

Waitematā DHB
Health Needs Assessment 2019



Waitematā
District Health Board

Best Care for Everyone



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1 Executive Summary

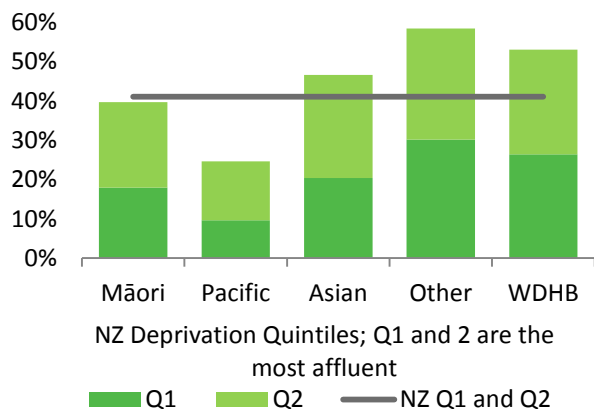
DHBs are required to regularly investigate, assess and monitor the health status of their resident population, and their need for services. The health needs assessment does not include planned actions to meet health needs but forms an integral part of the overall planning cycle, informing both funding decisions and the strategic planning process. This document updates key information from the full Health Needs Assessment (HNA) produced in 2009. We have used data from a wide range of sources to provide a picture of the health status and needs of our population in Waitematā district. With this information, the District Health Board (DHB) can plan future health services and health programmes to ensure the best health outcomes for all the people in our region.

1.1 Our population is large, growing and diverse

Waitematā DHB serves the areas of the North Shore, Waitakere, and Rodney extending to Wellsford in the north and as far south as the Auckland Harbour Bridge, incorporating Whangaparaoa in the east and the west coast beaches of Muriwai, Piha and Karekare in the west. It is an area of stunning natural beauty. Residents enjoy easy access to green spaces, parks and beaches and Auckland ranks highly among surveys of the world's most liveable cities.

Waitematā DHB contains approximately 627,000 people making it the largest population of all New Zealand's DHBs. We have an ethnically diverse population with 10% Māori, 7.0% Pacific, 22% Asian and 61% European/Other. The region contains a large migrant population with over one third of our population born overseas. We are a relatively affluent population, with a large proportion living in areas with high socio-economic standards. The median personal income of our population is fourth-highest amongst DHBs in New Zealand.

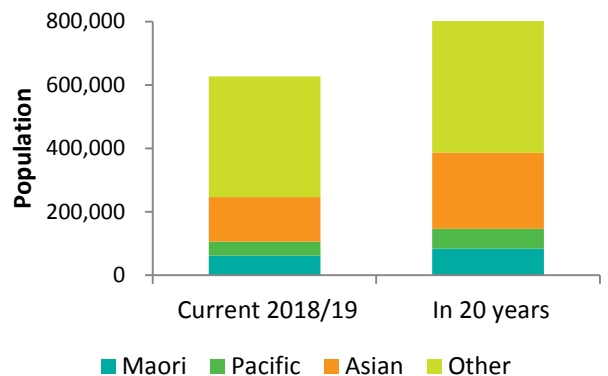
Our population is relatively affluent



Many factors affect the health of individuals and communities. Whether people are healthy or not is determined for the most part by an individual's socio-economic circumstances and their environment. While Waitematā's population enjoys a high median income, home ownership is increasingly unaffordable. Overcrowding is more common than in New Zealand overall, especially for Māori and Pacific families. Our Māori and Pacific populations have lower rates of educational achievement and high unemployment.

Significant population growth is expected in the future. Our population is projected to increase by 30%, reaching 818,000 by 2038/39. It will also be an older population with the number of people aged 65 years and older expected to almost double, increasing from the current 88,000 to 168,000, and making up 21% of the total, compared with 14% at present. Our Māori, Pacific and Asian populations will also grow, our Māori population by 36%, Pacific by 41% and our Asian population by 71%. We need to plan and develop our services to meet the needs of this expanding and changing population. We also need to work and coordinate with other public agencies and services to improve the wider determinants of health such as housing, education and the physical environment, as well as improving access to health services.

Our population will grow by a third over the next 20 years

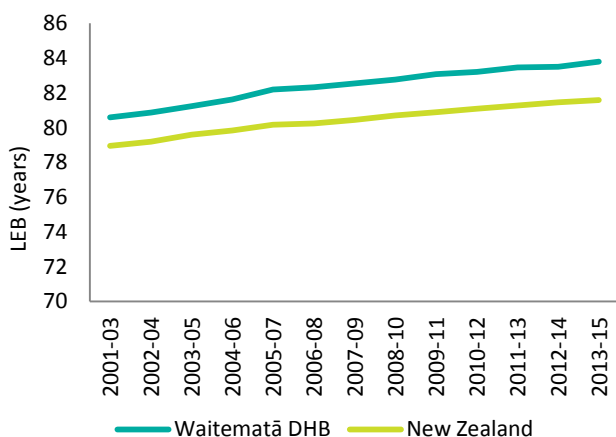


1.2 Our population is healthy and health is improving

As a population, the people living in our district are the healthiest and longest-lived in New Zealand. The self-reported health status of our population is 'excellent' and we continue to see positive health outcomes overall.

Our population live on average to the age of 84.1 years, 2.4 years higher than the national figure, having increased by 1.9 years of life over the past ten years. Our mortality rates from cardiovascular disease and cancer, the two biggest causes of avoidable deaths, have declined steadily over the years and are the lowest in New Zealand.

Our population enjoys the highest life expectancy in NZ



The children in our district are experiencing a great start in life with a much lower rate of infant mortality than is observed nationally. Our immunisation rates are very high with nearly 95% of our eight month and two year old children fully immunised.

We are seeing positive improvements in many lifestyle risk factors, and identifying these risks earlier. Smoking, the largest cause of preventable ill health, has declined substantially between 2006 and 2013, falling from 17.4% to 12% of adults. This will support improvements in health for many years to come.

Our population experiences more positive mental health than New Zealand as a whole, with our self-reported diagnosed rate of anxiety and depression lower than the national rate. Our older population also experience positive health outcomes. The majority of our older population are able to live unassisted in their own homes. Many older people continue to work after reaching the age of 65 which is reflective of an overall positive health status.

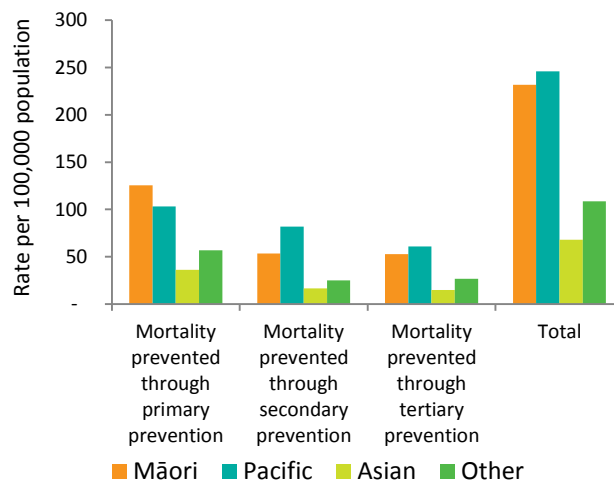
Access to health services for Waitemata residents has improved over the years, with 89% able to see their GP within 24 hours. Emergency departments discharge, admit or transfer 95% of patients within six hours, a major improvement from 61% five years ago, and achieved in an environment of increasing population size and increasing rates of presentation to hospital. Elective surgery volumes have increased by 40% in the past five years. Our population experience short waiting times between a decision to start cancer

treatment and the actual commencement of treatment. However, the overall pathway from referral to the start of treatment or other care is too long for 12% of patients. Our hospitals have also improved on basic safety measures such as hand hygiene, assessing older people for their risk of falling and use of the surgical checklist. Similarly, our hospital standardised mortality ratio is decreasing and is now the lowest in New Zealand, indicating that our services are very safe.

1.3 Our key health challenges

Although the majority of our people enjoy very good health, particular population groups in our district experience inequalities in health outcomes. With better prevention of ill health, we could further reduce avoidable deaths and increase healthy years of life for our residents. In 2013, there were 620 potentially avoidable deaths of Waitemata residents (23% of the total), 22% of which were amongst our Māori and Pacific populations. Of these deaths, half could have been avoided through primary prevention, for example through adopting healthier lifestyles; a quarter could have been prevented by identifying and managing problems like hypertension before they caused illness; and a quarter could have been avoided through prompt identification and treatment. We also need to plan and develop health services to respond to the significant growth and changes to the population in our district.

Avoidable deaths affect Māori and Pacific disproportionately

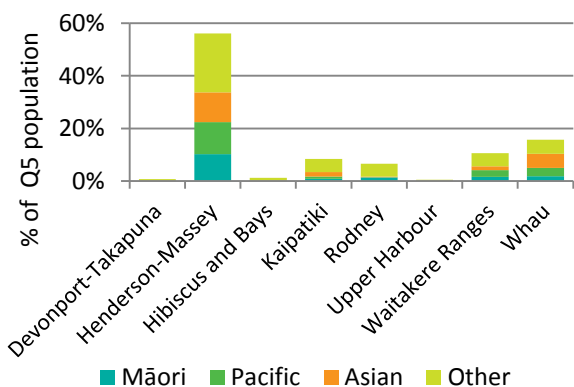


1.3.1 Reduce inequalities in health

Our Māori and Pacific populations live on average four to six years less and have hospitalisation and death rates from many chronic diseases two to three times higher than our European/Other population. Although overall life expectancy is rising for Māori and Pacific

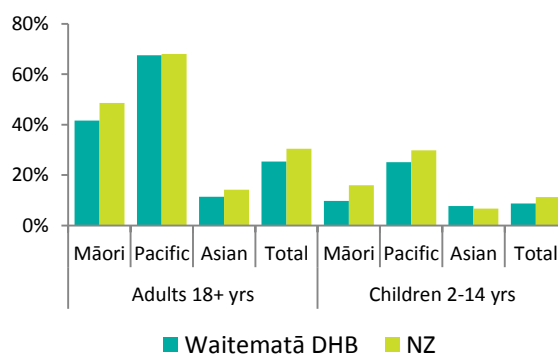
people, a gap remains of 5.1 years for Māori and 5.7 years for Pacific peoples, compared with European people. The main drivers of this equity gap are cardiovascular disease, cancer, diabetes, respiratory disease and injuries. One in twelve of our population live in areas ranked as highly deprived (Quintile 5 of the NZ deprivation score), concentrated in the Waitakere and Henderson areas. These people experience poorer health outcomes than those in more affluent areas.

Our highly-deprived people are concentrated in the west



Data from the New Zealand Health Survey reports that one in four of our adults are obese and over half are overweight with very little change within the past ten years. The rate of childhood obesity in our Māori and Pacific population is high with 10% of Māori and 25% of Pacific 2-14 year olds considered obese. Fewer than half of our population are meeting daily exercise recommendations and 65% are not meeting daily fruit and vegetable consumption guidelines. One in five of our adult men is at risk from hazardous drinking.

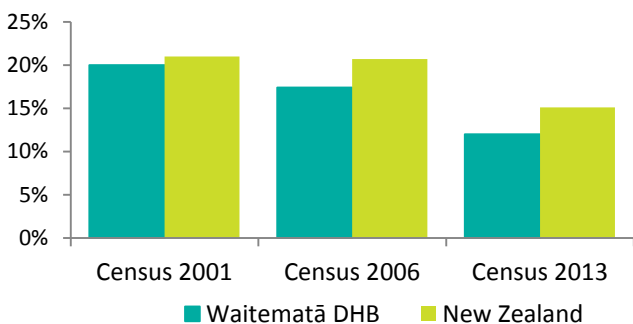
One in four adults and one in twelve children are obese



1.3.2 Support healthier lifestyles

Smoking rates are declining rapidly though there is room for improvement, with 12% of our adult population being regular smokers of cigarettes and higher rates in the Māori (27%) and Pacific (20%) populations. Amongst pregnant women, 14% were smokers at the time of delivery. Again the rate was higher in Māori (53%) and Pacific (19%) mothers. Progress has been made with over 90% of all smokers accessing health services receiving brief advice to quit, however more can be done to back this up with effective support.

Smoking rates are low and declining



1.3.3 Effective management of cardiovascular disease and diabetes

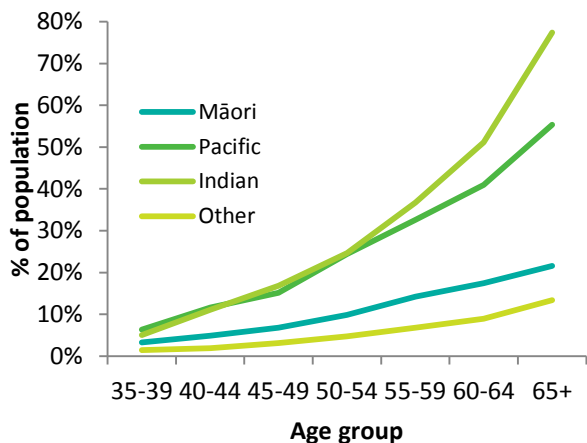
Cardiovascular diseases cause the second highest number of deaths in Waitemata and as much as 70% of cardiovascular disease is avoidable. Although our risk assessment rates are high (88% of eligible adults), only 52% of eligible cardiovascular disease patients are on triple therapy. Although the rate of triple therapy is increasing, many more patients could potentially benefit from pharmacological treatment than is currently the case. We need to ensure that those identified as being at high risk of disease, as well as those with existing disease, are well-managed and receive prompt treatment.

In 2013, 754 Waitemata residents were admitted to hospital following a stroke. The mortality rate from stroke is 25 per 100,000, lower than the rate for New Zealand as a whole. Prompt assessment together with effective treatment and rehabilitation is essential in providing the best outcomes for these patients.

The number of people with diabetes has almost doubled since 2003 and this is now estimated to affect 28,000 (4.6%) of our population. There is room for improvement in supporting people with diabetes to manage their key risk factors, such as blood pressure and blood sugar levels and to attend retinal screening. Of the estimated number of people with diabetes in Waitemata, 63% aged 15-74 years are known to be well-managed (defined as having an HbA1c of <64

mmol/mol). Within the last two years, only 54% of diabetics have had the recommended retinal screening in the public sector. In 2016, 17.5% of medical/surgical bed-days were for people with diabetes. For both cardiovascular disease and diabetes, Māori and Pacific carry a heavier burden than other ethnicities.

Diabetes affects 4.6% of our population, increasing with age



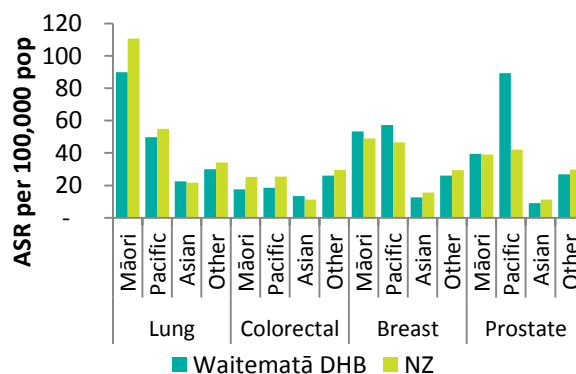
1.3.4 Rapid identification and treatment of cancer

There are 2,600 new cancer registrations in Waitematā every year. Cancer causes 32% of all deaths with the most significant being breast (in women), lung and colorectal cancers, and prostate cancers in men. Around 30-35% of cancers are caused by modifiable risk factors and are avoidable. Early detection and prompt diagnosis and treatment can reduce deaths and illness from cancers. Our five year survival rate from all cancers is 68%, one of the highest in the country. However, if Waitematā DHB had the same five-year survival rates as Australia, 32% of women who die of breast cancer within five years would survive for longer (15 per year). Public screening programmes for breast and cervical cancer are well-established; despite this, one quarter of all eligible women do not participate in the public programmes. Cervical screening rates are lowest in Māori with only 61% of eligible women participating.

The national pilot for bowel cancer screening in Waitematā has now moved to implementation. At December 2017, 58% of those invited have been screened (higher than participation rates in many other countries). There is room for further improvement, however, with Māori and Pacific screening coverage lower overall. Improving the uptake of bowel screening has the potential to save more lives.

To support continued improvement in services and waiting times for people with cancer, accessing faster cancer treatment is a key priority and forms an integral part of the national health targets. As at March 2019, 88% of cancer patients wait less than 62 days for treatment or other care to commence compared with the target of 90%.

Lung, colorectal, breast and prostate cancer are major killers



1.3.5 Access to Mental Health services

Mental ill-health affects one in five people each year and the New Zealand health survey identified one in eight of our residents (equivalent to around 50,000 people) as suffering from common mental illnesses. Around 3% of our population (17,000 people) are accessing secondary mental health services. Māori are particularly affected by mental health conditions, being twice as likely as Europeans/Others to access services. Pacific people report anxiety and distress twice as often as Europeans/Others, but do not access mental health services proportionately. While our suicide rate is low compared with the national rate, we still lost 54 people in 2011 to suicide.

Mental illness is also associated with reduced life expectancy, with sufferers at increased risk of other illnesses particularly cancer and cardiovascular disease. Even when these disorders are recognised, rates of intervention are lower for this population compared with people without mental illness.

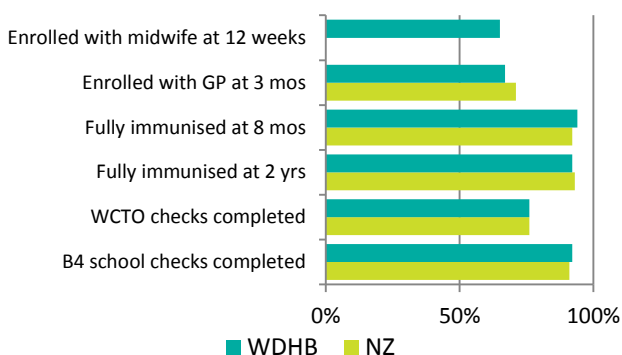
1.3.6 Give children the healthiest start to life

The well-being of children is critical to the well-being of the population as a whole. Healthy children are more likely to become healthy adults. Our overall infant death rate is lower than the national rate, however rates in Māori and Pacific are nearly twice that of European/Others. One-third of our pregnant mothers are not enrolled with a midwife at 12 weeks of

pregnancy and addressing this would improve outcomes for mothers and babies. The percentage of children enrolled with a PHO by three months of age (57%) is lower than the national figure (63%). The national target is 88%.

We are close to achieving our immunisation target of 95% at 8 and 24 months, with 94% of children fully immunised at 8 months of age and 92% of children fully immunised at 24 months of age. However, immunisation rates are not as high for Māori as for non-Māori. We are also below target for completion of core Well Child/Tamariki Ora (WCTO) checks in the first year of life.

Healthy children become healthy adults

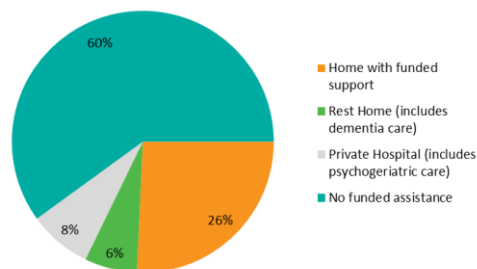


Children are admitted to hospital most commonly for injuries, gastroenteritis, asthma and infections. In 2012/13, there were 16 admissions per 100,000 population aged 0-14 for injuries resulting from domestic assault, neglect or maltreatment of children. The incidence of rheumatic fever (2.3 per 100,000 population) is the lowest in the country, however significant inequalities are present for Māori and Pacific populations.

1.3.7 Older people

The large majority of older people in Waitematā DHB are able to live unassisted in their own homes. Six out of ten people (60%) who are 85 years or older receive no funded living assistance, while 14% are funded to live in a rest home or private hospital, and 26% have some funded support at home. Older people have greater need for health services and hospital care and occupy about 45% of our medical/surgical beds. With the projected increase in the population aged 65 and over, meeting the associated increase in demand for health care will be challenging.

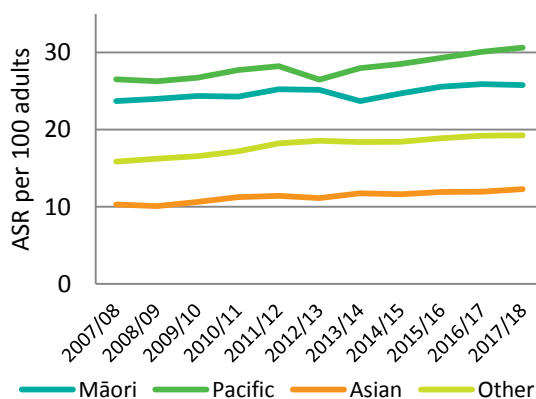
60% of people aged 85+ live with no funded support



1.3.8 Meeting future health needs

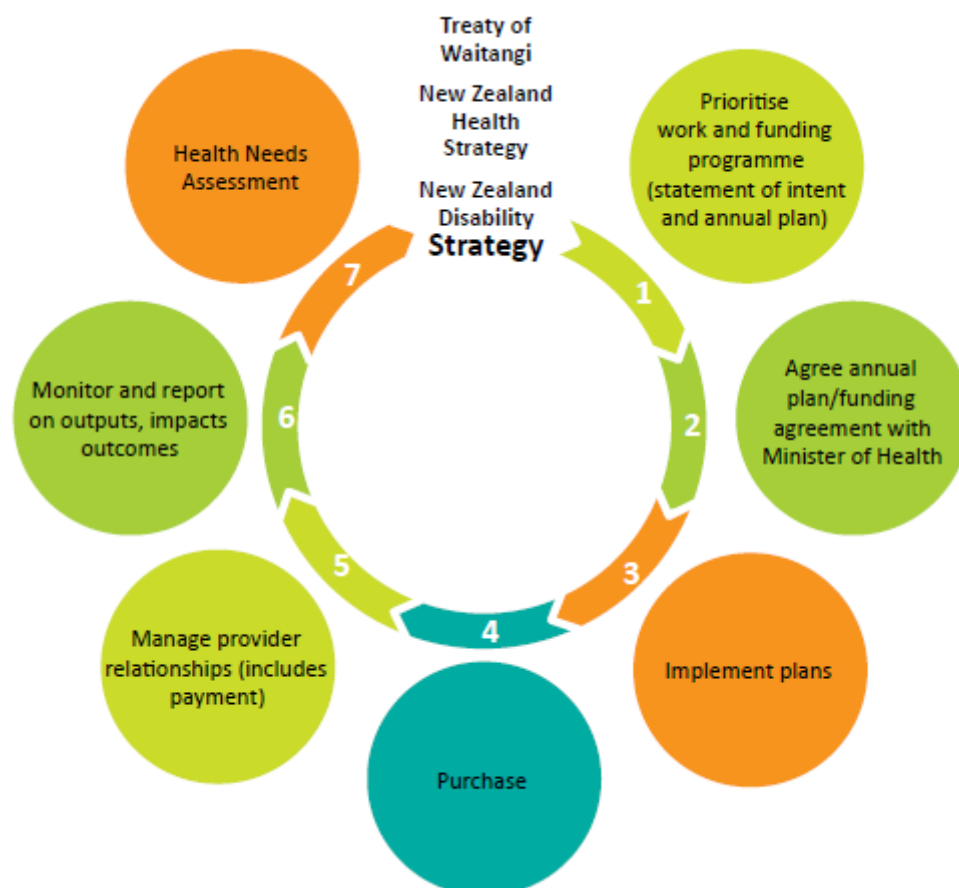
Between 2007/08 and 2017/18, acute admissions to hospital increased by 10% and emergency department attendances have increased by 12% for Waitematā residents, after allowing for population ageing and growth. Future population growth and constraints on funding will place pressure on hospital services. We therefore need to plan and develop hospital services to manage this demand. Furthermore, climate breakdown has serious implications for our health, wellbeing, livelihoods, and the structure of organised society. Fully integrated services with a focus on prevention and good access to primary care services will be essential to meet the future health needs of the population.

