 years, age-standardised rates per 100,000 (and 95% confidence intervals) in Waitemata, 2005–07

	Maori	Pacific	Asian	Other	Total
Female	99.9 (62.6–151.3)	59.2 (27.1–112.3)	31.2 (11.5–67.9)	43.5 (31.1–59.3)	52.0 (41.1–65.0)
Male	46.5 (23.2–83.2)	55.2 (25.3–104.8)	23.8 (7.7–55.5)	53.0 (39.5–69.7)	48.5 (38.2–60.7)
Total	72.3 (49.8–101.5)	57.2 (33.9–90.4)	27.2 (13.6–48.7)	48.4 (39.0–59.4)	50.2 (42.6–58.8)

Source: HDIU

Figure 77 Poisoning hospitalisation, 0–14 years, age-standardised rates per 100,000 (and 95% confidence intervals), 2005–07



Falls

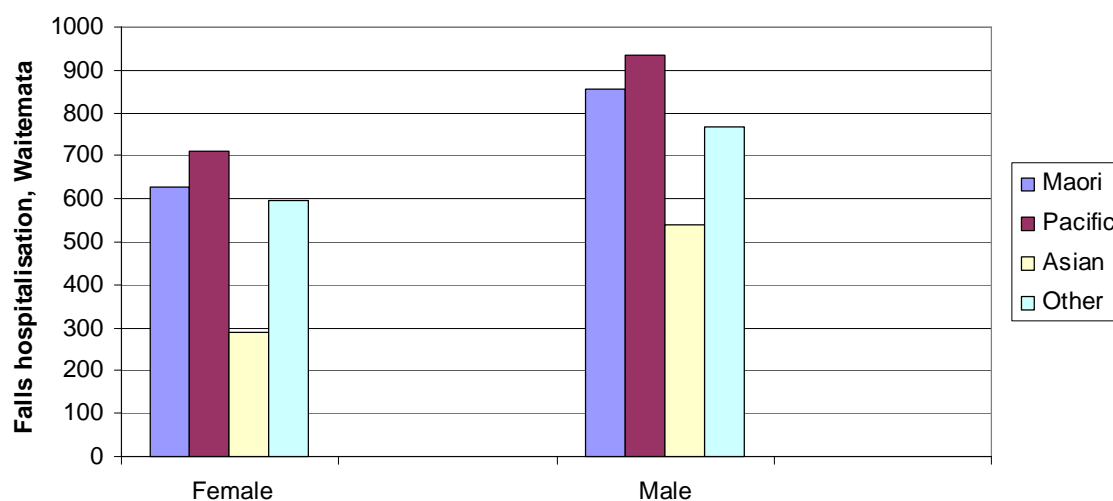
The rate of child hospitalisations due to falls in Waitemata was significantly higher than the national rate. Males in Waitemata DHB had a significantly higher rate than females for all ethnic groups except for Pacific (see Table 101 and Figure 78). Asian children had a significantly lower rate than all other ethnic groups.

Table 101 Falls hospitalisation, 0–14 years, age-standardised rate per 100,000 (and 95% confidence intervals) in Waitemata, 2005–07

	Maori	Pacific	Asian	Other	Total
Female	627.5 (528.2–740.0)	711.6 (584.3–858.4)	292.9 (225.5–374.0)	611.0 (562.3–662.7)	580.6 (543.2–619.9)
Male	870.0 (755.0–997.6)	948.0 (803.8–1110.7)	554.9 (461.5–661.5)	801.8 (747.5–859.0)	791.5 (748.9–835.8)
Total	752.0 (674.8–835.5)	832.3 (734.5–939.4)	426.4 (367.6–491.9)	708.3 (671.6–746.5)	688.3 (659.8–717.8)

Source: HDIU

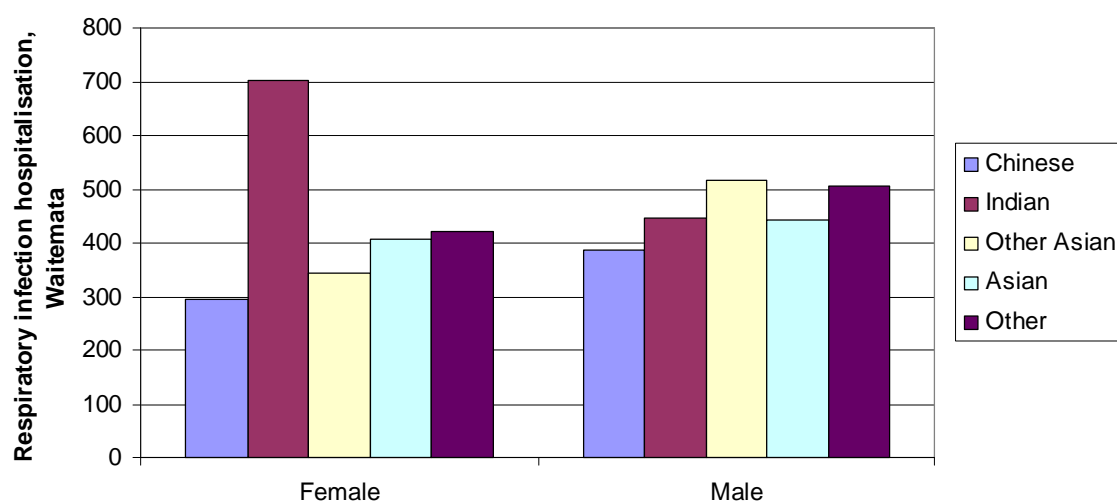
Figure 78 Falls hospitalisation in Waitemata, 0–14 years, age-standardised rate per 100,000, 2005–07



Respiratory infection

Asian children had a similar rate of respiratory infection hospitalisations to that of European/Other children in Waitemata (see Figure 79). Indian girls had a higher rate of respiratory infection hospitalisations than Chinese and Other Asian girls.

Figure 79 Age standardised rate of hospitalisation per 100,000 for Respiratory infection, 0-14 years, by ethnicity in Waitemata, 2005-07



9.6 Immunisation coverage

At 2 years of age, full immunisation coverage among Asian children in Waitemata and NZ was similar to that for European/Other children (see Table 102). Coverage in Waitemata was better than that nationally for all ethnic groups, including Asian children.

Table 102 Fully immunisation coverage at age two years, percentage, by ethnicity*, 2007

Ethnicity	Waitemata	New Zealand
Maori	66.9	62.7
Pacific	75.6	67.6
Asian	78.7	75.2
Other	81.8	75.0
Total	78.6	71.2

* Ethnicity is prioritised ethnicity.

Source: HDIU

For the period between April 2005 and July 2008, Asian rates of childhood immunisation (at 6 weeks, 3 months, 5 months and 15 months) were better than those for European/Other children in Waitemata (see Table 103). It was not possible to undertake Asian ethnic subgroup analysis.

Table 103 Percentage of Childhood immunisation event delivered to eligible individuals in Waitemata from 18 April 2005 to 1 July 2008, by ethnicity*

Childhood immunisation event	Total	Maori	Pacific people	Asian	Other	New Zealander
6 weeks	87	88	88	89	84	86
3 months	87	85	89	90	85	87
5 months	84	80	86	89	83	85
15 months	80	75	82	86	79	81

* National Immunisation Register (NIR), based on the number of individuals enrolled on the NIR who have reached or passed the immunisation event age; Ethnicity is prioritised ethnicity.

9.7 Oral health

Oral health data for children at Year 8 (Form 2) are provided for both fluoridated and non-fluoridated areas.

Children in Year 8 in Waitemata generally had greater proportions of caries-free teeth than in New Zealand as a whole (see Table 104 and Table 105). Unfortunately, no Asian specific data were available for this indicator.

