2015: Health Needs Assessment

for Wairarapa, Hutt Valley and Capital & Coast District Health Boards

Wairarapa | Hutt Valley | Capital & Coast
DISTRICT HEALTH BOARDS

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Service Integration & Development Unit

Wairarapa, Hutt Valley and Capital & Coast District Health Boards

May 2015

Foreword

I am very pleased to present the 2015 Health Needs Assessment for the Wairarapa, Hutt Valley and Capital & Coast District Health Boards.

The Health Needs Assessment provides a valuable perspective of what is happening in respect to the health needs of our populations, and the areas of priority focus for each DHB over the coming years. The Health Needs Assessment is regularly used in the ongoing development of responsive and effective services, and is critical to informing each organisation's annual plan.

This Health Needs Assessment is the first in which we have brought together the assessments of the three DHBs into a single document. This was a conscious decision, reflecting the Boards' collective desire to identify opportunities to improve service delivery through regional efficiencies, whilst maintaining a strong focus on the needs of local communities. Importantly, the Health Needs Assessment is one of the key inputs into the Boards' long term health system planning work, which will support the Boards in creating an effective and sustainable health system over the next 15 years.

There are some important findings in this document that will drive greater opportunities for clinical leadership and even stronger partnership approaches with primary and community care providers over the coming years. All three DHBs are already planning through an Alliance approach, and the Health Needs Assessment will help in prioritising areas of service improvement over the medium term.

The Health Needs Assessment will of course also be of significant wider interest, including to community groups, social services agencies and local and regional government. This document is a key contribution to the approach we continue to take with other agencies to positively influence many of the broader determinants of health.

This report is essentially a base document and we will be undertaking ongoing needs analysis across a number of additional areas. There are exciting opportunities to use a wide range of data to inform decisions about what services we need to deliver – and how – into the future.

I hope you find this report both interesting and useful.

Dr Ashley Bloomfield

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Wairarapa, Hutt Valley and Capital and Coast DHBs

Acknowledgements

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Contents

Key findings

The population is growing and ageing

Between the 2006 and 2013 Census the Wairarapa District Health Board (DHB) population grew seven percent, Capital & Coast DHB (CCDHB) grew six percent and Hutt Valley DHB grew two percent. Population growth is expected to continue and this sub-region will be home to around 53,000 more people by 2033. This will take the population to over half a million people (531,155).

By 2033, more than one in five people in the sub-region will be aged over 65 years and a greater proportion of these people will be over 85 years (the population aged over 85 will more than double in all three DHBs). At the same time, the number of children and young people in the sub-region is expected to decline over the next ten to 15 years.

The proportion of the population identifying as Asian or Māori will increase. The Asian population is growing at the fastest rate and is expected to increase 50% by 2033.

Overall health status has improved

Rates of amenable mortality – premature deaths from conditions amenable to healthcare – have declined between 2000-02 and 2009-11; by 30% in Wairarapa, 35% in Hutt Valley and 40% in CCDHB.

Morbidity from ischaemic heart disease (the leading cause of health loss in 2006) has decreased. Between 2000-02 and 2011-13 hospitalisation rates declined significantly in Hutt Valley (47%) and CCDHB (45%) and by 31% in Wairarapa.

Compared to 2006, in all three DHBs, a lower proportion of people are now regular smokers, a higher proportion of people are ex-smokers and an increased proportion of people have never smoked regularly. Regular smoking prevalence fell six percent amongst adults in the sub-region down to 14% in 2013.

Obesity is emerging as the leading risk factor for health loss

Prevalence of obesity amongst New Zealand adults has increased significantly in recent years. The NZ Health Survey 2011-13 (Ministry of Health, 2014a) estimated 28% of adults and ten percent of children in the sub-region were obese. For adults, this was an increase from 25% in 2006/07.

A key finding of the New Zealand Burden of Disease Study (Ministry of Health, 2013) was a change in ranking from tobacco to obesity as the leading risk factor cause of health loss by 2016.

The scope for health gain remains high

The current level of amenable mortality can be thought of as potential for health gain through improvements in the health system. By definition nearly a third of these deaths should not have occurred, given access to currently available health technologies and interventions (Ministry of Health, 2010).

Applying or developing cost-effective interventions to address tobacco, diet, physical activity and alcohol would have a major impact on population health. Although tobacco use has been declining for several decades, its impact on health loss is still large (over nine percent of total health loss in 2006). Obesity accounted for almost eight percent of health loss in 2006 (Ministry of Health, 2013).

Ambulatory sensitive hospitalisations (ASH) account for almost one in five acute or arranged hospital admisisons and were higher than the national average in Wairarapa and Hutt Valley. Although the ASH rate in CCDHB was slightly lower than average it has increased by seven percent over the last five years. This has been driven mainly by a deterioration in the rate for middle aged-adults (45-64 years).