Demand for hospital services is increasing



2 Introduction

DHBs are required to regularly investigate, assess and monitor the health status of their resident population, and their need for services. The purpose of needs assessment is to bring about change beneficial to the health of the population. The needs assessment forms an integral part of the overall planning cycle, informing both funding decisions and the strategic planning process.



Through assessing the health needs of our population we can both identify and reduce inequalities and produce better health outcomes for the population as a whole. In this assessment we have concentrated on describing the health of Waitematā residents compared to that of New Zealand overall, and on highlighting inequalities within the district and between particular groups of the population.

It is envisaged that this needs assessment will be a living document and its content regularly updated as new statistics become available. It forms part of a suite of resources which includes needs assessments and health plans for population subgroups.

For key topic areas, we will undertake more detailed assessments and these will be published as separate documents.

We have used a wide variety of data sources for this needs assessment, which are set out in Section 10.

2.1 Needs assessment and Māori

The New Zealand Health Strategy includes a set of principles to guide health sector development. These include acknowledging the special relationship between Māori and the Crown under the Treaty of Waitangi. In Waitematā this

is particularly recognised in the relationship between the DHB and Te Rūnanga o Ngāti Whātua. The three principles of the Treaty of Waitangi - partnership, participation and active protection apply to health and health service provision. The Treaty of Waitangi in Article 3 provides for equal rights for Māori with non-Māori. While Māori within Waitematā enjoy better health than Māori in other parts of New Zealand and Māori life expectancy at birth in Waitematā DHB is almost 81 years, 5 years above the national average for Māori across New Zealand (76 years, 2015-17), inequalities in health outcomes for Māori are still apparent in this DHB when compared to non-Māori. The New Zealand Health Strategy specifically provides that Māori health outcomes will be addressed and health inequalities eliminated.

In undertaking health needs assessments this has a number of implications:

- *Wherever possible we provide information on Māori health needs as well as the health needs of the general population*
- *We need to ensure that collection of data about Māori is as accurate as possible. In particular this means we need to ensure that ethnicity recording is accurate. This is an area of on-going work and improvement for Waitematā DHB*
- *We need to report information that describes health from a Māori world view as well as a mainstream world view. This is very challenging because nearly all of the information in this document is derived from routinely collected data sources. These data sources have limited information on a broad perspective of health (rather than disease) and even more limited information that describes some perspectives that are important to Māori. We recognise this limitation and the need to attempt to address this in on-going work*
- *We need to specifically address Māori health needs rather than simply doing so in the context of assessing the needs of the overall population. For this reason we have undertaken a Māori health needs assessment in the past in addition to needs assessments such as this one. We plan to review and update this document*
- *We need to involve the Māori community in the development of health needs assessments. This has not been done in the development of this document but has been done in the development of the Māori Health Needs Assessment completed in 2009. Review and update of the Māori Health Needs Assessment would need to factor in the engagement and involvement of Māori in the community.*

3 Demography

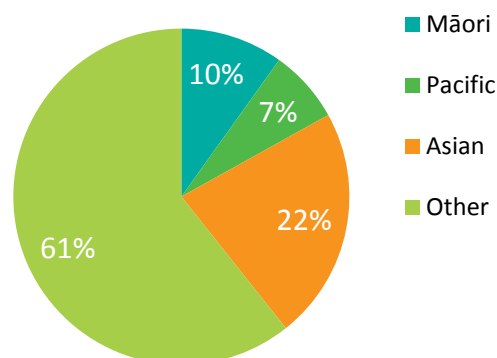
Waitematā DHB serves the areas of the North Shore, Waitakere, and Rodney extending to Wellsford in the north and as far south as the Auckland Harbour Bridge, incorporating Whangaparaoa in the east and the West Coast beaches of Muriwai, Piha and Karekare in the west. The Auckland Council divides the area between eight local boards. These are:

- Rodney, which covers the rural areas north to Warkworth and Wellsford, stretching west to the southern shores of the Kaipara Harbour, Helensville and Kumeu;
- Hibiscus and Bays, incorporating Whangaparaoa, Orewa and the East Coast Bays;
- Devonport/Takapuna;
- Kaipatiki covering Glenfield, Northcote, Birkenhead, Birkdale and Beachhaven;
- Upper Harbour, covering Albany, Greenhithe and Hobsonville;
- Henderson/Massey including Lincoln, Te Atatu and Ranui;
- Waitakere ranges including Titirangi;
- Whau board (part), which includes Kelston, Fruitvale and Green Bay in Waitematā DHB, as well as Avondale, Rosebank, Blockhouse Bay and New Windsor in Auckland DHB.

There are 627,000 people living in the Waitematā DHB area in 2018/19, accounting for approximately 12.7% of the national population. Both the age and gender composition of Waitematā residents is similar to the New Zealand population (New Zealand census 2013). Waitematā’s population is predominantly urban with only 6% of our population living in rural areas but the district covers a large geographical area.

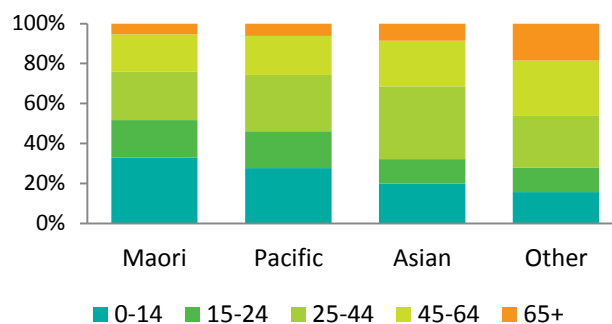
By ethnicity, our population is 10% Māori, 7.0% Pacific, 22% Asian and 61% European/Other. The majority of our Māori population (45%) and the large majority of our Pacific population (62%) live in West Auckland (Henderson-Massey, Waitakere Ranges or Whau boards²). Our Pacific population is predominantly Samoan (52%), Tongan (17%) and Cook Island Māori (15%). Our Asian population is diverse but is predominantly Chinese (40%), Indian (23%) and Korean (14%). (Source: Statistics New Zealand, population projections based on 2013 census.)

Figure 3.1:
Ethnicity of our population 2016/17



By age group, our population is 19% children (under 15 years), 13% young people (15-24 years) and 14% older people (65 years or older). However our Māori, Pacific and Asian populations are considerably younger with 52% of Māori, 46% of Pacific and 32% of Asians under the age of 25. These populations are also notable for the small proportion of older people they contain (9% or less of their total populations).

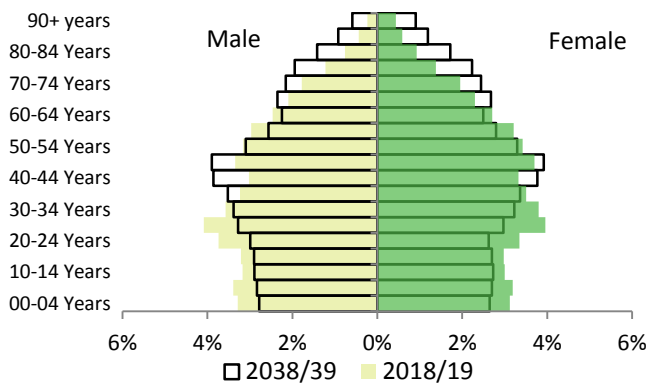
Figure 3.2:
Age structure by ethnic group



By 2038/39 Waitematā’s population is projected to increase by 191,000 people making it a 30% larger than it is now. The population will also be considerably older with the number of people aged 65 years and older expected to almost double, increasing from the current 88,000 to 168,000, and making up 21% of the total, compared with 14% at present. Our Māori, Pacific and Asian populations will also grow, our Māori population by 36%, Pacific by 41% and our Asian population by 71%. We need to plan and develop our services to meet the needs of this expanding and changing population.

² Note: Whau ward incorporates both Auckland DHB and Waitematā DHB residents. The ward has not however been split for the purposes of this analysis

Figure 3.3:
Age structure in 2018/19 and 2038/39



Source: Statistics NZ population projection based on 2013 census

Figure 3.4:
Projected change in Waitematā DHB population aged > 65 years, 2038/39

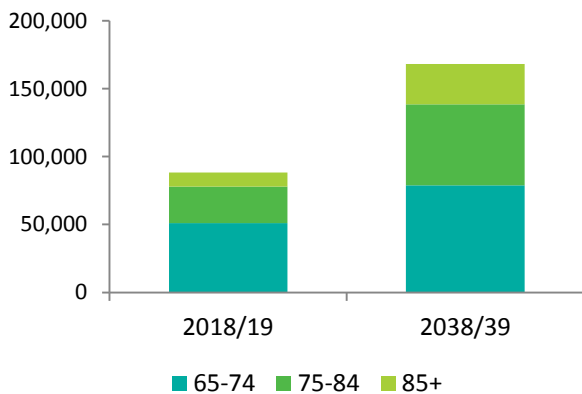
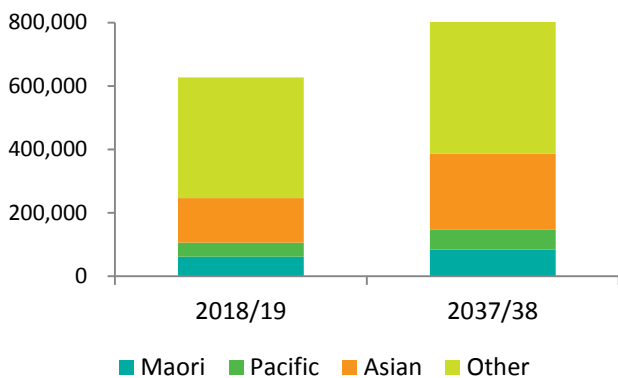


Figure 3.5:
Projected change in Waitematā DHB population by ethnicity, 2037/38



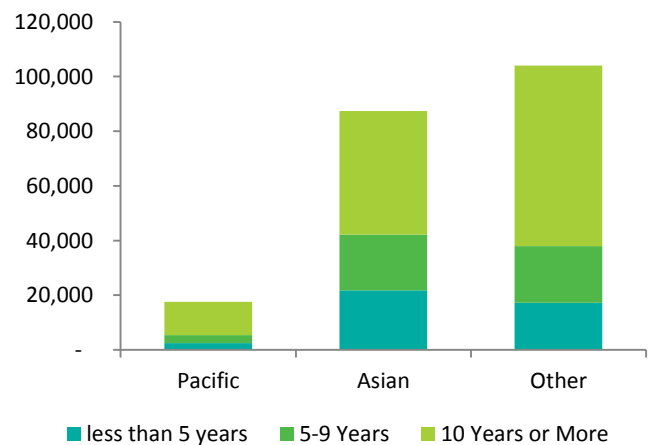
Source: Census 2013

3.1 Migrants

Waitematā DHB has a large migrant population. Over a third (37%) of Waitematā residents were born overseas (compared to 25% nationally). This includes 104,077 people of European/Other ethnicity, 17,539 Pacific people and 87,356 Asian people; as a percentage, 81% of Asian people in Waitematā were born overseas, 43% of Pacific people and 29% of people of European/Other ethnicity. Of these migrants, 20% have lived in New Zealand less than 5 years.

English language ability is important in order to participate in New Zealand society. Among Waitematā's adults in 2013, it was estimated that 3.5% could not hold a conversation in English about everyday things (Census 2013). The Waitematā Auckland Translation and Interpreting Service provides face-to-face and telephone conference call interpreting, appointment confirmation and document translation, in both primary and secondary health care settings, to assist this group to access health services.

Figure 3.1.1: Number of migrants living in Waitematā by duration of residence 2013



Source: Census 2013 Usually Resident population

4 Population Health Drivers

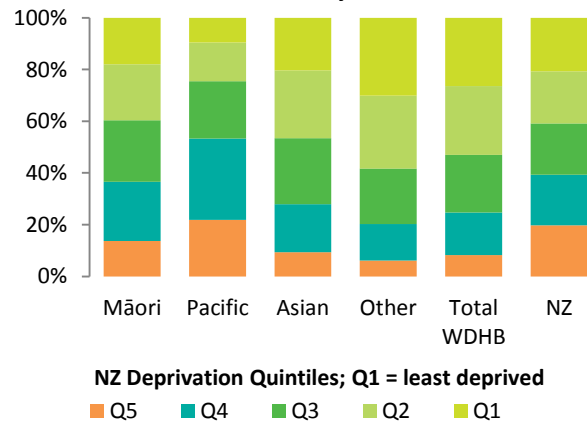
Many factors affect the health of individuals and communities. Whether people are healthy or not, is determined, for the most part, by an individual's socio-economic circumstances and their environment. To a large extent, factors such as where we live, the state of our environment, genetics, our income and education level and our relationships with friends and family all have considerable impact on health, whereas the more commonly considered factors such as access and use of health care services often have less of an impact. Most of the information in this section is taken from the 2013 census and from the Quality of Life (QoL) Survey 2012 (note: QoL data includes entire Whau ward).

4.1 Deprivation

The index by which we measure the relative prosperity or deprivation of our population is calculated from census information. It is based on averaged information about the households and individuals in the area and incorporates factors such as income, employment, qualifications, internet access, home and car ownership, overcrowding and single parent households. The ranked categories are calculated so that as nearly as possible, one-tenth of the population of New Zealand falls into each. (University of Otago, NZDep13 deprivation index by census area unit based on 2013 census)

On this basis, Waitemata has a relatively prosperous population compared to New Zealand as a whole, with only two other DHBs ranked as more prosperous. Only 8% of our population and 11% of children under five years live in the poorest areas (NZDep13 decile 9 and 10, or Quintile 5), compared to 20% of New Zealand as a whole. In contrast 26% of our population live in areas of the wealthiest two deciles, compared to 21% of New Zealand as a whole. Māori and Pacific people are much more likely to live in NZDep13 Quintile 4 and 5 areas, which are the poorest areas. West Auckland has much higher proportions of its population living in more deprived areas than the North Shore, Rodney and Hibiscus and Bays wards (Figure 4.3). There are also pockets of deprivation around Wellsford and Helensville. The least deprived areas are Devonport, Northcote Point, Birkenhead, parts of the East Coast Bays and the rural areas surrounding the urban fringe.

Figure 4.1.1:
Proportion in each NZ deprivation quintile, by ethnicity*



*The chart of deprivation by ethnicity is approximate only and is calculated from Census Area Unit data.

Figure 4.1.2:
Proportion in each NZ deprivation quintile, by local board area

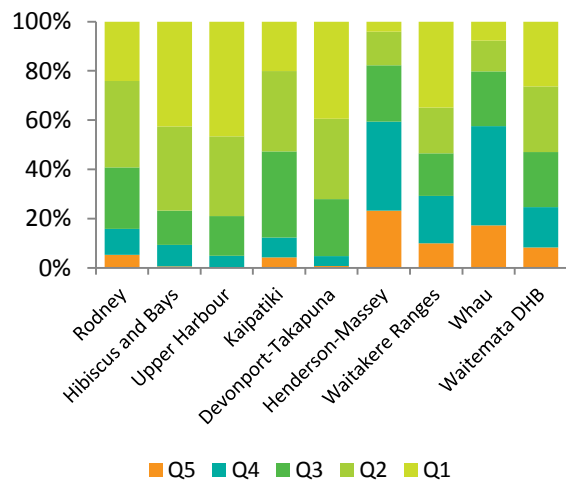
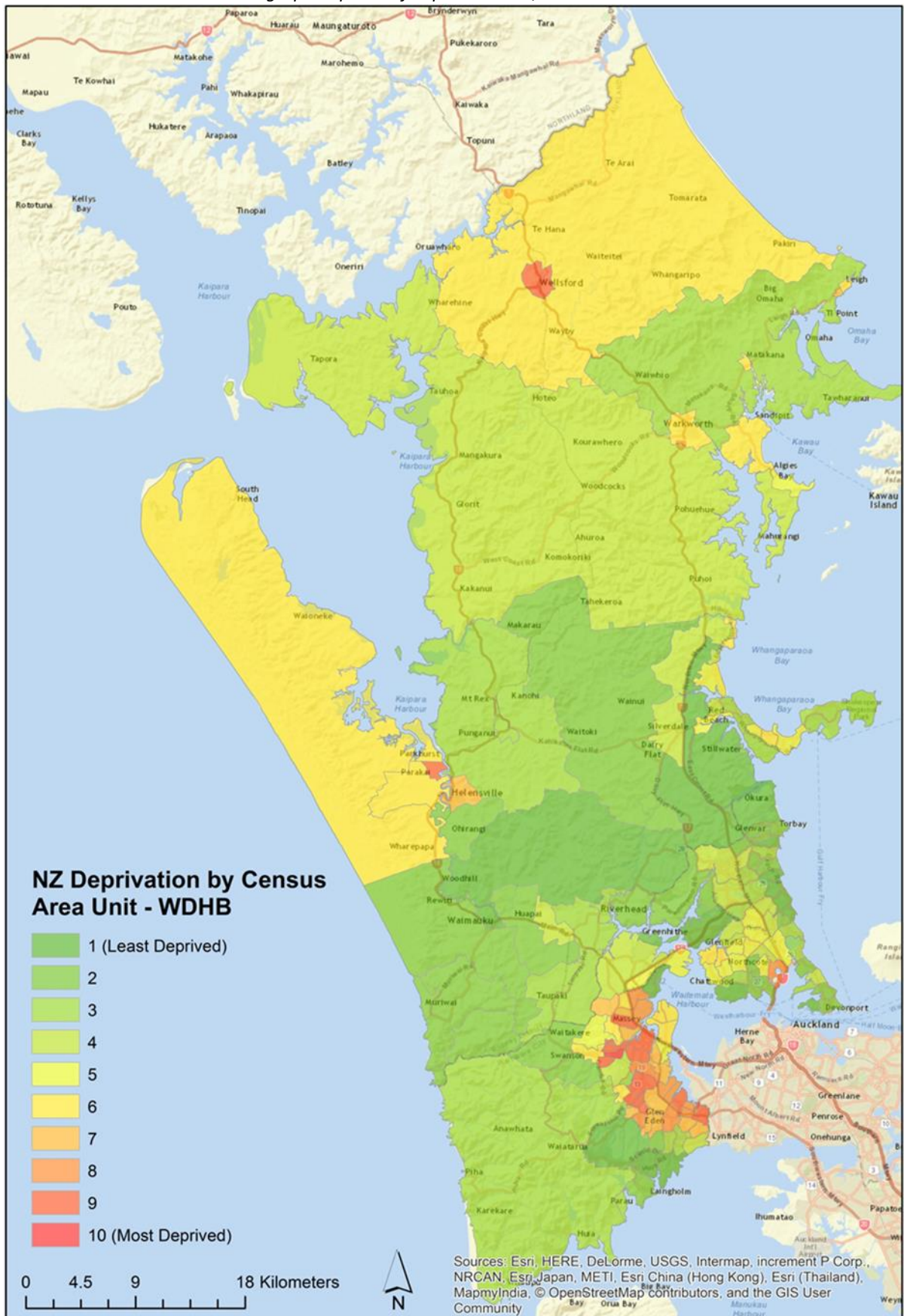


Figure 4.1.3:
Geographic spread of deprived areas, Waitematā DHB

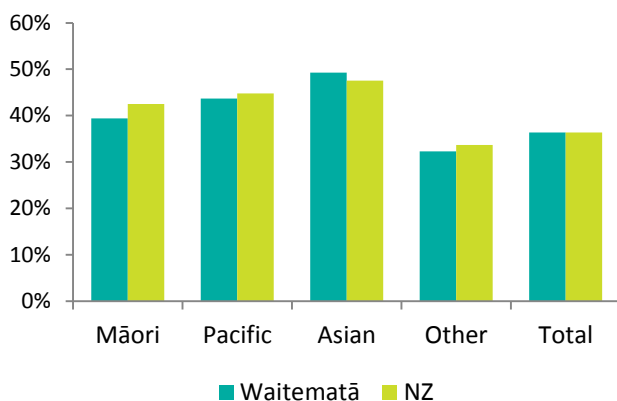


4.2 Income, Education and Employment

Economic factors such as income, occupation and education are powerful determinants of health. The median annual income for Waitematā adults in 2013 was \$30,600, higher than the national figure of \$28,500 and the fourth-highest amongst DHBs. When the high cost of housing in the Auckland region is taken into account, disposable income is lower than this figure suggests. While 32% of European people reported an income of under \$20,000 per year, the percentage is much higher for Māori (39%), Pacific (44%) and Asian people (49%). Women are much more likely to be on low incomes than men. However, the figures should be treated with caution because many people did not respond to census questions about income. The Quality of Life survey in 2012 found that almost one in four people (23%) felt they did not have enough income to meet their everyday needs.

