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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 forms an integral part of the overall planning cycle, informing both funding decisions and the strategic planning process. We have used data from a wide range of sources to provide a picture of the health status and needs of our population. 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 diverse and growing

Auckland DHB serves the population resident on the Auckland isthmus and the islands of Waiheke and Great Barrier. It is an area of stunning natural beauty. Residents enjoy the easy access to green spaces, parks and beaches and Auckland ranks highly among surveys of the world’s most liveable cities.

The Auckland DHB contains approximately 510,450 people, making it the fourth largest of New Zealand’s DHBs. We have an ethnically diverse population with 8.2% Māori, 11% Pacific, 31% Asian and 50% European/Other. Over 40% of our population were born overseas. The age composition of Auckland residents is somewhat different from that observed nationally, with 33% in the 25-44 age group, compared with 26% in this age group nationally. Auckland has 11% of its population in the 65+ age group, compared with 15% nationally.

Our population includes large numbers of young adults

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 Auckland’s population enjoys a high median income, home ownership is increasingly unaffordable. Over-crowding 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. Air pollution from motor vehicles and domestic fires causes around 100 premature deaths per year. Improving the wider determinants of health requires a co-ordinated approach between many agencies and services.

Significant population growth is expected in the future. The population is projected to increase by nearly a third, reaching 671,000 by 2036/37. It will also be an older population with the number of people aged 65 years and older expected to more than double, increasing from the current 56,700 to approximately 111,000, and making up 16% of our population, compared with 11% at present. Our Māori and Asian populations will also grow, with our Māori population projected to grow by 43% and Asian population by 70%. We need to plan and develop our services to meet the needs of this expanding and changing population. We also need to work 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.

1.2 Our population is healthy and health is improving

We have similar health outcomes to New Zealand as a whole, with a life expectancy of just over 82 years. The self-reported health status of our population is ‘excellent’ and we continue to see positive health
outcomes overall. Our mortality rates from cardiovascular disease and cancer, the two biggest causes of avoidable deaths, have declined steadily over the last decade.

The children in our area are experiencing a great start to life with a much lower rate of infant mortality than is observed nationally and our immunisation rates are very high, with nearly 95% of our 8 month old children and 96% of our 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, declined substantially between 2006 and 2013, with rates falling from 16.5% to 11% of adults. We now have the lowest rate of smoking of any DHB in the country. 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.

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 improve mortality further and increase healthy years of life for our residents. In 2013, there were 556 potentially avoidable deaths of Auckland residents (23% of the total), 30% of which are 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.

1.3.1 Reduce inequalities in health

Our Māori and Pacific population live on average six to seven years less and have hospitalisation and mortality 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, the increase is similar to that for Europeans/Others. As a result, there remains a gap between Māori and Pacific life expectancy and that of Europeans/Others. The main drivers of this equity gap are circulatory disease, cancer, diabetes and injuries. For Māori women, respiratory disease is also significant, reflecting high rates of smoking. Nearly 20% of our population lives in areas ranked as highly deprived, concentrated in Rosebank/ Avondale in the west, Mt Roskill and the CBD and the eastern and southern areas from Glen Innes to Mt Wellington and Otahuhu. These people experience poorer health outcomes than those in more affluent areas.

1.3.2 Support healthier lifestyles

Although smoking rates are declining, 11% of our adult population are regular smokers of cigarettes, with higher rates in our Māori (26%) and Pacific (22%) populations. 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

Data from the New Zealand Health Survey reports one in five 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 populations is high with 20% of Māori and 30% of Pacific 2-14 year olds considered obese. Approximately half of our population are meeting daily exercise recommendations and more than 40% are not meeting daily fruit and vegetable consumption guidelines. Our district’s rate of hazardous alcohol consumption when compared with the national rate is higher across all ethnicities except for Asian.

One in five adults and one in ten children are obese

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, nearly 700 Auckland residents were admitted to hospital following a stroke. The mortality rate from stroke is 25 per 100,000 which is similar to New Zealand as a whole. Prompt assessment together with effective targeted treatment and rehabilitation is essential in providing the best outcomes for these patients.

The number of people with diabetes has more than doubled since 2003 and this is now estimated to affect 6% of our population. If the number with diabetes continued to rise at this rate, it would affect 20% of the population in 20 years’ time. In 2013, 10.3% of medical/surgical bed-days were for people with diabetes. 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 Auckland, 72% had an annual health check. Around half (53%) people with diabetes 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 72% of diabetics have had the recommended retinal screening in the public sector. In 2013, 10.3% 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 6% of our population overall, but 12% of our Pacific and Indian people

Cardiovascular diseases are the largest cause of death and as much as 70% of cardiovascular disease is avoidable. Although our risk assessment rates are high (90% of eligible adults), only 56% 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.

1.3.3 Effective management of cardiovascular disease and diabetes

1.3.4 Rapid identification and treatment of cancer

There are 2,200 new cancer registrations in Auckland every year. Cancer causes 28% 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 mortality and morbidity from cancers. Our one year survival rate from all cancers is 78.6%, one of the highest in the country. However, if Auckland DHB had the same five-year survival rates as Australia, 25% of women who die of breast cancer within five years would survive for longer (7 per year). Similarly, 13% who die of bowel cancer within five years would survive for longer (8 per year). For melanoma the difference is 46% (11 per year) and for non-Hodgkin lymphoma it is 25% (5 per year).

Public screening programmes for breast and cervical cancer are well-established; despite this, one quarter of all eligible women do not participate. Screening rates are lowest in Māori with only 57% of eligible women participating in cervical screening and 69% in breast screening.

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. Currently 62% of cancer patients wait less than 62 days for treatment or other care to commence compared with the target of 85% (by June 2016).

![Lung, colorectal and breast cancer are major killers](image)

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 43,000 people) as suffering from common mental illnesses. Around 3.5% of our population (17,000 people) are accessing secondary mental health services with this rate increasing yearly. 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 lower than the national rate, we still lost 41 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 best start in 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 mortality 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 lead maternity carer (LMC) 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 (56%) is lower than the national figure (63%), and further lower in Māori children (47%). 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 96% of children fully immunised at 24 months of age. However, immunisation rates are not as high for Māori as for non-Māori. We are below target for completion of core Well Child/Tamariki Ora checks in the first year of life and the percentage of four-year-olds receiving comprehensive health checks before school entry.

![Healthy children become healthy adults](image)

Children are admitted to hospital most commonly for injuries, gastroenteritis, asthma and infections. In 2012/13, there were 21.5 admissions per 100,000 population aged 0-14 for injuries resulting from domestic assault, neglect or maltreatment of children.
The incidence of rheumatic fever (3.5 per 100,000 population) is lower than the national average, however significant inequalities are present for Māori and Pacific populations.

1.3.7 Older people

The large majority of older people in Auckland DHB are able to live unassisted in their own homes. Over half (52%) of people who are 85 years or older receive no funded living assistance, while 26% are funded to live in a rest home or private hospital and 22% have some funded support at home. Older people have greater needs 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.

Over half of people aged 85+ live with no funded support

1.3.8 Meeting future health needs

Between 2007 and 2013, acute admissions to hospital increased by 20% and ED attendances increased by almost 60% for Auckland 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. 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.
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 Auckland 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 Locality Profiles and interactive presentation of demographic and health data using the Statplanet mapping tool, available on the internet.¹

For key topic areas, we will undertake more detailed assessments and these will be published as separate documents. For further information, contact the Planning and Health Intelligence Department, Auckland and Waitemata DHBs.

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 Auckland 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 many Māori within Auckland enjoy better health than Māori in other parts of New Zealand and Māori life expectancy in Auckland DHB is 78 years, 2.4 years above the national average for Māori across New Zealand (75 years) at birth (2013), 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 Auckland 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.
- 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 development of Māori Health Needs Assessment for Auckland DHB in the future would need to factor in the engagement and involvement of Māori in the community.
3 Our Population

Auckland DHB serves the population resident on the Auckland isthmus and the islands of Waiheke and Great Barrier. It is an area of stunning natural beauty. Residents enjoy the easy access to green spaces, parks and beaches and Auckland ranks highly among surveys of the world’s most liveable cities. The Auckland Council divides the area between a number of local boards. These are:

- **Waitemata**, stretching from Westmere in the west to Parnell in the east and including the central business district and the suburbs of Western Springs, Grey Lynn, Arch Hill, Newton, Herne Bay, Ponsonby, St Marys Bay, Freemans Bay, Eden Terrace, Grafton and Newmarket;
- **Albert-Eden**, covering from coastal Pt Chevalier in the west across to Greenlane and including Mt Albert, Mt Eden, Waterview, St Lukes, Balmoral, Sandringham, Morningside, Kingsland, and Epsom;
- **Orakei**, covering Remuera, Ellerslie, Meadowbank, St Johns, Ōrākei, Mission Bay, Kohimarama, Saint Heliers and Glendowie;
- **Puketapapa**, bordering the Manukau Harbour, including Three Kings, Mt Roskill, Hillsborough, Waikowhai, Lynfield and Wesley;
- **Maungakiekie-Tāmaki** which covers an area from the Tamaki estuary west across to the inner Manukau Harbour and includes Glen Innes, Point England, Tamaki, Panmure, Mount Wellington, Penrose, Onehunga, Te Papapa and Royal Oak;
- **Whau** (part) in the west of the isthmus, with the suburbs of Kelston, Rosebank, New Lynn, Avondale, New Windsor, Blockhouse Bay and Green Bay;
- **Otahuhu**, part of the Otahuhu-Mangere local board area;
- **Waiheke**;
- **Great Barrier**.

There are 510,450 people living in the Auckland district in 2016/17, accounting for approximately 10.8% of the national population. The age composition of Auckland residents is somewhat different from the national picture, with 33% in the 25-44 age group, compared with 26% in this age group nationally. Auckland has 11% of its population in the 65+ age group, compared with 15% nationally.

By ethnicity, our population is 8.2% Māori, 10.8% Pacific, 31% Asian and 50% European/Other. Just over one-third of Māori and Pacific people live in the south-east of the district in Maungakiekie-Tamaki with two-thirds spread across the remainder of the district. Half of our Indian population lives in the south-west in Puketapapa and Whau, while our Chinese and other Asian population is fairly evenly spread but sparser in the south-west. Two-thirds of the European/Other population live in the north/central wards of Waitemata, Orakei and Albert/Eden. Our Pacific population is predominantly Samoan (44%), Tongan (31%) and Cook Island Māori (17%). Our Asian population is diverse but is predominantly Chinese (41%) and Indian (33%). Auckland’s population is urban with only 0.2% of our population living in rural areas (Great Barrier Island). (Source: Statistics New Zealand, population projections based on 2013 census.)
By age group, our population is 17% children (under 15 years), 16% young people (15-24 years), and 11% older people (65 years or older). However our Māori, Pacific and Asian populations are considerably younger with 46% of Māori and Pacific and 35% of Asians under the age of 25, compared with 27% for European/Other people. These populations are also notable for the small proportion of older people they contain (7% or less of their total populations).