Inequitable health outcomes persist

Māori and Pacific people are over-represented in the most deprived areas of the sub-region; nearly half of Pacific people and 29% of Māori were living in the most deprived neighbourhoods.

Māori and Pacific people have the highest smoking prevalence and are more likely to be obese than people of other ethnicities.

The very marked differences in avoidable mortality between ethnic groups highlight the opportunity for reduction in health inequalities. Māori and Pacific people experienced higher amenable mortality than Asian or people of 'Other'[1] ethnicity. In the three year period from 2009 to 2011, Māori in Wairarapa and Hutt Valley had amenable mortality rates twice those of Other, as did Pacific people in Hutt Valley. In CCDHB, Māori and Pacific rates were two-and-a-half times that of Other.

Māori and Pacific people were twice as likely as Other to be admitted to hospital for an avoidable condition in Hutt Valley and CCDHB, with Māori 70% more likely in Wairarapa. There were particularly large inequalities in hospitalisation rates for certain long-term conditions such as diabetes and chronic obstructive pulmonary disease.

[1] The 'Other' ethnic group refers to all non-Maori, non-Pacific, non-Asian ethnicities.

Getting on top of chronic disease is a significant challenge

The New Zealand Burden of Disease Study (Ministry of Health, 2013) described an epidemiological picture increasingly dominated by long-term conditions associated with disability across the life course rather than high case fatality. It found an increasing prevalence of most chronic diseases over the next decade, and probably longer, meaning more people will be living with long term conditions.

Incidence of diabetes is increasing and hospitalisation rates increased significantly between 2000-02 and 2011-13 with large ethnic inequalities (Pacific rates were more than three times that of Other).

The study also showed large – and perhaps previously under-appreciated – health loss from musculoskeletal conditions. This includes both arthritic disorders such as osteoarthritis and non-arthritic disorders such as back disorders. It was estimated that obesity contributed to 60% of the osteoarthritis burden in 2006.

Between 2000-02 and 2011-13, musculoskeletal hospitalisation rates amongst older people increased significantly in Hutt Valley (26%) and CCDHB (30%). Females in both DHBs had significantly higher rates than females nationally.

The large impact of mental disorders on population health represents a continuing challenge. Approximately 15% of adults in the sub-region can be expected to experience problems in 2015/16, with nearly four percent experiencing severe mental illness. Anxiety and depressive disorders were found to be the second leading cause of health loss in 2006 (Ministry of Health, 2013). Investigations from a New Zealand longitudinal research study (Kim-Cohen et al, 2003) found that of those adults now receiving intensive mental health services around 78% had received a diagnosis prior to 18 years of age and around 60% received one prior to the age of 15 years.

The ageing population will increase pressure on our health system

An ageing population will increase pressure on the health system, with the level of impact dependent on the relative health of future cohorts of older people.

National estimates suggest that the increase in health expectancy over the period 2006–2016 will be less than the corresponding increase in life expectancy. In other words, people will live longer, they will live longer in good health, but they will also live longer in poor health – that is, with multiple comorbidities, functional impairments and frailty.

Turning this trend around will require a greater focus on diseases affecting older people such as mental and neurological disorders (eg, dementia, Parkinson's disease), stroke, and musculoskeletal disorders (where hospitalisation rates have increased significantly).

Currently, an estimated 11% of the sub-region's population over 65 years receive funded aged residential care or support to live at home. Rates of general practice utilisation and acute admission to hospital are highest amongst people over 65 years.

Access to services has improved but is still variable

PHO enrolment coverage was estimated to be high across the sub-region (greater than 95%) however utilisation rates for Hutt Valley were lower than national averages. Practice nurse utilisation was higher than the national average across all three DHBs.

Elective surgical intervention rates were above the national average for Wairarapa residents and similar to national for Hutt Valley residents. The intervention rate for CCDHB has increased markedly (20% over five years) however was still below average. Elective intervention rates are influenced by level of need and referral patterns, access to the private market, capacity constraints and Government targets. Cardiac surgery intervention rates in the sub-region were lower than national and access to major joint surgery is an issue for CCDHB. Pressure on orthopaedic services will increase as the population ages and obesity prevalence increases.

Access to specialist mental health & addiction services has increased and four percent of the population were seen for severe conditions in 2013/14. The rate was higher for Māori, reflecting the high and complex needs of this population. Mental health clients living in Wairarapa were much more likely to be seen only by a non-government organisation (NGO), and less likely to be admitted to an inpatient facility, than clients in Hutt Valley or CCDHB. Wairarapa DHB utilises inpatient beds at Hutt Valley and MidCentral DHBs.

Demand for urgent hospital services is increasing

Demand for acute hospital services has increased in Hutt Valley and CCDHB. Over the last five years the Emergency Department (ED) attendance rate for Wairarapa residents has declined (24%) whereas attendances by Hutt Valley and CCDHB residents has increased; around 20% compared to a five percent increase nationwide.