Figure 4.2.1:

Proportion of population aged 15+ years with income under \$20,000 by ethnicity, 2013



Source: Census 2013

Overall 16% of people in Waitematā left school with no qualification, but this figure is almost double for Pacific people (28%) and Māori (27%). By contrast, 10% of Asians have no qualifications. At the high end of educational achievement, 34% of Asian people have tertiary or higher qualifications, 22% of Europeans/Others, 12% of Māori and 9% of Pacific people.

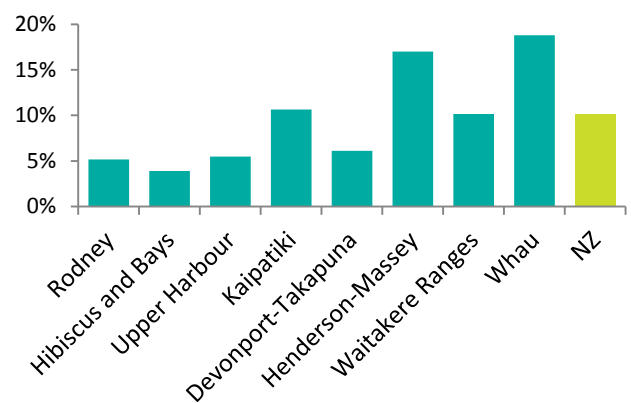
At the time of the 2013 census, Māori and Pacific people were more than twice as likely to be unemployed as other ethnicities, at 13% and 14% respectively, compared with 5% of Europeans/Others and 9% of Asian people.

4.3 Housing

Poor quality housing, including poor physical living conditions, overcrowding and lack of heating constitutes a significant health risk particularly for the young and old. In 2013 for Auckland region, crowding is much more common amongst Māori (25% living in overcrowded houses), Pacific (45%) and Asians (19%) and Europeans (6%) (Census 2013). Within Waitematā, overcrowding is most common in Whau (19% of people living in overcrowded houses) and Henderson-Massey (17%). Across the region, 22% of children aged under 15 years live in crowded houses. Nationally 3% of households use no heating fuel, however in Waitematā the figure is 4.2%. Henderson-Massey and Whau board areas have the highest proportions of households using no fuel, at 5.6% and 6.3%.

Figure 4.3.1:

Proportion of people living in a crowded house by local board, 2013



Source: Statistics NZ. Overcrowding is defined as a deficit of one or more bedrooms on the Canadian National Occupancy Standard.

The Auckland region has the least affordable housing for purchase in New Zealand, with an affordability index (the ratio of cost to income) of 31.7, 43% higher than the New Zealand average of 22.2 (Massey affordability index report May 2019). The Auckland region is also the least affordable region for renters, with households on average paying 35% of income on rent, compared with a national average of 31%. One quarter of Waitematā households live in rented housing, compared with 29% nationally. The 2013 census recorded 1,959 Waitematā residents as homeless (living in mobile and improvised dwellings, roofless or rough sleepers, or living in boarding house, night shelter or welfare institution).

4.4 Environmental factors

Auckland Region has relatively good air quality compared with other cities and towns in New Zealand. However, some parts experience quite high air pollution, which is primarily generated by motor vehicle emissions and by indoor heating fires. The Health and Air Pollution in New Zealand report 2012 estimated that in 2006, amongst adults aged over 30 years, Waitematā had 39 premature deaths per year due to motor vehicle pollution and 43 due to pollution from domestic fires. Māori made up 12% of these deaths (4 and 5 respectively).

Air pollution also causes hospital admissions for cardiac and respiratory problems. In Auckland in 2006, motor vehicle pollution caused 11 cardiac admissions; it also caused 18 respiratory admissions, of which 6 were for children under 5 years old and 4 were for children aged 5-14 years. Indoor heating fires caused 11 cardiac admissions; they also caused 20 respiratory admissions, of which 6 were for children under 5 years old and 4 were for children aged 5-14 years. The Quality of Life Survey 2012 found that 22% of Auckland region residents considered air pollution to be a problem.

Greater use of public transport would contribute to reducing air pollution. Car transport remains the dominant mode of travel to work in Auckland region with 83% of employed people travelling to work by car. Bus or train is the mode for 8% of people (Census 2013). Means of travel to work has been relatively stable since 1996 although there has been a slight increase in use of public transport and slight decrease (three percentage points) in car use.

Most people living in Auckland region have access to safe reticulated sources of drinking water. However, 35% of Auckland residents felt that there was pollution of lakes, streams or the sea (Quality of Life Survey 2012).

4.5 Climate Breakdown

Climate change has serious implications for our health, wellbeing, livelihoods, and the structure of organised society. Its direct effects result from rising temperatures and changes in the frequency and strength of storms, floods, droughts, and heat waves—with physical and mental health consequences. The impacts of climate change will also be mediated through less direct pathways, including changes in crop yields, the burden and distribution of infectious disease, and in climate-induced population displacement and violent conflict. Many of these effects are already seen (Lancet 2017).

Global average temperatures have been more than one degree Celsius higher than the 20th century average for the past three years. Temperature increase could pass 1.5 degrees, at least temporarily, in the next five years. The most recent research suggests that a sustained increase of 2 degrees will result in at least 6m of sea level rise (Nature Geoscience July 2018).

4.5.1 Rapid-onset climate breakdown events

- Increased frequency of fires, floods, storm tides and extreme rainfall events will affect public health. Apart from risks of direct injury, these events can also result in:
 - disease outbreaks,
 - toxic chemical contamination,
 - effects of damp or destroyed buildings and
 - mental health issues, particularly anxiety and depression.
- The impact will include destruction of infrastructure including housing, roads, water supply, waste water, electricity and communication networks, and this will also reduce access to health care. These events are already occurring. In 2017, an extreme rainfall event disrupted water processing and reduced Auckland's water supply by 20%, coming close to triggering a "boil water" notice. A storm in 2018 cut electricity to 180,000 homes and businesses.

4.5.2 Slow-onset impacts of climate breakdown

- Food production will become more difficult as temperature and rainfall patterns change, pollinators reduce, and pests and diseases increase, resulting in reduced availability and affordability. This is likely to impact more heavily on poorer people. Flooding is already affecting food production and prices. Efforts to reduce greenhouse gas emissions are likely to result in reduced production of ruminant meats and dairy products. Consumption of red meat has known associations with adverse health outcomes and a reduction in supply and consumption could produce health benefits in terms of reduced colorectal cancer and heart disease.
- Warmer water, both sea and fresh, will lead to an increase in harmful algal blooms with potential risks to drinking water supplies. Toxic marine algae can contaminate shellfish and cause gastrointestinal and neurological problems if consumed.
- Bacterial growth also increases in warmer sea and fresh water, and can lead to infected wounds from water contact or recreational swimming. Increased concentrations of salmonella and E coli in freshwater streams, due to high runoff or low (drought) water

flow, can cause illness in humans ranging from nausea to renal failure.

- A doubling in the number of hot days (above 25C) is expected by 2100. Hotter weather will particularly affect people with diabetes, cardiovascular disease and mental health issues, resulting in increased attendances at emergency departments and higher mortality rates. Outdoor workers may experience an increase in incidents of heat stroke and rates of kidney impairment.
- Outdoor air quality may be affected by reduced rainfall and wind, leading to air stagnation, which allows pollutants to build up. Mitigating this, there will be a reduction in emissions from vehicles as electrification of the transport system continues.
 - NIWA predicts a reduction in cold nights and frosts which may reduce emissions from wood-fired heating of homes in winter, with resulting improvements to air quality.
 - Drought may lead to an increase in air-borne soil particles.
 - Earlier growing seasons may increase the duration of high pollen counts in the air, increasing the period and rates of allergic illnesses such as asthma.
- The number of organisms that transmit infectious diseases, such as ticks, fleas and mosquitos, is likely to increase (although currently the number of flying insects is declining sharply). Warmer conditions may increase the rates of breeding for disease carriers, and for the infectious agents themselves. Emerging diseases such as chikungunya and zika viruses are already present in the Pacific Islands and could become a risk to New Zealand if warmer temperatures allow disease-transmitting mosquitos to become established here.
- The population of New Zealand and particularly of Auckland will increase when the country begins to receive climate change refugees. Several Pacific Islands are already experiencing problems with extreme weather events, which have destroyed housing and crops, fresh water supply and coastal flooding of farm land. Fiji, Papua New Guinea and Bougainville and the Solomon Islands, collectively representing 85% of the total Pacific population, are already struggling to manage internal climate-related displacement and resettlement.

4.6 Social factors

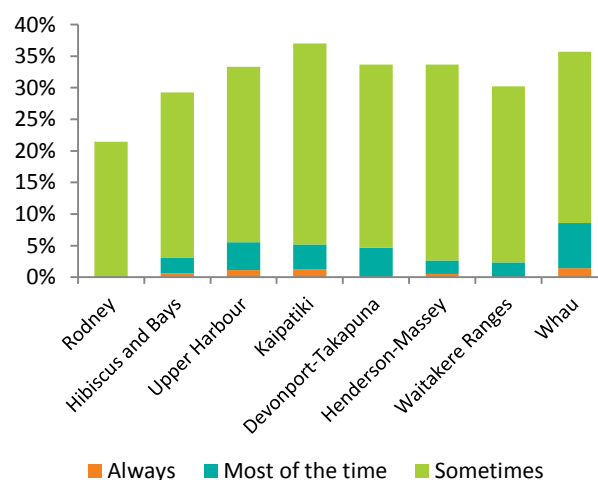
Social support and good social relations make an important contribution to health. Social support helps give people the emotional and practical resources they need. Belonging to a social network of communication and mutual obligation makes people feel cared for, loved, esteemed and valued. This has a powerful

protective effect on health. Supportive relationships may also encourage healthier behaviour patterns. (WHO 2003)

The Quality of Life survey reports nearly half of people in Waitemata feel that there is a sense of community where they live and around 60% feel that people can usually be trusted. People in West Auckland are less likely to be positive than people in other areas within the district. Around one in three people (35%) feel isolated at least some of the time. Many older people and older women in particular, live alone. Three-quarters of people (77%) are happy with their quality of life but only 58% with their work/life balance.

Internet access, which is now a cornerstone measure of opportunity, information and communication, is available in 84% of Waitemata households compared with 77% of households nationally. A mobile phone is available in 85% of Waitemata households.

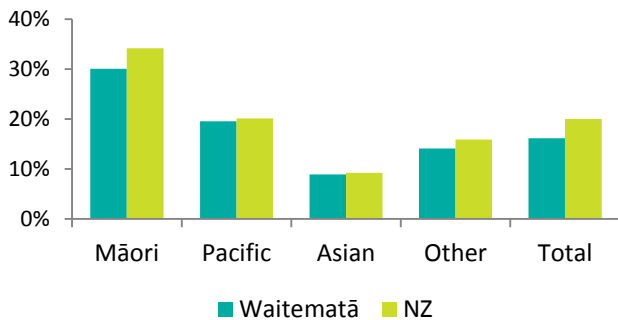
Figure 4.5.1:
Proportion of people who feel isolated by ward, 2012



Source: NZ Quality of Life Survey 2012

Single parenting is an issue that affects almost every part of the population. While single-parent homes exist in significant numbers across nearly all ethnicities (15%), some ethnicities have higher rates than others, for example 30% of Māori children live in single parent families. Single parent homes often have lower socio-economic status and children are at an increased risk of emotional and behavioural problems and more likely to have poor school performance.

Figure 4.5.2:
Proportion of children living in single parent families, 2013



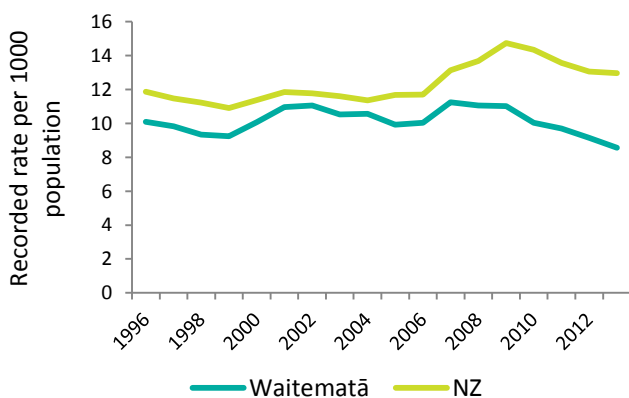
Source: Census 2013

4.7 Violence and Crime

Crime affects not only the health of individual victims but also community life. Fear of crime can also influence health and well-being of individuals and communities. People may make adjustments to their lifestyles and behaviour as a result of an experience of crime or fear of crime, for example not going out after dark, not using public transport and avoiding certain areas. The concentration of crime in particular neighbourhoods means that the adoption of avoidance measures can weaken social ties and undermine social cohesion.

Over a third of people do not feel safe walking alone at night in their neighbourhood, but this rises to more than 50% for those in West Auckland. Four out of five people (80%) people think unsupervised children are safe in their area. Police records of violent offences in the district peaked in 2009 and have begun to decline since. There is a similar pattern for non-violent offences. This is in line with national trends.

Figure 4.5.1:
Recorded rates of violent offences 1996-2013



Source: Statistics NZ, Offences recorded by NZ police authorities

There were 20 hospitalisations per 100,000 population for injuries attributable to domestic violence in Waitemata in 2013. The rates were very different between ethnic groups, with 82 per 100,000 population for Māori, 52 per 100,000 population for Pacific people and 11 per 100,000 population for Europeans. These figures are not age-standardised and the difference between ethnic groups partly reflects the age distribution of each population.

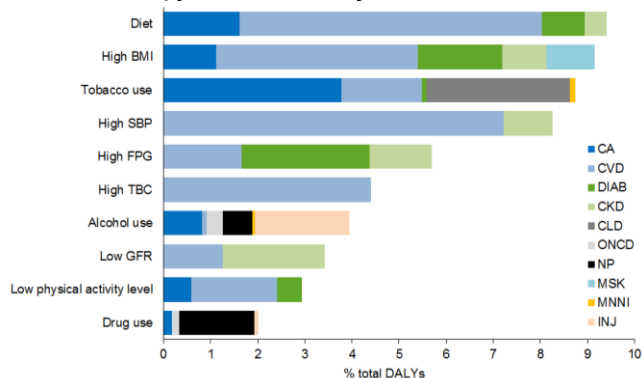
4.8 Cultural factors

Culture and cultural beliefs to explain ill health can have a profound effect on health, acceptance of treatment and use of services. For example, Māori views on health are framed by an holistic approach that encompasses four key elements, wairua (spiritual), hinengaro (psychological), tinana (physical) and whanau (extended family). Karakia (blessing or prayer) plays an essential part in protecting and maintaining these four key elements of health. Amongst Māori people in Waitemata, 24% do not know their Iwi and approximately 85% cannot speak Te Reo Māori. Many people in Waitemata are immigrants and may be dislocated from their culture. This is particularly the case for Asians, of whom 82% are immigrants, and Pacific people (44% are immigrants) but is also common amongst other ethnicities.

5 Modifiable Risk Factors

Lifestyle factors have a significant impact on overall health and well-being and are key contributors to cancer, cardiovascular disease and diabetes, which are major causes of death and poor health in our population. The Ministry of Health has reported the burden of disease across New Zealand based on data from the Global Burden of Disease study 2013. They use a measure called disability-adjusted life years (DALYs) that includes burden from early death and from lives led with disability. In terms of modifiable risk factors that drive this health loss, five lifestyle factors have a major impact: poor diet (9.4% of health loss), obesity (9.2%), tobacco use (8.7%), alcohol use (4.0%) and low physical activity (3%). Three further factors can be modified by lifestyle changes and by pharmaceuticals: high blood pressure (8.3% of health loss), high blood glucose (5.7%) and high cholesterol (4.5%) (Health Loss in New Zealand 1990-2013, pub 2016). Obesity may be reduced by surgery. These risk factors are present in the Waitematā population at rates of 10.5% medicated for high blood pressure, 8% medicated for high cholesterol and 5.5% with diabetes (NZ Health Survey 11/13, VDR 2013).

Figure 5.1:
Attributable burden of disease (percentage of total DALYs) for selected risk factors, 2013



Key: CA = cancers; CVD = cardiovascular disorders; DIAB = diabetes; CKD = chronic kidney disease; CLD = chronic lung disease; ONCD (which here includes chronic liver disease) = other non-communicable diseases; NP = neuropsychiatric disorders; MSK = musculoskeletal disorders; MNNI = maternal, neonatal, nutritional deficiency and infectious disorders plus birth defects; INJ = injuries, unintentional and intentional; BMI = body mass index; SBP = systolic blood pressure; FPG = fasting plasma glucose; TBC = total blood cholesterol; GFR = glomerular filtration rate.

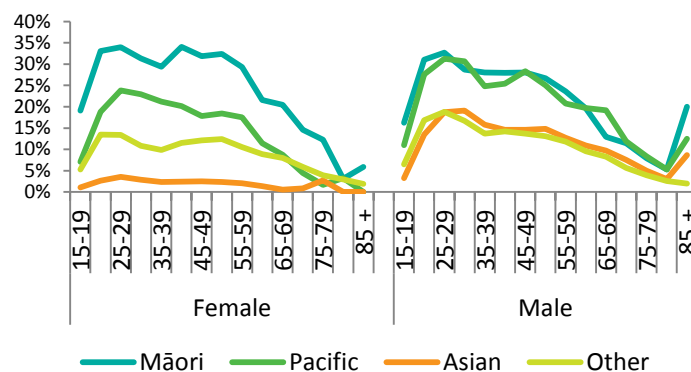
Source: Health Loss in New Zealand 1990-2013

5.1 Smoking

Smoking is the most significant cause of premature and preventable death in New Zealand. Twelve per cent of Waitematā adults are regular smokers of cigarettes (one or more per day). This is considerably lower than for New Zealand as a whole (15%) and is down from 17% in 2006 (Census 2006 and 2013). Of major significance is the decline that has occurred in Māori smoking, from 37% to 27% and Pacific from 27% to 20%. Although this is still higher than rates for Asian and European/Other people, the gap is decreasing. Further focus is required. The proportion of Year 10 students who smoke has declined dramatically over the last 10 years, from 17% in 2003 to 3.8% in 2013 (ASH Year 10 surveys). For all ethnicities except Māori, women have lower smoking rates than men. Smoking rates amongst pregnant women remain worryingly high at 14% overall, but 53% amongst Māori and 22% amongst Pacific women. Providing support for these women to quit is a high priority.

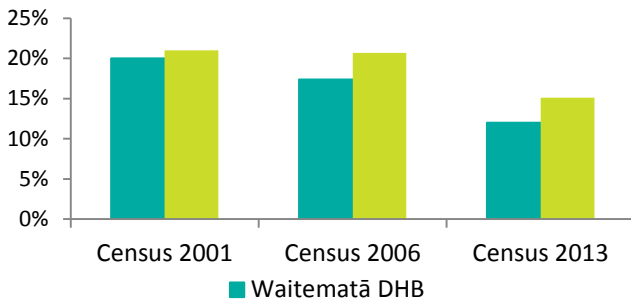
In the quarter July to September 2014, nearly all smokers (97%) who are admitted to hospital, and 99% who see their family doctor, receive brief advice to quit smoking. Waitematā DHB bans smoking on all of its premises.

Figure 5.1.1:
Proportion of people who are regular smokers of cigarettes by age group and ethnicity, Waitematā DHB



Source: Census 2013

Figure 5.1.2:
Proportion of adults aged 15+ years who were regular smokers of cigarettes



Source: Censuses

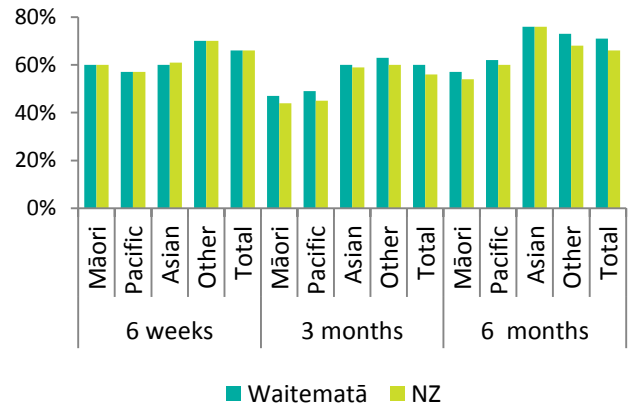
5.2 Diet and Physical Activity

Over-consumption of fats and sugars leads to excess weight and high cholesterol levels, while too much salt can contribute to high blood pressure. These are risk factors for cardiovascular disease and diabetes.

Nutrition is complex and we only have limited information at DHB level. In Waitematā, 51% of adults eat the recommended daily intake of vegetables and 58% eat the recommended daily intake of fruit, while only 35% eat the recommended amounts of both fruit and vegetables. Women have a healthier diet than men. Māori, Pacific and Asian people are also less likely than European/Other people to meet the recommended daily intake fruit and vegetables. Children in Waitematā are more likely than adults to eat recommended servings of fruit and vegetables (43%). Seven out of ten eat fast food at least once a week, and half have fizzy drink at least once a week (NZHS 2014-17).

At three months of age, 60% of babies seen by Plunket in Waitematā are fully breastfed, compared with 56% nationally. Europeans and Others are more likely to be breastfed than Māori, Pacific and Asian babies, in Waitematā and New Zealand.

Figure 5.2.1:
Proportion of Plunket babies fully breastfed at 6wks/3mths or partially breastfed at 6mths, 2014

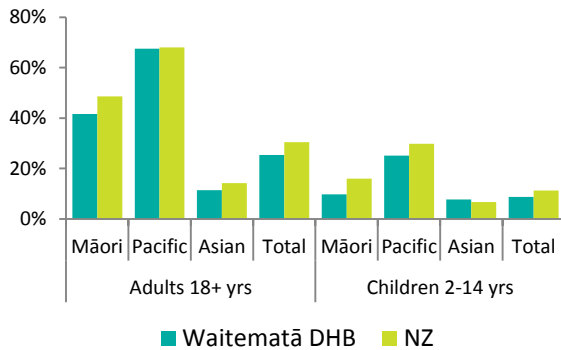


Source: Plunket NZ Annual Reports

Physical activity is protective against health conditions such as heart disease, type 2 diabetes and certain cancers. It also helps to reduce the prevalence of overweight and obesity. Fewer than half of Waitematā adults are regularly physically active and undertake at least 30 minutes of exercise five days per week. Asian people were the least likely to be physically active (39%). Active travel to work or school is a good source of physical activity. Fewer than two in five children use active transport to school. Māori (54%) are more likely to travel actively to school than Pacific (41%) and Asian children (39%; NZ Health Survey 2014-17). Amongst employed adults, 6.5% in Auckland Region biked, walked or jogged to work (Census 2013).