Table 104 Caries-free teeth of Year 8 children, percent, 2006

Ethnicity	Waitemata DHB		New Zealand	
	Fluoridated	Non-fluoridated	Fluoridated	Non-fluoridated
Maori	40.4	N.A.	36.9	28.4
Pacific	41.5	40.0	43.1	33.0
Other	55.4	54.5	55.4	43.8
Total	53.6	50.3	50.8	40.2

N.A.: Data are not available.

'Other' includes Asian, European and other ethnicities not elsewhere included.

Source: HDIU

Table 105 Decayed, missing or filled teeth of Year 8 children, mean number, 2006

Ethnicity	Waitemata DHB		New Zealand	
	Fluoridated	Non-fluoridated	Fluoridated	Non-fluoridated
Maori	1.8	N.A.	1.9	2.8
Pacific	2.0	2.2	1.7	2.3
Other	1.1	1.3	1.1	1.6
Total	1.2	1.5	1.3	1.8

N.A.: Data are not available.

'Other' includes Asian, European and other ethnicities not elsewhere included.

Source: HDIU

9.8 Summary of child health

- Asian had infant mortality rates quite similar to the ones of European/Other in Waitemata and New Zealand. Among Asian ethnic groups, there was no obvious difference in infant mortality rate between 3 ethnic groups in Waitemata and New Zealand.
- Among Asian sub-groups, there was no significant difference in child mortality rate between them.
- Asian had a higher rate of newborns with low birth weight (LBW), compared with European/Other in Waitemata and NZ, between 2003-05. In Waitemata 2007, again, the percentage of LBW babies was higher among Asian (7.7%) than European (4.4%). Sub-group analyses showed that the highest percentage of LBW was among Indian (10.7%).
- In Waitemata and New Zealand, Asian had a lower rate of child avoidable hospitalisations than European/Other. Indian had a higher rate of avoidable hospitalisations than Chinese and Other Asian for females and males in Waitemata and females in New Zealand. All rates for females were lower than those for males.
- The (crude) leading causes of avoidable hospitalisations for Asian children in Waitemata were dental conditions, respiratory infections, asthma, ENT infections and gastroenteritis. Other Asian and Chinese had the same top 5 leading causes of avoidable hospitalisations as for Asian children as a whole. Indian had a slightly different ranking of the same causes.
- Asian had a higher rate of child asthma hospitalizations compared with European/Other.
- Asian had a lower rate of preventable injury hospitalisations than European/Other, adjusted for age and sex. Indian children had a slightly higher rate than Chinese and Other Asian. Female children had lower rates than males.
- The Waitemata child hospitalisation rate due to poisoning was significantly lower than the national rate (data not shown). The rate for Asian was the lowest, adjusted for sex and age.
- Asian children had a significantly lower rate of hospitalisations due to falls than all other ethnic groups in Waitemata DHB.
- Asian had a very similar rate of respiratory infection hospitalisations to that of European/Other in Waitemata. Indian girls had a higher rate of respiratory infection hospitalisations than their counterparts of Chinese and Other Asian.
- Asian did quite well in immunisation coverage rate at age of 2 years. The rate for Asian was quite close to that of European/Other in Waitemata while all the coverage rates in Waitemata were better than those in New Zealand.

- Children in school year 8 in Waitemata DHB had higher proportions of caries-free teeth and lower proportions of decayed, missing or filled teeth than in New Zealand as a whole. Unfortunately, no Asian specific data were available about this.

10 Women's and maternal health

This chapter focuses on the following indicators:

- Deliveries (live births)
- Total fertility rate
- Teenage deliveries
- Assisted deliveries
- Caesarean sections
- Pregnancy complications
- Termination of pregnancy

10.1 Deliveries (live births)

The live birth registration rate (fertility rate, women aged 15-49 years) varied across ethnic groups (see Table 106). Asian women had a lower fertility rate than European/Other women.

Crude fertility rate

Table 106 Live births registered in 2007, for mothers of all ages, by ethnic group

	Maori	Pacific	Asian	Other	Total
Live births	1155	899	1192	4583	7829
Female population (15-49 years)	11,891	8702	24,347	84,118	129,058
Rate (per 1000)	97.1	103.3	49	54.5	60.7

Definitions:

Live births: the number of live births registered during 2007, for mothers of all ages (by ethnic group).

Female population, 15 - 49 years: the number of people in the female population aged 15-49 years in 2007, for Waitemata DHB and ethnic group.

Source: HDIU

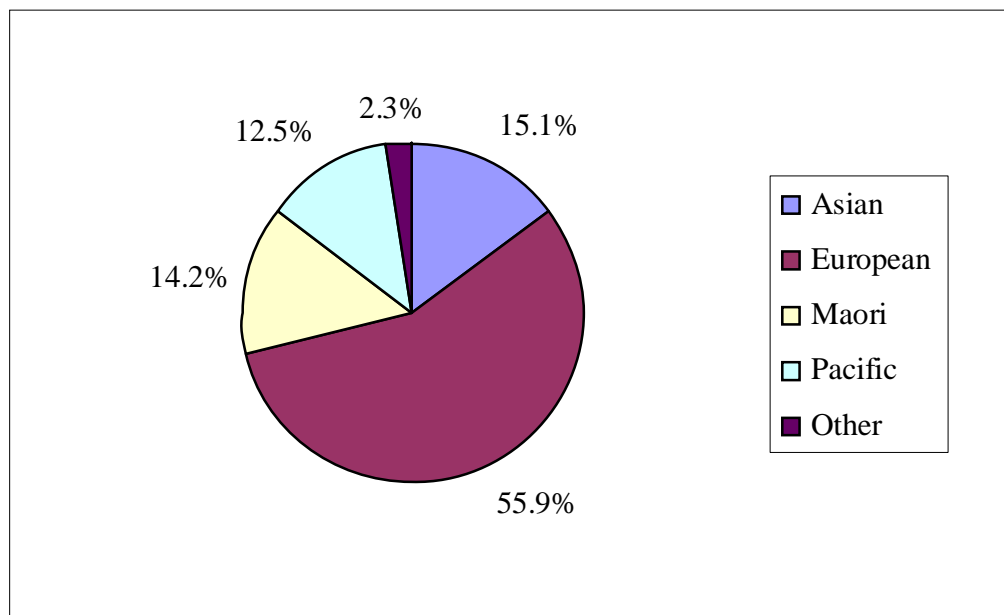
In Waitemata, among women giving births, European women (55.9%) comprised the largest ethnic group, followed by Asian (15.1%), Maori (14.2%) and Pacific (12.5%) women (see Table 107 and Figure 80).

Table 107 Ethnicity of women giving birth in Waitemata, 2007

Ethnicity	Total No.	Total %
Indian	327	4.9%
Chinese	283	4.2%
Other Asian	404	6.0%
<i>Total Asian</i>	1014	15.1%
European	3755	55.9%
Maori	955	14.2%
Pacific Samoan	435	6.5%
Pacific Tongan	144	2.1%
Pacific Other	258	3.8%
<i>Total Pacific</i>	837	12.5%
Other ethnicities	155	2.3%
Total	6716	100.0%

Source: Maternity: Update for WDHB Health Needs Assessment Report (Galgali, 2008)

Figure 80 Ethnicity of women giving birth in Waitemata, 2007



Source: Maternity: Update for WDHB Health Needs Assessment Report, 2008 (Galgali, 2008)

Age of women giving birth in Waitemata

Of the total number of women giving birth in Waitemata in 2007:

- The highest proportion of teenage births (woman aged <20 years) among all women giving birth was among Maori (17.5%), then Pacific (8.6%), European (3.8%) and Asian (0.8%) women (Table 108);
- The highest proportion of births among 20-24 year old women was among Maori (25.7%), Pacific (24.9%), Asian (12.8%) and then European (10.6%) women;
- The highest proportion of women giving birth in the older age group (35+ years) was among European (28.0%), followed by Asian (22.3%), then Pacific (19.1%) and finally Maori (12.5%) women.