Across all three DHBs, the rate of ED attendance for patients that were admitted as a result increased between 2010 and 2013. The overall decrease for Wairarapa was driven by the decreasing rate for patients that are sent home (and potentially may not have needed to be seen in an ED). The proportion of attendances resulting in admission is comparatively low for Hutt Valley – around a quarter of ED patients were admitted to hospital in 2013 compared to over a third for Wairarapa and CCDHB.

The acute inpatient admission rate has been fairly static for Wairarapa however has increased in the last five years for Hutt Valley (ten percent) and CCDHB (18%).

Acute demand rates were highest amongst older adults and young children and growth was fastest amongst children. Māori and Pacific people had higher rates than people of Asian or Other ethnicity.

Introduction

This is the first Health Needs Assessment (HNA) that considers the needs of the three sub-regional District Health Board (DHB) populations: Wairarapa DHB, Hutt Valley DHB and Capital & Coast DHB (CCDHB).

What is health needs assessment?

A health needs assessment is a recognised public health tool which provides evidence on a population, leading to agreed priorities, enabling services to be planned and health inequalities to be addressed (Cavanagh & Chadwick, 2005). The benefits of HNAs can include improved use of resources, better system efficiency and strengthened decision-making.

Under the New Zealand Public Health and Disability Act 2000, a DHB is required to "regularly investigate, assess and monitor the health status of its resident population, any factors that the DHB believes may adversely affect the health status of the population and the needs of that population for services". HNAs, which assess population health, contribute to the monitoring function and can inform service planning and funding (Figure 1).

Figure 1. DHB planning cycle

What influences health needs?

Health needs are needs that can benefit from health care or from wider economic or environmental changes (Wright & Kyle, 2006). Health care, as well as interventions outside of the health care sector, can address health needs, enabling more positive health outcomes. Dealing with health needs involves looking to the factors that drive health outcomes. There are multiple influences on health, from proximal factors like lifestyle, wealth and community to broader factors such as work, transport, and built and natural surroundings. The circumstances in which people are born, grow, live, learn, work and age are powerful drivers of health and wellbeing.

Figure 2. Human Health Map (Barton & Grant, 2006)

What the 2015 health needs assessment tries to do

The HNA attempts to answer some broad questions:

- What does the population and area in which it lives look like?
- Are people living longer, healthier lives?
- What disabilities and illnesses do people have?
- What services do people use?
- What are the common causes of death?

Within these broad questions we look at how health status is changing over time, which conditions have the greatest impact on our population's health, and differences between population groups and how they compare to NZ overall.

Child health has not been considered in detail in this HNA as the DHBs have comprehensive child and youth health reports produced by the New Zealand Child and Youth Epidemiology Service each year. The most recent series can be accessed at http://dnmeds.otago.ac.nz/departments/womens/paediatrics/research/nzcyes/dhb-2011-2013.html.

This HNA does not tackle information beyond analysis of data. Providing and improving health services for the population needs wider types of information than just data analysis, including clinical knowledge and patient perspectives. Data analysis often raises new questions as well as helping to answer current ones.

It is envisaged that this HNA will be a living document and its content regularly updated as new statistics become available. It will form part of a suite of resources which will include locality

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

Data sources

Data to inform this HNA has been drawn from a number of different sources.

Statistics New Zealand	
Population data	Census 2013 and Census 2006
Population projections	
University of Otago	
Socioeconomic deprivation	NZ Index of Deprivation 2013 (NZDep2013)
Ministry of Health	
Health risk factors & disease prevalence	New Zealand Health Survey (NZHS)
Disability prevalence estimates	New Zealand Disability Survey (NZDS)
Emergency Department & outpatient	National Non-Admitted Patient Collection (NNPAC)
Inpatient hospitalisations	National Minimum Data Set (NMDS)
Cancer incidence	New Zealand Cancer Registry
Mortality	National Mortality Collection
Primary Health Organisation (PHO) enrolment	PHO Enrolment
Mental health service utilisation	Programme for the Integration of Mental Health Data (PRIMHD)
Maternity	Maternal & Newborn Information System (MNIS)
Aged residential care & home support	Client Claims Processing System (CPSS) & providers
Primary Health Organisations (PHOs)	
General practice consultations	Clinical performance indicator extracts
interRAI	
Needs assessment outcome measures	National interRAI data warehouse
Australasian Rehabilitation Outcomes Centre (AROC)	
Assessment, treatment & rehabilitation (AT&R) service information	

The National Minimum Data Set (NMDS) is a national collection of public and private hospital discharge information, including clinical information, for inpatients and day patients. The NMDS has undergone many changes over the years and hospitals may have different practices in terms of which events they submit. In recent years, DHBs in the sub-region began to submit short stay Emergency Department (ED) events to the NMDS. Some analyses in this report have excluded ED short stays and this has been noted in the descriptive commentary.