Obesity is associated with a wide range of health conditions including cardiovascular disease, various types of cancer, type 2 diabetes, kidney disease, osteoarthritis, gout, gallstones, complications of pregnancy and mental health issues. For adults, obesity is defined here as a body mass index (BMI) of 30 or above, and for children obesity is defined as a BMI above Cole cut-offs (international standard reference points for BMI by age and gender). Over half (54%) of women and 68% of men in Waitematā are overweight or obese. One in four (25%) of our adult population is obese (up from 20% in 2006/07), compared to 31% of the national population. Obesity is much more common in our Māori (42%) and Pacific (68%) populations and much less common in our Asian population (11%). Amongst children aged 2-14 years, 10% of Māori children and 25% of Pacific children are obese, and 8% of Asian children. Overall, 9% of Waitematā children are obese and 26% are overweight or obese (NZ Health Survey 2014-17).

Figure 5.2.2:
Obesity (age-standardised) by age group and ethnicity, 2014-17



Source: NZ Health Survey 2014-2017; obesity defined as body-mass index ≥ 30 (adults) or above Cole cut-offs (children)

5.3 Alcohol and Drugs

There is no safe level of alcohol consumption (Lancet 2018). As well as its acute and potentially lethal sedative effect at high doses, alcohol has effects on every organ in the body (Health Promotion Agency). Alcohol use accounts for 4% of health loss, mainly through injuries, cancers and psychiatric disorders (Health Loss in New Zealand 1990-2013). Amongst those aged 15-49, it is the leading cause of health loss.

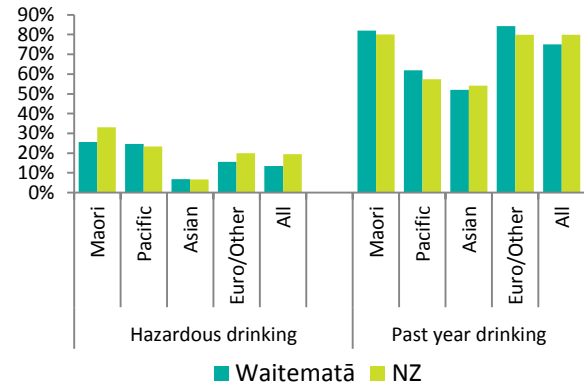
Drinking any alcohol during pregnancy is harmful to the foetus and may result in fetal alcohol spectrum disorder (FASD). In New Zealand, the evidence indicates that:

- at least one in two pregnancies are exposed to alcohol; one in ten are exposed at high-risk levels
- two in five pregnancies are unplanned, increasing the chance they will be exposed to alcohol.

(MoH 2018, *Taking Action on Fetal Alcohol Spectrum Disorder*)

Four out of five (79%) adults and young people in New Zealand drink alcohol. In Waitematā, 14% of adults drink alcohol in a way that is classified as hazardous. Men are far more likely to be hazardous drinkers (18%) than women (9%). The rate for Māori (26%) and Pacific (25%) is much higher than for Asian (7%) and European/Other (16%) ethnicities. The Global Burden of Disease study found that for New Zealand in 2016, alcohol is the biggest risk factor for health loss among people aged 15-49 years.

Figure 5.3.1:
Proportion of adults who are past-year or hazardous drinkers (age-standardised), 2015-17



Source: NZ Health Survey 2015-2017

Illicit drugs account for 2.3% of health loss from all causes (Health Loss in New Zealand 1990-2013), but approximately 6.5% of loss in youth (ages 15-24 years). The New Zealand Health survey 2012/13 found that:

“Eleven percent of adults aged 15 years and over reported using cannabis in the past 12 months. Cannabis was used by 15% of men and 8% of women. ... Māori adults and adults living in the most deprived areas were more likely to report using cannabis in the last 12 months. ... Six percent of cannabis users reported harmful effects on work, studies or employment opportunities, 4.9% reported difficulty learning, and 1.7% reported absence from school or work in the last 12 months due to cannabis use. ... Eight percent of cannabis users reported a time in the last 12 months that cannabis use had a harmful effect on their mental health.”

The 2015/16 health survey found that 1.1% of adults aged 16-64 years reported using amphetamines in the 2015/16 year. Men were more likely to have used amphetamines (1.7% compared with 0.6% of women). Younger adults, aged 25-34, had the highest reported rates at 2.4%. The rates for each ethnicity were 2.9% for Māori, 1.2% for Pacific, 0.2% for Asian and 1.3% for European/Other adults.

The 2007/08 survey of drug use in New Zealand found that marijuana was the most commonly used illegal drug in Waitematā and New Zealand. Nationally other drugs most commonly used are nitrous oxide, Kava, Ecstasy and amphetamines; but each of these was tried by less than 4% of people in the last year. Party pills were commonly used in 2006, however since this survey party pills have been made illegal. Police offence records show that possession of marijuana constituted 70% of recorded illicit drug possession offences in Waitematā in 2013 and amphetamine/

methamphetamine constituted 20%. In the 2013 New Zealand Arrestee Drug Use Monitoring System (NZADUM) survey, 50% of the police detainees had tried methamphetamine in their lifetimes, 30% had used it in the past year and 19% had used it in the past month. Detainees in Auckland Central were more likely to have recently used methamphetamine than those in Christchurch Central and Whangarei.

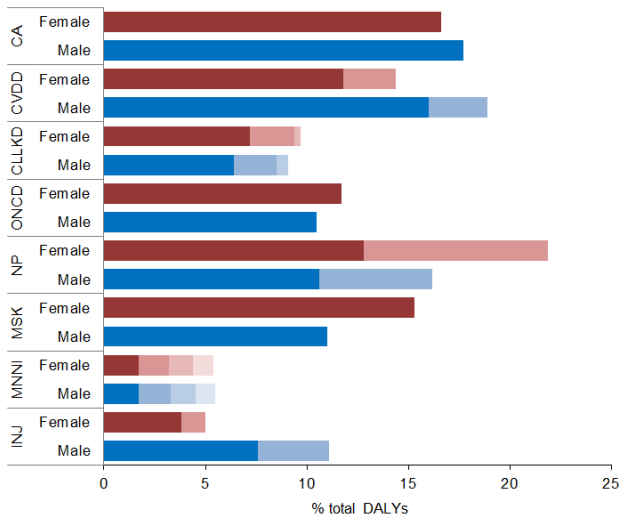
6 Health Status

6.1 Overall health

Overall, the self-reported health status of Waitematā residents is excellent. More than 90% of adults in Waitematā report that their overall health is excellent, very good or good, although this is lower for Māori (84%) and Pacific (82%). (New Zealand Health Survey 2011-2013) The following sections look at how long we are living and at the key diseases which shorten our lives through avoidable deaths, and those causing avoidable hospital admissions.

The most significant disease groups causing health loss, measured in DALYs, are neuropsychiatric disorders including mental illness, addictions and dementia (19% of the total burden), cancers (17%), cardiovascular diseases including diabetes (17%), musculoskeletal disorders (13%), and chronic lung, liver and kidney disease (~10%). Together these conditions account for over three-quarters of health loss (76%) (Health Loss in New Zealand 1990-2013).

Figure 6.1.1
Percentage of DALYs by condition group, New Zealand, 2013



Key

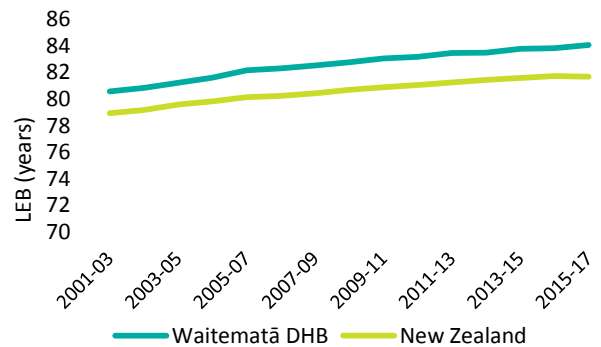
- CA = cancers
- CVDD = cardiovascular disorders (dark shade) and diabetes (light shade)
- CLLKD = chronic lung (dark shade), kidney (mid shade) and liver disease (light shade)
- ONCD = other non-communicable diseases
- NP = neuropsychiatric disorders: mental disorders (dark shade), neurological disorders including dementia (light shade)
- MSK = musculoskeletal disorders
- MNNI = birth defects, maternal and neonatal disorders, infectious disorders, nutritional deficiency disorders (in that order from left to right)
- INJ = injuries, unintentional (dark shade) and intentional (light shade)

Source: Health Loss in NZ 1990-2013

6.1.1 Life expectancy

Waitematā has the highest life expectancy in New Zealand, at 84.1 years (2015-2017), 2.4 years longer than the national figure of 81.7 years. In Waitematā, life expectancy has increased by 1.9 years over the last decade which is 0.4 years more than New Zealand as a whole.

Figure 6.1.1.1:
Life expectancy at birth

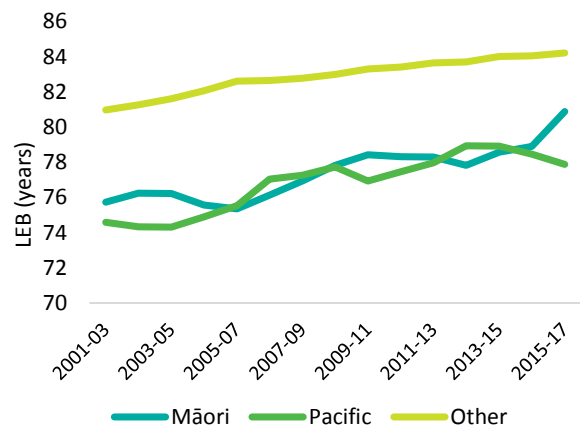


Source: Ministry of Health mortality data collection

Note: Graph displays three year rolling life expectancy calculated using Chiang II methodology. Other published estimates may differ depending on the methodology used.

Life expectancy varies across ethnic groups with Māori living 80.9 years on average and Pacific people 77.9 years, while Europeans/Others live 84.2 years. Women live 2.9 years longer than men. While total life expectancy for Māori and Pacific has increased, a gap remains of 5.1 years for Māori and 5.7 years for Pacific peoples, compared with European people.

Figure 6.1.1.2:
Average life expectancy at birth in Waitematā (years) by ethnicity; male and female combined



Source: Ministry of Health mortality collection; Statistics NZ population estimates based on census 2013

Māori life expectancy in Waitematā DHB has consistently outstripped Māori life expectancy in New Zealand as a whole although the rest of New Zealand is catching up with Waitematā. Similarly, Pacific life expectancy is higher in Waitematā than in the rest of New Zealand, although the gap is not as great as for Māori.

Figure 6.1.1.3:
Average Māori life expectancy in Waitematā DHB and New Zealand

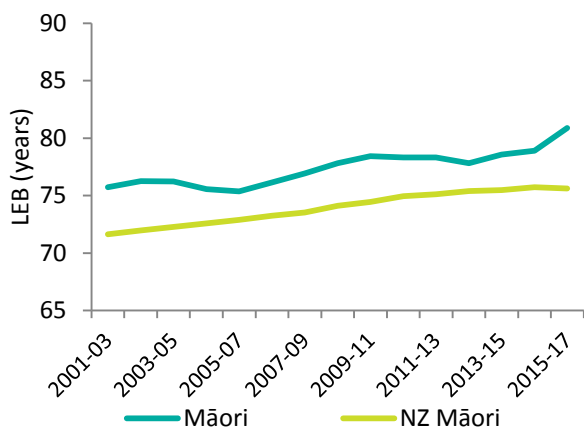
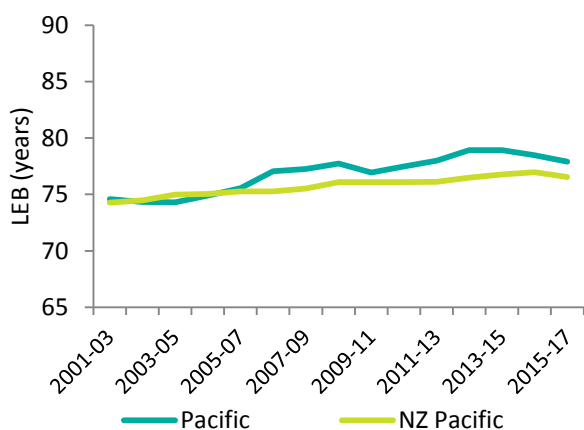


Figure 6.1.1.4:
Average Pacific life expectancy in Waitematā DHB and New Zealand



Circulatory system diseases and cancers accounted for almost half the difference in life expectancy between Māori and Pacific people when compared to non-Māori, non-Pacific people in Waitematā.

Figure 6.1.1.5:
Causes of life expectancy gap between Māori and non-Māori non-Pacific in Waitematā DHB, 2012-2014

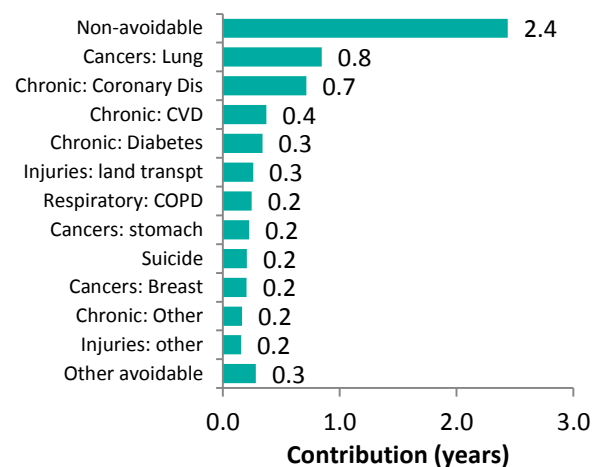
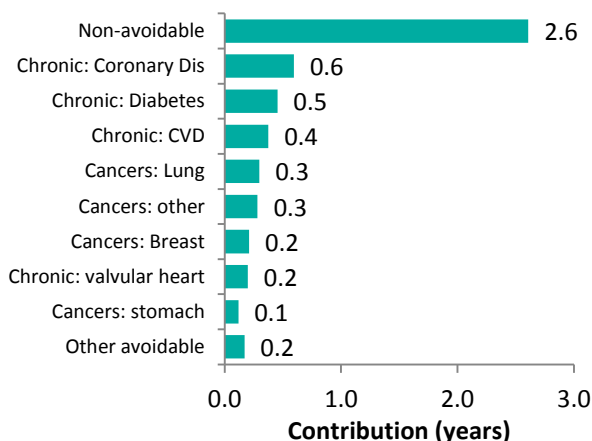


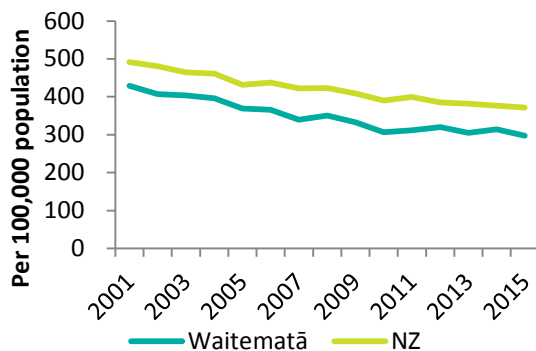
Figure 6.1.1.6:
Causes of life expectancy gap between Pacific and non-Māori non-Pacific in Waitematā DHB, 2012-2014



6.1.2 Total Mortality

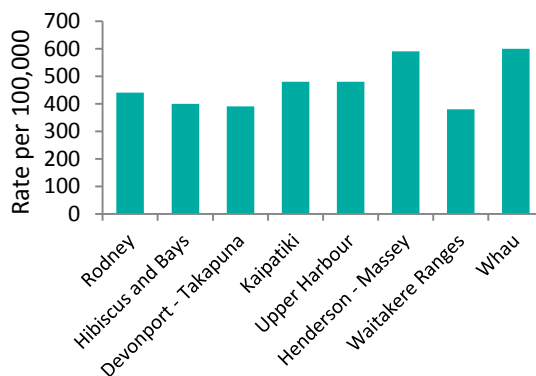
Just over 3,000 people died in Waitematā in 2015 and 82% of these were aged over 65 years. The most common causes of death are cancers (31%), cardiovascular diseases (29%) and respiratory disease (10%). Waitematā has the lowest age-standardised mortality rate of any DHB in New Zealand, with an overall rate of 297 deaths per 100,000 population, compared to 371 for New Zealand as a whole. Mortality rates are highest in West Auckland (age-standardised 590 per 100,000 population, standardised to Auckland Region), followed by Upper Harbour and Kaipatiki (both 480 per 100,000).

Figure 6.1.2.1:
All deaths, age standardised mortality rate per 100,000 population, 2001-2015



Source: Ministry of Health Mortality Collection, standardised to WHO population

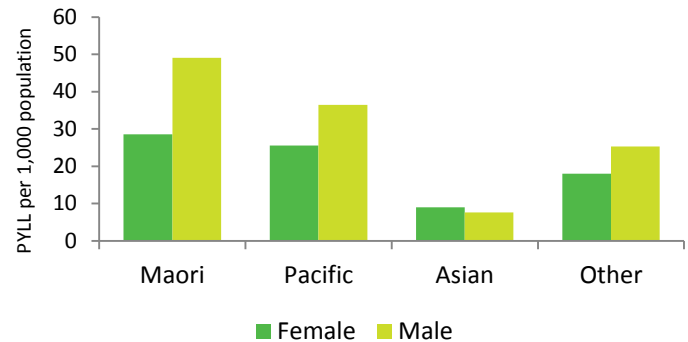
Figure 6.1.2.2:
All deaths, age-standardised mortality rate per 100,000 population by local board, 2011



Source: StatPlanet, standardised to Auckland Region population

As well as looking at mortality rates, it is helpful to measure how many years of life are lost for each person who dies before the age of 65. This calculation gives more weight to the deaths of younger people. The potential years of life lost (PYLL) per 1,000 people was 18 for Waitemata, compared with 25 for New Zealand as a whole. This suggests that Waitemata is doing better than average at avoiding mortality amongst younger people. Across most age groups, Māori and Pacific lose about twice as many years of life as European/Asian/Other people.

Figure 6.1.2.3:
Potential Years of Life Lost age-standardised per 1,000 population, by gender and ethnicity, 2011-2013



6.1.3 Avoidable causes of mortality

Avoidable mortality includes deaths occurring in those aged 0-75 years (excluding stillbirths) that could potentially have been avoided through population-based interventions or through preventive and curative interventions at an individual level. Prevention includes successful public health promotion (including lifestyle changes) and injury prevention.

In 2013, 670 deaths (23% of the total) were considered potentially avoidable. The leading causes of avoidable mortality in Waitemata are ischaemic heart disease (IHD), lung cancer, colorectal cancer, suicide, COPD and stroke. For women breast cancer is also important and for men unintentional injuries are important. For Māori and Pacific diabetes is important.

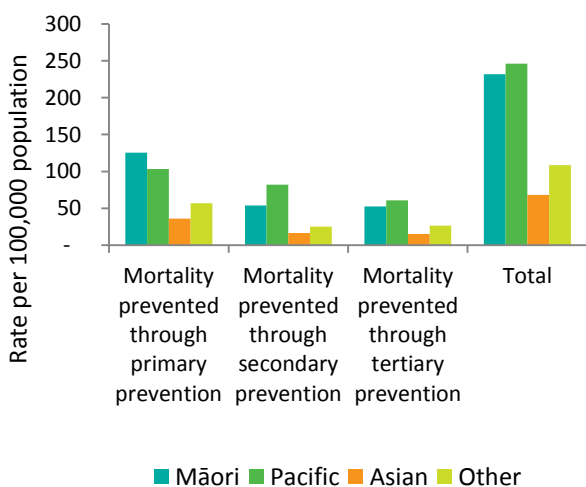
Figure 6.1.3.1:
Most common causes of avoidable mortality, 2011-2013 combined

Gender	Cause	Age-standardised rate per 100,000 population
Female	Breast Cancer	16.1
	Lung Cancer	12.4
	Ischaemic heart disease	7.7
	Unintentional injuries	6.1
	Cerebrovascular disease	5.8
	Colorectal cancer	5.4
	COPD	5.3
Male	Ischaemic heart disease	27.7
	Intentional injuries	16.2
	Lung cancer	14.2
	Unintentional injuries	13.4
	Colorectal Cancer	8.9
	Cerebrovascular disease	7.0
	COPD	4.6

Source: Ministry of Health mortality data collection

The very marked differences between groups highlight the opportunity for reduction in health inequalities. Men have a 36% higher avoidable mortality rate than women. Māori and Pacific avoidable mortality rates are more than double that of European/Other ethnicities. The chart below shows the rates that could be avoided through primary prevention (avoiding occurrence of disease eg through immunisation or lifestyle related interventions), secondary prevention (detecting and addressing disease before the appearance of symptoms eg by treating hypertension) and tertiary prevention (treatment and rehabilitation eg by surgery).

Figure 6.1.3.2:
Avoidable mortality by ethnic group (age-standardised per 100,000 population), 2009-2011



Source: Ministry of Health Mortality data collection

6.2 Specific conditions

6.2.1 Cardiovascular disease

Cardiovascular diseases (CVD) are diseases affecting the heart and circulatory system. They include ischaemic heart disease, rheumatic heart disease, cerebrovascular disease and other forms of vascular and heart disease. Cardiovascular disease is the second largest cause of death in Waitematā DHB, causing 828 deaths in 2013. It is also a leading cause of years lost to premature mortality. The main risk factors for cardiovascular disease including stroke are high blood pressure, high body mass index, high cholesterol, tobacco use and low physical activity (Health Loss in New Zealand 2013). These risk factors interact with each other, for example low physical activity contributes to high body mass index, high blood pressure and high cholesterol. Cardiovascular disease is exacerbated and compounded by diabetes. Overall, around 70% of the burden of cardiovascular disease is attributed to modifiable risk factors and is preventable

through adopting a healthy lifestyle, and manageable with lifestyle change, early intervention and effective management.