Of the total number of women giving birth in Waitemata in 2007, Asian sub-group analyses showed that:

- The highest proportion of births among 20-24 year old Asian women was Indian women (16.5%), followed by Other Asian (13.1%) and then Chinese (8.1%);
- The highest proportion of Asian women giving birth in the older age group (35+ years) as among Other Asian (28.2%) followed by Chinese (27.9%) and Indian ((10.1%) women.

Table 108 Age of women giving birth in Waitemata, 2007

Ethnicity/age	<20		20-24		25-29		30-34		35+		Total
	No.	%	No.	%	No.	%	No.	%	No.	%	
Chinese	1*	0.4%	23	8.1%	91	32.2%	89	31.4%	79	27.9%	283
Indian	3*	0.9%	54	16.5%	130	39.8%	107	32.7%	33	10.1%	327
Other Asian	4*	1.0%	53	13.1%	96	23.8%	137	33.9%	114	28.2%	404
Total Asian	8*	0.8%	130	12.8%	317	31.3%	333	32.8%	226	22.3%	1014
European	144	3.8%	398	10.6%	821	21.9%	1341	35.7%	1049	28.0%	3753
Maori	167	17.5%	245	25.7%	232	24.3%	192	20.1%	119	12.5%	955
Pacific	72	8.6%	208	24.9%	213	25.4%	184	22.0%	160	19.1%	837
Other ethnicities	5*	3.2%	25	16.1%	50	32.3%	43	27.7%	32	20.6%	155
Total	396	5.9%	1006	15.0%	1633	24.3%	2093	31.2%	1586	23.6%	6714

*small numbers in cells

Source: Maternity: Update for WDH B Health Needs Assessment Report, 2008 (Galgali, 2008)

10.2 Total fertility rate

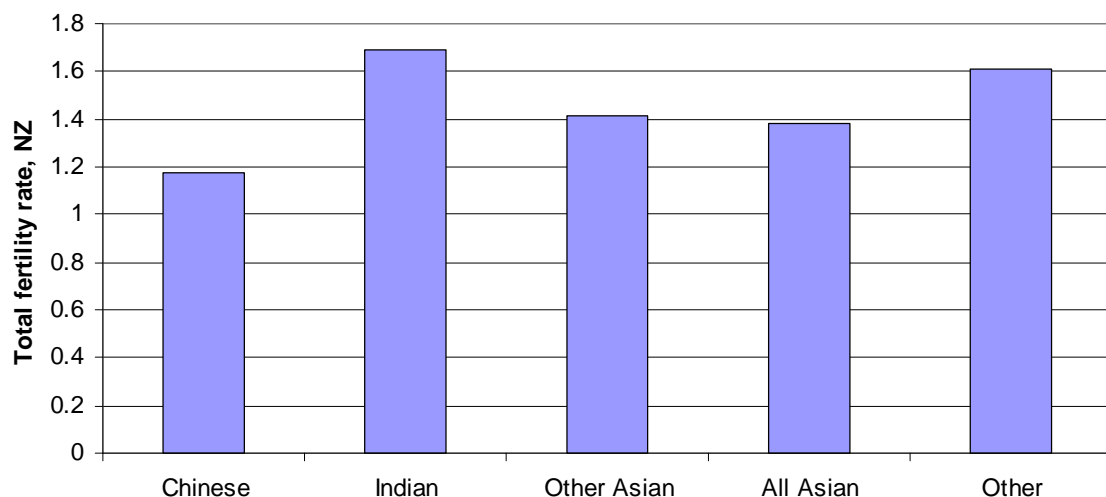
The total fertility rate (TFR) is the average number of children that would be born to a woman during her reproductive lifetime (15-44 years) if she were to conform to the fertility rate of a given year. Fertility rate is usually defined as the number of live births per 1000 women aged 15-44 years at a given year. In 2004-06 in New Zealand, Asian women had a slightly lower total fertility rate than European/Other women (see Table 109 and Figure 81). Among Asian women, Indian women had the highest fertility rate (1.7), followed by Other Asian (1.4) and then Chinese (1.2) women.

Table 109 Total fertility rate for women in all NZ, 15-44 years, by ethnicity, 2004-2006, total response

Ethnicity	All NZ
Chinese	1.18
Indian	1.69
Other Asian	1.41
All Asian	1.38
European/Other	1.61

Source: Health needs assessment for Asian people in Counties Manukau (Gala, 2008)

Figure 81 Total fertility rate for women in NZ, 15-44 years, by ethnicity, 2004-2006, total response



10.3 Teenage deliveries

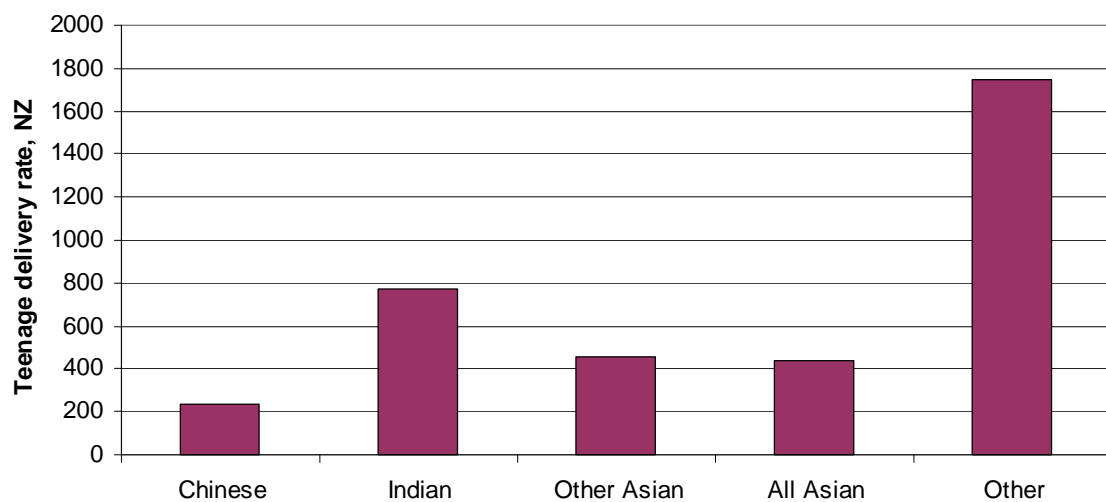
In New Zealand, Asian women had a very low rate of teenage deliveries, compared with European/Other women (see Table 110 and Figure 82). Among Asian women, the rate of teenage deliveries was highest among Indian women, followed by Other Asian and then Chinese women.