Methods

Much of the data presented in this report are age-standardised rates. Age-standardisation is an epidemiological method that adjusts for differences in the age structures of populations being compared. For example, it would not be reasonable to compare Wairarapa, which has a large proportion of elderly, directly to CCDHB, which has a smaller proportion of elderly. By

standardising for age, we can see what the rates would have been if the two populations had the same proportion of people in each age group, and therefore draw comparisons.

Rates in this report have been standardised to the World Health Organisation (WHO) world population. Rate ratios compare the standardised rate of one population (eg Māori or Pacific people) to another (usually Other[2]).

Calculation of rates, especially age-standardised rates, becomes problematic when the number of cases or the population is small. It is for this reason that three years data have been pooled to calculate an average for some rates in this report.

95% confidence intervals were calculated for many rates in this report however have not been shown on graphs in the interests of clarity. It should be noted that confidence intervals for rates at the DHB level or lower are often very wide, representing substantial variation due to chance. It has been noted in the descriptive explanation of graphs where differences are significant. The word "significant" has only been used where the difference is significant at the 95% confidence level.

Prioritisation of ethnicity

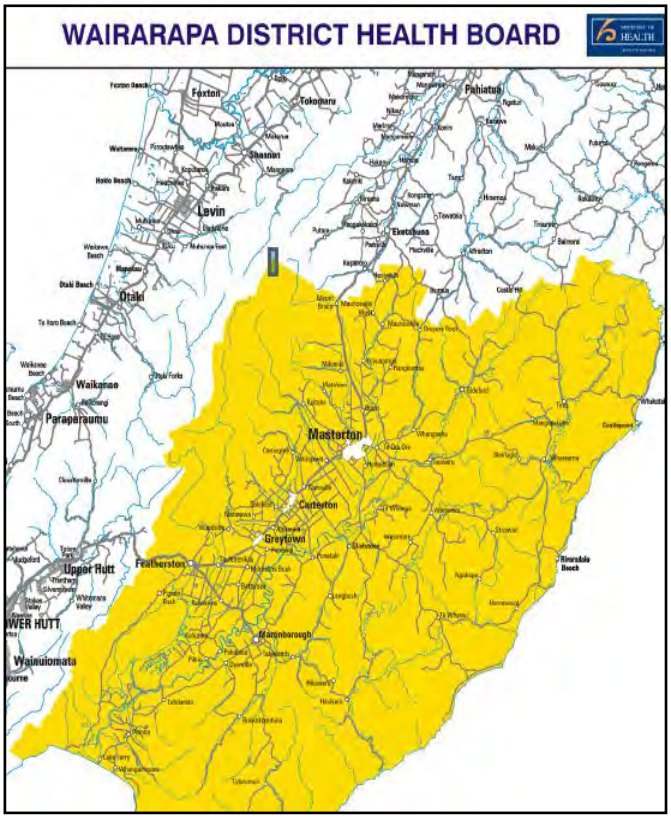
Ethnicity is defined in the Statistics New Zealand standard as the ethnic group or groups that a person identifies with or feels they belong to. Ethnicity is self-perceived and people can belong to one or more than one ethnic group. There are two classifications used to analyse ethnicity data. The 'total response' classification of ethnicity data counts every ethnic group that a person identifies with. People who identify in more than one group will be counted once in each group and therefore the sum of the ethnic groups will be greater than the number of people. The 'prioritised' classification assigns one ethnicity per person based on a predefined prioritisation of ethnic groups. The analysis in this report is based on the *prioritised* ethnicity definition used by the New Zealand health sector.

An important impact of assigning priority to ethnicity is a resulting undercount of Pacific people, as Māori ethnicity takes priority over Pacific. Therefore if a person identifies with both Māori and Pacific ethnic groups, the ethnicity will be assigned as Māori. For this reason Census population counts using 'total response' ethnicity is included in Appendix one: population tables.

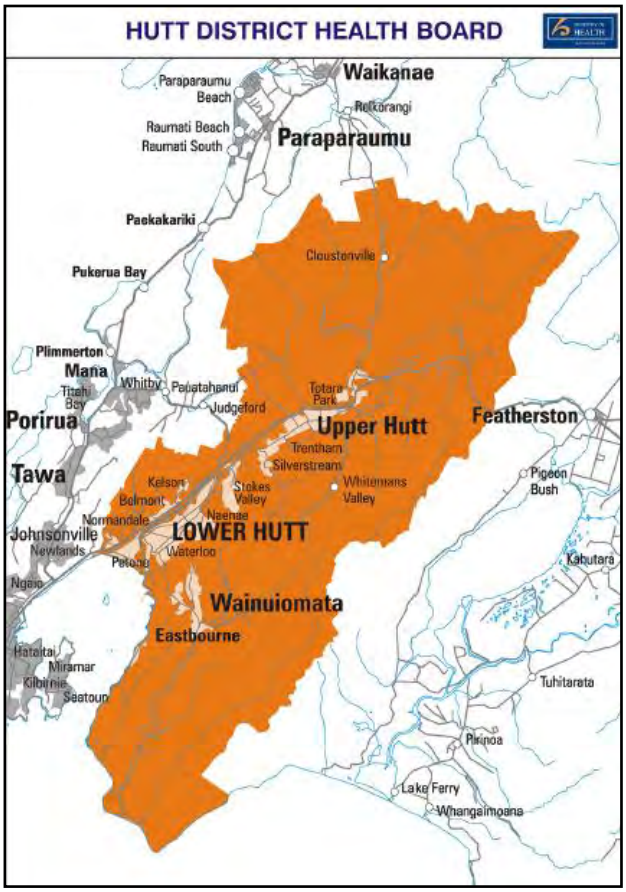
[2] The 'Other' ethnic group refers to all non-Maori, non-Pacific, non-Asian ethnicities.