The age-standardised mortality rate (ASR) from CVD of the Waitematā population much lower than the New Zealand rate (92 per 100,000 population vs 118 per 100,000 population). The rate for men (109 per 100,000 population) was much higher than for women (76 per 100,000 population). Amongst men, it was more common in Māori (196 per 100,000 population) and Pacific (215 per 100,000 population) than Asian (58 per 100,000 population) and European/Other (104 per 100,000 population). The rates for Māori and Pacific women were also high at 111 and 125 respectively per 100,000 population. For both Waitematā and New Zealand as a whole, the mortality rate for CVD has decreased since 2006.

Figure 6.2.1.1:
Age standardised mortality rate per 100,000 population for cardiovascular disease by year, male and female, all ages

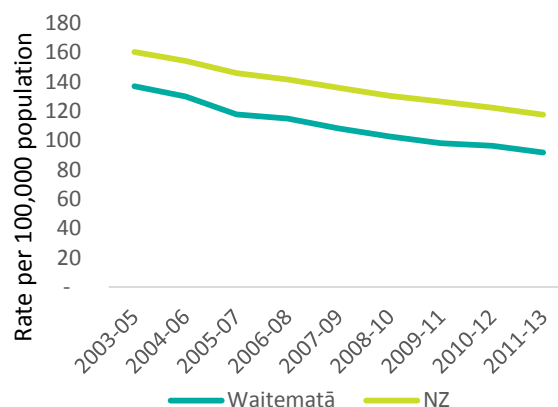
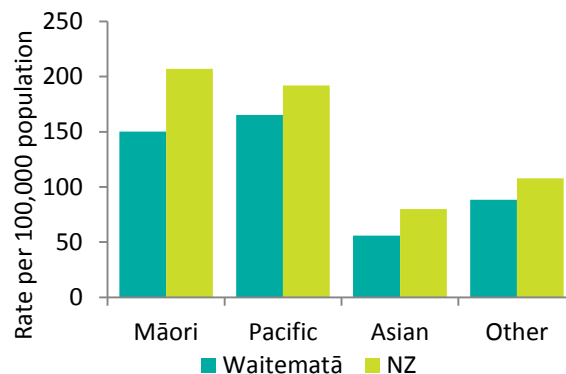


Figure 6.2.1.2:
Cardiovascular disease mortality by ethnic group (ASR per 100,000 population), 2011-13 Male and female, all ages



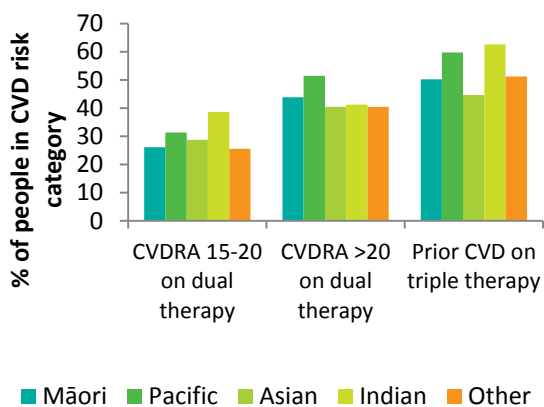
Source: Ministry of Health Mortality data collection

Within Waitematā DHB, 88% of eligible adults have had their risk factors for CVD assessed within the five years to December 2018, but only 75% of Māori men aged 35-44 years. One in ten Waitematā adults takes medication for high blood pressure and one in 12 takes medication for high cholesterol (NZ Health Survey 2011-2013). A higher proportion of Māori and Pacific people are on these medications reflecting higher rates of cardiovascular disease within these populations.

Current New Zealand guidelines recommend that people who have had a heart attack or stroke should be treated with a combination of medications also known as “triple therapy”. These medications include anti-coagulant/antiplatelet, a cholesterol-lowering drug and a blood pressure-lowering drug. People with a high risk score but no previous CVD should be treated with cholesterol- and blood pressure-lowering drugs (dual therapy). Of Waitematā residents who have been admitted to hospital with CVD in the previous 10 years, 52% are on triple therapy. This rises to 63% for people who also have diabetes. Rates of cardiac investigation are 20% higher than the national average and rates of cardiac surgery carried out in public hospitals are similar to the national average.

Figure 6.2.1.3:

Cardiovascular risk and medication dispensing rates, March 2019



Source: Northern Region Cardiac KPIs

6.2.2 Stroke

Stroke is a sudden interruption of blood flow to a part of the brain, causing damage to the brain cells. The impact of stroke and transient ischemic attack (TIA) can be catastrophic for the individual and family/whanau and is resource intensive for health services. Management of high blood pressure through medication reduces the risk of stroke as well as of cardiac disease (see rates above).

The mortality rate from stroke is 25 per 100,000 population, which is lower than New Zealand as a whole at 28 per 100,000 population. There were 754 strokes leading to hospital admission in Waitematā residents in the year to March 2014. Approximately 16% of these patients died within 30 days of admission. For patients admitted acutely, the risk of dying is higher if the admission takes place at the weekend, resulting in four excess stroke deaths per year for Waitematā.

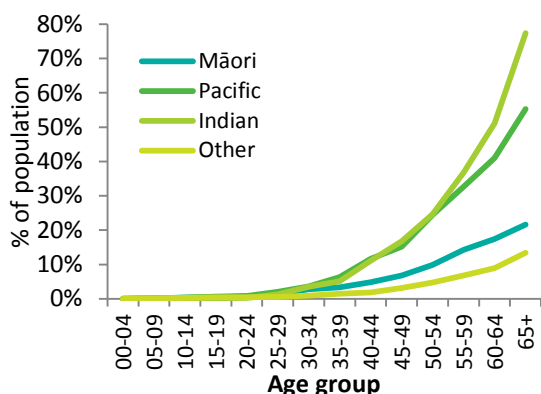
Managing stroke admissions according to the New Zealand Stroke Management Guidelines (2012) is essential for improving and maximising the health outcomes for people after a stroke, or who are at risk of stroke. It is also important to commence rehabilitation promptly as delays in acute wards may inhibit the crucial motor recovery process taking place shortly after a stroke. 5.8% of eligible stroke patients received thrombolysis (breaking down blood clots using medication), lower than the national target of 6%. The rate of thrombolysis is variable, having dipped to 0.7% in June 2013 before returning to the current level. Three out of four patients (75%) were cared for on a dedicated stroke unit, a little lower than the national target of 80%. Between 25% and 30% of stroke patients are transferred from acute care to rehabilitation and of these, about half are transferred within 10 days of having a stroke which is a similar rate to the Regional average.

6.2.3 Diabetes

Diabetes is a disease which affects the body's ability to control blood glucose. Type 1 diabetes is primarily an inherited condition generally diagnosed in childhood/adolescence. Type 2 diabetes is usually thought of as an adult disease, but is increasingly being diagnosed in children. We estimate that over 28,000 people in Waitematā have some form of diabetes, 4.6% of the population. This figure has almost doubled since 2005 when the estimated number of people with diabetes was 15,000 (3% of the population).

Diabetes prevalence increases dramatically with age reaching 13% of the population for European/non-Indian Asian/Other people, 77% for Indian and 55% for Pacific by the time people are in their 60s. From the age of 30, prevalence in Māori is increasingly higher than in European/Others and is even higher for Pacific and Indian people.

Figure 6.2.3.1:
Diabetes prevalence in Waitematā DHB 2017



Source: Ministry of Health Virtual Diabetes Register, 2017

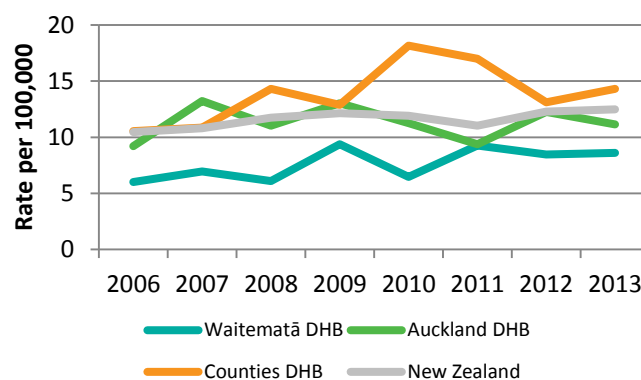
The presence of diabetes can lead to cardiovascular disease, blindness, dementia, kidney disease and foot problems which may lead to amputation. Early detection and good management can delay or avoid the onset of these problems. Risk assessment for CVD and diabetes has been mentioned above. We need to provide more support to people with diabetes to manage their risk factors such as high blood pressure and blood sugar levels, and to encourage them to attend retinal screening. Of the estimated number of people with diabetes in Waitematā, 63% had an HbA1c test in the 15 months to May 2018. Of the estimated number of people with diabetes in Waitematā aged 15-74 years, around 63% are known to be well-managed (defined as having HbA1c of <64 mmol/mol in the 15 months to May 2018). Within the last two years, 54% of people with diabetes have had the recommended retinal screening in the public sector.

Type II diabetes, which makes up 90% of diabetes, can be managed by diet alone or by oral medication or insulin. Prescribing rates given here are therefore only a partial indication of the quality of management. Waitematā's rate of dispensing regular insulin or metformin in people with diabetes aged 25 and over was 60%, similar to the national rate of 61%. This is made up of 22% who filled at least one insulin prescription, 66% filled a metformin prescription and 28% filled a sulfonylurea prescription.

Waitematā has below average rates of admission for diabetic ketoacidosis (62 admissions, 0.2% of people with diabetes) and average rates of admissions for hypoglycaemia (81 admissions, 0.3% of people with diabetes) (Atlas of Healthcare Variation 2016). Admission rates may be an indicator of the quality of management in primary care and/or Emergency departments. In total, people with diabetes used

42,500 medical/surgical bed days in 2016, which was 17.5% of all medical/surgical bed days. Between 2006 and 2013, Waitematā has seen the rate of lower limb amputations rise from 9 per 100,000 population to 11 per 100,000 population. This increase reflects the growing number of diabetics in the population, and increasing time with diabetes at patient level. Rates of amputation per medicated diabetic person are relatively stable between 0.1% and 0.2%. In 2016 the actual number of amputations was 32.

Figure 6.2.3.2:
Diabetes related non-traumatic lower limbs amputation age standardised rate, Auckland region District Health Boards and New Zealand, 2006-2013



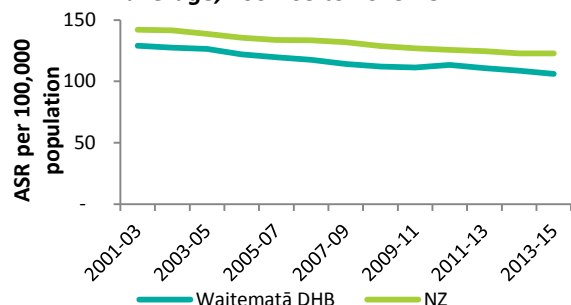
6.2.4 Cancer

Cancer is an abnormal growth of cells that can result in the invasion of normal tissues and which may spread to other parts of the body (metastasis). The main risk factors for cancer are tobacco use, high body mass index, physical inactivity, alcohol use, low fruit and vegetable intake and unsafe sex. For melanoma, sun exposure is also important. (Health Loss in New Zealand 2013). Overall, around 30-35% of the burden of cancer is attributed to modifiable risk factors and is preventable through adopting a healthy lifestyle, and manageable with lifestyle change, early intervention and effective management.

Cancer is the leading cause of death in Waitematā, causing 969 deaths in 2015, 32% of all deaths. Amongst our residents, the age-standardised mortality rate (ASR) from cancer was 106 per 100,000 population, compared with 123 nationally, over the period 2013-2015. The Māori mortality rate (174 per 100,000 population) and Pacific mortality rate (162 per 100,000 population) are substantially higher than that of European/Other ethnicities (107 per 100,000 population), whilst Asian people have the lowest rate at 59 per 100,000 population. The total cancer

mortality rate for Waitematā fell slightly between 2003 and 2011, rose slightly and then fell again in 2013.

Figure 6.2.4.1:
Age standardised mortality rate per 100,000 population aged 25+ for all cancers, three year rolling average, 2001-03 to 2013-15



The table below shows the ten most common cancers causing death in the Waitematā region for the 3 year period 2013-2015. Sixty-nine per cent of all cancer deaths in Waitematā are covered in the top 10 and 38% are due to lung, colorectal and breast cancer. Just over half of all cancer deaths (52%) occur in people aged under 75 years. Breast and brain cancer affect predominantly people aged under 75 years, with 71% breast cancer deaths and 77% brain cancer deaths being among those aged under 75 years.

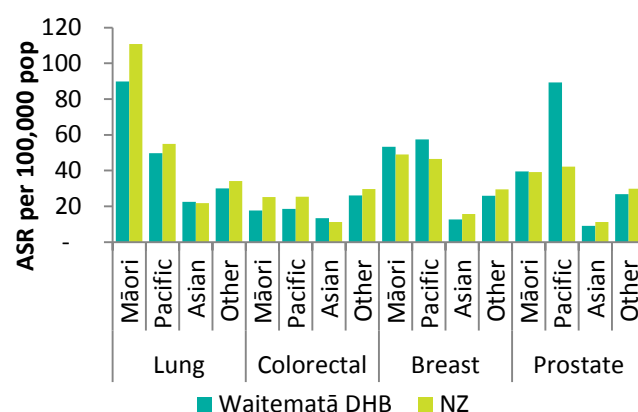
Figure 6.2.4.2:
Top 10 causes of cancer mortality by major site in Waitematā for 2013-2015*

Cancer type (ICD 10 code)	Age (years)		
	<75	75+	Total
Lung cancer (C33-C34)	264	229	493
Colorectal & anal cancer (C18-C21)	169	209	378
Female breast cancer (C50)	146	60	206
Prostate cancer (C61)	61	138	199
Pancreatic cancer (C25)	85	73	158
Malignant melanoma of skin (C43)	64	62	126
Oesophagus (C15)	56	50	106
Leukaemia (C91-C95)	46	49	95
Brain tumour (C71)	73	22	95
Non-Hodgkin lymphoma (C82-C85,C96)	42	49	91
All other cancer	455	412	867
Total	1,461	1,353	2,814

* Data represent the number of deaths for a 3 year period
Source: Ministry of Health mortality data collection

Waitematā has lower rates of lung and colorectal cancer mortality than New Zealand as a whole. However, the lung cancer mortality rates for Māori men and women (109 and 75 per 100,000 population aged over 25 years) and for Pacific men (76 per 100,000 population aged over 25 years) are more than double the rates for European/Other men (33 per 100,000 population aged over 25 years).

Figure 6.2.4.3:
Cancer mortality by ethnic group (ASR per 100,000 population aged 25+ yrs) 2013-15



Source: Ministry of Health Mortality data collection

On average, 2,600 people are diagnosed with cancer per year in Waitematā, some of whom have more than one cancer. The age-standardised rate of cancers registered in the period 2011-2013 was 346 per year per 100,000 male population (NZ 358) and 296 per 100,000 female population (NZ 316). The most commonly registered cancers were breast, colorectal, prostate, melanoma and lung. Within these total figures, Māori and Pacific have higher rates of lung and breast cancer but very low rates of melanoma, compared with European/Others. Asian people have generally low rates of cancer registration, except for lung cancer where Asian people have similar rates to European/Other people.

Cancer hospitalisation rates for different cancers tend to mirror the pattern for mortality, but skin cancer is the top cancer for hospitalisations. Waitematā had a higher rate of colorectal cancer hospitalisation than New Zealand in 2013 (104 vs 100 per 100,000 population), which might be explained by the Bowel Screening Programme which is being piloted in Waitematā.

Figure 6.2.4.4:

Most common causes of cancer registrations for Waitematā DHB residents, 2014-2016 combined and five-year relative survival rates for 2012-13 registrations

Type	Registrations	Five-year relative survival rate	Deaths (13-15)
Colorectal cancer	1,055	71%	378
Female breast cancer	1,151	93%	206
Prostate cancer	1,062	93%	199
Melanoma	976	93%	126
Lung cancer	703	19%	493
Other	2,947		1,412
	7,894	68%	2,814

Source: NZ Cancer Registry, NZ Mortality data collection

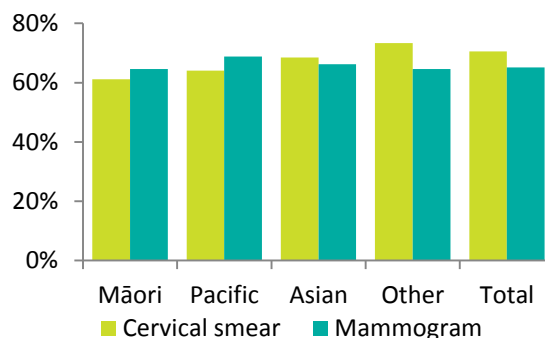
The five-year relative survival rate for cancer in Waitematā DHB is 69%, which is the highest in New Zealand. However, Australia performs better than New Zealand in treating cancers. If Waitematā DHB had the same five-year survival rates as Australia, 32% of women who die of breast cancer within five years would survive for longer (15 per year).

Rapid diagnosis and treatment of cancer increases the options for treatment and the chances of survival. In Waitematā DHB we undertake routine screening for cervical and breast cancer. A pilot programme is also underway to screen for bowel cancer. Cervical screening is offered every three years and 71% of eligible women (25-69 year olds) have taken this up, but this varies from 61% for Māori and 64% for Pacific women to 68% for Asian women and 73% for European/Other women. Breast screening is offered every two years and 65% of eligible women (45-69 year olds) have taken this up, although Pacific women have a higher rate at 69%. At December 2017, 57% of those offered bowel screening have accepted. The bowel screening programme commenced in 2011/12, so the impact is not yet reflected in mortality rates for cancer.

To support continued improvement in services and waiting times for people with cancer, accessing faster cancer treatment is a key priority and forms an integral part of the national health targets. As at March 2019, 88% of cancer patients wait less than 62 days for treatment or other care to commence, compared with the target of 90%.

Figure 6.2.4.5:

Percentage of women up to date with cervical and breast screening March 2019, Waitematā



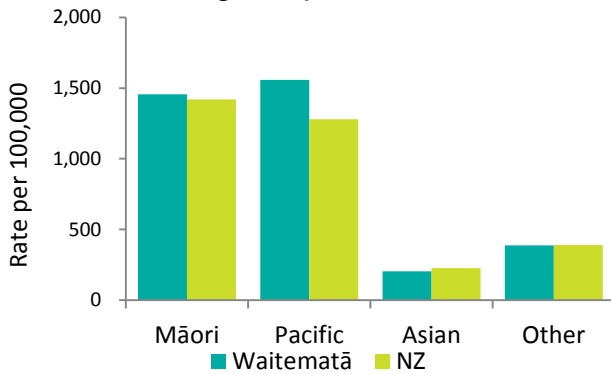
Source: NSU

6.2.5 Respiratory disease

Respiratory diseases are those conditions that impact the lungs and the airways. They range from acute infections, such as pneumonia and bronchitis to chronic conditions such as asthma and chronic obstructive pulmonary disease (COPD). Respiratory disease accounts for about 250 deaths per year, or 9% of total deaths in Waitematā.

Whilst the prevalence of asthma for Māori (15%) and Pacific (10%) people in Waitematā is similar to that of European/Other ethnicities (11%) found by the NZ Health Survey 11/13, Māori and Pacific age-standardised hospitalisation rates are more than three times that of European/Other people, at 198 and 260 admissions, compared with 64 admissions per 100,000 population aged 15 years and over for European/Other people. Asian people have low asthma prevalence (4%) and low hospitalisation rates (36 admissions per 100,000 population aged 15 years and over). Women have more than double the hospitalisation rate of men at 114 compared with 40 admissions per 100,000 population aged 15 years and over (Ministry of Health NMDS collection). Nearly 10% of Waitematā adults are taking medication for asthma (NZ Health Survey 2011/13). Amongst people admitted to hospital with a primary diagnosis of asthma (or wheeze in children aged 0-14 years), Waitematā had significantly lower rates than average for dispensing one or more asthma inhalers in the year following their admission (73 compared with the New Zealand average of 81 per 1,000 population) (Atlas of Healthcare Variation 2011). COPD is a particular burden for Māori and Pacific people. Age-standardised hospitalisation rates (ASR) per 100,000 population for these groups are 1,457 (Māori) and 1,558 (Pacific), nearly three times as high as those of European/Other ethnicity (387) and higher than for Māori and Pacific in New Zealand as a whole. One of the main risk factors for COPD is smoking.

Figure 6.2.5.1:
COPD hospitalisation (ASR per 100,000 population aged 35+), 2013



6.2.6 Mental Health

Mental ill-health is one of the leading causes of disability and overall health loss. Mental health encompasses an array of disorders including but not limited to: depression, schizophrenia, dementia, intellectual disabilities and developmental disorders including autism. Nationally one in five people have suffered some kind of mental illness in the last year and 3% have suffered from a serious mental illness. Half of those who develop mental health disorders have problems evident by the age of 15 years. Three out of four people who develop a substance use disorder do so by the age of 24 years.

Mental illness is also associated with reduced life expectancy of ten or more years resulting from other illnesses, particularly cancer and cardiovascular disease. Even when these disorders are recognised, rates of intervention are lower for this population compared with people without mental illness.

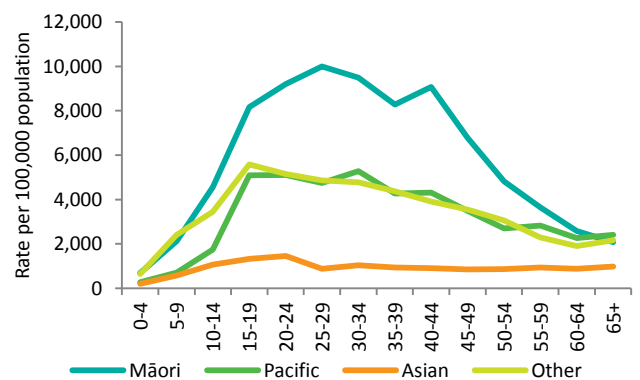
There were on average 53 suicides per year in Waitemātā over the five years to 2011. Waitemātā's age-standardised suicide rate of 9.3 per 100,000 population was slightly lower than the national rate of 10.6 per 100,000 population. People who make an unsuccessful suicide attempt are at high risk of making further attempts and an estimated 9% die within five years. The New Zealand Mental Health survey (2006) found that 0.4% of adults had attempted suicide in the previous year.