Table 110 Number and age-specific rate (per 100,000) of teenage deliveries (women 15-19 years old) in all NZ by ethnicity, 2004-2006

Ethnicity	Deliveries	Rate
Chinese	47	235
Indian	92	774
Other Asian	88	460
All Asian	223	436
European/Other	5660	1750

Source: Health needs assessment for Asian people in Counties Manukau, 2008 (Gala, 2008)

Figure 82 Age-specific rate (per 100,000) of teenage deliveries (women 15-19 years old) in all NZ by ethnicity, 2004-2006



10.4 Assisted deliveries

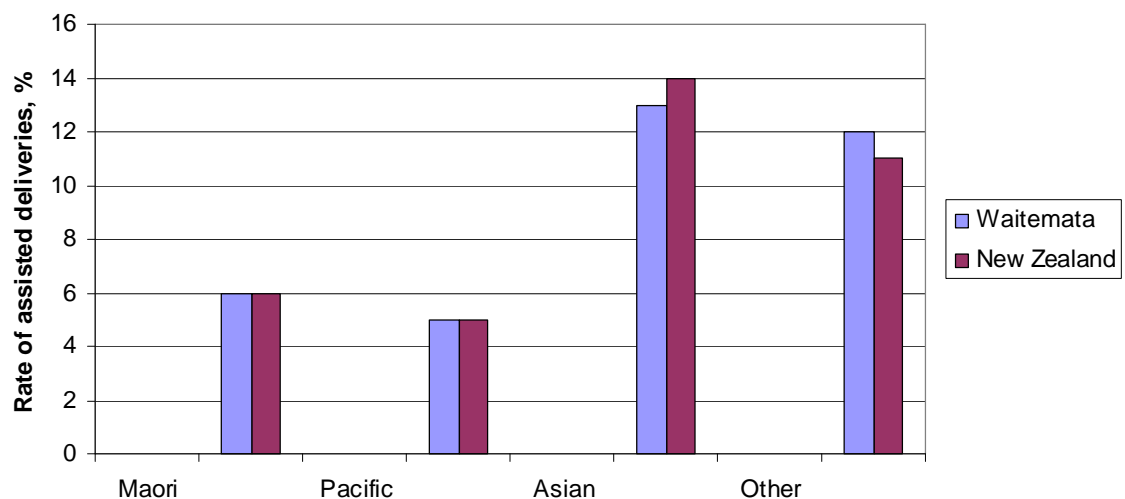
Assisted deliveries are vaginal deliveries that required some form of assistance such as forceps, vacuum or breech. Asian women (13%) had a higher rate of assisted deliveries than Maori and Pacific women, but a similar rate to that of European/Other (12%) women in Waitemata (see Table 111 and). This pattern was also evident nationwide.

Table 111 Number and rate of assisted deliveries, publicly funded, by ethnic group in Waitemata and all NZ, 2007

	Birth type	Maori		Pacific		Asian		Other		Total	
		Number	%	Number	%	Number	%	Number	%	Number	%
Waitemata	Assisted birth	55	6%	41	5%	139	13%	483	12%	718	10%
	Total	865	100%	846	100%	1046	100%	4112	100%	6869	100%
New Zealand	Assisted birth	689	6%	333	5%	762	14%	3935	11%	5719	10%
	Total	12,050	100%	6294	100%	5571	100%	35,113	100%	59,028	100%

Source: HDIU

Figure 83 Rate of assisted deliveries, publicly funded, by ethnicity in Waitemata and all NZ, 2007



10.5 Caesarean sections

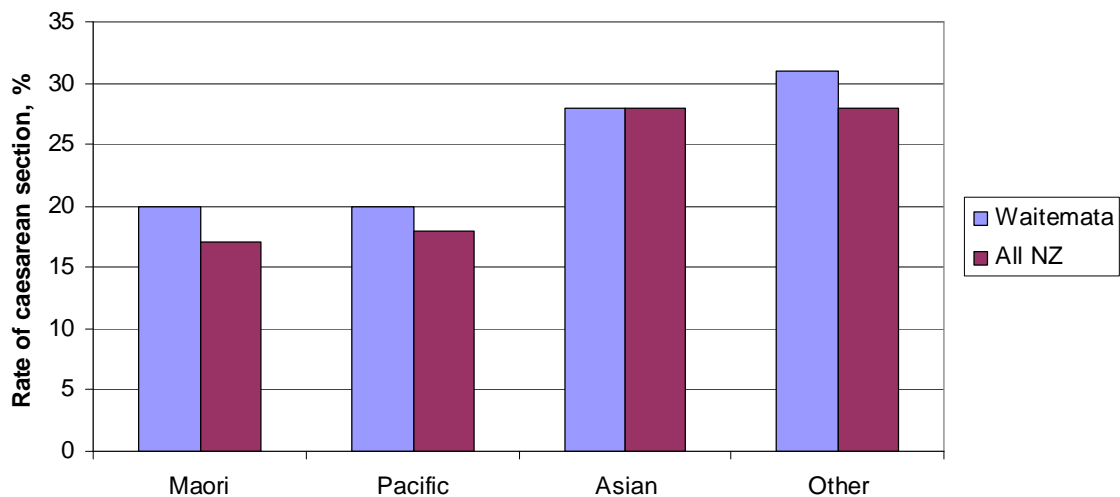
As with the findings on assisted deliveries, Asian women (28%) had a higher rate of caesarean section than Maori and Pacific women, but a similar rate to Other women (31%) in Waitemata (see Table 112 and Figure 84). This pattern was also evident nationwide.

Table 112 Number and rate of caesarean sections, publicly funded, by ethnic group in Waitemata and all NZ, 2007

	Maori		Pacific		Asian		Other		Total	
	No.	%	No.	%	No.	%	No.	%	No.	%
Waitemata	172	20%	170	20%	290	28%	1260	31%	1892	28%
All NZ	2095	17%	1116	18%	1563	28%	9979	28%	14753	25%

Source: HDIU

Figure 84 Rate of caesarean sections, publicly funded, by Asian ethnic group in Waitemata and all NZ, 2005-2007



10.6 Pregnancy complications

Asian women experienced a similar rate of pregnancy complications to European/Other women, which was lower than that experienced by Maori and Pacific women, both in Waitemata and nationwide (see Table 113). However, Asian women in Waitemata had a lower rate of pregnancy complications than New Zealand (Table 113).

Table 113 Pregnancy complications, number of admissions and rate per 1000 births, by ethnic group, for 2004 – 2006

		Maori	Pacific	Asian	Other	Total
Waitemata	Admissions (2004 - 2006)	938	903	775	3207	5823
	Rate per 1000 births	310.5	378.0	240.8	250.0	271.4
New Zealand	Admissions (2004 - 2006)	12,157	7409	4739	29,371	53,676
	Rate per 1000 births	301.7	411.7	284.0	286.9	302.6

Source: HDIU

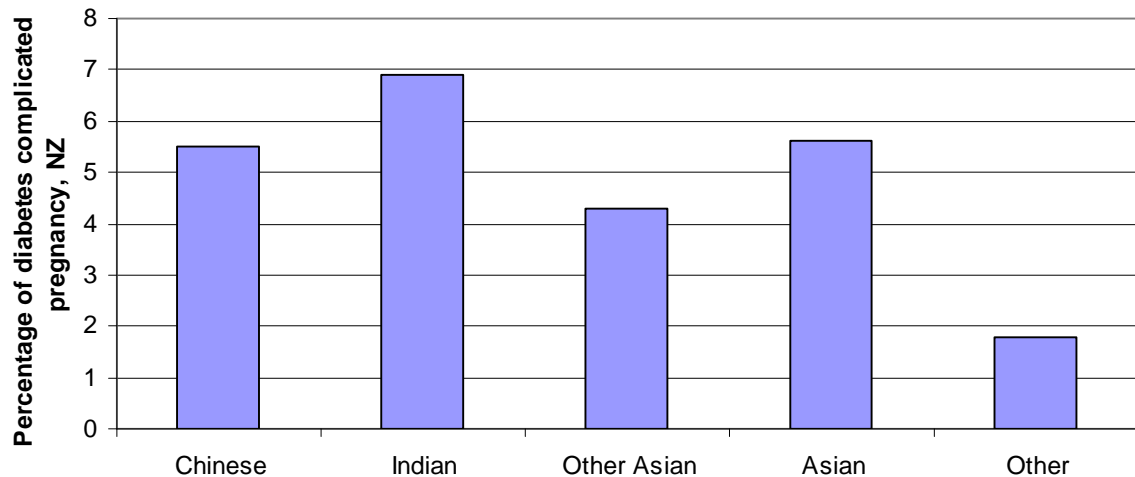
In New Zealand, Asian women had a higher proportion of pregnancies complicated by diabetes than European women (see Table 114 and Figure 85). Among Asian women, Indian women (6.9%) had a slightly higher proportion of pregnancies complicated by diabetes than Chinese (5.5%) and Other Asian (4.3%) women.