The three DHB area

The sub-regional DHBs – Wairarapa, Hutt Valley, and Capital & Coast – represent three of the twenty DHBs in New Zealand in 2015. They are located in the lower North Island and comprise urban, rural and coastal settings. CCDHB is the largest DHB (by population) of the sub-region, followed by Hutt Valley and Wairarapa. The population of the sub-region was 463,194 at the last Census in 2013, which represented ten percent of New Zealand's total population of approximately 4.2 million.



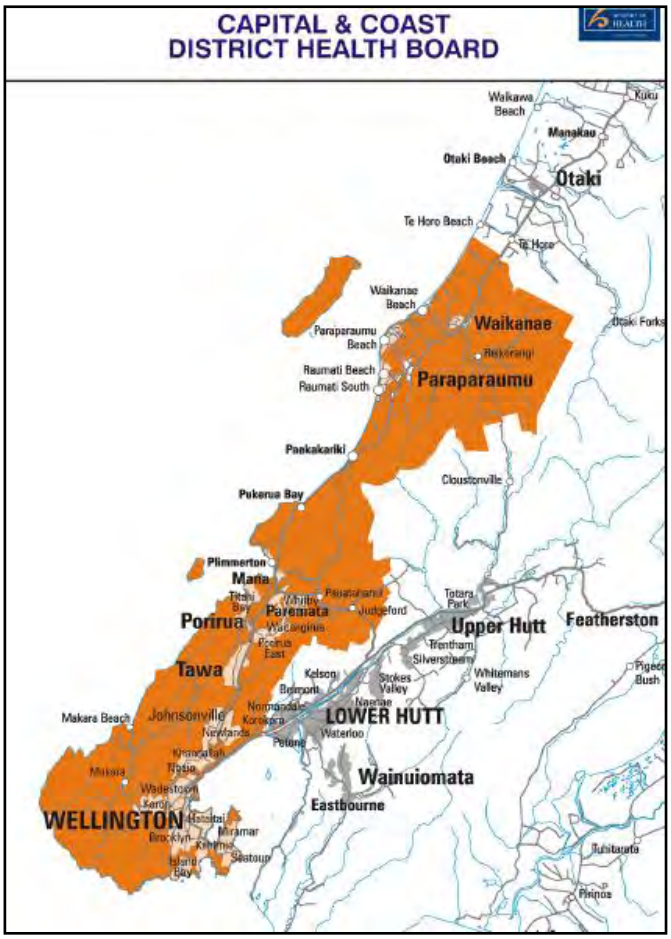
The Wairarapa DHB includes three Territorial Authorities (TAs) – Masterton District, Carterton District and South Wairarapa District – and covers a total land area of 5,936 square kilometres. Like CCDHB and Hutt Valley, the area is served by the Greater Wellington Regional Council (GWRC). The Wairarapa is a diverse rural area, separated from the rest of the Wellington region by the Rimutaka ranges. Masterton, Wairarapa's one large urban town, had a 2013 Census population of just over 23,000.



The land area of the Hutt Valley DHB is 916 square kilometres. The area is predominantly flat in the Hutt River valley, bordered by mountainous ranges in the east (Rimutakas) and north (Akatarawas and Tararuas) and a coastal southern edge. Lower Hutt City and Upper Hutt City are the Hutt Valley's two TAs.

The Capital & Coast DHB has a land area of 739 square kilometres. It is made up of three TAs: Wellington City, Porirua City

and Kapiti Coast District. The Kapiti Coast District includes some territory which is part of the MidCentral DHB (Otaki and near surrounds). The CCDHB area has relatively high density residential living (by New Zealand standards), with on-going expansion of urban areas.



Hazards

The greater Wellington region is crossed by a number of major faults. The region is regularly shaken by small and medium sized earthquakes and more rarely large (magnitude 7+) events. Earthquakes are the highest risk hazard in the region due to the potential for catastrophic damage, and the potential for tsunamis, landslides and liquefaction. Most injuries in an earthquake are caused by falling objects rather than collapsing buildings, but a large earthquake on a fault in the region could result in deaths, injuries and considerable disruption to lifelines and infrastructure.