**Figure 3.2: Age structure by ethnic group**

By 2036/37 Auckland’s population is projected to increase by 160,000 people, making it 31% larger than it is now. The population will also be considerably older with the number of people aged 65 years and older expected to double, increasing from the current 56,700 to approximately 111,000, and making up 16% of our population, compared with 11% at present. Our Māori and Asian populations will also grow, our Māori population by 43% and Asian by 70%. The Pacific population is projected to grow by 17%. We need to plan and develop our services to meet the needs of our changing population.

**Figure 3.3: Age structure of Auckland DHB in 2016/17 and 2036/37**

**Figure 3.4: Projected change in Auckland DHB population aged > 65 years, 2036/37**

**Figure 3.5: Projected change in Auckland DHB population by ethnicity, 2036/37**

Source: Census 2013

Source: Statistics NZ Population projections based on 2013 census
3.1 Migrants

Auckland has a large migrant population. Two out of five (42%) Auckland residents were born overseas (compared to 25% nationally). This includes 63,113 people of European/Other ethnicity, 23,486 Pacific people and 115,700 Asian people; as a percentage, 82% of Asian people, 45% of Pacific people and 27% of people of European/Other ethnicity. Of these migrants, 28% have lived in New Zealand less than 5 years.

English language ability is important in order to participate in New Zealand society. Among Auckland’s adults in 2013, it was estimated that 4.8% could not hold a conversation in English about everyday things. The Auckland DHB 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 Auckland 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, NZ Health Survey pooled results for 2011-2013, and from the Quality of Life (QoL) Survey 2012 (note: QoL data includes all of Whau ward and all of Mangere-Otahuhu 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 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, Auckland has a similar profile to New Zealand as a whole. Almost one in five (19%) of our total population, and 22% of children under five years, live in the poorest areas (NZDep13 decile 9 and 10, or Quintile 5), and 23% of our population live in areas of the wealthiest two deciles. Māori and Pacific people are much more likely to live in NZDep13 Quintile 4 and 5 areas. The most deprived areas are concentrated in Rosebank/Avondale in the west, Mt Roskill and the CBD, and the eastern and southern areas from Glen Innes to Mt Wellington and Otahuhu. The least deprived areas are Orakei, Glendowie, Remuera, Herne Bay and Mt Eden.

![Figure 4.1.1: Deprivation by ethnicity](image)

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](image)
Figure 4.1.3: Geographic spread of deprived areas, Auckland DHB

ADHB region and NZ Deprivation Index by Census Area Unit

NZ Deprivation Index
- Decile 1 to 2 (Least deprived)
- Decile 3 to 4
- Decile 5 to 6
- Decile 7 to 8
- Decile 9 to 10 (Most deprived)
4.2 Income, Education and Employment

Economic factors such as income, occupation and education are powerful determinants of health. The median annual income for Auckland individuals aged 15 years and over in 2013 was $31,500, higher than the national figure of $28,500. When the high cost of housing in the Auckland region is taken into account, disposable income is lower than this figure suggests. While 29% of European/Other people have an income of under $20,000 per year, the percentage is much higher for Māori (41%), Pacific (47%) and Asian people (48%). 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 (24%) felt they did not have enough income to meet their everyday needs.

Overall 12% of people in Auckland left school with no qualification, but this figure is much higher for Pacific people (30%) and Māori (24%). By contrast, 10% of Asians have no qualifications. At the high end of educational achievement, 38% of Asian people have tertiary or higher qualifications and 39% of European/Other people, but only 20% of Māori and 10% of Pacific 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 Auckland region, crowding is much more common amongst Māori (25% living in overcrowded houses), Pacific (45%) and Asians (19%) than Europeans/Others (6%) (Census 2013). Within Auckland DHB, overcrowding is most common in Mangere-Otahuhu (43% of people living in overcrowded houses) and Maungakiekie-Tamaki (23%), but in every board except Waiheke Island and Orakei, the proportion of people living in crowded housing is higher than the national average. Across the region, 22% of children aged under 15 years live in crowded houses. Nationally 3% of households use no heating fuel, however in Auckland DHB the figure is 7.6%. A high proportion of households in Waitemata board area (15.8%) report using no fuel, possibly reflecting a large number of apartments. There are also high proportions using no fuel in Mangere-Otahuhu (12.3%), Great Barrier (7.6%), Maungakiekie-Tamaki (7.1%) and Whau (6.3%). The Auckland region has the least affordable housing for purchase in New Zealand, with an affordability index (the ratio of cost to income) of 29.9, 36% higher than the New Zealand average of 21.8 (Massey affordability index report Nov 2013). 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%. Renting is common in Auckland, with 40% of households living in rented housing, compared with 29% nationally. The 2013 census recorded 2,040 Auckland residents as homeless (living in mobile and improvised dwellings, roofless or rough sleepers, or living in boarding house, night shelter or welfare institution).

At the time of the 2013 census, Māori and Pacific people were more than twice as likely to be unemployed as other ethnicities, at 14% and 16% respectively, compared with 5% of Europeans/Others and 10% of Asian people.

Figure 4.2.1: Percentage of population aged 15+ years with income under $20,000 by ethnicity, 2013

Source: Census 2013

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.
4.4 Environmental factors

Auckland 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, Auckland DHB had 56 premature deaths per year due to motor vehicle pollution and 37 due to pollution from domestic fires. Māori made up 11% of these deaths (6 and 4 respectively). Air pollution also causes hospital admissions for cardiac and respiratory problems. In Auckland in 2006, motor vehicle pollution caused 9 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 7 cardiac admissions; they also caused 12 respiratory admissions, of which 4 were for children under 5 years old and 3 were for children aged 5-14 years. The Quality of Life Survey 2012 found that 22% of Auckland 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 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 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 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 that about half (48%) of people in Auckland feel that there is a sense of community where they live and 62% feel that people can usually be trusted. Over one-third (38%) of people feel isolated some of the time. Many older people, and older women in particular, live alone. Four out of five people (80%) 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 Auckland DHB households compared with 77% of households nationally. A mobile phone is available in 86% of Auckland households. 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 33% 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.
4.6 Violence and crime

Crime affects not only the health of individual victims but also community life. Fear of crime can also influence the 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.

Three quarters of people (74%) think unsupervised children are safe in their area, but 42% do not feel safe walking alone at night in their neighbourhood. Police records of offences in general and of violent offences peaked in 2009 and have declined since, but have not dropped back to pre-recession levels. This is in line with national trends.

There were 29 hospitalisations per 100,000 population for domestic violence in Auckland in 2014. The rates were very different between ethnic groups, with 135 per 100,000 population for Māori, 58 per 100,000 population for Pacific people and 14 per 100,000 population for Europeans/Others. These figures are not age-standardised and the difference between ethnic groups partly reflects the age distribution of each population.

Figure 4.6.1: Recorded rates of violent offences 1996-2013

![Recorded rates of violent offences 1996-2013](image)

Source: Statistics NZ, Offences recorded by NZ police authorities

4.7 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 Auckland, 21% do not know their iwi and approximately 82% cannot speak Te Reo Māori. Many people in Auckland are immigrants and may be dislocated from their culture. This is particularly the case for Asians, of whom 81% are immigrants, and Pacific people (43% 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 estimated the burden of disease across New Zealand. 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, four lifestyle factors have a major impact: smoking (9.1% of health loss), obesity (7.9%), physical inactivity (4.2%) and poor diet (3.3%). Three further factors can be modified by lifestyle changes and by pharmaceuticals: high blood pressure (6.4% of health loss), high blood glucose (4.6%) and high cholesterol (3.2%) (Health Loss in New Zealand, 2013). Obesity may be reduced by surgery. These risk factors are present in the Auckland population at rates of 10.1% medicated for high blood pressure, 8.3% medicated for high cholesterol and 6% with diabetes (NZ Health Survey 11/13, VDR 2013).

Figure 5.1: Attributable burden of disease (percentage of DALYs) for selected risk factors, 2006

Notes: Attributable burdens are not additive across risk factors.
Source: Health Loss in New Zealand, 2013

5.1 Smoking

Smoking is the most significant cause of premature and preventable death in New Zealand. Eleven per cent of Auckland adults are regular smokers of cigarettes (one or more per day). This is considerably lower than for New Zealand as a whole (15%) and has reduced from 16% in 2006. However, rates are higher amongst some groups, notably Māori (26%), Pacific people (22%) and younger adults. The proportion of Year 10 students who smoke has declined dramatically over the last 10 years, from 16% in 2003 to 5.5% in 2013 (ASH Year 10 surveys). For all ethnicities except Māori, women have lower smoking rates than men. In the quarter July to September 2014, nearly all smokers who are admitted to hospital (96%) and all those who see their family doctor receive brief advice to quit smoking. Auckland 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, Auckland DHB

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

Source: Census 2013
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 Auckland DHB, only 60% of adults eat the recommended daily intake of vegetables and only 57% eat the recommended daily intake of fruit, although women have a healthier diet than men. Māori, Pacific and Asian people are also less likely to have the recommended intake of vegetables. Children in Auckland tend to have healthier eating habits than their national peers, although still far from ideal, and they are more likely to eat fast food. At three months of age, 60% of babies seen by Plunket in Auckland are fully breastfed, compared with 56% nationally. European/Other babies are more likely to be breastfed than Māori, Pacific and Asian babies, in Auckland DHB and New Zealand.

Physical activity is protective against health conditions such heart disease, type 2 diabetes and certain cancers. It also helps to reduce the prevalence of overweight and obesity. Half of Auckland adults are regularly physically active and undertake at least 30 minutes of exercise five days a week. Pacific and Asian people are the least likely to be physically active (47% and 45% respectively). Active travel to work or school is a good source of physical activity. Just under half of New Zealand school children walk, cycle or otherwise travel actively to school. Māori (53%) and Pacific (56%) are a more likely to travel actively to school than Asian (48%) and European/Other children (45%; NZ Health Survey 2011). 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). Half (51%) of women and 61% of men in Auckland are overweight or obese. One in five of our adult population is obese (similar to the rate in 2003), compared to 30% of the national population. However, obesity is much more common in our Māori (46%) and Pacific (61%) populations and much less common in our Asian population (12%). Amongst children aged 2-14 years, 4% of European/Other and Asian are obese, but 20% of Māori children and 30% of Pacific children are obese. Overall, 9.9% of Auckland children are obese and 26.8% are overweight or obese.

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

Source: Plunket NZ

**Figure 5.2.2: Obesity (age-standardised) by age group and ethnicity, 2011-13**

Source: NZ Health Survey 2011-2013; obesity defined as body-mass index >= 30 (adults) or above Cole cut-offs (children)
5.3 Alcohol and Drugs

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 5.6% of health loss (Health Loss in New Zealand 2013).

Four out of five (80%) adults and young people in New Zealand drink alcohol. In Auckland, 18% of adults drink alcohol in a way that is classified as hazardous. Men are far more likely to be hazardous drinkers (25%) than women (10%). The rate for Māori (38%) is much higher than for Pacific (24%), Asian (4%) and European/Other (25%) ethnicities.

Illicit drugs account for 1.2% of health loss from all causes (Health Loss in New Zealand 2013). The 2007/08 survey of drug use in New Zealand found that marijuana was the most commonly used illegal drug in Auckland and New Zealand with about 15% of people having used it in the last year. Māori were particularly likely to have used it (39%), whilst its use was very rare amongst Asians.