Table 114 Number of deliveries complicated by diabetes in pregnancy and deliveries complicated by diabetes as a percentage of all deliveries in all NZ, 15-44 years, 2004-2006, total response

	Chinese	Indian	Other Asian	Asian	European
Number	260	370	216	843	1829
Percentage of all deliveries	5.5	6.9	4.3	5.6	1.8

Source: Health needs assessment for Asian people in Counties Manukau (Gala, 2008)

Figure 85 Deliveries complicated by diabetes as a percentage of all deliveries in all NZ, 15-44 years, 2004-2006, total response



10.7 Termination of pregnancy

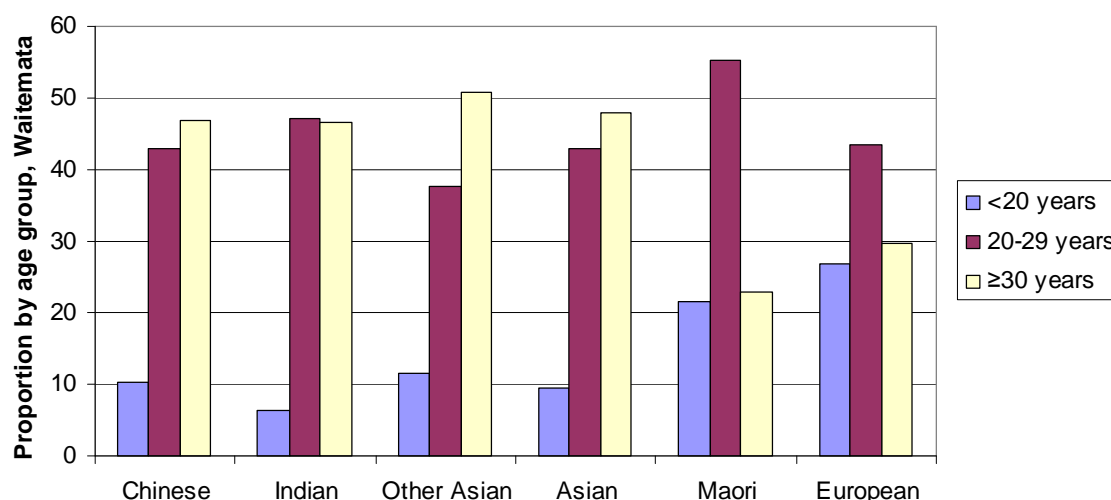
Termination of pregnancy may adversely affect a woman's health, physically and psychologically, particularly in women at a younger age. Among women who had termination of pregnancy, 9.4% of Asian women were in the age group less than 20 years, while this proportion was 26.9% for European. Among Asian, Indian had the lowest proportion of termination of pregnancy at this age group. Of course, this finding could be confounded by the age structure of the populations to be compared, so a rate of termination of pregnancy (and age-specific and age-standardised rates) might be a better measure.

Table 115 Proportion of termination of pregnancy in public sector for Waitemata, by ethnicity, 2004-2006, total response

Age group	Chinese	Indian	Other Asian	Asian	Maori	European
<20 years	10.3	6.4	11.6	9.4	21.7	26.9
20-29 years	42.9	47.2	37.6	42.8	55.3	43.4
≥30 years	46.8	46.5	50.8	47.8	23.0	29.7
Total	100.0	100.0	100.0	100.0	100.0	100.0

Source: Database of Epsom Day Unit, Auckland

Figure 86 Percentage of termination of pregnancy in public sector for Waitemata, by ethnicity, 2004-2006, total response



10.8 Summary of women's/maternal health

- Asian had a lower fertility rate than European/Other, which was lower than Maori and Pacific people. In Waitemata 2007, among women giving births, European (55.9%) comprised the largest ethnic group, followed by Asian (15.1%), Maori (14.2%) and Pacific (12.5%).
- Among Asian women 35+ years giving birth, the proportion of Chinese women (27.9%) was more than two and half times that of Indian (10.1%).
- In 2004-06 New Zealand, Asian had a slightly lower total fertility rate than European/Other. Among Asian, Indian had a rate of 1.7, followed by Other Asian 1.4 and then Chinese 1.2.
- In New Zealand, Asian had a very low rate of teenage deliveries, compared with European/Other. Among Asian, Indian had a higher rate than Chinese, while Other Asian was in the middle.
- Asian (13%) had a higher rate of assisted deliveries than Maori and Pacific, similar to that of European/Other (12%) in Waitemata.
- Very similar to the findings of assisted deliveries, Asian (28%) had a higher rate of caesarean section than Maori and Pacific, similar to that of European/Other (31%) in Waitemata.
- Asian had a very similar rate of pregnancy complications to European/Other, which was lower than that of Maori and Pacific people, in Waitemata and nationwide. However, Asian women in Waitemata had a lower rate of pregnancy complications than New Zealand.

- Asian (9.4%) had a lower percentage of termination of pregnancy than European (26.9%) in the age group less than 20 years in public sector. Among Asian, Indian had the lowest proportion of termination of pregnancy at this age group.

11 WDHB responsiveness to its Asian population

This section outlines how Waitemata DHB has responded to the needs of its Asian population since through its Asian Health Support Service (see Table 116) and through other initiatives (see Table 117).

Table 116 Chronological outline of the Asian service/initiative developments undertaken by WDHB's Asian Health Support Services since 1999

Year	Service/Initiative
1999-2000	<p>Asian Health Support Service (AHSS) Pilot Project (18 months)</p> <ul style="list-style-type: none"> Produced report on findings of survey of Asian People & Health Professionals in North and West Auckland, Ngai et al, 2001 which identified the four key issues impacting on service utilisation by Asian people (Language & Culture barriers, lack of culturally sensitive services, lack of familiarity with the NZ health system) (Ngai, 2001) <p><i>Won 3rd Place for Oral Presentation at WDHB Clinical Awards 2001</i></p>
2001-now	<p>The following Asian services and programmes were developed since from 2001 and are still in place</p> <p>§ Chinese and Korean Patient Support</p> <p>Ward Visit</p> <ul style="list-style-type: none"> Meeting and greeting patients if they need any help/ have any issues Provide language communication tool Promote Asian health services <p>One-off /brief patient support</p> <ul style="list-style-type: none"> Emotional /cultural /basic non-medical communication support for patients & their families <p>Patient support up to 4 weeks with a review (referral required)</p> <ul style="list-style-type: none"> Cultural, emotional and basic communication support Navigate clients through and support their understanding of the health system Support clients at clinical meetings Identify and refer clients to other community agencies when need arises (e.g. to NGO, CSW, CADS, Shakti) <p>Provide cultural advice if required by staff</p> <p>§ iCare information line</p> <p>Chinese and Korean bilingual staff and volunteers support this line to provide information and advice on general health information and to assist Chinese and Korean people with language difficulties, booking a GP or accessing services or information</p> <p>§ Asian Health Promotion / Education</p>