Floods are the most frequently occurring natural hazard in the Wellington region, mostly caused by heavy localised rain or by storms. They present a high risk due to the large scale damage that can be caused by a flood. The parts of the region vulnerable to flooding are the flood plains of the Hutt Valley, and Ruamahanga (Wairarapa) which may impact the towns of Masterton and Martinborough.

In major storms, parts of the region may become isolated by flooding, landslides or even high winds closing roads and other access points. Storms can damage lifeline utilities, such as the gas, electricity, petrol, transport, water, sewerage and telecommunications infrastructure we need to live. The infrastructure failure may significantly disrupt a community and society, and can have a large economic impact.

What does the population look like?

In 2013 the Census 'usually resident population'[3] for the sub-region was 463,194; a five percent increase from the last Census in 2006 (441,372). The largest percentage change occurred in Wairarapa (6.5%) and CCDHB (6.4%).

Table 1. Population change in the sub-region 2006-2013

	2006	2013	% change
Wairarapa DHB			
Masterton District	22,626	23,349	3.2
Carterton District	7089	8232	16.0
South Wairarapa District	8892	9528	7.2
Total	38,613	41,112	6.5
Hutt Valley DHB			
Upper Hutt City	38,415	40,179	4.6
Lower Hutt City	97,686	98,199	0.5
Total	136,101	138,378	1.7
Capital & Coast DHB			
Kapiti Coast District	38,649	41,028	6.2
Porirua City	48,546	51,717	6.5
Wellington City	179,466	190,959	6.4
Total	266,658	283,704	6.4

Source: Statistics New Zealand

The largest population of the sub-region was in CCDHB (61% of the population), followed by Hutt Valley DHB (30%) and Wairarapa DHB with just nine percent of the sub-region's population.

Age profile

- Wairarapa is noted for a larger older population compared to CCDHB and Hutt Valley.
- The age distribution of CCDHB is characterised by a large proportion of adults of working age.
- Hutt Valley had a similar age distribution to CCDHB, but had a slightly larger population aged under 15 years than the other two DHBs.

[3] The census 'usually resident population' count of an area in New Zealand is a count of all people who usually live in that area and were present in New Zealand on census night. Excluded are: visitors from overseas, visitors from elsewhere in New Zealand, and residents temporarily overseas on census night.

Table 2. Population distribution by DHB and age group, 2013

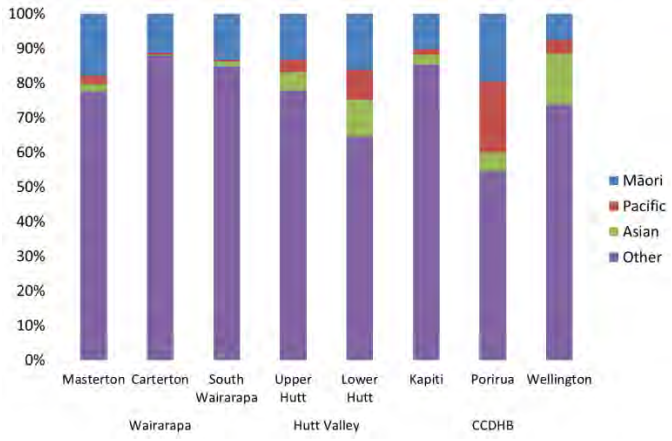
DHB	0-4	5-14	15-24	25-44	45-64	65-84	85+	Total
Wairarapa	2616	5535	4542	8640	11,919	6924	936	41,112
%	6.4	13.5	11.0	21.0	29.0	16.8	2.3	100.0
Hutt Valley	9951	19,200	18,048	36,690	36,060	16,239	2187	138,378
%	7.2	13.9	13.0	26.5	26.1	11.7	1.6	100.0
CCDHB	18,279	34,854	44,979	82,461	69,072	29,832	4227	283,704
%	6.4	12.3	15.9	29.1	24.3	10.5	1.5	100.0

Source: Statistics New Zealand
Note: cells may not sum to totals due to rounding

Ethnic profile

The ethnic groups were distributed differently across the sub-region; the TAs with the largest numbers of both Māori and Pacific people were Wellington City, Lower Hutt City, and Porirua City. Of note is that 36% of Pacific people in the sub-region lived in Porirua City.

Figure 3. Ethnic composition by territorial authority, 2013



Source: Statistics New Zealand

- Overall the Other ethnic group made up around 70% of the sub-region's population, and was the largest ethnic group in all three DHBs. The Other ethnic group had a relatively high proportion of people aged 40-55 years.
- Māori made up 12% of the sub-region's population and are a young population, with 33% of Māori aged under 15 years.
- Pacific people accounted for six percent and Asian ten percent of the sub-region's population. The greatest proportion of Asians was in the 25-35 year age group whereas, like Māori, the Pacific population had a greater proportion of children and young people.