Twelve per cent of adults report that they have depression, anxiety or bi-polar disorder diagnosed by a doctor (equivalent to around 50,000 people), compared with 16% in New Zealand as a whole (NZ Health Survey 2011-2013). Women reported these conditions almost twice as often as men. About 1 person in 33 in Waitemātā (17,000 people) used secondary mental health services in 2013. Utilisation rates were higher amongst young adults (15-44 years)

although rates remained high in later adulthood for Māori. Māori have higher utilisation rates than European/Other and Pacific people. Asian people have very low rates.

There are wide differences in the rates at which people of different ethnicities are diagnosed and access secondary services for the various types of mental illness. In particular, the prevalence of schizophrenia is more than double in Māori (723 per 100,000 population) compared with European/Other ethnicities (349 per 100,000 population). Conversely, European/Other people have a higher prevalence of depression (757 per 100,000 population) than do Māori and Asian (333 per 100,000 population) and Pacific people (187 per 100,000 population). Given the higher prevalence of psychological distress for Pacific people, of whom 8.2% experience distress compared with 4.6% of European/Other people, the low treatment rate for Pacific people may indicate poor access to services.

Figure 6.2.6.1:
Rate per 100,000 population seen by secondary Mental Health services by age and ethnicity, 2013



Source: Programme for the Integration of Mental Health Data (PRIMHD)

Four out of five clients (81%) accessing non-urgent mental health services were seen within 3 weeks and 94% accessed services within 8 weeks. Furthermore, 80% per cent of Waitemātā residents who are admitted acutely to hospital have had pre-admission care (compared to 56% for NZ as a whole) and 84% receive post-discharge care (compared to 62% for NZ as a whole). Waitemātā DHB also has lower readmission rates than the national average, although rates have been steadily increasing between 2009/10-2012/13, from 7.5% to 13%. Waitemātā DHB has longer mean length of stay than NZ as a whole (23 days vs 18 days).

6.2.7 Injury

Injuries have a substantial impact on the health of the population, both as a leading cause of premature death and through disability following an injury. The age-standardised mortality rate from unintentional injury is 12 per 100,000 population, compared with 18 per 100,000 population for New Zealand as a whole. The rate for males is higher than for females (15 per 100,000 population vs 9 per 100,000 population). Māori and Pacific men have the highest rates at 23 and 26 deaths per 100,000 population, compared with 9 per 100,000 population for Asian males and 16 per 100,000 population for European/other males. For older people, falls are the largest cause of injury-related deaths, while for adults aged 15-64 years, suicide is the largest cause. For younger adults, road traffic accidents are also important.

Figure 6.2.7.1:

Mortality from injury by cause and age group, 2011

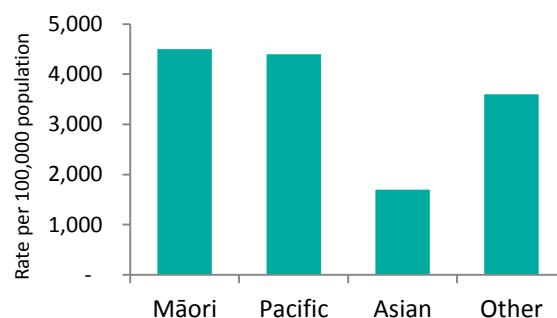
	Under 15	15-24	25-44	45-64	65+	Total
Other accidents	1	0	7	5	9	22
Accidental poisonings	0	1	2	10	1	14
Drownings	2	0	2	3	1	8
Falls	0	0	0	2	32	34
Iatrogenic conditions	0	0	0	0	2	2
Intentional self-harm	0	14	15	18	7	54
Road traffic injuries	2	5	8	2	3	20
Violence	1	2	1	1	0	5
Total	6	22	35	41	55	159

Source: Ministry of Health mortality data collection

Injury is also an important cause of hospitalisation with Waitematā having slightly higher rates than nationally. Māori and Pacific men have high rates of injury hospitalisations, respectively 2,300 and 2,100 per 100,000 population compared with 1,800 per 100,000 population for European/Other men. Injury is the leading cause of mortality and hospitalisation for children and young people aged between 1 and 24 years.

Figure 6.2.7.2:

Age-standardised hospitalisations for injuries per 100,000 population, Waitematā, 2012/13

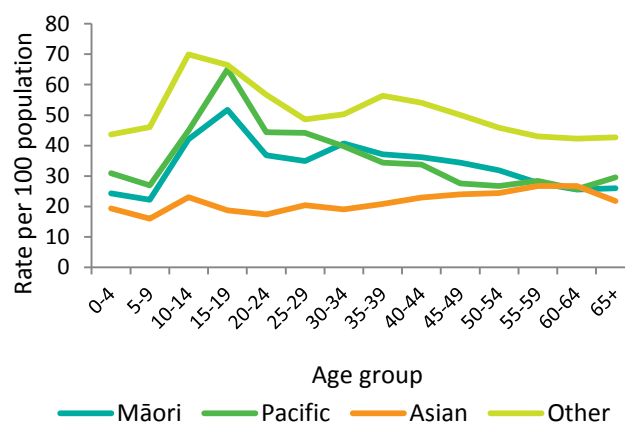


Source: Ministry of Health national data collection

In 2013/14, Waitematā residents made 239,000 claims to the Accident Compensation Corporation (ACC) for injury, an average of four claims for every ten people. The highest rates of claim occur amongst youth and young adults. Pacific and European/Other people have higher rates than Māori, and Asians have the lowest rates of claim. Soft tissue injuries make up 65% of claims and 18% are for lacerations and puncture wounds. Fractures and dislocations account for 7% of claims. Most injuries occur at home (46%) or during sport or recreation (25%).

Figure 6.2.7.3:

ACC claims for injury per 100 population, 2013/14 financial year

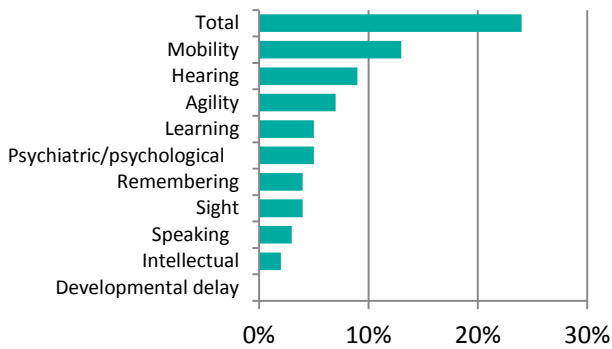


Source: Accident Compensation Corporation

6.2.8 Disability

Disability is a broad term and covers a range of conditions. These are broadly grouped into sensory (hearing and vision impairment), physical (mobility and agility), intellectual, psychiatric/psychological and other disabilities (impaired speaking, learning and developmental delay in children aged 0-14 years, and impaired speaking, learning and remembering for adults).

Figure 6.2.8.1:
Prevalence of disability by type of impairment (National)



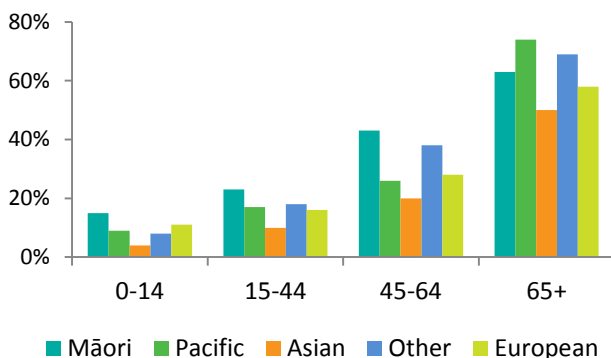
Note: any individual may appear in more than one disability type

Source: NZ Disability Survey 2013

Only regional and national data is available from the 2013 New Zealand Disability Survey. One in five (19%) of the Auckland region population had a disability, which was lower than the New Zealand average (24%). Nationally, amongst adults the percentage with a disability increases from 16% amongst young adults (15-44 years) to 59% in older people (65 years and older). Māori and Europeans have higher rates of disability and Asians low rates (26% and 25% vs. 13%).

Mobility, agility, hearing, sight and remembering are the most common disabilities in adults while learning, speaking and psychological/psychiatric disabilities are the most common in children. Multiple disabilities are common and over half of those with disabilities report more than one problem. In children disabilities present at birth are the commonest type. In middle age, disease and illness and accidents are important and aging processes impact disabilities in older people.

Figure 6.2.8.2
Prevalence of disability 2013 (National)



Source: NZ Disability Survey 2013

6.2.9 Sexual Health

Sexually transmitted infections (STIs) with the exception of AIDs were not notifiable in 2016. Surveillance efforts are based on voluntary provision of data from sexual health clinics (SHCs), family planning clinics (FPCs) and laboratories. Sexual health services in the Auckland region are provided through primary health care, including Family Planning and regional sexual health clinics and youth clinics.

In 2016, the Auckland region chlamydia rate was 643 cases per 100,000 population (651 nationally), and has been increasing since 2014 although it is still lower than the 2011 peak rate. More than two-thirds of laboratory-diagnosed cases of chlamydia in 2016 were females but this partly reflects the fact that 80% of tests were for females, suggesting many infections in males remain undiagnosed and untreated. Chlamydia is most commonly diagnosed in females in the 15–19 years age group and in males in the 20–24 years age group in both the laboratory and clinic settings. Overall, there were 2.2 cases per 100 people amongst 15-19 year olds and 2.7 cases per 100 people amongst 20-24 year olds in Auckland in 2016. If the rates for females were replicated for males, which is likely the case, around 5 cases per 100 people in the 15-24 age group occur each year. (ESR, Sexually transmitted infections in New Zealand 2016)

In Q4 2018, 11% of youth aged 15-24 years in Waitematā DHB were tested for chlamydia.

6.3 Infants, Children and Young People

6.3.1 Births

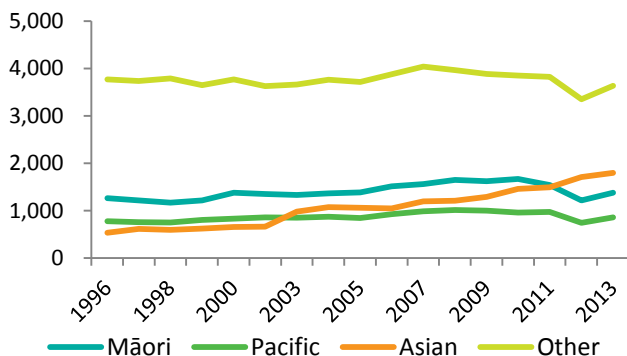
There has been a gradual increase in the number of births in Waitematā, from 6,400 in 2001 to close to 7,600 in 2013. (Statistics NZ Registered Births). The increase has not been steady, with the year-on-year change in live births ranging from a drop of 280 to an increase of 500. The general fertility rate is 45 per 1,000 population for European/Other women aged 15-49. It is much higher for Māori (109 per 1,000 women aged 15-49), Pacific (88 per 1,000 women aged 15-49) and Asian (58 per 1,000 women aged 15-49).

In 2012, 284 babies were born to young women aged 15-19, an overall rate of 15 per 1,000 women in this age group, compared with a national rate of 25 per 1,000 women aged 15-19 years. Again the rate was higher for Māori (63 per 1,000 women aged 15-19) and Pacific (30 per 1,000 women aged 15-19). The rate for European/Other young women was 6 per 1,000 women aged 15-19 and for Asians it was less than 2 per 1,000 women aged 15-19. There were 16 terminations

of pregnancy per 1,000 women aged 15-44 in 2013 in the Auckland Region, compared with 15 per 1,000 for New Zealand as a whole (Statistics NZ). If these follow national patterns, just over half of women having a termination would have used no contraception. Nationally, looking at all age groups, 19% of pregnancies (excluding miscarriages) are terminated.

6.3.1.1:

Trends in live births for Waitematā DHB by ethnicity, 1996-2013



Source: Statistics New Zealand registered births

In 2013, 5.5% of babies born had low birth weight in Waitematā DHB, compared with 6.0% nationally. There were 27 admissions for pregnancy complications for every 100 live births in Waitematā (9% lower than for New Zealand as a whole). Pacific mothers were more likely to be admitted. In Waitematā’s hospitals, 29% of all births are by caesarean section and a further 10% were assisted (e.g. forceps delivery). Māori and Pacific mothers were more likely to have normal deliveries.

Poor outcomes for pregnant women and their babies are associated with later engagement with health professionals, smoking during pregnancy and obesity, amongst other factors. Earlier access to a range of health advice, information and interventions can improve health outcomes. Two-thirds of women (65%) were enrolled with a lead maternity carer (LMC) at 12 weeks of pregnancy (2012). In 2013, 14% of mothers reported that they were smoking at the time that they were admitted for delivery. This varied across ethnicities, with 53% of Māori and 19% of Pacific mothers smoking, compared to 13% of NZ European mothers and 1% of Asian mothers. Younger mothers were more likely to smoke than older mothers, with the rate for those aged under 26 years being 29% but only 10% for mothers aged 26 years and over.

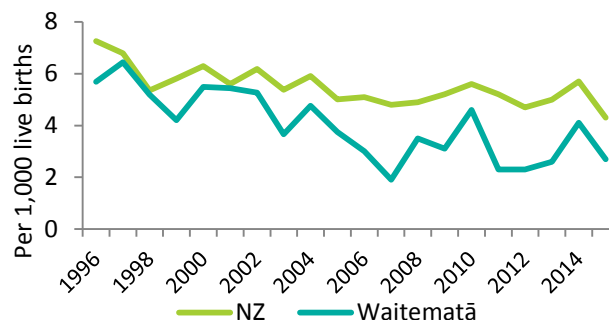
6.3.2 Infants and Children

Infant mortality rates in Waitematā were lower than New Zealand as a whole at 2.7, compared with the national rate of 4.3 per 1,000 live births in 2015.

Nationally, infant mortality rates were higher for Māori and Pacific people (4.9 and 7.1 per 1000 live births), than for Asian and European/Other ethnic groups (4.3 and 3.2 per 1,000 live births). For Waitematā, the rates for Māori and Pacific in 2015 (2.7 and 2.3 per 1000 live births) were lower than for Asian (4.7) but higher than European/Other rates (1.7 per 1000, live births). The rate of sudden unexpected death in infancy (SUDI) at 0.2 per 1,000 live births is lower than the national average of 0.7 per 1,000 live births in 2011-15.

Figure 6.3.2.1:

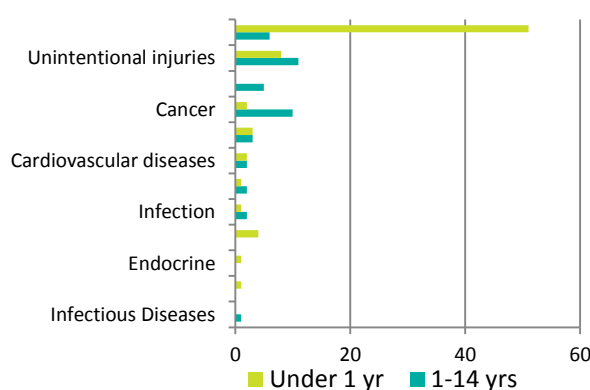
Trend in infant mortality rate per 1,000 live births, 1996-2015



The death of a child under 14, after the first month of life, is a rare event and accounts for on average 20 deaths a year in Waitematā, almost half being aged under one year. The most common causes of death in infants were perinatal (the period immediately before and after birth) conditions, congenital anomalies and sudden infant death syndrome (SIDS). In children older than one year, the most common causes were injury, cancers and congenital anomalies.

Figure 6.3.2.2:

Numbers of deaths amongst Waitematā children aged 0-14 years, 2009-11



Source: Ministry of Health mortality data collection

In New Zealand we have some of the highest rates of rheumatic fever of any developed country, particularly amongst Māori and Pacific children. The incidence of rheumatic fever in Waitematā is 2.3 per 100,000 population, one of the lowest in the country, compared with 4.1 per 100,000 population nationally.

There were 119 admissions to hospital each year for every 1,000 Waitematā children aged 0-14 years for medical or surgical reasons. The most common acute admissions were for injuries (from all causes), gastroenteritis, asthma, viral infections, respiratory infections and skin infections. Admissions for infectious disease, skin infections and respiratory infections have all increased over the last 10 years. The most common waiting list admissions were for ear-nose-throat (ENT) infections and dental conditions. Henderson – Massey and Waitakere Ranges have higher avoidable hospitalisation rates than the rest of Waitematā DHB boards for those aged under 5 years. In 2012/13, there were 16 admissions per 100,000 population aged 0-14 for injuries resulting from domestic assault, neglect or maltreatment of children.

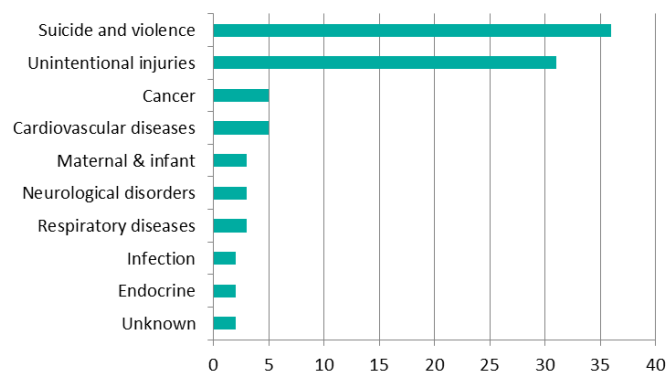
A General Practitioner (GP) is often the first point of contact when a child becomes unwell. Enrolling with a Primary Health Organisation (PHO) not only ensures that access to a GP can be quick and easy, but also that the PHO has a history of the child's health ensuring the best possible care. PHO enrolment has a number of other benefits including but not limited to, reminders regarding routine health checks and upcoming vaccination events. The percentage of children enrolled with a PHO by the age of three months was lower than average (67% in Waitematā, against a target of 88% and a national average of 71%). The rate of referral by LMCs to a Well Child/Tamariki Ora (WTCO) provider was 97% for Waitematā (98% for New Zealand). Completion of core WTCO contacts within the first year of life was 76% overall but 62% for Māori children and 64% for Pacific children. This was below the target of 86%, however this is the same as the national average. Waitematā is close to achieving the immunisation target of 95% at 8 and 24 months, with 94% of children fully immunised at 8 months of age and 92% fully immunised at 24 months of age. Overall, 92% of four-year-olds received a comprehensive health check before school entry, a little higher than national average of 91%. However, rates were much lower for Māori (85%) and Pacific (81%) children.

6.3.3 Young people

In 2014, there were 79,000 young people aged 15-24 living in Waitematā, including 11,000 Māori, 7,000

Pacific, 17,000 Asian and 44,000 European/Others. During 2009-2011, an average of 28 young people died each year in Waitematā. Most of these died from intentional and unintentional injury.

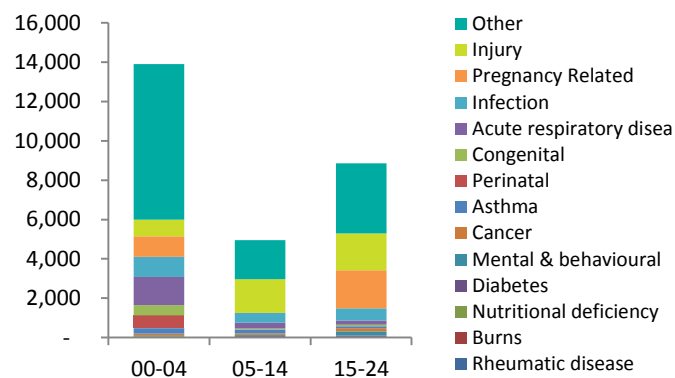
Figure 6.3.3.1:
Numbers of deaths amongst Waitematā young people aged 15-24 years, 2009-11 combined



Source: Ministry of Health mortality data collection

There were 100 admissions to hospital for every 1,000 young people in Waitematā (excluding pregnancy related admissions). The most common acute admissions were for injury, abdominal or pelvic pain and skin infections.

Figure 6.3.3.2:
Most common causes of hospitalisation for children and young people, Waitematā DHB, 2013



Source: Ministry of Health national data collection (NMDS)

6.4 Older people

There are 74,000 people aged 65 years or older in Waitematā in 2014, and of these almost 9,000 are aged 85 years and older (population projection based on 2013 census). Our older population is predominantly made up of European and Other ethnicities with much

smaller proportions being of Māori, Pacific or Asian ethnicity.

The most common causes of mortality and hospitalisation for older people are similar to the population as a whole. In Waitematā the leading causes of death amongst older people are IHD, stroke, COPD, lung cancer and diabetes. Cancers together also account for 16% of deaths. In winter the number of deaths increases and Waitematā records 75 extra deaths compared with the number that we expect during the warmer months.

The leading causes of hospitalisation are for IHD and angina, respiratory infections and musculoskeletal diseases. There were 519 medical/surgical hospital admissions for every 1,000 older people in Waitematā in 2013/14. Henderson-Massey and Waitakere Ranges wards have higher avoidable hospitalisation rates amongst older people than other Waitematā DHB wards.

Figure 6.4.1.1:
Most common causes of hospitalisation amongst Waitematā people aged 65+ years, 2013

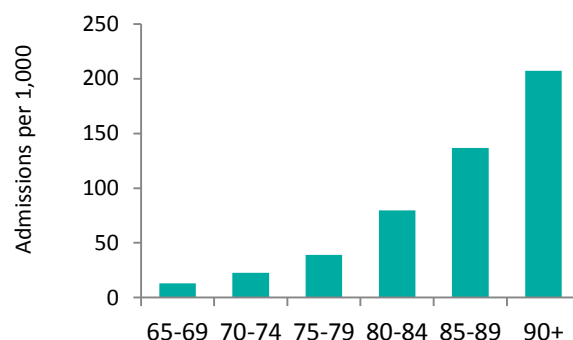
	Condition	Rank
Female	Injury (intentional and unintentional)	1
	Non-specific conditions	2
	Musculoskeletal diseases	3
	Ischaemic heart diseases	4
	Chronic lower respiratory diseases	5
	Rheumatoid arthritis and osteoarthritis	6
Male	Non-specific conditions	1
	Injury (intentional and unintentional)	2
	Ischaemic heart diseases	3
	Musculoskeletal diseases	4
	Chronic lower respiratory diseases	5
	Pneumonia	6

Source: Ministry of Health data collection (NMDS); not age-standardised

Older people have higher levels of health needs and often have multiple health problems. The NZ Disability Survey 2013 found that nationally 59% of people aged 65 years and over have a disability, with 46% having mobility problems, 28% agility problems, 28% a hearing disability, 11% a sight problem and 10% having difficulty with remembering. In Waitematā, 15% of older people have ischaemic heart disease, 18% have diabetes, 40% have arthritis and 12% have a mental health disorder (NZ Health Survey 2011-2013). Around 7% of those aged over 65 years have dementia and this rises to over 25% in people aged 85 years and over.