Year	Service/Initiative
	<p>Chinese and Korean Diabetes Support Groups Bimonthly talks on diabetes-related health topic chosen by the group provided by a health professional. Sessions interpreted in Cantonese and Mandarin, and Korean for the respective groups (North Shore and West Auckland). 300+ members</p> <p>Breast Screening Support Promote, recruit, enrol and support 45-69 year old Asian women to access free breast screening</p> <p>Asian Smokefree Communities Service Promote and refer Asian people who wish to quit smoking or wish to go smokefree (home, car, workplace) to Asian smokefree communities service for smoking cessation and smokefree interventions</p> <p>Regional CADS - Asian counselling service Promote and refer this service to Asian people seeking help to deal with alcohol & drug problems</p> <p>Quick Guide to NZ Health System Guide book Provide talks. Materials available in Chinese, Korean and English for patients</p> <p>§ Asian Home Help Service – for Asian people 65+ with a disability Provide short- or long-term practical and personal assistance to clients who have health problems or disabilities that prevent them from caring for themselves</p> <p>§ Cultural Training Workshops for health professionals Topics cover: § Culture & cultural competency § How to work with Asian clients</p> <p>§ Cross-Cultural Resources (CALD) Information about 7 Asian cultures and 7 Eastern Mediterranean (refugee) cultures</p> <p><i>Won 2nd Place for Oral Presentation WDHB Clinical Awards 2003</i></p>
Since 2001 to now	<p>Waitemata Translation & Interpreting Service (WATIS) This is an in-house translation and interpreting service call centre that is coordinated 24 hours a day, 7 days a week covering 100+ Asian and non-Asian languages (including sign-language); providing face to face and telephone interpreting services to WDHB staff who need support to communicate with non-English speaking Asian, migrant and refugee clients.</p>
June 2007 to now	<p>Asian mental health client support coordination service This service was established as a pilot in June 2007, to work in partnership with WDHB mental health clinical teams to:</p> <p>§ Improve access to information and services to reduce crisis intervention</p>

Year	Service/Initiative
	<p>§ Improve the communication and engagement process</p> <p>§ Enhance cultural input in the assessment, treatment and recovery process</p> <p>§ Promote Asian mental health and wellbeing for Asian clients from diverse cultural and language backgrounds aged over 17 years with depression, anxiety, psychosis or any other mental health distress who are currently under the care of WDHB mental health clinical team and residing in Waitemata.</p> <p>Asian Mental Health Team comprises:</p> <p>§ Asian Clinical Cultural Advisors</p> <p>§ Asian Cultural Mental Health Coordinators</p> <p>§ Bureau Asian Cultural / Social Support Workers</p> <p>§ Asian Mental Health trained Interpreters covering up to 30 Asian dialects/languages</p>
Feb. 2005 to now	<p>Regional Asian mental health workforce initiatives</p> <ul style="list-style-type: none"> • Curricula development: Mental Health Training for Interpreters (completed 2006) • Curricula development: Cultural Awareness Training for Mental Health Practitioners to work more effectively with Asian clients and interpreters (completed 2006) • Trained up to 189 mental health practitioners regionally to-date • Trained up to 120 interpreters regionally to-date <p><i>Highly Commended for Poster Presentation WDHB Clinical Awards 2006</i></p>
2006 (Apr. – Sept)	<p>Asian Mental Health strategic development and planning projects, completed</p> <p>§ WDHB Implementation Plan - Improving mental health services responsiveness to Asian communities (2006-2010) (WDHB, 2006)</p> <p>§ Implementation Plan for Improving mental health services responsiveness to Asian communities : Auckland Regional Asian Mental Health & Addictions Implementation Plan 2006-2010 (NDSA, 2006)</p>
Apr. 2006 to now	<p>Asian Smokefree Communities (ASC) Service</p> <p>Collaborated with HPHO, ARPHS and Health Gain Team: Developed an Asian Smokefree Communities (ASC) Service to provide smokefree and cessation services to Asian people residing in North Shore district, which has now been extended Waitemata-wide</p> <p><i>Won 1st Place for Oral Presentation at WDHB Clinical Awards 2006</i></p> <p><i>Highly Commended at MoH Health Innovation Awards, 2007</i></p>
Apr. 2006 to now)	<p>CALD: Cross Cultural Resources and Training Programme Development</p> <p>Developed a Cultural resource kit (quick reference guide and CD Rom) for health practitioners: Tips on “Working with culturally and linguistically different clients” and also developed set of training modules:</p> <p>§ Module 1: Culture & Cultural Competency</p> <p>§ Module 2: Working with migrants</p>

Year	Service/Initiative
	<ul style="list-style-type: none"> § Module 3: Working with refugees § Module 4: Working with interpreters § Module 5: Specialist training, working with Asian mental health clients § Module 6: Specialist training, working with Refugee mental health clients (Collaboration with Refugees as Survivors) Obtained Te Pou Innovation Funding, 2008 to implement this pilot training programme and resources nationally to 4 sites
2008	Primary Health Interpreting Service (Telephone Interpreting Service) WATIS has been contracted to roll out this free telephone interpreting service to selected participating GP practices in stages starting 1 st Oct 2008. Starting with Te Puna and Waioara Trust PHOs

Table 117 Other initiatives or service developments for Asian communities within Waitemata led by NGO and Primary Health

Year	Service/Initiative
2005	Action Mental Health Service– Mental Health Service NGO developed Asian Community Support Worker team – 2 FTEs
2005	Te Puna Hauora: Employed 1 FTE x Chinese Social Worker to provide social support needs for Chinese community residing in Northcote, Birkenhead and Birkdale
2006	Regional Alcohol and Drugs developed the Chinese Alcohol and Drugs Service, employed 1 FTE Chinese counsellor and launched service Feb 2006
2007 July to now)	Asian Smokefree Communities (ASC) Service This was a pilot project in 2006 and became a sustainable service from 2007. The service is expanded district wide accessible by clients residing in Waitemata catchment; and is provided by the lead primary health provider, Harbour Health
2008	WDHB's DMHS-led service responsiveness mental health projects include: <ul style="list-style-type: none"> • WDHB Workforce Development Mental Health Sector (2008-2009) – under way • WDHB Infant, Child & Youth Mental Health & Addictions Service Stocktake & Service Development Project – Asian Work-stream (2008-2009) under way • WDHB Mental Health Services for Older People: Stocktake & Service Development Project – Asian Work-stream (2008-2009) under way • WDHB District Mental Health & Addiction Service Plan – Asian Chapter Development Project – commenced Nov. 2008 to complete by March 2009

12 Community engagements

Two rounds of consultations were undertaken. Round 1 occurred before drafting the Asian HNA and Round 2 after data collation. The purpose of Round 1 consultation was to engage with community leaders and to determine content/framework/scope of the Asian HNA, while Round 2 was a public consultation mainly to prioritise the most important health needs for Asian communities.

12.1 Round 1 consultation

Consultation process

Two consultation meetings were held. At each meeting, followed a general introduction, there were three presentations i.e. HNA overview, migrant & refugee section of the overall HNA, and Asian HNA.

The North Shore consultation held on 6 August took place at St Johns Downstairs Room and 43 stakeholders/community leaders attended the forum in addition to participants from the Planning & Funding team and Asian Health Support Services of Waitemata DHB, who organised the consultation. There were 31 participants joining the consultation at Kelston Community Centre in West Auckland on 8 August. In addition, we also received written feedback from 5 people.

Overall, 25 Chinese, 19 Koreans, 16 Europeans, 6 Indians and 11 others joined the forums or sent written feedback (ethnicity missing for 2 participants). Five participants were community members. Other participants were from Waitemata DHB (16), Waitemata Auckland Interpreting and Translation Service (WATIS, 7), Accommodation for Mental Health Society (AMHS, 5), Action on Smoking and Health/Auckland University of Technology (ASH/AUT, 5), ACC (3), The Asian Network Incorporated (TANI, 2), Plunket (2), and other organisations (30) (affiliation missing for 4 participants).