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 offences records show that possession of marijuana constituted 68% of recorded illicit drug possession offences in Auckland in 2013, and amphetamine/methamphetamine constituted 22%. 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.

![Figure 5.3.1: Proportion of adults who are hazardous drinkers (age-standardised), 2011-13](source: NZ Health Survey 2011-2013)
6 Health Status

6.1 Overall health

Overall, the self-reported health status of Auckland residents is excellent. More than 91% of adults in Auckland report that their overall health is excellent, very good or good. (New Zealand Health Survey 2011-13) 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 diseases causing health loss, measured in DALYs, are cancers (17.5% of the total burden), vascular and blood disorders including coronary heart disease and stroke (17.5%), mental disorders (11.1%), musculoskeletal disorders especially back disorders (9.1%) and injury (8%). Together these account for almost two thirds of the burden of all disease. Other important conditions are chronic obstructive pulmonary disease (COPD, 3.7%) and diabetes (3%). (Health Loss in New Zealand 2013)

6.1.1 Life expectancy

In 2013-15 life expectancy at birth in the Auckland DHB area was 82.4 years, a little higher than the national figure of 81.7 years. For New Zealand as a whole, life expectancy increased by 2.5 years over the last decade. For Auckland, the increase was 2.4 years.

Life expectancy varies across ethnic groups with Māori living 78.0 years on average and Pacific people 76.9 years, while Europeans/Others live 83.5 years. Women live 2.8 years longer than men. While total life expectancy for Māori and Pacific has increased, it has done so at the same rate as life expectancy of European/Other people and the long-term trend in the gap has remained at around seven years.

Circulatory disease, cancer and diabetes accounted for over half the difference in life expectancy between Māori and Pacific people when compared to European/Other ethnicities in Auckland. Accidents were also a large contributor to the gap for Māori men and respiratory diseases were important for Māori women.
6.1.2 Life expectancy (continued)

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

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

Figure 6.1.1.3: Causes of life expectancy gap between Māori/Pacific and European/Other men in Auckland DHB, 2009-2011

Figure 6.1.1.4: Causes of life expectancy gap between Māori/Pacific and European/Other women in Auckland DHB, 2009-2011
6.1.3 Total Mortality

About 2,500 people die each year in Auckland and 82% of these are aged over 65 years. The most common causes of death are cardiovascular disease (31%), cancers (28%), respiratory diseases (9%) and nervous system diseases (5%). The age-standardised mortality rate in 2015 was 340 deaths per 100,000 population, compared with 371 for New Zealand as a whole. Mortality rates are highest in Mangere-Otahuhu (age-standardised 850 per 100,000 population, standardised to Auckland Region) and Mangakiekie-Tamaki (790 per 100,000 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 age-standardised rate of potential years of life lost (PYLL) per 1,000 people was 18 for Auckland, compared with 25 for New Zealand as a whole. This suggests that Auckland is doing better than average at avoiding mortality amongst younger people. Māori and Pacific lose three times as many years of life as European/Others per 1,000 population.

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

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

Figure 6.1.2.3: ASR of Potential Years of Life Lost per 1,000 population, 2013

Figure 6.1.2.4: ASR of Potential Years of Life Lost per 1,000 population, by ethnicity and gender, Auckland DHB residents, 2011-2013
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, 556 deaths (23% of the total) were considered potentially avoidable. The leading causes of avoidable mortality in Auckland are ischaemic heart disease (IHD), lung cancer, unintentional injuries, colorectal cancer, diabetes, stroke and chronic obstructive pulmonary disease (COPD). For women breast cancer is also important and for men intentional injuries are important.

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

<table>
<thead>
<tr>
<th>Cause</th>
<th>Female</th>
<th>Male</th>
</tr>
</thead>
<tbody>
<tr>
<td>Age-standardised rate per 100,000 population</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Breast Cancer</td>
<td>12.2</td>
<td>14.3</td>
</tr>
<tr>
<td>Lung Cancer</td>
<td>11.6</td>
<td>12.5</td>
</tr>
<tr>
<td>Ischaemic heart disease</td>
<td>8.8</td>
<td>29.4</td>
</tr>
<tr>
<td>Colorectal cancer</td>
<td>6.8</td>
<td>9.6</td>
</tr>
<tr>
<td>COPD</td>
<td>5.7</td>
<td>8.2</td>
</tr>
<tr>
<td>Diabetes</td>
<td>5.5</td>
<td>7.0</td>
</tr>
</tbody>
</table>

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

- Mortality prevented by avoiding occurrence of disease
- Mortality prevented by early detection of disease
- Mortality prevented by treatment
- Total

<table>
<thead>
<tr>
<th>Ethnicity</th>
<th>Rate per 100,000</th>
</tr>
</thead>
<tbody>
<tr>
<td>Māori</td>
<td></td>
</tr>
<tr>
<td>Pacific</td>
<td></td>
</tr>
<tr>
<td>Asian</td>
<td></td>
</tr>
<tr>
<td>Other</td>
<td></td>
</tr>
</tbody>
</table>
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 leading cause of death in Auckland DHB. It is also the 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 Auckland DHB population was slightly lower than the New Zealand rate (105 per 100,000 population vs 118 per 100,000 population). The rate for men (128 per 100,000 population) was much higher than for women (85 per 100,000 population). Amongst men, it was more common in Māori (193 per 100,000 population) and Pacific (205 per 100,000 population) than Asian (84 per 100,000 population) and European/Other ethnicities (121 per 100,000 population). The rates for Māori and Pacific women were also high at 142 and 130 respectively per 100,000 population. For both Auckland and the country as a whole, the mortality rate for CVD has reduced from over 140 per 100,000 population since 2007.

Source: Ministry of Health Mortality data collection
Within Auckland DHB, 90% of eligible adults have been assessed within the past five years for their risk of cardiovascular disease and diabetes. One in nine Auckland adults takes medication for high blood pressure, and one in 11 takes medication for high cholesterol (NZ Health Survey 2011-13). A higher proportion of Māori and Pacific people are on these medications than European/Other and Asian people, reflecting higher rates of cardiovascular disease (CVD) 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 aspirin, a cholesterol-lowering drug and a blood pressure lowering drug. Of Auckland residents who have been admitted to hospital with CVD in the previous 10 years, 56% are on triple therapy, just below the national average of 58%. This rises to 65% amongst people who also have diabetes. Men (57%) are more likely than women (48%) to be on triple therapy. (Atlas of Healthcare Variation, 2011) Rates of cardiac investigation and surgery carried out in public hospitals for Auckland residents are similar to the national average.

**Figure 6.2.1.3: Heart and Diabetes Checks**

[Graph showing trends over years]

**Source:** Ministry of Health quarterly non-financial indicators

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 age-standardised mortality rate from stroke is 25 per 100,000 which is similar when compared to 28 per 100,000 for New Zealand as a whole. There were 695 strokes leading to hospital admission in Auckland DHB residents in the year to March 2014. Approximately 18% 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 five excess stroke deaths per year for Auckland DHB.

Managing these events according to the New Zealand Stroke Management Guidelines (2012) is essential for improving and maximising 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. 7.9% of eligible stroke patients received thrombolysis (breaking down blood clots using medication), above the national target of 6%. This has ranged between 5% and 14% over the past two years. Four out of five patients (80%) were cared for on a dedicated stroke unit, achieving the national target. Around one in four stroke patients is transferred from acute care to rehabilitation, and of these, between a half and two-thirds 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 Auckland have some form of diabetes, 6% of the population. The number has doubled since 2003 and if it continued to rise at this rate, it would affect 20% of the population in 20 years’ time.

Diabetes prevalence increases dramatically with age reaching 20% of the population for European/Other/Asian people by the time people are in their 60s. From the age of 40, prevalence in Māori is increasingly higher than in European/Other/Asian and is even higher for Pacific people and Indians.

The presence of diabetes can lead to cardiovascular disease, blindness, dementia, kidney disease and foot problems which may lead to amputations. 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 Auckland, 72% had an annual health check. Just over half (53%) of people with diabetes aged 15-74 years are known to be well-managed (defined as having HbA1c of <64 mmol/mol). Within the last two years, 60% of diabetics 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. Auckland’s rate of dispensing regular insulin or metformin in people with diabetes aged 25 and over was 51.7%, the same as the national rate. 18% filled at least one insulin prescription, 58% filled a metformin prescription and 29% filled a sulfonylurea prescription.

Auckland has average rates of admission for diabetic ketoacidosis (70 admissions, 0.2% of people with diabetes) and hypoglycaemia (118 admissions, 0.4% of people with diabetes) (Atlas of Healthcare Variation 2014). Admission rates may be an indicator of the quality of management in primary care and/or Emergency departments. In total, people with diabetes used 41,558 medical/surgical bed days in 2013, which was 10.3% of all medical/surgical bed days. Between 2006 and 2013, Auckland 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 0.20% and 0.25%. In 2013 the actual number of amputations was 33.

Figure 6.2.3.1: Diabetes prevalence in Auckland DHB, 2013

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
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 second highest cause of death in Auckland, accounting for 28% of deaths. Amongst our residents, the age-standardised mortality rate (ASR) from cancer for 2011-13 was 110 per 100,000. This is lower than the national ASR of 124 per 100,000 population. The Māori mortality rate (158 per 100,000 population) and Pacific mortality rate (188 per 100,000 population) are substantially higher than that of European/Other ethnicities (110 per 100,000 population), whilst Asian people have the lowest rate at 61 per 100,000 population. Since 2009, the ASR for Auckland fell faster than for New Zealand as a whole.

The table to the right shows the ten most common cancers causing death in the Auckland DHB for the 3 year period 2011-2013. Sixty-seven per cent of all cancer deaths in Auckland are covered in the top 10 and 38% are due to lung, colorectal and breast cancer. Just over half of all cancer deaths (54%) occur in the people aged under 75 years, but almost three-quarters of those dying of breast and liver cancer are aged under 75 years.

The most significant causes of cancer mortality in adults are lung cancer (35 per 100,000 population aged 25 years and over), colorectal cancer (24 per 100,000 population aged 25 years and over) and breast cancer (26 per 100,000 women aged 25 years and over). The lung cancer mortality rates for Māori men and women (64 and 108 per 100,000 population aged 25 years and over) and Pacific men (108 per 100,000 population aged 25 years and over) are two to three times the rates for European/Other men (34 per 100,000 population aged 25 years and over).