Wairarapa DHB demographic profile

Wairarapa DHB had a population of 41,112 people at the 2013 Census. It includes the territorial authorities of Masterton District, Carterton District and South Wairarapa District.

The age distribution in Wairarapa is noted for a smaller population of young working adults compared to Hutt Valley and CCDHB. Around 20% of the population was aged under 15 years and a further 19% were over the age of 65 years.

Age and gender

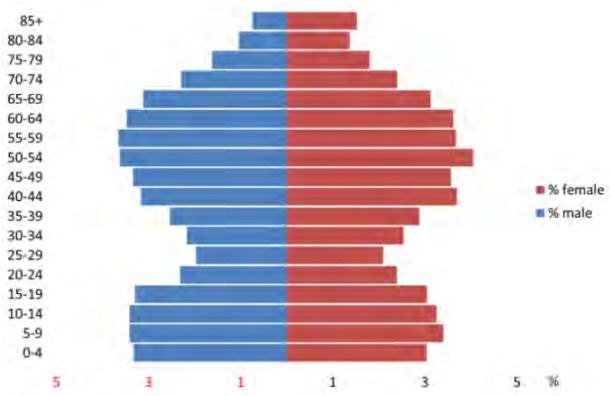
Table 3. Wairarapa population by age and gender, 2013

Age group	Male	Female	Total	Total %
0-4	1365	1251	2616	6.4
5-14	2805	2727	5535	13.5
15-24	2307	2235	4542	11.0
25-44	4041	4599	8640	21.0
45-64	5793	6123	11,919	29.0
65-84	3327	3597	6924	16.8
85+	312	624	936	2.3
Total	19,953	21,159	41,112	100.0
%	48.5	51.5	100.0	

Source: Statistics New Zealand
Note: cells may not sum to totals due to rounding

- Overall there were slightly more females (51.5%) than males (48.5%) in Wairarapa.
- There were more boys than girls aged under 15 years.
- Across the working age groups there were similar proportions of females and males, but as age increased females outnumbered males.
- Notably there were twice as many females than males aged 85+ years.

Figure 4. Wairarapa population by age and gender, 2013



Source: Statistics New Zealand

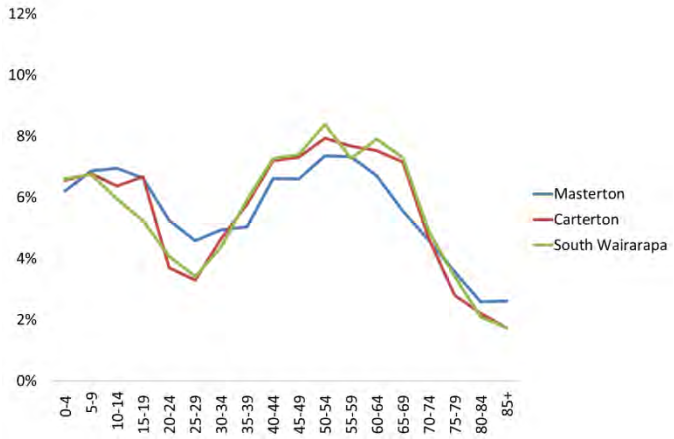
Table 4. Wairarapa population by age and territorial authority, 2013

Age group	Masterton	%	Carterton	%	South Wairarapa	%	DHB	%
0-4	1449	6.2	543	6.6	624	6.5	2616	6.4
5-14	3216	13.8	1095	13.3	1227	12.9	5535	13.5
15-24	2775	11.9	858	10.4	906	9.5	4542	11.0
25-44	4929	21.1	1716	20.8	1989	20.9	8640	21.0
45-64	6522	27.9	2475	30.1	2919	30.6	11,919	29.0
65-84	3837	16.4	1401	17.0	1686	17.7	6924	16.8
85+	618	2.6	141	1.7	177	1.9	936	2.3
Total	23,349	100.0	8232	100.0	9528	100.0	41,112	100.0
%	56.8		20.0		23.2		100.0	

Source: Statistics New Zealand
Note: cells may not sum to totals due to rounding

- Fifty-seven percent of the Wairarapa population lived in Masterton, 23% in South Wairarapa and 20% in Carterton.
- All three TAs followed a similar trend with slightly higher proportions of middle-aged people and lower proportions of people aged 20-40 years.
- There were greater proportions of older people (65+ years) living in the Wairarapa TAs compared to most other TAs in the sub-region.