The 43 attendees in North Shore were divided into 5 groups for discussions of the questions raised during the presentations and the 31 participants in West Auckland divided into 3 groups. The interpreting service (in Mandarin, Cantonese and Korean) was available during the two consultation meetings, but it was not used as all attendees could communicate in English.

Summary of feedback

Mental health was seen as an important priority almost by every participant during the consultation. Issues related to mental health include risk factors, prevalence (proportion with conditions of concern), and low health service use due to language and cultural barriers and stigma. This will be an important section in the Asian HNA and effort will be made to source the relevant information e.g. prevalence and health service use.

Factors affecting Asian health service uses were also frequently raised by the stakeholders and community leaders during this round of consultation. As the currently proposed list of

contents for the Asian HNA is mainly about hospitalisations, it will be important to include an analysis of the risk factors leading to lower use of health services. Issues raised include:

- lack of knowledge of NZ health care system
- language barriers
- lack of language appropriate health information
- lack culturally appropriate services and
- access to interpreters

Other areas identified as priorities included:

- social-economic factors (including acceptance by the society and violence/crime)
- risk and protective factors (including behavioural factors, health knowledge, positive attitude towards Asian and social support), and
- workforce issues (e.g. lack of culturally adequate primary health care services)
- women/maternal health
- population demography
- disability, and
- South Asian increased risk of CVD/Diabetes

Gaps identified in the draft list of contents included:

- issues for older adults (rehabilitation services, end of life care)
- teenage sexual health
- oral/dental health and
- religious affiliation in the demography section

Corresponding to the priority areas discussed above, the suggestions for improving Asian health and wellbeing were raised during the consultation, including language and culturally appropriate health (promotion) information, culturally appropriate workforce and setting, and encouraging Asian to use the health services earlier.

12.2 Round 2 consultation

Consultation process

Two consultation meetings were held too. At each meeting, presentations of 'overview of HNA and consultation process' and 'Asian HNA' were made first, followed by questions and answers, and group discussions. Each group was asked to discuss and list the three most important health needs of the Asian community in Waitemata and then report back and write up their top three. Thus, a combined list of the most important health needs for the Asian community was set up. Finally, each attendee placed a dot next to the three items on the combined list that mattered most to him/her.

The interpreters played a very important role during the presentations and group discussions. Three interpreters (respectively in Korean, Mandarin and Cantonese) provided the service for the two consultation meetings.

The North Shore consultation held on 30 October took place at St Johns Downstairs Room and 32 participants attended the forum in addition to the organisers in Waitemata DHB.

There were 43 participants joining the consultation at New Lynn Community Centre in West Auckland on 7 November. In addition, we also received written feedback from 12 people.

Overall, 36 Chinese, 23 Koreans, 8 Europeans, 4 Indians and 4 others joined the forums. 40 participants were general public. Other participants were from Waitemata DHB (15), West Auckland Hospice (1), MoH (2), Health West (1), Problem gambling Foundation (1), SSNZ (1), Auckland Somali Association (1), Auckland Regional Public Health Services (ARPHS, 1), Northern District Support Agency (NDSA, 1), Accommodation for Mental Health Society (AMHS, 1), Home-based Cardiac Rehab (1), Harbour Sport (1), Auckland University (1), Harbour Health (3), Auckland University of Technology (AUT, 1), Te Pou (1), Shakti (1), Child and Family Service (1). The 32 attendees in North Shore were divided into 3 groups and the 43 participants in West Auckland into 4 groups to identify the three most important health needs for the Asian communities.

The most important health needs of the Asian community identified during the consultation meetings and the written feedback before/after the consultation were reviewed and analysed.

Summary of feedback

The prioritised areas of health needs identified are as follows:

- Workforce development to address Asian health needs, including language and culture appropriate services and Asian medical staff in service
- Regular health checks and home-visit, especially in the old
- To address CVD/Diabetes particularly in Indian (South Asian)
- Improving PHO enrolment and screening programme coverage of Asian
- Improving preventive services and health education/promotion in a language and culturally appropriate way, such as HEHA and smoke-free
- Improving mental health promotion and services for Asian and migrants/refugees
- Advertising the NZ health system and its difference from the ones of Asian countries among Asian communities
- Utilising community engagement opportunities, e.g. to set up 'Asian Advisory Group in Waitemata'

13 Summary of key findings

This chapter concentrates on the findings from the epidemiological and statistical analysis.

Asian was the second largest group (14%, total 68,151) followed by Maori and Pacific people in Waitemata DHB in 2006. Asian took about 9% of the total population in New Zealand in 2006. Chinese had the highest number and made up of about 40% of Asian population in Waitemata. Indian was the second largest group of about 22% and Korean was the third largest group, made up of approximately 18%.

The population in Waitemata DHB is projected to increase by a greater percentage than the national population between 2006 and 2026. Unfortunately, there is no data specifically for Asian, as is combined with European and Other in the series of projection. However, it was thought the Asian population would continue to increase if migration policy remained stable and also at medium death and birth rates.

About 35% of the population in Waitemata DHB were under the age of 25 while around 11% were 65 years and older. Chinese had the highest percent of population among 20-24 years old. High percentages for Korean were found among teenager and working age group. The proportion for female was also higher than males in Korean population. Age structure for Indian was similar to the pattern of the general population in Waitemata DHB.

Among Asian ethnic group, Indian had the largest proportion (20%) of born in NZ, followed by Other Asian (excluding Korean) and Chinese, while Korean had the lowest proportion. By territorial authority (TA), North Shore had the highest Asian population of 55.4% followed by Waitakere (40.9%).

13.1 Comparing 'Asian' versus 'Other'

Social-economic determinants of health

- Higher percentage of NCEA Level 2 certificate or higher
- Higher proportion of population that couldn't speak English (15.3% in Waitemata)
- Higher unemployment rate
- Higher percentage with lower incomes
- Approximately 57% Asian adults didn't own their usual residence higher than European/Other (40%)
- Lower proportion of 'No religion' (30%) than European/Other (around 39%)

Risk and protective factors

- Lower proportion of obesity compared with European/Other
- Lower prevalence of hazardous drinking than European/other
- Significantly lower rate of current daily smokers
- Lower prevalence of marijuana use than European/Other
- Higher proportion (59%) did not gamble in the past 12 months, compared with European (28%)

- Asian females had a significantly lower prevalence of regular physical activity (32%) than European/Other (close to 46%)
- Lower prevalence (39.7%) of 3 or more servings of vegetables than European/Other (57.1%)

Health outcomes

- Higher life expectancy than European/Other
- Lower prevalence of self-reported excellent or very good health (57.8% for females and males combined) compared with European/Other (64.3%)
- Lower rate of breast cancer registration than European/Other
- Significantly lower rates of prostate cancer registration & mortality than European/Other
- Higher cervical cancer registration rate than European/Other
- Significantly lower rate of colorectal cancer registrations than European/Other
- Statistically significant lower rate of medicated asthma prevalence
- Significantly lower unintentional injury mortality rate than European/Other nationwide
- Lower prevalence of chronic mental health conditions than European/Other