**Figure 6.2.4.1: Age standardised mortality rate per 100,000 population all cancers, three year rolling average, 2003-05 to 2011-13**

Source: Ministry of Health Mortality data collection; ICD codes C00-C96, D45-D47

* Data represent the number of deaths for a 3 year period

### Cancer type

<table>
<thead>
<tr>
<th>Cancer type (ICD 10 code)</th>
<th>Age (years)</th>
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<tbody>
<tr>
<td></td>
<td>0-74</td>
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<tr>
<td><strong>Lung cancer</strong></td>
<td>(C33-C34)</td>
</tr>
<tr>
<td><strong>Colorectal and anal cancer</strong></td>
<td>(C18-C21)</td>
</tr>
<tr>
<td><strong>Female breast cancer</strong></td>
<td>(C50)</td>
</tr>
<tr>
<td><strong>Prostate cancer</strong></td>
<td>(C61)</td>
</tr>
<tr>
<td><strong>Pancreatic cancer</strong></td>
<td>(C25)</td>
</tr>
<tr>
<td><strong>Liver cancer</strong></td>
<td>(C22)</td>
</tr>
<tr>
<td><strong>Non-Hodgkin lymphoma</strong></td>
<td>(C82-C85, C96)</td>
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<tr>
<td><strong>Leukaemia</strong></td>
<td>(C91-C95)</td>
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<tr>
<td><strong>Malignant melanoma of skin</strong></td>
<td>(C43)</td>
</tr>
<tr>
<td><strong>Stomach cancer</strong></td>
<td>(C16)</td>
</tr>
<tr>
<td><strong>All other cancer</strong></td>
<td></td>
</tr>
</tbody>
</table>

**Total** 1,051 912 1,963

Source: Ministry of Health mortality data collection
On average, 1,800 people are diagnosed with cancer per year in Auckland DHB, some of whom have more than one cancer. The age-standardised rate of cancers registered in the period 2009-2011 was 418 per 100,000 population, lower than the national figure of 443 per 100,000 population. The most commonly registered cancers were breast, prostate, colorectal, 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 men have higher rates than European/Other men. Cancer hospitalisation rates tend to mirror the pattern for mortality, but skin cancer is the top cancer for hospitalisations.

The one-year relative survival rate for cancer in Auckland DHB is 79%, which is the fourth-highest in New Zealand. However, Australia performs better than New Zealand in treating cancers. If Auckland DHB had the same five-year survival rates as Australia, 25% of women who die of breast cancer within five years would survive for longer (7 per year). Similarly, 13% who die of bowel cancer within five years would survive for longer (8 per year). For melanoma the difference is 46% (11 per year) and for non-Hodgkin lymphoma it is 25% (5 per year).

Rapid diagnosis and treatment of cancer increases the options for treatment and the chances of survival. In Auckland DHB we undertake routine screening for cervical and breast cancers. Cervical screening is offered every three years and 75% of eligible women (25-69 year olds) have taken this up, but this varies from 57% for Māori, and 60% for Asian women to 84% for Pacific women and 86% for European/Other women. Breast screening is offered every two years and 71% of eligible women (45-69 year olds) have taken this up, although Pacific women have a higher rate at 89%.

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. Currently 62% of cancer patients wait less than 62 days for treatment or other care to commence, compared with the target of 85% by June 2016.

6.2.4.2: Cancer mortality by ethnic group (ASR per 100,000 aged 25+ years) 2011-13 combined

![Cancer mortality by ethnic group](https://example.com/cancer_mortality_graph.png)

Source: Ministry of Health mortality data collection

Figure 6.2.4.3: Most common causes of cancer registrations for Auckland DHB residents, 2009-2011 combined

<table>
<thead>
<tr>
<th>Type</th>
<th>Registrations</th>
<th>One-year relative survival rate</th>
<th>Deaths</th>
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<tbody>
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<td>Female breast cancer</td>
<td>832</td>
<td>97%</td>
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</tr>
<tr>
<td>Prostate cancer</td>
<td>678</td>
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<td>112</td>
</tr>
<tr>
<td>Colorectal cancer</td>
<td>638</td>
<td>80%</td>
<td>250</td>
</tr>
<tr>
<td>Melanoma</td>
<td>551</td>
<td>97%</td>
<td>87</td>
</tr>
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<td>Lung cancer</td>
<td>495</td>
<td>33%</td>
<td>383</td>
</tr>
<tr>
<td>Other</td>
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</tr>
<tr>
<td>Total</td>
<td>6,584</td>
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</tr>
</tbody>
</table>

Source: NZ Cancer Registry, NZ Mortality data collection

Figure 6.2.4.4: Percentage of women up to date with cervical and breast screening June 2014, Auckland DHB

![Cervical and breast screening](https://example.com/cervical_breast_screening_graph.png)

*BSA figure for Other ethnicities includes Asian women

Source: National Screening Unit
### 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 200 deaths per year, or 8% of the total in Auckland DHB.

Whilst the prevalence of asthma for Māori (14%) and Pacific (11%) is slightly higher than that of European/Other ethnicities (8%) found by the NZ Health Survey 11/13, Māori and Pacific hospitalisation rates are more than four times that of Asians and Europeans/Others, at 240 and 283 admissions, compared with 51 admissions per 100,000 population aged 15 years and over for European/Other and Asian people. Women have more than double the hospitalisation rate of men. Asian people had both a low asthma prevalence (4%) and low hospitalisation rates (51 admissions per 100,000 population aged 15 years and over). Around 10% of non-Asian Auckland residents are taking medication for asthma. Amongst people admitted to hospital with a primary diagnosis of asthma (or wheeze in children aged 0-14 years), Auckland had significantly lower rates than average for dispensing one or more asthma inhalers in the year following their admission (63 compared with the New Zealand average of 81 per 1,000 population).

COPD is a particular burden for Māori and Pacific people. Age-standardised hospitalisation rates (ASR) per 100,000 for these groups are 1,611 (Māori) and 1,419 (Pacific), more than three times as high as those of European/Other ethnicity (394 per 100,000 population), and higher than for Māori and Pacific in New Zealand as a whole. One of the main risk factors for COPD is smoking.

### 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. 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 41 suicides per year in Auckland DHB over the five years to 2011, a disproportionate number of whom were young and Māori. Auckland’s age-standardised suicide rate of 8.5 per 100,000 population is 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.
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 in Auckland DHB report that they have depression, anxiety or bipolar disorder (equivalent to around 43,000 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. In the Auckland DHB population, 3.6% (approximately 17,000 people) used secondary mental health services in 2013. Utilisation rates were higher amongst young people (15-24 years) although rates remained high in later adulthood (25-49 years) for Māori and Pacific. Māori have double the utilisation rates of Pacific and European/Other ethnicities in all age groups except children aged 0-9 years and people aged over 65 years. Asian people have very low utilisation 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 (1,996 per 100,000 population) compared with European/Other ethnicities (733 per 100,000 population). Conversely, European/Other people have a higher prevalence of depression (1,117 per 100,000 population) than do Māori (800 per 100,000 population), Pacific (345 per 100,000 population) and Asian (252 per 100,000 population). Given the higher prevalence of psychological distress for Pacific people, of whom 10% experience distress compared with 5% of European/Other people, the low treatment rate for Pacific people may indicate poor access to services.

Almost nine out of ten (89%) adults accessing non-urgent mental health services were seen within 3 weeks and 96% accessed services within 8 weeks. For those aged 0-19 years, a smaller proportion (70%) accessed non-urgent services within 3 weeks and 96% accessed services within 8 weeks. Amongst older adults, 70% accessed non-urgent services within 3 weeks and 94% accessed services within 8 weeks. Two-thirds (66%) of Auckland DHB residents who are admitted acutely to hospital have had pre-admission care (compared to 56% for NZ as a whole) and 78% receive post-discharge care (compared to 62% for NZ as a whole). Auckland DHB has the longest mean length of stay in the country at 30 days but this has reduced from 46 days in 2009/10 and continues to decrease. It remains substantially longer than the national average of 18 days.

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)

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 13 per 100,000 population, compared with 18 per 100,000 population for New Zealand as a whole. The rate for men is higher than for women (17 vs 9 per 100,000) and the rates for Māori and Pacific men are particularly high at 58 and 27 per 100,000 population respectively. For older people, falls are the largest cause of injury-related deaths, while for adults aged 45-64 years, suicide is the largest cause. For younger adults, road traffic accidents and suicide dominate.

Injury is also an important cause of hospitalisation. The age-standardised rates for Māori (5,600) and Pacific (5,500) people per 100,000 population are considerably higher than for Asians (1,800 per 100,000) and Europeans/Others (4,100 per 100,000 population). Injury is the leading cause of...
mortality and hospitalisation for children and young people aged between 1 and 24 years.

In 2013/14, Auckland residents made 184,000 claims to the Accident Compensation Corporation (ACC) for injury, an average of five claims for every ten people. The highest rates of claim occur amongst youths and young adults. European/Other people have higher rates than Pacific people and Māori and Asian people have the lowest rates of claim. Soft tissue injuries make up 64% of claims, and 19% are for lacerations and puncture wounds. Fractures and dislocations account for 7% of claims. Most injuries occur at home (45%) or during sport or recreation (27%).

Figure 6.2.7.1: ACC claims for injury per 100 population 2013/14 financial year

<table>
<thead>
<tr>
<th>Type</th>
<th>Under 15</th>
<th>15-24</th>
<th>25-44</th>
<th>45-64</th>
<th>65+</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>Other accident</td>
<td>1</td>
<td>1</td>
<td>1</td>
<td>2</td>
<td>8</td>
<td>13</td>
</tr>
<tr>
<td>Accidental poisonings</td>
<td>0</td>
<td>1</td>
<td>2</td>
<td>8</td>
<td>2</td>
<td>13</td>
</tr>
<tr>
<td>Burns</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>1</td>
</tr>
<tr>
<td>Drownings</td>
<td>0</td>
<td>1</td>
<td>2</td>
<td>0</td>
<td>1</td>
<td>4</td>
</tr>
<tr>
<td>Falls</td>
<td>0</td>
<td>2</td>
<td>2</td>
<td>3</td>
<td>44</td>
<td>51</td>
</tr>
<tr>
<td>Intentional self-harm</td>
<td>0</td>
<td>9</td>
<td>6</td>
<td>14</td>
<td>1</td>
<td>30</td>
</tr>
<tr>
<td>Road traffic injuries</td>
<td>1</td>
<td>6</td>
<td>7</td>
<td>2</td>
<td>3</td>
<td>19</td>
</tr>
<tr>
<td>Violence</td>
<td>3</td>
<td>0</td>
<td>2</td>
<td>1</td>
<td>0</td>
<td>6</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>5</strong></td>
<td><strong>20</strong></td>
<td><strong>23</strong></td>
<td><strong>30</strong></td>
<td><strong>59</strong></td>
<td><strong>137</strong></td>
</tr>
</tbody>
</table>

Source: Ministry of Health mortality data collection

Figure 6.2.7.2: Mortality from injury by cause and age group, Auckland DHB, 2011

Figure 6.2.7.3: Hospitalisations for all injuries per 100,000 population, Auckland DHB residents, 2012/13

Source: Ministry of Health national data collection
**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).

Only regional and national data is available from the 2013 New Zealand Disability Survey. One in five (19%) of the Auckland 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 ages, disease and illness and accidents are important and aging processes impact disabilities in older people.