Falls are a common cause of hospital admissions for injuries, causing 46 admissions per 1,000 people aged 65 years and over. Older people are more at risk, with the rate ranging from 13 admissions per 1,000 people aged 65-69 years rising to 207 admissions per 1,000 people aged 90 years and over. Of the patients admitted with a fractured neck of femur, 91% are aged 65 years and over.

Figure 6.4.2:
Falls admissions for Waitematā residents per 1,000 population aged 65 years and over, 2013/14

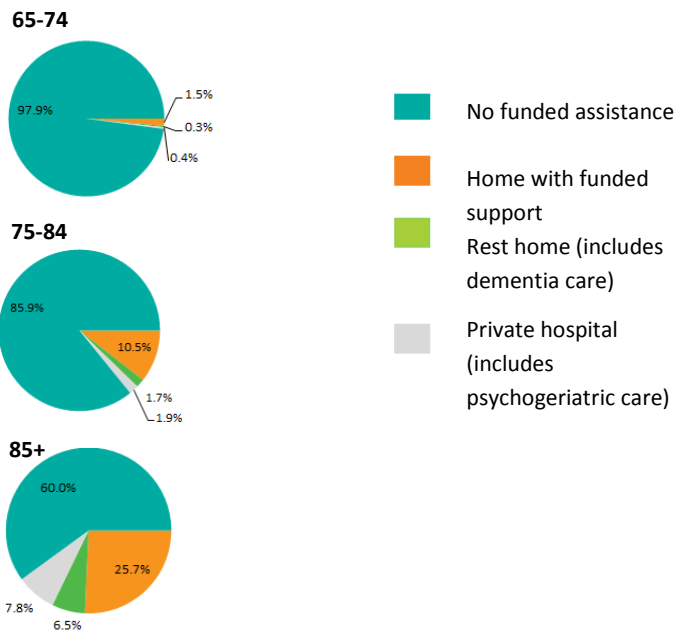


Source: Ministry of Health data collection (NMDS)

The large majority of older people in Waitematā are able to live unassisted in their own homes. Six out of ten people (60%) who are 85 years or older receive no funded living assistance, while 14% are funded to live in a rest home or private hospital, and 26% have some funded support at home. Many older people continue to work or do voluntary work after reaching the age of 65.

Waitematā DHB offers free influenza vaccinations to those aged 65 years and over. Almost two-thirds (63%) of people over the age of 65 had received an influenza vaccine in 2013. Evidence suggests the effectiveness of influenza vaccination in the community-dwelling elderly is modest. There is some evidence that in long-term care facilities, influenza vaccination is effective against complications. (National Specialist Influenza Group 2014).

Figure 6.4.3:
Proportion of older people needing support,
Waitematā, 2013



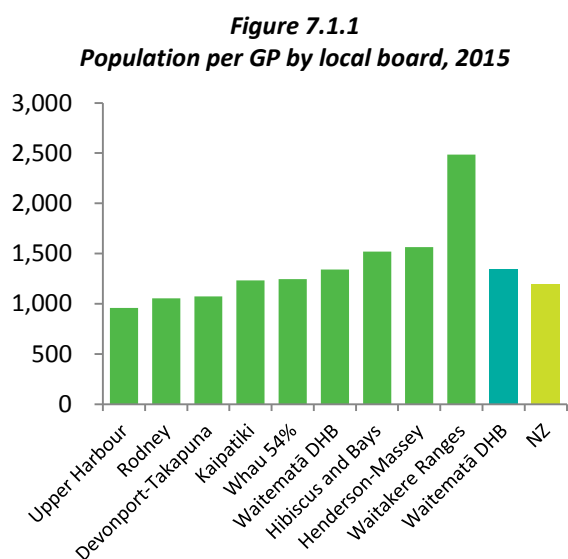
Source:
 HealthPac data collection for residential care claim

7 Health services

7.1 Community health care

Primary medical care services are often the first point of contact with health services. General practices undertake a number of recommended preventive health interventions including smoking cessation advice and support, CVD risk screening, cervical screening and influenza vaccination.

There are two Primary Health Organisations (PHOs) operating within the Waitematā district with 104 general practices and 434 GPs. There are 64 GPs (full-time equivalent) per 100,000 population in Waitematā, considerably fewer than the national average of 75. The ratio of GPs per 100,000 population has remained static over the past five years. However, this varies across the district, with 2,500 people per GP in Waitakere Ranges and 1,500 people per GP in Hibiscus and Bays and Henderson-Massey, compared with 960 people per GP in Upper Harbour.

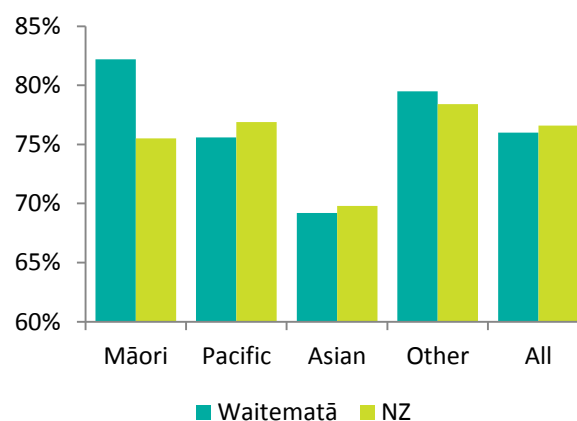


Source: Healthpoint data on GP practices; Stats NZ

Overall, 96% of residents are enrolled with a PHO. While people are free to enrol in any practice in the country, most people within Waitematā are enrolled with practices in Waitematā-based PHOs. Only a small proportion of the Waitematā population (0.1%) are enrolled outside of the Auckland region. The recording of ethnicity in PHO enrolment data contains some errors, but it is clear that Māori and Asians have lower enrolment rates than average (approximately 9% and 17% respectively are not enrolled). Enrolment rates also vary by age with 12% of 15-24 year olds and 6% of 25-44 year olds not being enrolled with a PHO. (Source: Ministry of Health enrolment data.)

Three out of four (76%) of the Waitematā population have seen a general practitioner (GP) in the last year. This varies from 70% for Asian people to 82% for Māori people. Most people in Waitematā (89%) are able to get an appointment with their GP within 24 hours, compared with 86% nationally. Almost one in five (17%) people report problems accessing a GP, because of cost, availability of appointments, or transport issues. Overall 14% of adults reported that the cost of a GP visit had prevented them, on at least one occasion in the past year, from visiting a GP. For Māori and Pacific people, the figure was much higher at 18% and 21% respectively. Similarly, although overall 4.5% said that cost had prevented them from filling a prescription, the figure was 12% for Māori and 11% for Pacific people. (NZ Health Survey 2011-2013)

Figure 7.1.2:
Utilisation of General Practitioners 2011/13



Source: NZ Health Survey

Information about the nature and quality of GP consultations is only available at a national level. Most consultations (88%) are with a GP that the person has seen before. The average consultation lasted 15 minutes and the large majority of people felt their doctor listened to them well and discussed their healthcare with them. Half of the problems GPs were seen for were new problems or short term problems being followed up, about a third were long term problems with only 5% being for preventive care. Two thirds of people received a prescription from their visit, nearly a third had some form of test and one in six was referred to another health professional.

7.1.1 Oral health

Poor oral health and chronic pain from oral health conditions can negatively affect child growth and development and reduce people's quality of life. Good nutrition and oral health during pregnancy and the establishment of sound oral health behaviours for the infant in the first year of life may prevent childhood dental caries and improve overall child and adult oral health. Waitematā DHB provides school dental services to the residents of the overall Auckland region. At the end of 2013/14 we had set up 11 fixed clinic sites and 21 mobile clinics as well as 47 mobile clinic sites.

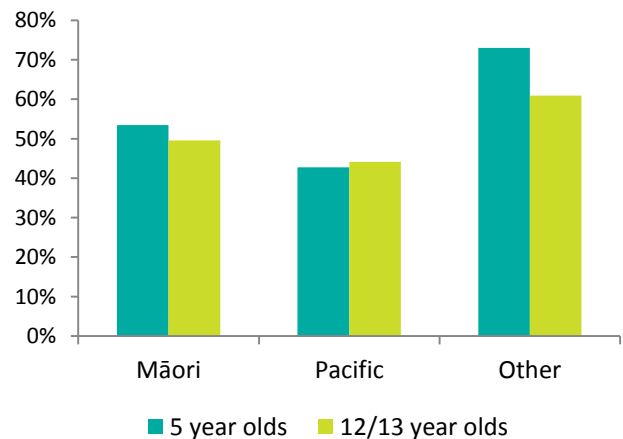
Waitematā children have better oral health than New Zealand children as a whole. However, Māori and Pacific children have poorer oral health than those of other ethnicities. Four out of five pre-school children are enrolled with oral health services in Waitematā, which is above the national average although less than the national target of 86%. At five years of age, three-quarters (76%) of children are accessing free school dental care. Access rates are lower for Māori (62%) and Pacific (57%). For European/Other five-year-olds, Waitematā exceeds the Ministry of Health target for 65% to be caries-free, achieving 73%. We do not meet the target for Māori children (53%) or Pacific children (43%). Five-year-olds in Waitematā have an average of 1.3 decayed, missing or filled teeth (dmft). Māori children have an average of 2.0 dmft and Pacific children have an average of 2.6 dmft while European/Other children have an average of 1.0 dmft.

Nationally, approximately 66% of children aged 2-11 years brush their teeth twice daily. This is lower for Māori and for those living in NZDep06 quintile 3-5 areas. Utilisation of community oral health services by adolescents aged 13-17 years is approximately 73% for Auckland and Waitematā DHBs combined. National data shows that approximately 13% of adolescents aged 12-17 years have dental decay. Dental decay is more prevalent in Māori and Pacific adolescents, and those living in quintile 5 areas. The proportion of adolescents who are caries free is 45%. Year eight children (12/13-year-olds) in Waitematā have an average of 0.9 decayed, missing or filled teeth (dmft). Māori children have an average of 1.2 dmft and Pacific children have an average of 1.5 dmft while European/Other children have an average of 0.8 dmft. Approximately 59% of adolescents brush their teeth twice daily. This is lower for Māori, and those living in quintile 3-5 areas. Approximately one in four adolescents experiences trauma to the upper front six teeth.

About 6% of adults have had one or more teeth removed in the past 12 months (due to decay, an abscess, infection or gum disease). Half of

European/Other adults and a third of Māori, Pacific, and Asian adults have seen an oral health worker in the last year. Just over half of Waitematā residents only visit a dental health care worker for toothaches/ dental problems or never. This varies across ethnic groups, with a smaller proportion of NZ European adults (37%) than of Asian (61%), Māori (70%) and Pacific (77%) adults likely to only visit a dental health care worker for toothaches/dental problems or never. Approximately 65% of adults brush their teeth twice daily.

Figure 7.1.1.1:
Proportion of Waitematā children examined who were caries-free, 2013



Source: Ministry of Health Quarterly Non-Financial Indicators

7.2 Hospital-based health care

Waitematā DHB operates North Shore Hospital, on the shores of Lake Pupuke in Takapuna, and Waitakere Hospital in West Auckland. Locally we provide emergency, medical, surgical, maternity, community health and mental health services. We also provide a range of services for the overall Auckland region, including child rehabilitation and respite at Takapuna's Wilson Centre as well as forensic psychiatric services at the Mason Clinic in Point Chevalier, and community alcohol and drug services. We also contract other DHBs, particularly Auckland DHB, to provide some tertiary services, eg cardiac surgery and radiation oncology services.

7.2.1 Emergency Departments

About one in seven of our population has visited a hospital Emergency Department in the last year. The age-standardised rate of ED attendances by Waitematā residents has increased by 20% in ten years, rising from 17.4 per 100 population in 2007/08, to 20.7 per 100 population in 2017/18. This may be partly due to

increases in ED capacity. Waitakere ED began providing 24/7 children's services in June 2010, and 24/7 adult services in June 2011. Access to emergency department care is good and in quarter 3 of 2018/19, 96% of patients were either discharged or moved to a ward within six hours of presenting to the emergency departments.

Figure 7.2.1.1:
Emergency Department attendances, adults, age-standardised rate per 100 population. 2007/08-2017/18

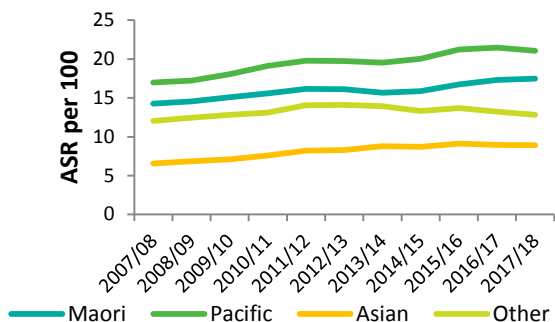
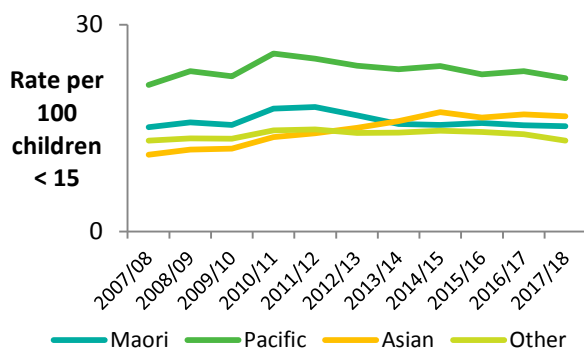


Figure 7.2.1.2:
Emergency Department attendances, children, per 100 population. 2007/08-2017/18



Source: Ministry of Health national collection (NNPAC) count of people attending ED in a year

7.2.2 Outpatient services

For every 100 adults in Waitemata there were 13 first specialist outpatient assessments (FSAs) in 2017/18. Pacific people have the highest rates of FSAs at 16 per 100 population, followed by Maori (13 FSAs per 100 population), European/Others (12 FSAs per 100 population), and Asian people with 10 FSAs per 100 population. Waitemata residents have generally similar patterns of use of different outpatient services as residents in other parts of Auckland.

For children, the FSA rate per 100 was highest for European/Other children (8.6 FSAs per 100

population), followed by Asian, Pacific and Maori rates (7.7, 7.0 and 6.4 FSAs per 100 respectively).

Figure 7.2.2.1:
Outpatient FSAs, adults, age-standardised rate per 100 population. 2008/09-2017/18

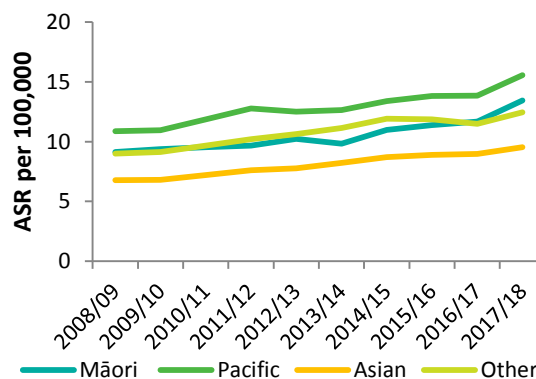
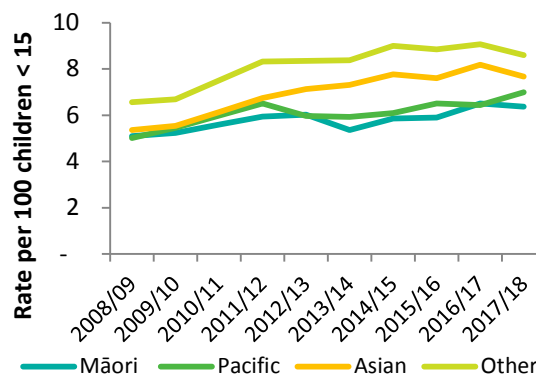


Figure 7.2.2.2:
Outpatient FSAs, children, rate per 100 population. 2008/09-2017/18



7.2.3 Admitted patients

In 2017/18, Auckland regional public hospitals provided 282,000 bed days of service for Waitemata residents (medical/surgical/maternity, i.e. excluding geriatrics, mental health and disability support/rehabilitation). This is an average of 774 patients in beds each day. Waitemata DHB facilities provided 81% of these, with 17% provided by Auckland DHB (mostly to children), 1% by Counties Manukau DHB and 1% by agencies outside the Auckland region. People aged 65 and over make up 14% of the population but account for 37% of medical/surgical discharges and 50% of beds used. Compared with the New Zealand average, Waitemata has a higher admission rate for patients presenting acutely to medical and surgical specialties, but a lower rate for elective admissions. The figures for elective admissions exclude patients who funded their own treatment (through insurance or direct payment).

Total admissions increased by 42% between 2007/08 and 2017/18, while bed days increased by 19%,

reflecting reductions in length of stay and increased rates of same-day treatment.

Figure 7.2.3.1:

Acute and elective admissions, adults, age-standardised rates per 100 population, medical and surgical specialties, 2008-2018

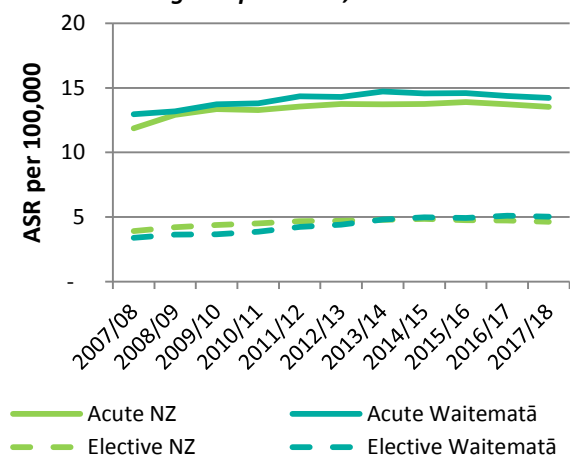
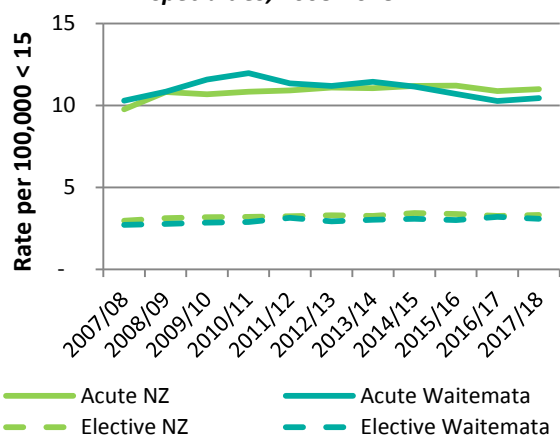


Figure 7.2.3.2:

Acute and elective admissions, children, rates per 100 population, medical and surgical specialties, 2008-2018



Source: Ministry of Health national data collection (NMDS)

For both adults and children, and for acute and elective, admission rates closely match NZ rates. Admission rates for adults and children have increased over the last ten years.

Rates have reduced for Māori and Pacific children although they remain higher than those for Asian and European/Other children. The rates of hospitalisation for Asian adults is substantially lower than for other ethnicities. Hospitalisations for medical services are very much dominated by older people, whereas surgical hospitalisation is distributed across different age groups fairly evenly. Māori and Pacific people have higher rates of hospitalisation for elective services and Asians have low rates.

Figure 7.2.3.3:

Medical/surgical discharges, adult, age-standardised per 100 population, by ethnicity, 2008 – 2018

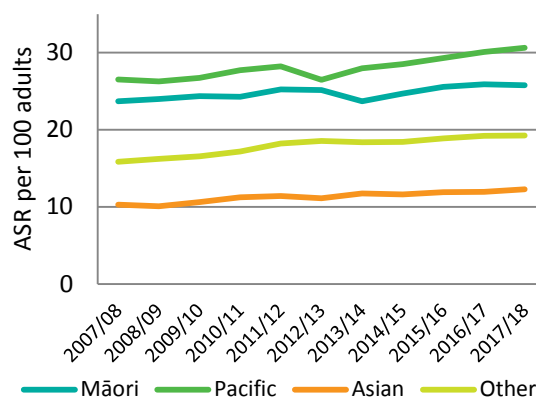
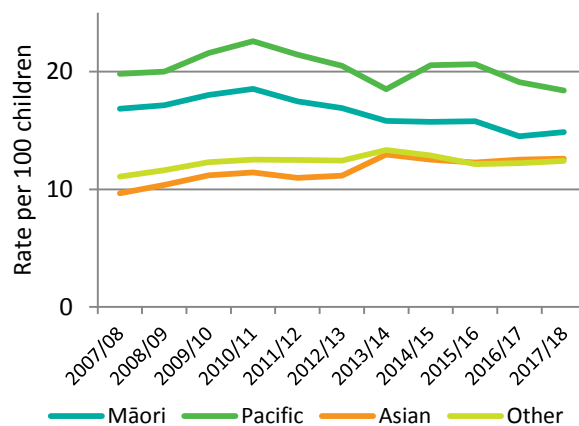


Figure 7.2.3.4:

Medical/surgical discharges, children, per 100 population, by ethnicity, 2008 – 2018



Source: Ministry of Health national data collection (NMDS) (Adult figures age-standardised to WHO 15+ pop)

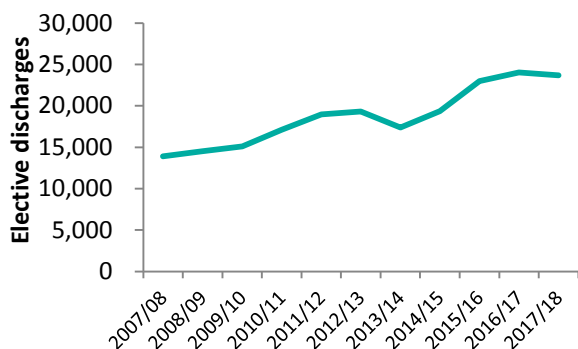
7.2.4 Access to publicly-funded elective surgery

The Ministry of Health has set a goal of improving access to elective surgery, both in terms of volumes of operations and speed of access, and of equalising access across DHBs. From 2000 until June 2013, all patients needing first specialist assessment in outpatients or needing elective surgery had to be treated within six months. Between July 2013 and December 2014, the target waiting time reduced to a maximum of four months. Waitematā services have consistently treated patients within the waiting time targets, substantially reducing the length of time that patients wait for consultations and surgery.