Health services utilisation

- Significantly lower PHO enrolment rate (82.8%) than other ethnicities (92.6%)
- Lower prevalence of visit to a general practitioner
- Less likely to have a usual carer or have seen a doctor or dentist in the past 12 months
- Less likely to have seen an alternative/complementary provider than European
- Significantly lower breast screening coverage rate than European/Other
- Significantly lower rate of cervical screening than European/Other – a difference of more than 42%
- Lower prevalence rates of blood pressure tests and cholesterol checks than European/Other
- Higher prevalence rate of diabetes checks than European/Other
- Lower prevalence rate of emergency department use than other ethnicities
- Lower use of outpatient department services
- Lower potentially avoidable hospitalisation (PAH) rate than European/Other
- Lower rate of IHD hospitalisations than European/Other
- Similar rate of stroke hospitalisation to European/Other.
- Lower rate of kidney/urinary infection hospitalisations
- Significantly lower rate of preventable injuries
- Lower rate of respiratory infection hospitalisation than European/Other
- Lower rate of angioplasty
- Lower rate of CABG than European/Other
- Significantly lower rate of total hip joint replacement surgery
- Lower rate of total knee joint replacement surgery than European/Other
- Lower rate of cholecystectomy than European/Other
- Lower rate of cataract extraction than European/Other
- Lower rate of prostatectomy than European/Other
- Lower rate of hysterectomy than European/Other

- Lower level of access to secondary mental health and addiction services than European/Other

Child health

- Similar infant mortality rates to European/Other
- Higher rate of newborns with low birth weight (LBW) than European/Other
- Lower rate of child avoidable hospitalisations than European/Other
- Higher rate of child asthma hospitalizations compared with European/Other
- Lower rate of child preventable injury hospitalisations than European/Other
- Lower rate of child hospitalisation due to poisoning
- Significantly lower rate of child hospitalisations due to falls
- Similar rate of child respiratory infection hospitalisations to European/Other
- Similar immunisation coverage rate at age of 2 years to European/Other

Women's and maternal health

- Lower fertility rate than European/Other
- Slightly lower total fertility rate than European/Other
- Lower rate of teenage deliveries than European/Other
- Similar rates of assisted deliveries, caesarean section and pregnancy complications to European/Other
- Lower percentage of termination of pregnancy than European in the age group less than 20 years in public sector

13.2 Comparison between Asian ethnic groups

Social-economic determinants of health

- Indian had the highest proportion of tertiary and higher than Chinese and Korean
- Indian had the highest percentage of employment (72%) than Other Asian (65%), Chinese (50%) and Korean (44%)
- Korean and Chinese had more than 60% with personal income less than 20,000 than Indian (38%)
- Indian had a relatively lower percentage of people receiving benefit
- Korean and Indian had a lower proportion not owning usual residence (54%) than Chinese and Other Asian (59%)
- Chinese had a highest proportion of 'No religion' (58%) than Indian (only about 4%)

Risk and protective factors

- Indian had higher rates of self-reported high cholesterol than Chinese and Other Asian
- No difference in the proportion of obesity between Asian ethnic groups
- No significant difference in prevalence of hazardous drinking between Asian ethnic groups
- No significant differences in self-reported tobacco use between Asian ethnic groups
- No significant difference in prevalence of regular physical activity between Asian ethnic groups

Health outcomes

- Chinese had higher life expectancy at birth than Indian and Other Asian
- Chinese had the lowest adult mortality rate (age-standardised)
- Chinese had the lowest avoidable mortality rate than Indian and Other Asian
- Higher prevalence of heart disease (11%), diabetes (14%) and asthma (16%) in South Asian
- Indian men had a higher avoidable mortality rate of all cardiovascular disease than Chinese and Other Asian
- Other Asian had a higher registration rate of lung cancer than Chinese and Indian
- Indian had a lower rate of lung cancer mortality than Chinese and Other Asian
- Chinese had a slightly lower rate of female breast cancer registration than Indian and Other Asian
- Indian had a relatively lower rate of colorectal cancer mortality than Chinese and Other Asian

Health services utilisation

- Other Asian and Chinese had a lower rate of cervical cancer screening than Indian
- Indian had a higher level of outpatient department use than Chinese and Other Asian
- Indian had a significantly higher rate of ischaemic heart disease hospitalisations than Chinese and Other Asian
- Indian had higher rates of stroke hospitalisation than Chinese
- Indian had a slightly increased rate of kidney/urinary infection hospitalisations than Other Asian and Chinese
- Chinese had a lower rate of preventable injuries than Indian and Other Asian
- Indian had a higher rate of respiratory infection hospitalisation than Chinese
- Indian had the highest rate of the angioplasty procedure
- Indian had a significantly higher rate of CABG than Chinese and Other Asian
- Chinese had a lower rate of total hip joint replacement surgery than Indian and Other Asian
- Indian had a higher rate of cataract extraction than Other Asian and Chinese
- Chinese had a relatively lower rate of hysterectomy

Child health

- No obvious difference in infant mortality rate between 3 Asian ethnic groups
- No difference in child mortality rate
- Indian had a higher percentage of LBW (10.7%)
- Indian had a higher rate of avoidable hospitalisations than Chinese and Other Asian
- Indian children had a slightly higher rate of preventable injury hospitalisations than Chinese and Other Asian
- Indian girls had a higher rate of respiratory infection hospitalisations than Chinese and Other Asian

Women's and maternal health

- More Chinese women gave birth at the age 35+ years than Indian

- Indian had the total fertility rate of 1.7, followed by Other Asian 1.4 and then Chinese 1.2
- Indian had a higher rate of teenage deliveries than Chinese
- Indian had the lowest proportion of termination of pregnancy at the age less than 20 years

13.3 Conclusions

Asian is the second largest group (14%) in Waitemata DHB and projected to increase significantly in the future. Great difference exists not only between Asian and European/other but also within Asian sub-groups.

Overall, Asian people are well educated but with a higher unemployment rate, lower income, lower prevalence of regular physical activity and lower prevalence of 3+ servings of vegetables. Asian people also had higher life expectancy (which may partly reflect the healthy migrants effects), but with lower use of primary care services and significantly lower rate of cervical screening. Asian had lower rates of PAH and surgical procedures. Asian also had higher rate of newborns with LBW.

Within Asian subgroups, Chinese and Korean had higher percentages of not speaking English (which is associated with their lower health care service use including cancer screening), but with higher life expectancy and lower avoidable mortality. Indian had higher prevalence of self-reported high cholesterol, high blood pressure, heart disease, diabetes and asthma. Indian also had higher use of secondary care services, particularly those related to CVD and diabetes. There was also a higher rate of newborns with low birth weight in Indian.

It is suggested again that 'averaging' of Asian is inappropriate though sometimes it may be the only way due to small numbers within Asian sub-groups. The inequalities not only between Asian and European/Other but also between Chinese and Indian are often large and need to be seriously considered in data collection, analysis, interpretation and policy making.

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15 Appendices

Appendix 1: Prioritisation for Level 2 ethnicity

Priority order	Ethnic group code (L2)	Ethnic group code description
1	21	Māori
2	35	Tokelauan
3	36	Fijian
4	34	Niuean
5	33	Tongan
6	32	Cook Island Maori
7	31	Samoaan
8	37	Other Pacific Island
9	30	Pacific Island NFD*
10	41	South East Asian
11	43	Indian
12	42	Chinese
13	44	Other Asian
14	40	Asian NFD
15	52	Latin American / Hispanic
16	53	African
17	51	Middle Eastern
18	54	Other
19	12	Other European
20	10	European NFD
21	11	NZ European

Note: NFD = Not Further Defined (see 'Processes for responses not matching existing descriptions' below).

Source: Ministry of Health. 2004. *Ethnicity data protocols for health and disability sector*. Wellington: Ministry of Health

Appendix 2: World Health Organization (WHO) world population age weights

Age group	Weight
0–4	8.86
5–9	8.69
10–14	8.6
15–19	8.47
20–24	8.22
25–29	7.93
30–34	7.61
35–39	7.15
40–44	6.59
45–49	6.04
50–54	5.37
55–59	4.55
60–64	3.72
65–69	2.96
70–74	2.21
75–79	1.52
80–84	0.91
85–89	0.44
90–94	0.15
95–99	0.04
100+	0.005
Total	100



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