![Figure 6.2.8.1: Prevalence of disability by type of impairment (National)](image)

*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*

![Figure 6.2.8.2: Prevalence of disability 2013 (National)](image)

*Figure 6.2.8.2: Prevalence of disability 2013 (National)*

*Source: NZ Disability Survey 2013*

**6.2.9 Sexual Health**

Information on sexually transmitted diseases is limited in New Zealand. Sexually transmitted infections (STIs) with the exception of AIDS are not notifiable. Surveillance efforts are based on the 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 2013, the national chlamydia rate was 633 cases per 100,000 population in 2012. The Auckland region rate was the same as the national rate. More than two-thirds of laboratory-diagnosed cases of chlamydia in 2013 were females. 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. Nationally, there has been a steady decline in the chlamydia rate for females in the 15–19 years age group since 2009. (ESR, Sexually transmitted infections in New Zealand 2013)
### 6.3 Infants, Children and Young People

#### 6.3.1 Births

There has been a gradual increase in the number of births in Auckland, from 6,000 in 2003 to more than 6,500 per year (Statistics NZ Registered Births 2012). The increase has not been steady, with the year-on-year change in live births ranging from a drop of 340 to an increase of 460. The general fertility rate is 40 per 1,000 population of European/Other women aged 15-49 years. It is much higher for Māori (86 per 1,000 women aged 15-49) and Pacific (88 per 1,000 women aged 15-49) than for Asian (42 per 1,000 women aged 15-49).

In 2012, 208 babies were born to young women aged 15-19, an overall rate of 14.5 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 (62 per 1,000 women aged 15-19) and Pacific (38 per 1,000 women aged 15-19). The rate for European/Other and Asians was less than 3 per 1,000 women aged 15-19. There were 16 terminations of pregnancy per 1000 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.

In 2013, 6.1% of babies born had low birth weight in Auckland DHB, compared with 6.0% nationally. There were 36 admissions for pregnancy complications for every 100 live births in Auckland (23% higher than for New Zealand as a whole). Pacific mothers were more likely to be admitted, with a complication rate of 45 per 100 live births. In Auckland’s hospitals, 30% of all births were by caesarean section. 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 (64%) of women were enrolled with a LMC at 12 weeks of pregnancy (2012). In 2013, 42% of women birthing at Auckland facilities were overweight or obese, including 18% who were obese. This varied across ethnicities, with 60% of Māori and 80% of Pacific mothers being overweight or obese. In the same period, 5.7% of mothers reported that they were smoking at the time of booking with an LMC, and 4.5% at the time of giving birth. Again this varied with higher smoking rates amongst mothers under 26 years old, mothers living in areas of high socioeconomic deprivation, and Māori and Pacific mothers. Gestational diabetes also varies across ethnic groups with the highest rates found in Indian mothers (19%), Asian mothers (14%), Pacific mothers (10%) and Māori mothers (8%), compared with 4% in NZ European mothers. (National Women’s annual clinical report 2013)

**Figure 6.3.1.1: Trends in live births for Auckland DHB by ethnicity, 1996-2013**

![Trends in live births for Auckland DHB by ethnicity, 1996-2013](source: Statistics New Zealand registered births)

There were 36 admissions for pregnancy complications for every 100 live births in Auckland (23% higher than for New Zealand as a whole). Pacific mothers were more likely to be admitted, with a complication rate of 45 per 100 live births. In Auckland’s hospitals, 30% of all births were by caesarean section. Māori and Pacific mothers were more likely to have normal deliveries.

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Infant mortality rates in Auckland were lower than New Zealand as a whole at 4.5 per 1,000 live births, compared with the NZ figure of 5.2 per 1,000 live births in 2010-12. However, infant mortality rates were higher for Māori (4.7 per 1,000 live births) and Pacific (7.5 per 1,000 live births) than European/Other (3.6 per 1,000 live births) ethnic groups. The rate of sudden unexpected death in infancy (SUDI) at 0.8 per 1,000 live births is lower than the national average of 1.0 per 1,000 live births. The death of a child under 14, after the first month of life, is a rare event with an average of 22 deaths a year in Auckland, with half of these being under one year of age. The most common causes of death in infants were perinatal (the period immediately before and after birth) conditions, congenital anomalies, accidental injuries and sudden infant death syndrome (SIDS). In children older than one year, the most common causes were accidents, suicide, heart diseases, cancer and congenital anomalies.

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 Auckland DHB was 3.5 per 100,000 population, lower than the national incidence of 4.1 per 100,000 population.

There were 195 admissions to hospital in 2013 for every 1,000 Auckland children aged 0-14 years for medical or surgical reasons. The most common acute admissions were for respiratory infections, gastroenteritis, injury, asthma, viral infections and skin infections. In 2012/13, there were 21.5 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 much lower than average (56% in Auckland DHB against a target of 88% and a national average of 63%). Māori infant enrolment was significantly lower at 47%. The rate of referral by LMCs to a Well Child/Tamariki Ora (WTCO) provider was 99% (59% for New Zealand). Completion of core WCTO contacts within the first year of life was 78%, which was below the target of 86% but a little above the national average of 74%.

Auckland 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 96% fully immunised at 24 months of age. Overall, 75% of four-year-olds received a comprehensive health check before school entry, compared with the target of 90% and the national average of 91%.

Figure 6.3.2.1: Trend in infant mortality rate per 1,000 live births, 2001-2012, three-year averages

Figure 6.3.2.2: Numbers of deaths amongst Auckland DHB children aged 0-14, 2009-11
6.3.3 Young people

In 2014, there were 77,000 young people aged 15-24 living in Auckland DHB, including 8,000 Māori, 10,000 Pacific, 26,000 Asian and 33,000 European/Others. During 2009-2011, an average of 25 young people died each year in Auckland. Most of these died from injury or suicide.

There were 116 admissions to hospital for every 1,000 young people in Auckland. The most common admissions were for injury, complications of pregnancy, undiagnosed signs and symptoms, and digestive system disorders.

Figure 6.3.3.2: Most common causes of hospitalisation amongst Auckland DHB young people aged 15-24, 2013

<table>
<thead>
<tr>
<th>Cause</th>
<th>Rate per 1,000 population</th>
</tr>
</thead>
<tbody>
<tr>
<td>Injury</td>
<td>28.4</td>
</tr>
<tr>
<td>Complication of pregnancy</td>
<td>24.3</td>
</tr>
<tr>
<td>Non-specific conditions</td>
<td>13.9</td>
</tr>
<tr>
<td>Other digestive system</td>
<td>9.1</td>
</tr>
<tr>
<td>Diseases of skin</td>
<td>5.0</td>
</tr>
<tr>
<td>Other kidney diseases</td>
<td>5.0</td>
</tr>
<tr>
<td>Infectious Diseases</td>
<td>4.7</td>
</tr>
<tr>
<td>Other respiratory</td>
<td>3.9</td>
</tr>
<tr>
<td>Other diseases nervous system</td>
<td>2.8</td>
</tr>
<tr>
<td>Diseases of kidney</td>
<td>2.7</td>
</tr>
<tr>
<td>Diseases of musculoskeletal system</td>
<td>2.4</td>
</tr>
<tr>
<td>Alcohol abuse</td>
<td>1.8</td>
</tr>
</tbody>
</table>

Source: Ministry of Health data collection (NMDS)
6.3.4 Older people

There are over 50,000 people aged 65 years or older in Auckland and of these, 6,500 are aged 85 years and older (population projection based on 2013 census). Our older population is predominantly made up of European/Other ethnicities, with 13% of those aged 85 years and older being Māori, Pacific or Asian.

The most common causes of mortality and hospitalisation for older people are similar to the population as a whole. In Auckland the leading causes of death amongst older people are IHD, stroke, COPD, lung cancer and diabetes. Cancers account for 25% of deaths. In winter the number of deaths increases and Auckland DHB records 63 extra deaths compared with the number that we expect during the warmer months.

The leading causes of hospitalisation are for injuries, IHD and angina, respiratory infections, musculoskeletal diseases and diabetes. In 2013, there were 444 hospital admissions for every 1,000 older people in Auckland.

*Figure 6.4.1: Hospital discharges per 1,000 Auckland DHB people aged 65+ years, 2013*

<table>
<thead>
<tr>
<th>Condition</th>
<th>Rate</th>
</tr>
</thead>
<tbody>
<tr>
<td>Female</td>
<td></td>
</tr>
<tr>
<td>Injury</td>
<td>67.5</td>
</tr>
<tr>
<td>Non-specific conditions</td>
<td>47.6</td>
</tr>
<tr>
<td>Musculoskeletal diseases</td>
<td>18.2</td>
</tr>
<tr>
<td>Ischaemic heart diseases</td>
<td>12.3</td>
</tr>
<tr>
<td>Chronic lower respiratory diseases</td>
<td>13.7</td>
</tr>
<tr>
<td>Diabetes</td>
<td>11.4</td>
</tr>
<tr>
<td>Male</td>
<td></td>
</tr>
<tr>
<td>Injury</td>
<td>60.3</td>
</tr>
<tr>
<td>Non-specific conditions</td>
<td>56.9</td>
</tr>
<tr>
<td>Musculoskeletal disease</td>
<td>21.1</td>
</tr>
<tr>
<td>Ischaemic heart disease</td>
<td>20.0</td>
</tr>
<tr>
<td>Chronic lower respiratory diseases</td>
<td>15.0</td>
</tr>
<tr>
<td>Diabetes</td>
<td>14.3</td>
</tr>
</tbody>
</table>

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

Older people have higher levels of health need 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 Auckland DHB, 18% of older people have ischaemic heart disease, 24% have diabetes, 43% have arthritis and 11% 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 45 admissions per 1,000 people aged 65 years and over. Older people are more at risk, with the rate ranging from 12 admissions per 1,000 people aged 65-69 years rising to 191 admissions per 1,000 people aged 90 years and over. Of the patients admitted with a fractured neck of femur, 89% are aged 65 years and over.

The large majority of older people in Auckland are able to live unassisted in their own homes. Over half (52%) of people who are 85 years or older receive no funded living assistance, while 26% are funded to live in a rest home or private hospital and 22% have some funded support at home. Many older people continue to work or do voluntary work. Auckland DHB offers free influenza vaccinations to those aged 65 years and over. Almost two-thirds (63%) of people over the age of 65 have received an influenza vaccine in the last year. 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 6.4.2: Falls admissions for Auckland residents per 1,000 population aged 65 years and over, 2013/14*
Figure 6.4.3: Proportion of older people receiving support, Auckland DHB, 2013

<table>
<thead>
<tr>
<th>65-74 years</th>
<th>75-84 years</th>
<th>85+ years</th>
</tr>
</thead>
<tbody>
<tr>
<td>Home with funded support</td>
<td>Rest Home (includes dementia care)</td>
<td>Private Hospital (includes psychogeriatric care)</td>
</tr>
<tr>
<td>96.2%</td>
<td>2.6%</td>
<td>0.7%</td>
</tr>
<tr>
<td>80.9%</td>
<td>12.6%</td>
<td>3.0%</td>
</tr>
<tr>
<td>52.3%</td>
<td>15.7%</td>
<td>10.0%</td>
</tr>
</tbody>
</table>

Source: HealthPac data collection for residential care claims
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 vaccinations.