The elective hospitalisation rate for adults was historically lower than the average for New Zealand but has been similar since 2013/14. This reflects a large increase in the numbers of elective surgical procedures over this period.

Figure 7.2.4.1

Elective surgical and cardiology discharges for Waitematā residents, 2008-2018



Source: NMDS

A more tightly-defined measure of access is the Ministry of Health report for selected surgical procedures. This compares the rate for each DHB with the overall rate for New Zealand by calculating standardised discharge ratios. A ratio higher than 1.0 indicates that access is better than the national average. Access to heart valve replacement and to hip replacement surgery is around four-fifths of the national average, while access to knee replacement surgery is 11% above the national average. Discharge ratios are also substantially higher for angioplasty (a reflection of the cardiac services available in the metro Auckland area).

Figure 7.2.4.2:

Standardised discharge ratios for selected surgical procedures, 2014/15-2017/18

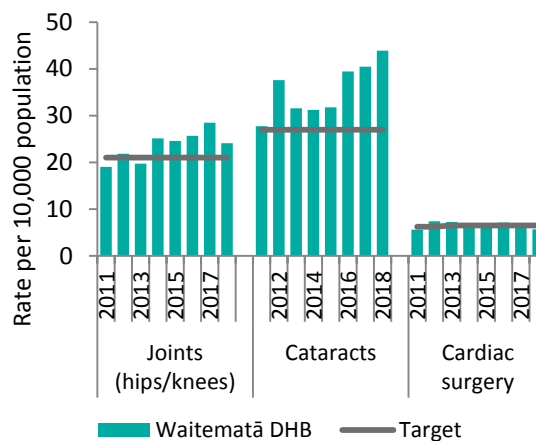
Surgical procedure	Discharge ratios		
	2014/15	2016/17	2017/18
Coronary artery bypass grafts (CABG)	1.06	1.02	1.01
Heart valve replacements and repair	1.09	0.98	0.82
Angioplasties	1.26	1.25	1.2
Total hip replacement	0.95	0.99	0.8
Total knee replacement	1.16	1.28	1.11
Cataracts	0.93	1.14	1.18
Repairs of hernia	0.92	0.98	1.06

(Source: Ministry of Health Standardised Discharge Ratios for selected elective surgical procedures.)

The Ministry also sets target intervention rates for a small number of common, effective procedures, in order to improve equity of access across DHBs. Waitematā residents have a rate of cataract surgery after standardising for age, gender, ethnicity and NZDep06 quintile of 44 operations per 10,000 population. This exceeds the national target of 27 per 10,000 population, is higher than the national rate of 36. For cardiac surgery, Waitematā met the target in 2013-201 but fell just short in 2017 and 2018, funding 5.7 operations against a target of 6.5 per 10,000 population, and in 2018 our residents received treatment at a lower rate than the national average. Hip and knee operation rates exceeded the target, with 24 per 10,000 population against a target of 21.

Figure 7.2.4.3:

Surgical Intervention rates per 10,000 population, Waitematā residents, 2010/11 – 2017/18



Source: Ministry of Health non-financial indicators

7.2.5 Hospital quality and safety

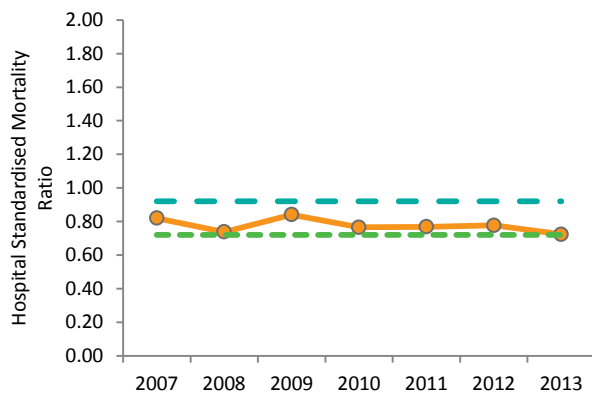
Compared to other DHBs, Waitematā does well on a range of hospital quality and safety markers. Hand hygiene in Waitematā hospitals is good with 89% compliance with the five moments for hand hygiene in 2019, improved from 80% in 2014. Our hospitals assess most of our older patients (97%) for their risk of falling, a rate which has been maintained for five years. Operating theatres use all three parts of the surgical safety checklist in 99% of operations. We also ask patients about their care in hospital and 88% rate it as excellent or very good.

The Ministry of Health monitors the hospital standardised mortality ratio (HSMR), as an early-warning mechanism of deterioration in the quality of care. For Waitematā DHB hospitals, the HSMR has been stable or decreasing for the past four years and is now 72% of the New Zealand average in 2007. For Waitakere hospital, the HSMR level is substantially

lower than the average for comparable hospitals and may indicate that complex patients are transferred to North Shore hospital. Overall Waitemata DHB has the lowest hospital standardised mortality ratio in the country.

Figure 7.2.5.1:

Waitemata DHB hospital standardised mortality ratio trend



Source: Ministry of Health

Figure 7.2.5.2:

North Shore Hospital and Waitakere Hospital standardised mortality ratio compared with other New Zealand facilities, 2013

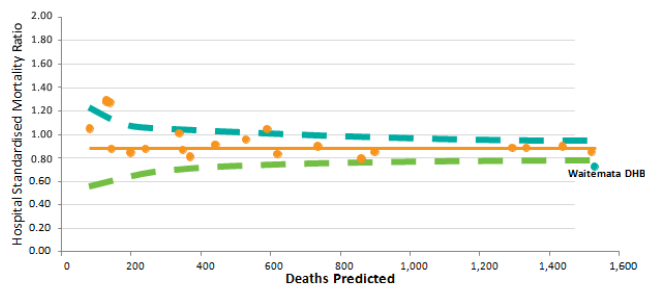


Figure 7.2.5.3

Performance on hospital quality and safety markers 2014-2019

Quality and Safety Markers		Q4 2014	Q1 2019
Falls	% older patients assessed for falls risk (<i>target 90%</i>) (rank amongst DHBs)	97%	97% (2=)
	% older patients assessed as significant risk of falling with an individualised care plan (<i>target 90%</i>)	96%	94%
Hand Hygiene	% of compliant HH moments (<i>target 70%</i>) (rank amongst DHBs)	80%	89% (2 nd)
SSI	Surgical Site Infections rate per 100 hip and knee procedures [<i>target has not been set by HQSC. National Q2 2014 rate 1.2-1.3 infections per 100 ops</i>]	1.0	0.0
	100% primary hip and knee replacements antibiotic given 0-60 minutes before 'knife to skin' [1st incision] (<i>target 100%</i>)	97% (3=) Q2	97% (13=)
	Primary hip and knee replacements right antibiotic in the right dose - Cefazolin 2g or more (<i>target 95%</i>)	97% (4=) Q2	98% (11=)
Surgical Safety	% operations all 3 parts of surgical safety checklist used (<i>target 100%</i>)	98%	99%
	% of audits with engagement scores of 5 or higher (<i>target 95%</i>)	91% (Q2 2017)	96%
Pressure Injury	% of patients with a documented and current pressure injury risk assessment		85%
	% of at-risk patients with a documented and individualised care plan		68%
	Outcome: %of patients with hospital-acquired pressure injury % of patients with non-hospital-acquired pressure injury		0.6% 2.1%

Source: Hospital Quality and Safety Commission; Waitemata DHB

7.2.6 Avoidable causes of hospitalisation

Avoidable hospitalisation (AH) is one measure for examining our ability to improve health and reduce inequalities. Hospitalisation can be avoided by injury prevention, by good quality primary care including management and prevention and by population-based health promotion (such as anti-smoking education).

The most common avoidable hospitalisations are angina, respiratory infections, cellulitis, road traffic injuries and ear, nose, and throat infections. For women, kidney and urinary tract infections are common. Asthma and diabetes are also common amongst Māori and Pacific people.

8 Data and information sources

This section describes the key data sources used in this report. A number of surveys and studies that are specific to certain sections of the report are described in the relevant section.

8.1 Major data sources

Ministry of Health

The New Zealand Ministry of Health (MoH) manages a number of databases including the National Minimum Data Set (NMDS), the Mortality Data Collection, National Non-Admitted Patient Data Collection (NNPAC), Cancer Registration data collection and the Programme for the Integration of Mental Health Data collection (PRIMHD). All diagnoses are classified according to the International Classification of Diseases, 10th Revision, Clinical Modification (ICD-10-AM).

Hospital discharge data

Data on the morbidity of various diseases and conditions are primarily based on all discharges from public hospitals. This is also called the NMDS. Day cases are included in this data but attendances at outpatient clinics or emergency departments are not included. Analysis of hospitalisation data focuses on the number of episodes of care rather than the number of individual people. Hospital data include patients who die in hospital after formal admission. A general issue with using hospitalisation rates for outcome measures is that reductions in such rates can reflect either a real decrease in incidence, improved primary health care (thus reducing the need for hospital care), or a decrease in access to (or provision of) hospital services. The relative importance of these factors is often not known.

Outpatient data

The National Non-Admitted Patient Data Collection (NNPAC) provides nationally consistent data on non-admitted patient activity. Information about Waitematā's population's use of outpatient clinics is drawn from this source.

Mortality data

The mortality statistics maintained by the MoH are based on death certificates completed by medical practitioners, post-mortem reports, coroners' certificates, and death registration forms completed by funeral directors. Supplementary data are obtained from a variety of other sources (such as public hospitals and the National Cancer Registry). While the total numbers of deaths is available to 2013, detailed information about causes of death is only complete up to 2011. Mortality data for 3 years was used in an attempt to ensure sufficient numbers for analysis.

Cancer data

The National Cancer Registry (NCR) was established in 1948 and is now maintained by the MoH. It is a register of people who develop all types of cancer except basal and squamous cell skin cancers. The Cancer Registry Act 1993 requires all pathology laboratories to supply the NCR with a copy of any pathology report with a diagnosis of cancer and related conditions. This data is somewhat older than other NMDS data but is the most recent available.

Programme for the Integration of Mental Health Data (PRIMHD)

The information collected by PRIMHD relates to the provision of secondary mental health and alcohol and other drug services, which are funded by the government. Providers include DHBs and, to a limited degree, non-government organisations (NGOs). The collection does not include information on primary mental health services.

The New Zealand Health Surveys

This national face-to-face survey was completed annually since 2011/12. The results for the two years were combined to give larger samples and more robust information (Ministry of Health 2013). In 2011/12, the survey had a sample size of 12,370 adults (15 years and older) and 4,478 children (0-14 years). The response rate was 79% for adults and 85% for children.

In 2012/13, the survey had a sample size of 13,009 adults (15 years and older) and 4,485 children (0-14 years). The response rate was 80% for adults and 85% for children. Approximately 2000 adults were sampled in the Waitematā district for the two surveys.

The survey provides information on:

- selected health risk behaviours (eg smoking, diet, physical activity, alcohol and drug use)
- the health status of New Zealanders, including their self-reported physical and mental health status and the prevalence of selected conditions including diabetes
- the utilisation of health services
- a number of demographic characteristics such as age, gender, ethnicity and income.

Where estimates are provided for Waitematā populations they may be either direct survey estimates or synthetic estimates. Since the sample sizes for the overall Waitematā population was reasonably large direct estimates can be calculated using only the respondents from Waitematā district. However, for ethnic-specific estimates, sample sizes were too small so estimates were derived by the Health & Disability Intelligence Unit (HDIU), Ministry of Health from a statistical regression model. These estimates were only available for adults.

The Quality of Life Survey

This survey was undertaken in 2012 with a sample size of 2,585 adults (18 years and older) across the Auckland Council area. Of these just over 1,000 lived in Waitematā wards including Whau. The overall response rate was 57%. The information is available by ward, by age or by ethnicity. The survey covers a wide range of questions on topics that are important to wellbeing.

Virtual diabetes register 2013

The Ministry of Health has used data from the community laboratory testing claims system, community pharmaceutical dispensing claims system and from NMDS and NNPaC to construct an anonymised register of individuals diagnosed with diabetes. This can be used to estimate prevalence of diabetes and methods of management.

Census and demographic data

A New Zealand Census of Population and Dwellings is normally held every five years, but the planned 2011 census was delayed until 2013 because of the Christchurch earthquake. Everyone in the country on census night, including visitors to the country, must fill out an individual census form. This census was carried out in March 2013.

The New Zealand Census collects limited health information but contains much social and economic information that was useful in describing the factors that determine health. In addition, the census forms the basis for determining Waitematā's and New Zealand's denominator population when calculating rates.

Projections of population sizes for the years after 2013 and estimates of population sizes between the 2006 and 2013 Censuses have been made. Projections are made on the basis of assumptions about a number of factors including migration, fertility and mortality. However, projections are not always accurate. Some of the detailed analysis of the 2013 Census is not yet available and data from 2006 is shown where this is the case. The projections in this report were prepared in 2018.

Birth registrations

This includes all live and still birth registrations from Births, Deaths, and Marriages.

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Appendix 1: Data table

Section	Indicator	Waitematā Total	Māori	Pacific	Asian	European /Other	NZ
Our Population	Population 2018/19	626,990	61,990	44,150	140,380	380,470	4,925,000
	% of population	100%	9.9%	7.0%	22%	61%	
	National proportions	100%	16%	6.5%	15%	63%	
	Annual growth %	2.3%					1.4%
	Under 5 years - number	40,170	6,910	40,60	11,150	18,050	307,270
	Under 5 years - %	6.4%	11.1%	9.2%	7.9%	4.7%	6.4%
	65+ years - number	88,360	3,270	2,740	11,990	70,360	760,400
	65+ years - %	14.1%	5.3%	6.2%	8.5%	18.5%	15.4%
	75+ years - number	37,430	1,080	810	3,820	31,720	320,200
	75+ years - %	6.0%	1.7%	1.8%	2.7%	8.3%	6.5%
	Under 25 years - %	32%	52%	46%	32%	28%	33%
	Projected pop'n in 2037/38	809,710	84,480	62,260	240,260	422,710	5,737,125
	Projected 75+ in 2037/38	86,020	4,390	2,520	19,300	59,810	681,930
<i>Population health drivers</i>							
Deprivation	% living in NZDep13 Quintile 5 (most deprived) areas	8%	14%	22%	9%	6%	20%
Income, education, employment	% leaving school with qualification 2013	84%	73%	72%	90%	85%	79%
	Unemployment rate 2013	6.9%	13%	14%	9%	5%	7.1%
	Median income 2013	\$30,600					\$28,500
Housing	Housing affordability (house price vs income - Massey index)	31.7 (May 2019)					22.2
	House over-crowding (% people needing 1+ bedrooms)	9.6%	25%	45%	19%	6%	10.1%
Modifiable risk factors 2014-17	Smoking - % of adults	13%	30%	30%	8%		17%
	Obesity - % of adults	25%	42%	68%	11%		31%
	Overweight or obese - % of adults	61%	74%	90%	45%		64%
	Obesity - % of children	9%	10%	25%	8%		11%
	Overweight or obese - % of children	26%	39%	55%	21%		33%
	Healthy diet: % eating recommended servings fruit & veges - adults	35%	31%	31%	23%		38%
	Healthy diet: % eating recommended servings fruit & veges - children	43%	45%	35%	32%		51%
	Physical activity: active 30 minutes per day: % of adults	43%	54%	41%	39%		50%
	Active travel to school: % of children	37%	29%	40%	39%		44%
	Breast feeding (Exclusive at 3 months) - %	60%	47%	49%	60%	63%	56%
	Past year drinking - % of adults	75%	82%	62%	52%	84%	80%
	Hazardous drinking - % of adults	14%	26%	25%	7%	16%	20%

Section	Indicator	Waitematā Total	Māori	Pacific	Asian	European /Other	NZ
<i>Health Status</i>							
Overall health	Self-reported health good, v. good, excellent	90	84	82	89		89%
Life Expectancy	LE Total population 2015-17	84.1	80.9	77.9	90.3	84.2	81.7
	LE Male	82.5					
	LE Female	85.5					
Avoidable mortality	Avoidable deaths per year	721	93	66	48	514	
	Avoidable mortality rate ASR per 100,000, 2011-13	109	234	216	56	103	143
	Potential years of life lost per 100,000	17.6					25.4
Cardio-vascular disease	CVD Hospitalisation ASR per 100,000	980					985
	CVD mortality ASR per 100,000, 2011-13	92	150	165	56	89	118
	Heart failure hospitalisation ASR per 100,000	94					103
	IHD mortality ASR per 100,000 2011-13	47	72	84	25	46	62
	IHD Hospitalisation ASR per 100,000	380					320
	Revascularisation (CABG + angioplasty) ASR per 100,000	71					76
	Angiography / IHD ratio	0.54					47%
	% of pop'n with IHD on triple therapy	52%	50%	60%	45%	51%	
	% of adults medicated for high cholesterol	8.0%	14.4%	8.1%	9.3%	7.1%	8%
	% of adults medicated for high blood pressure	10.5%	15.5%	12.2%	10.8%	9.4%	11.7%
Stroke	Stroke mortality ASR per 100,000, 2011-13	25	36	43	20	24	28
	Stroke hospitalisation ASR per 100,000	112					122
Diabetes	Estimated population with diabetes 2017	28,173	2,341	3,993	Indian: 2,477	19,362	
	% of population with diabetes	4.6%	3.9%	9.3%	Indian: 11%	4.0%	
	% of diabetics having annual check	43%					
	% of diabetics on diabetes medication	60%					61%
	% of diabetics well-managed (HbA1c <64 mmol/mol) May 2018	63%					
	% of diabetics receiving retinal screening	54%					
Cancer	Mortality ASR per 100,000 2013-15	106	174	162	59	107	123
	Average Deaths per year 2013-15	938	61	49	52	776	
	Hospitalisation ASR per 100,000	697					766

Section	Indicator	Waitematā Total	Māori	Pacific	Asian	European /Other	NZ
	Mortality rate ASR per 100,000 25+ yrs, lung cancer	32	90	50	22	30	40
	Mortality rate ASR per 100,000 25+ yrs, colorectal cancer	24.1	18	19	13	26	28.2
	Mortality rate ASR per 100,000 25+yrs, breast cancer	27.6	53	57	13	26	30.7
	Mortality rate ASR per 100,000 25+yrs, prostate cancer	27	40	89	9	27	29.5
	Five-year survival rate for patients diagnosed 2012-2013	68%					
	Breast screening uptake (% of eligible women) Mar 2019	65%	65%	69%	66%	65%	
	Cervical screening uptake (% of eligible women) Mar 2019	71%	61%	64%	68%	73%	
	Colorectal screening uptake (% of eligible people)	60%					N/A
Respiratory disease	% of adults on asthma medication	9.5%	15.0%	10.0%	4.0%	10.7%	11%
	COPD hospitalisation ASR per 100,000		1,457	1,558	204	387	
Mental Health	Population 12-19 (PM's Youth MH Project)	61,976					
	Suicide ASR per 100,000, 2011-13	9.4	15.7	6.8	5.3	9.8	11.5
	Annual suicides	56					
	Diagnosed with mental health conditions (NZ Health Survey)	12.3%					16%
Injury	Injury hospitalisation ASR per 100,000		4,500	4,400	1,700	3,600	
Sexual health	Chlamydia (regional figures)	634					633
Infants, children and young people	Births 2014	7,737					
	Infant mortality rate per 1,000 live births, 2012	2.3					4.7
	Fertility rate (births per 1,000 women aged 15-49)	57					57.7
	% of babies with low birth weight	5.5%					6.0%
	% of mothers enrolled with LMC at 12 weeks	65%					
	Teenage pregnancy rate (births per 1,000 women aged 15-19)	14.6					25
	Caesarean sections as % of deliveries at Auckland City Hospital	29%					
	Rheumatic fever incidence per 100,000 pop'n	2.3					4.1
	% fully immunised at 8 months Q1 2014/15	92%	90%	95%	96%	90%	92%
	% fully immunised at 24 months Q1 2014/15	92%	90%	95%	96%	91%	93%
Older people	% aged > 65 with a disability						59%
	% aged > 65 with IHD	15%					19%

Section	Indicator	Waitematā Total	Māori	Pacific	Asian	European /Other	NZ
	% aged > 65 with diabetes	18%					
	% aged > 65 with arthritis	40%					44%
	% aged > 65 with a mental health disorder	12%					15%
	% aged > 85 years receiving funded support at home	26%					
	% aged > 85 years funded for rest home/private hospital	14%					
	% of pop'n aged 65+ receiving influenza vaccination	63%					
<i>Health services</i>							
Community services	GPs per 100,000 population	62					74
	% of adults who visited GP in last 12 months	79%	77%	75%	70%		77%
	% of adults unable to visit GP (due to transport, cost, availability)	25%	30%	36%	17%		29%
Hospital-based care	Acute hospital discharge rate	12,304					11,475
	Elective hospital discharge rate	2,448					2,922
	Avoidable hospitalisations ASR per 100,000	1,941					1,971
Health targets achievement summary Q1 2014/15	Shorter stays in ED: % admitted or discharged within 6 hours	95%					93%
	Improved access to electives	109%					105%
	Cancer: % commencing treatment/care within 62 days of referral (Q3 2018/19)	88%					88%
	Increased immunisation: % fully immunised at 8 months	92%					92%
	% of smokers receiving advice to quit (Hosp/GP)	97%/99%					95%/88%
	% eligible adults having heart and diabetes checks	90%					86%

This document was prepared by the Planning and Health Intelligence and Health Gain teams led by Simon Bowen, Director of Health Outcomes for Auckland and Waitematā DHBs, with input from:

Wendy Bennett
Patricia Bolton
Mazin Ghafel
Cleo Neville
Tom Robinson
Peter Sandiford
Stacey Strang
Martin Thomas
Michael Walsh
Jean Wignall
Lifeng Zhou

Enquiries to Jean Wignall, email Jean.Wignall@Waitematādhb.govt.nz

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