There are five Primary Health Organisations (PHOs) operating within the Auckland district with 137 general practices and 490 GPs. There are 94 GPs (full-time equivalent) per 100,000 population in Auckland DHB in 2014, considerably higher than the national average of 75 per 100,000 population. This varies across the district with 1,900 people per GP in Orakei and 1,500 per GP in Maungakiekie-Tamaki, but only 581 people per GP in the central Waitemata board area. The ratio of GPs per 100,000 population has fallen slightly over the past five years.

Overall, 88% of residents are enrolled with a PHO. While people are free to enrol in any practice in the country, 84% of people within Auckland DHB are enrolled with practices in Auckland DHB based PHOs. Only a small proportion of the Auckland DHB population (0.2%) are enrolled outside of the greater Auckland area.

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 with possibly 18% not enrolled, compared with 5% of European/Others not enrolled. Enrolment rates also vary by age with 29% of 15-24 year olds and 17% of 25-44 year olds not being enrolled with a PHO. (Source: Ministry of Health enrolment data.)

Three out of four (77%) of the Auckland DHB population have seen a general practitioner (GP) in the last year. Asian people are less likely to have seen their GP and/or the practice nurse. Most people in Auckland DHB (89%) are able to get an appointment with their GP within 24 hours, compared with 86% nationally. One in five people (20%) report problems accessing a GP because of cost, availability of appointments, or transport issues. Overall 11% of adults reported that the cost 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 16% and 18% respectively. Similarly, although overall 4.8% said that cost had prevented them from filling a prescription, the figure was 13% for Māori and Pacific people. (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.

Auckland 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. Three out of four pre-school children are enrolled with oral health services in Auckland DHB, which is above the national average although less than the national target of 86%. At five years of age, three-quarters (72%) of children are accessing free school dental care. Access rates are lower for Māori (52%). For European/Other five-year-olds, Auckland exceeds the Ministry of Health target for 65% to be caries-free, achieving 71%. We do not meet the target for Māori children (51%) or Pacific children (38%). Five-year-olds in Auckland have an average of 1.6 decayed, missing or filled teeth (dmft). Māori children have an average of 1.9 dmft and Pacific children have an average of 2.9 dmft while European/Other children have an average of 1.2 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 NZDep quintile 3-5 areas.

Utilisation of community oral health services by adolescents aged 13-17 years is approximately 73% for Auckland and Waitemata 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 in Auckland and Waitemata DHBs who are caries-free is 45%. Year eight children (12/13-year-olds) in Auckland DHB have an average of 1.0 decayed, missing or filled teeth (dmft). Māori children have an average of 1.3 dmft and Pacific children have an average of 1.6 dmft while European/Other children have an average of 0.7 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). Just over half (57%) of European/Other adults, 45% of Māori, 32% of Pacific and 41% of Asian adults have seen an oral health worker in the last year. About half of Auckland residents only visit a dental health care worker for toothaches/dental problems or never. This varies across ethnic groups, with a smaller proportion of European/Other adults (49%) than of Asian (60%), Māori (60%) and Pacific (78%) 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 Auckland DHB children examined who were caries-free, 2013
7.2 Hospital-based health care

Auckland DHB has three major facilities: Auckland City Hospital, Greenlane Clinical Centre and the Buchanan Rehabilitation Centre in Pt Chevalier. We provide emergency, medical, surgical, maternity, community health and mental health services. More than half the work done within Auckland DHB hospitals is for people who live outside Auckland DHB. It is the regional provider for kidney transplantation, neurosurgery, cardiothoracic surgery, ophthalmology, most paediatric surgery, and it is the hub of the regional cancer network. Some specialist services are provided to the whole of New Zealand. These include: organ transplants (heart, lung and liver), specialist paediatric services, epilepsy surgery and high-risk obstetrics.

7.2.1 Emergency Departments

About one in seven of our population has visited a hospital Emergency Department (ED) in the last year. The age-standardised rate of ED attendances by Auckland residents has increased by nearly 60% in six years, rising from 12,300 per 100,000 population in 2007, to 19,400 per 100,000 population in 2013. Access to emergency department care is good and 2013/14, 95% of patients were either discharged or moved to a ward within six hours of presenting to the emergency departments.

Figure 7.2.1: Emergency Department attendances, age-standardised rate per 100,000 Auckland population

7.2.2 Outpatient services

For every 100 males in Auckland DHB there were 67 outpatient attendances and for every 100 females there were 83 outpatient attendances. This includes both consultations with doctors, and treatments such as haemodialysis, physiotherapy and radiotherapy. Pacific people have the highest rates of outpatient attendance (128 per 100 population) and Asian people the lowest (56 per 100 population). Auckland DHB residents have generally similar patterns of use of different outpatient services as residents in other parts of the Auckland region.
In 2013, Auckland regional public hospitals provided nearly 203,000 bed days of service for Auckland DHB residents (medical/surgical/maternity, ie excluding mental health and disability support/rehabilitation). This is an average of 560 patients in beds each day. Ninety one per cent of this was provided by Auckland DHB, with 6% provided by Counties Manukau DHB, 2% by Waitemata DHB and 1% by agencies outside the Auckland region. People aged 65 and over make up 10% of the population but account for 27% of medical/surgical admissions and 45% of beds used. The number of people aged 65 years and over is projected to double over the next twenty years and this will cause a large increase in demand for hospital beds.

Compared with the New Zealand average, Auckland 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). Although the number of admissions per head of population has increased over time, the number of beds used has remained stable, because lengths of stay have reduced, from an average of 3.3 days in 2006 to 2.7 days in 2013.

Admissions for both adults and children have increased over the last five years. Hospitalisations for medical services are very much dominated by older people, whereas surgical hospitalisation is distributed amongst different age groups fairly evenly. Māori people have lower rates of hospitalisation for elective services, at about 90% of the rate for Pacific and European/Other people while the rate for Asian people is half the rate for Europeans/Others.
7.2.5 Access to publicly-funded elective surgery

The Ministry of Health has set a goal of improving access to elective surgery and equalising access across DHBs. The target for Auckland residents is 16,700 elective surgery discharges for 2015/16. As noted above, the elective hospitalisation rate is still lower than the average for New Zealand, but the gap has been closing since 2007.

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 publicly funded cataract surgery for Auckland DHB residents is 12% above the national average, but access to hip and knee replacement surgery respectively is 67% and 89% of the national average. Access to hernia repair is also low at 86% of the national average rate. Access to elective heart surgery is also lower than the national average, at 85% for heart valve replacements and repair and 90% for coronary artery bypass grafts.

Figure 7.2.4.1: Standardised discharge ratios for selected surgical procedures, 2012/13-2014/15

<table>
<thead>
<tr>
<th>Surgical procedure</th>
<th>Discharge ratios</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>2012/13</td>
</tr>
<tr>
<td>Coronary artery bypass grafts (CABG)</td>
<td>1.04</td>
</tr>
<tr>
<td>Angioplasties</td>
<td>0.97</td>
</tr>
<tr>
<td>Heart valve replacements and repair</td>
<td>1.01</td>
</tr>
<tr>
<td>Total hip replacement</td>
<td>0.72</td>
</tr>
<tr>
<td>Total knee replacement</td>
<td>1.01</td>
</tr>
<tr>
<td>Cataracts</td>
<td>1.14</td>
</tr>
<tr>
<td>Repairs of hernia</td>
<td>0.84</td>
</tr>
</tbody>
</table>

The Ministry also sets target intervention rates for a small number of common, effective procedures, in order to improve equity of access across DHBs. Auckland DHB has a higher than average rate of cataract surgery after standardising for age, gender, ethnicity and NZDep06 quintile, at 38 operations per 10,000 population. This exceeds the national target of 27 per 10,000 population. For cardiac surgery, Auckland DHB met the target in 2013 but not in 2014 or 2015, delivering 6.0 operations against a target of 6.5 per 10,000 population. Hip and knee operation rates continue to fall short of the target, with 18 per 10,000 population against a target of 21.

Figure 7.2.4.2: Surgical intervention rates per 10,000 population, Auckland DHB residents, 2011/12 – 2014/15

Source: Ministry of Health non-financial indicators

Source: Ministry of Health Standardised Discharge Ratios for selected elective surgical procedures)
7.2.6 Hospital quality and safety

Our hospital services monitor a number of measures of quality and safety. Key amongst these is the hospital standardised mortality ratio (HSMR). For Auckland Hospital, this has remained stable for the past four years at around the average level for comparable hospitals. Hand hygiene in Auckland hospitals is similar to the national average with 76% compliance with the five moments for hand hygiene in 2014. The rate of falls in hospital was 4.3 per 1,000 occupied bed days. We also ask patients about their care in hospital and 85% rate it as excellent or very good.

Figure 7.2.5.1: Auckland City Hospital standardised mortality ratio trend

![Hospital Standardised Mortality Ratio Trend](chart.png)

Source: Ministry of Health

Figure 7.2.5.2: Auckland City Hospital standardised mortality ratio compared with other New Zealand facilities, 2013

![Hospital Standardised Mortality Ratio Comparison](chart2.png)
7.2.7 Avoidable causes of hospitalisation

Avoidable hospitalisation (AH) is a useful 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 for angina, cellulitis, and upper respiratory infections. For women, kidney and urinary tract infections are common. Asthma and diabetes are also common causes amongst Māori and Pacific people.

Auckland has a similar avoidable hospitalisation rate to New Zealand as a whole. The Māori avoidable hospitalisation rate is double that of other ethnicities and the Pacific rate is more than double. Asian is lower than European/Other ethnicities. Rates are higher amongst residents of Whau and Maungakiekie-Tamaki than in other local boards.

**Figure 7.2.6.1:** Age-standardised avoidable hospitalisations per 1,000 population, 2013

<table>
<thead>
<tr>
<th>Condition</th>
<th>Māori</th>
<th>Pacific</th>
<th>Asian</th>
<th>Other</th>
</tr>
</thead>
<tbody>
<tr>
<td>Angina and chest pain</td>
<td>4.9</td>
<td>5.8</td>
<td>3.2</td>
<td>3.0</td>
</tr>
<tr>
<td>Cellulitis</td>
<td>7.3</td>
<td>9.7</td>
<td>1.5</td>
<td>3.2</td>
</tr>
<tr>
<td>Upper respiratory infection</td>
<td>3.2</td>
<td>3.6</td>
<td>1.0</td>
<td>2.5</td>
</tr>
<tr>
<td>Gastroenteritis</td>
<td>1.8</td>
<td>1.9</td>
<td>0.7</td>
<td>1.7</td>
</tr>
<tr>
<td>Kidney/UTI</td>
<td>2.2</td>
<td>3.4</td>
<td>1.0</td>
<td>1.3</td>
</tr>
<tr>
<td>Dental conditions</td>
<td>&lt;1.8</td>
<td>2.4</td>
<td>1.4</td>
<td>1.1</td>
</tr>
<tr>
<td>Respiratory infection</td>
<td>2.3</td>
<td>4.4</td>
<td>&lt;0.7</td>
<td>0.9</td>
</tr>
<tr>
<td>Asthma</td>
<td>2.3</td>
<td>3.1</td>
<td>0.8</td>
<td>0.8</td>
</tr>
<tr>
<td>Diabetes</td>
<td>2.8</td>
<td>7.1</td>
<td>1.8</td>
<td>0.8</td>
</tr>
</tbody>
</table>

Source: Ministry of Health national data collection (NMDS)

**Figure 7.2.6.2:** Avoidable hospitalisation by ethnic group (age-standardised per 100,000 population), Auckland DHB, 2013

**Figure 7.2.6.3:** Avoidable hospitalisations by local board area (age-standardised per 100,000 population), 2013

Source: Ministry of Health national data collection (NMDS)
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 Mortality Data Collection, National Minimum Data Set (NMDS), National Non-Admitted Patient Data Collection (NNPAC), Cancer Registration data collection and Programme for the Integration of Mental Health Data (PRIMHD). All diagnoses are classified according to the International Classification of Diseases, 10th Revision, Clinical Modification (ICD-10-AM).

Hospital discharge data

The Ministry of Health collects data from a hospital, in a collection called the National Minimum Data Set (NMDS). Day cases are included in this data but attendances at outpatient clinics or emergency department attendances for care lasting under three hours are not included. 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. This collection is updated continuously.

Outpatient data

The National Non-Admitted Patient Data Collection (NNPAC) provides nationally consistent data on non-admitted patient activity. Information about the Auckland 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 registration 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.

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 2011/12 and 2012/13 New Zealand Health Surveys

This national face-to-face survey was completed in both 2011/12 and 2012/13. 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 Auckland district for the two surveys.

The survey provides information on:

- selected health risk behaviours (smoking, physical activity and alcohol 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 Auckland populations they may be either direct survey estimates or synthetic estimates. Since the sample sizes for the overall Auckland population was reasonably large direct estimates can be calculated using only the respondents from Auckland DHB. 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 main results by DHB (but not by ethnicity within DHB) are available on the Ministry of Health website.


**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 under 1,000 lived in Auckland DHB wards including Whau and Mangere-Otahuhu. 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 Auckland’s and New Zealand’s denominator populations 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.

**Birth registrations**

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

Statistics New Zealand, Census 2013

Statistics New Zealand Population projections updated 2013 (based on 2006 census)

Ministry of Health, New Zealand Health Survey 2011/12 and 2012/2013 pooled results

Statistics New Zealand NZ, General Social Survey 2012

NZ Quality of Life Survey 2012 (Neison)

Ministry of Health, National Minimum Dataset (NMDS inpatient hospital use) 2013

Ministry of Health, National Non-Admitted Patient Collection (NNPAC outpatient and ED hospital use) 2013

Ministry of Health, Programme for the Integration of Mental Health Data (PRIMHD) 2013

Ministry of Health, Mortality Collection 2008-2010

Ministry of Health, NZ Mental Health Survey 2006

Ministry of Health, NZ Oral Health Survey 2009

Statistics New Zealand, Abortion report 2013

Otago University, NZDEP13 deprivation index by meshblock (based on 2013 census)


Massey University 2013, Home affordability Nov 2013

Statistics New Zealand, Rental Affordability 1998-2012, an experimental paper

Statistics New Zealand, Offences recorded by police

WHO 2001 standard population sizes by age group

WHO 2003, Social Determinants of Health: The Solid Facts


Ministry of Health, Life expectancy 2013

Ministry of Health, Non-financial indicators 2013/14

Ministry of Health, Virtual diabetes register 2013

Ministry of Health, Cancer registrations


Ministry of Health, HealthPac claims

Ministry of Health, PHO Enrolment collection

Ministry of Health, National Maternity Coll


Ministry of Health, National Cervical Screening Unit, Monthly coverage June 2014; Breast Screen Aotearoa, Coverage June 2014

Action on Smoking and Health (ASH), National ASH Year 10 Snapshot Survey: Youth Smoking in NZ by DHB 2013

Health Promotion Agency 2014. Alcohol – the Body and Health effects, a brief overview

Institute of Environmental Science and Research Limited, Sexually transmitted infections in New Zealand 2013

Accident Compensation Commission (ACC): Claims data


# Appendix 1: Data table

## Our Population

<table>
<thead>
<tr>
<th>Section</th>
<th>Indicator</th>
<th>Auckland DHB</th>
<th>Māori</th>
<th>Pacific</th>
<th>Asian</th>
<th>European/Other</th>
<th>NZ</th>
</tr>
</thead>
<tbody>
<tr>
<td>Population projection 2016/17</td>
<td>510,450</td>
<td>41,770</td>
<td>54,200</td>
<td>158,200</td>
<td>256,280</td>
<td>4,716,000</td>
<td></td>
</tr>
<tr>
<td>% of population</td>
<td>100%</td>
<td>8.2%</td>
<td>11%</td>
<td>31%</td>
<td>50%</td>
<td>1.4%</td>
<td></td>
</tr>
<tr>
<td>National proportions</td>
<td>100%</td>
<td>16%</td>
<td>6.4%</td>
<td>13%</td>
<td>65%</td>
<td>500%</td>
<td></td>
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<tr>
<td>Annual growth %</td>
<td>1.7%</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>1.4%</td>
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<td>Under 5 years - number</td>
<td>29,800</td>
<td>4,050</td>
<td>4,750</td>
<td>9,160</td>
<td>11,840</td>
<td>305,380</td>
<td></td>
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<tr>
<td>Under 5 years - %</td>
<td>5.8%</td>
<td>9.7%</td>
<td>8.8%</td>
<td>5.8%</td>
<td>4.6%</td>
<td>6.5%</td>
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<tr>
<td>65+ years - number</td>
<td>56,680</td>
<td>2,550</td>
<td>3,630</td>
<td>10,340</td>
<td>40,160</td>
<td>719,120</td>
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<td>65+ years - %</td>
<td>11.1%</td>
<td>6.1%</td>
<td>6.7%</td>
<td>6.5%</td>
<td>15.7%</td>
<td>15.3%</td>
<td></td>
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<tr>
<td>75+ years - number</td>
<td>23,510</td>
<td>1,290</td>
<td>3,660</td>
<td>17,700</td>
<td>306,220</td>
<td></td>
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<td>75+ years - %</td>
<td>4.6%</td>
<td>2.1%</td>
<td>2.4%</td>
<td>2.3%</td>
<td>6.9%</td>
<td>6.5%</td>
<td></td>
</tr>
<tr>
<td>Under 25 years - %</td>
<td>33%</td>
<td>45%</td>
<td>46%</td>
<td>35%</td>
<td>26%</td>
<td>34%</td>
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<tr>
<td>Projected pop’n in 2036/37</td>
<td>670,850</td>
<td>59,860</td>
<td>63,650</td>
<td>268,790</td>
<td>278,550</td>
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<td>Projected 75+ in 2036/37</td>
<td>55,930</td>
<td>3,900</td>
<td>2,510</td>
<td>13,760</td>
<td>35,760</td>
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<td></td>
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</tbody>
</table>

## Population health drivers

<table>
<thead>
<tr>
<th>Deprivation</th>
<th>% living in NZDep13 Quintile 5 (most deprived) areas</th>
<th>18%</th>
<th>27%</th>
<th>40%</th>
<th>21%</th>
<th>12%</th>
<th>20%</th>
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</thead>
<tbody>
<tr>
<td>Income, education, employment</td>
<td>% leaving school with qualification</td>
<td>88%</td>
<td>76%</td>
<td>70%</td>
<td>90%</td>
<td></td>
<td>79%</td>
</tr>
<tr>
<td>Unemployment rate</td>
<td>7.9%</td>
<td>14%</td>
<td>16%</td>
<td>10%</td>
<td>5%</td>
<td></td>
<td>7%</td>
</tr>
<tr>
<td>Median income</td>
<td>$31,500</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>$28,500</td>
<td></td>
</tr>
<tr>
<td>Housing</td>
<td>Housing affordability (house price vs income - Massey index)</td>
<td>29.9</td>
<td>21.8</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>House over-crowding (% people needing 1+ bedrooms)</td>
<td>15.5%</td>
<td>25%</td>
<td>45%</td>
<td>19%</td>
<td>6%</td>
<td>10%</td>
<td></td>
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<tr>
<td>Air pollution</td>
<td>Annual deaths due to air pollution 2006 estimate</td>
<td>93</td>
<td></td>
<td></td>
<td></td>
<td></td>
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</tr>
<tr>
<td>% of children living in single parent households</td>
<td>16%</td>
<td>33%</td>
<td>22%</td>
<td>10%</td>
<td>12%</td>
<td>20%</td>
<td></td>
</tr>
<tr>
<td>Violent offences per 1,000 people</td>
<td>11</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>13</td>
<td></td>
</tr>
<tr>
<td>Feel safe walking alone at night</td>
<td>58%</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Internet access</td>
<td>84%</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>77%</td>
<td></td>
</tr>
<tr>
<td>Smoking - % of adults</td>
<td>11%</td>
<td>26%</td>
<td>22%</td>
<td>7%</td>
<td>10%</td>
<td>15%</td>
<td></td>
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<tr>
<td>Obesity - % of adults</td>
<td>22%</td>
<td>46%</td>
<td>61%</td>
<td>12%</td>
<td>19%</td>
<td>29%</td>
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<tr>
<td>Obesity - % of children</td>
<td>9.8%</td>
<td>20%</td>
<td>30%</td>
<td>4%</td>
<td>4%</td>
<td>11%</td>
<td></td>
</tr>
<tr>
<td>Overweight - % of children</td>
<td>17%</td>
<td>28%</td>
<td>23%</td>
<td>17%</td>
<td>15%</td>
<td>21%</td>
<td></td>
</tr>
<tr>
<td>Healthy diet: % eating recommended servings fruit/veges</td>
<td>59%</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Physical activity: % active 30 minutes per day</td>
<td>50%</td>
<td>51%</td>
<td>47%</td>
<td>45%</td>
<td>54%</td>
<td>54%</td>
<td></td>
</tr>
<tr>
<td>Breast feeding (Exclusive at 3 months) - %</td>
<td>60%</td>
<td>51%</td>
<td>44%</td>
<td>60%</td>
<td>66%</td>
<td>56%</td>
<td></td>
</tr>
<tr>
<td>Hazardous drinking - % of adults</td>
<td>18%</td>
<td>38%</td>
<td>24%</td>
<td>4%</td>
<td>25%</td>
<td>17%</td>
<td></td>
</tr>
<tr>
<td>Section</td>
<td>Indicator</td>
<td>Auckland DHB</td>
<td>Māori</td>
<td>Pacific</td>
<td>Asian</td>
<td>European/ Other</td>
<td>NZ</td>
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<tr>
<td>Health Status</td>
<td></td>
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<td></td>
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<tr>
<td>Overall health</td>
<td>Self-reported health good, v. good, excellent</td>
<td>91%</td>
<td>90%</td>
<td>86%</td>
<td>91%</td>
<td>92%</td>
<td>90%</td>
</tr>
<tr>
<td>Life Expectancy</td>
<td>LE Total population 2013-15</td>
<td>82.4</td>
<td>78.0</td>
<td>76.9</td>
<td>87.2</td>
<td>82.9</td>
<td>81.7</td>
</tr>
<tr>
<td></td>
<td>LE Male</td>
<td>81.1</td>
<td>76.9</td>
<td>75.4</td>
<td>86.2</td>
<td>81.4</td>
<td></td>
</tr>
<tr>
<td></td>
<td>LE Female</td>
<td>83.9</td>
<td>77.8</td>
<td>78.0</td>
<td>88.4</td>
<td>84.8</td>
<td></td>
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<tr>
<td>Avoidable mortality</td>
<td>Avoidable deaths per year</td>
<td>556</td>
<td>73</td>
<td>92</td>
<td>65</td>
<td>326</td>
<td></td>
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<tr>
<td></td>
<td>Avoidable mortality rate ASR per 100,000, 2011-2013</td>
<td>120</td>
<td>272</td>
<td>252</td>
<td>63</td>
<td>106</td>
<td>143</td>
</tr>
<tr>
<td></td>
<td>Potential years of life lost per 100,000</td>
<td>17.6</td>
<td></td>
<td></td>
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<td></td>
<td>25</td>
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<tr>
<td>Cardiovascular disease</td>
<td>CVD Hospitalisation ASR per 100,000</td>
<td>997</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>985</td>
</tr>
<tr>
<td></td>
<td>CVD mortality ASR per 100,000, 2011-13</td>
<td>105</td>
<td>165</td>
<td>162</td>
<td>73</td>
<td>99</td>
<td>118</td>
</tr>
<tr>
<td></td>
<td>IHD mortality ASR per 100,000</td>
<td>54</td>
<td>87</td>
<td>86</td>
<td>32</td>
<td>52</td>
<td>62</td>
</tr>
<tr>
<td></td>
<td>% of pop’n with IHD on triple therapy</td>
<td>56%</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>58%</td>
</tr>
<tr>
<td></td>
<td>% of adults medicated for high cholesterol</td>
<td>8.3%</td>
<td>10.5%</td>
<td>9.9%</td>
<td>11.7%</td>
<td>6.9%</td>
<td>8%</td>
</tr>
<tr>
<td></td>
<td>% of adults medicated for high blood pressure</td>
<td>10.1%</td>
<td>14.6%</td>
<td>14.7%</td>
<td>10.6%</td>
<td>8.7%</td>
<td>11.7%</td>
</tr>
<tr>
<td>Stroke</td>
<td>Stroke mortality ASR per 100,000, 2011-13</td>
<td>25</td>
<td>22</td>
<td>32</td>
<td>25</td>
<td>24</td>
<td>28</td>
</tr>
<tr>
<td>Diabetes</td>
<td>Estimated population with diabetes</td>
<td>28,000</td>
<td></td>
<td></td>
<td></td>
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<td></td>
</tr>
<tr>
<td></td>
<td>% of population with diabetes</td>
<td>6%</td>
<td>5%</td>
<td>12%</td>
<td></td>
<td>Indian: 11.5%</td>
<td>5%</td>
</tr>
<tr>
<td></td>
<td>% of diabetics having annual check</td>
<td>72%</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>% of diabetics on diabetes medication</td>
<td>69%</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>% of diabetics well-managed (HbA1c &lt; 64 mmol/mol)</td>
<td>53%</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>% of diabetics receiving retinal screening</td>
<td>60%</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Cancer</td>
<td>Mortality ASR per 100,000, 2011-13</td>
<td>110</td>
<td>158</td>
<td>188</td>
<td>61</td>
<td>110</td>
<td>125</td>
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<td></td>
<td>Deaths 2013</td>
<td>662</td>
<td></td>
<td></td>
<td></td>
<td></td>
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<td></td>
<td>Hospitalisation ASR per 100,000</td>
<td>595</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>766</td>
</tr>
<tr>
<td></td>
<td>Mortality rate ASR per 100,000 - lung cancer</td>
<td>20</td>
<td>50</td>
<td>33</td>
<td>13</td>
<td>18</td>
<td>23</td>
</tr>
<tr>
<td></td>
<td>Mortality rate ASR per 100,000 - colorectal cancer</td>
<td>14</td>
<td>12</td>
<td>18</td>
<td>4</td>
<td>15</td>
<td>17</td>
</tr>
<tr>
<td></td>
<td>Mortality rate ASR per 100,000 - breast cancer</td>
<td>15</td>
<td>24</td>
<td>28</td>
<td>8</td>
<td>15</td>
<td>10</td>
</tr>
<tr>
<td></td>
<td>One-year survival rate</td>
<td>79%</td>
<td></td>
<td></td>
<td></td>
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<tr>
<td>Section</td>
<td>Indicator</td>
<td>Auckland DHB</td>
<td>Māori</td>
<td>Pacific</td>
<td>Asian</td>
<td>European/Other</td>
<td>NZ</td>
</tr>
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</tr>
<tr>
<td><strong>Health Needs Assessment 2015</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Respiratory disease</strong></td>
<td>Breast screening uptake (% of eligible women)</td>
<td>71%</td>
<td>70%</td>
<td>89%</td>
<td>69%</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Cervical screening uptake (% of eligible women)</td>
<td>75%</td>
<td>56%</td>
<td>84%</td>
<td>59%</td>
<td>86%</td>
<td>77%</td>
</tr>
<tr>
<td></td>
<td>% of adults on asthma medication</td>
<td>8.1%</td>
<td>13.5%</td>
<td>11.0%</td>
<td>3.9%</td>
<td>9.7%</td>
<td>11.1%</td>
</tr>
<tr>
<td></td>
<td>COPD hospitalisation ASR per 100,000</td>
<td>1,611</td>
<td>1,419</td>
<td>262</td>
<td>394</td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Mental Health</strong></td>
<td>Population 12-19 (PM’s Youth MH Project)</td>
<td>47,644</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Suicide ASR per 100,000, 2011-13</td>
<td>8.0</td>
<td>13.4</td>
<td>8.1</td>
<td>4.2</td>
<td>8.6</td>
<td>11.5</td>
</tr>
<tr>
<td></td>
<td>Annual suicides (average 2011-13)</td>
<td>40</td>
<td></td>
<td></td>
<td></td>
<td></td>
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<tr>
<td></td>
<td>Diagnosed with mental health conditions (NZ Health Survey)</td>
<td>11.8%</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>16%</td>
</tr>
<tr>
<td><strong>Injury</strong></td>
<td>Injury hospitalisation ASR per 100,000</td>
<td>5600</td>
<td>5500</td>
<td>1800</td>
<td>4100</td>
<td></td>
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</tr>
<tr>
<td><strong>Sexual health</strong></td>
<td>Chlamydia (regional figures)</td>
<td>634</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>633</td>
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<td></td>
<td>Births, 2014</td>
<td>6,074</td>
<td></td>
<td></td>
<td></td>
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<tr>
<td></td>
<td>Infant mortality rate per 1,000 live births, 2010-2012</td>
<td>4.5</td>
<td>4.7</td>
<td>7.5</td>
<td>3.6</td>
<td>5.2</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Fertility rate (births per 1,000 women aged 15-49)</td>
<td>49</td>
<td>86</td>
<td>88</td>
<td>42</td>
<td>40</td>
<td>58</td>
</tr>
<tr>
<td></td>
<td>% of babies with low birth weight</td>
<td>6.1%</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>6%</td>
</tr>
<tr>
<td></td>
<td>% of mothers enrolled with LMC at 12 weeks</td>
<td>64%</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Teenage pregnancy rate (births per 1,000 women aged 15-19)</td>
<td>14.5</td>
<td>62</td>
<td>38</td>
<td>2</td>
<td>2</td>
<td>25</td>
</tr>
<tr>
<td></td>
<td>Caesarean sections as % of deliveries at Auckland City Hospital</td>
<td>30%</td>
<td></td>
<td></td>
<td></td>
<td></td>
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</tr>
<tr>
<td></td>
<td>Rheumatic fever incidence per 100,000 pop’n</td>
<td>3.5</td>
<td></td>
<td></td>
<td></td>
<td></td>
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<td></td>
<td>% fully immunised at 8 months Q1 2014/15</td>
<td>95.6%</td>
<td>94.7%</td>
<td>97.9%</td>
<td>97.0%</td>
<td>94.1%</td>
<td>92%</td>
</tr>
<tr>
<td></td>
<td>% fully immunised at 24 months Q1 2014/15</td>
<td>95.9%</td>
<td>95.9%</td>
<td>98.6%</td>
<td>98.6%</td>
<td>92.8%</td>
<td>93%</td>
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<tr>
<td><strong>Older people</strong></td>
<td>% aged &gt; 65 with a disability</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>59%</td>
</tr>
<tr>
<td></td>
<td>% aged &gt; 65 with IHD</td>
<td>18%</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>% aged &gt; 65 with diabetes</td>
<td>24%</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>% aged &gt; 65 with arthritis</td>
<td>43%</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>% aged &gt; 65 with a mental health disorder</td>
<td>11%</td>
<td></td>
<td></td>
<td></td>
<td></td>
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</tr>
<tr>
<td></td>
<td>% aged &gt; 85 years receiving funded support at home</td>
<td>22%</td>
<td></td>
<td></td>
<td></td>
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</tr>
<tr>
<td></td>
<td>% aged &gt; 85 years funded for rest home/private hospital</td>
<td>26%</td>
<td></td>
<td></td>
<td></td>
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<tr>
<td></td>
<td>% of pop’n aged 65+ receiving influenza vaccination</td>
<td>63%</td>
<td></td>
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<tr>
<td>Health services</td>
<td>GPs per 100,000 population, 2014</td>
<td>94</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>75</td>
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<td>Community services</td>
<td>% of adults who visited GP in last 12 months</td>
<td>77%</td>
<td>82%</td>
<td>78%</td>
<td>67%</td>
<td>81%</td>
<td>78%</td>
</tr>
<tr>
<td></td>
<td>% of adults unable to visit GP (due to transport, cost, availability)</td>
<td>20%</td>
<td>25%</td>
<td>26%</td>
<td>17%</td>
<td>21%</td>
<td>27%</td>
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<td>Hospital-based care</td>
<td>Acute hospital discharge rate</td>
<td>12,109</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>11,475</td>
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<tr>
<td></td>
<td>Elective hospital discharge rate</td>
<td>2,724</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>2,922</td>
</tr>
<tr>
<td></td>
<td>Avoidable hospitalisations ASR per 100,000</td>
<td>1,200</td>
<td>1,000</td>
<td>300</td>
<td>500</td>
<td></td>
<td></td>
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<td>Health targets achievement summary Q1 2014/15</td>
<td>Shorter stays in ED: % admitted or discharged within 6 hours</td>
<td>93%</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>93%</td>
</tr>
<tr>
<td></td>
<td>Improved access to electives</td>
<td>100%</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>105%</td>
</tr>
<tr>
<td></td>
<td>Cancer: % commencing treatment/care within 62 days of referral</td>
<td>62%</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Increased immunisation: % fully immunised at 8 months</td>
<td>96%</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>92%</td>
</tr>
<tr>
<td></td>
<td>% of smokers receiving advice to quit (Hosp/GP)</td>
<td>96%/100%</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>95%/88%</td>
</tr>
<tr>
<td></td>
<td>% eligible adults having heart and diabetes checks</td>
<td>92%</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>86%</td>
</tr>
</tbody>
</table>

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 Waitemata DHBs, with input from:

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