Figure 5. Wairarapa age distribution by territorial authority, 2013



Source: Statistics New Zealand

Ethnicity

Table 5. Wairarapa ethnicity by age group, 2013

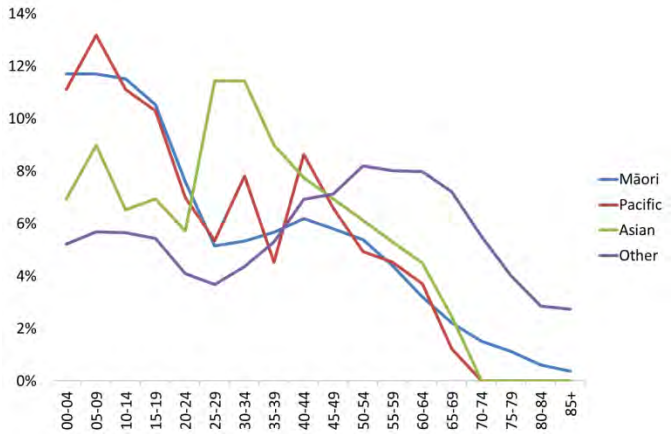
Age group	Māori	%	Pacific	%	Asian	%	Other	%	Total
0-4	747	11.7	81	10.6	51	6.7	1731	5.2	2616
5-14	1473	23.2	180	23.6	111	14.6	3768	11.3	5535
15-24	1152	18.1	129	16.9	96	12.6	3168	9.5	4542
25-44	1416	22.3	195	25.6	291	38.2	6726	20.2	8640
45-64	1191	18.7	147	19.3	171	22.4	10,401	31.3	11,919
65-84	348	5.5	24	3.1	36	4.7	6507	19.6	6924
85+	27	0.4	0	0.0	0	0.0	909	2.7	936
Total	6360	100.0	762	100.0	762	100.0	33,228	100.0	41,112
%	15.5		1.9		1.9		80.8		100.0

Source: Statistics New Zealand
Note: cells may not sum to totals due to rounding

The age distribution varied by ethnicity:

- Eighty-one percent of the Wairarapa population was in the Other ethnic group.
- Māori made up 16% of the population whereas Pacific people and Asian groups made up a very small proportion (less than two percent).
- Over a third of Māori (35%) were children and a further 40% between 25 and 44 years.
- Twenty-two percent of the Other ethnic group were over 65 years.

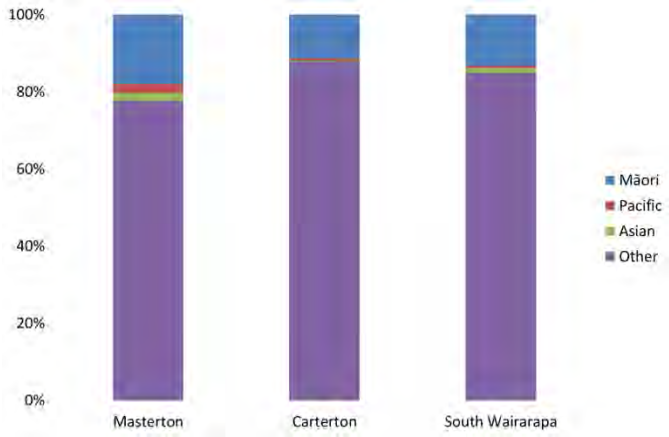
Figure 6. Wairarapa ethnicity by age group, 2013



Source: Statistics New Zealand

- Two-thirds of Māori lived in Masterton, accounting for 18% of the total Masterton population.
- The proportion of Māori was lower in Carterton (11%) and South Wairarapa (13%).

Figure 7. Wairarapa ethnicity by territorial authority, 2013



Source: Statistics New Zealand

Hutt Valley DHB demographic profile

Hutt Valley DHB had a population of 138,378 people at the 2013 Census. It includes the territorial authorities of Upper Hutt City and Lower Hutt City.

The Hutt Valley population is characterised by children and working age adults. Just over 20% of the population were aged under 15 years.

Age and gender

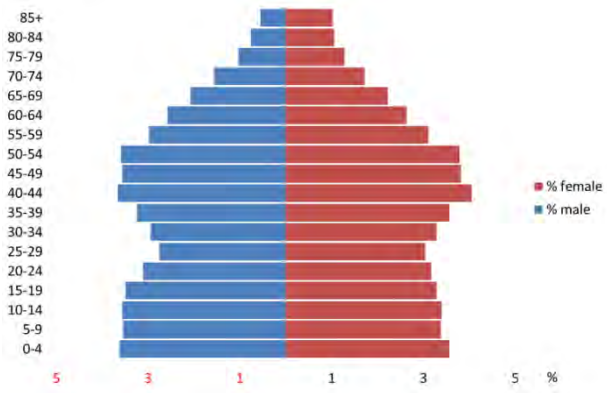
Table 6. Hutt Valley population by age and gender, 2013

Age group	Male	Female	Total	Total %
0-4	5010	4941	9951	7.2
5-14	9837	9363	19,200	13.9
15-24	9129	8919	18,048	13.0
25-44	17,427	19,263	36,690	26.5
45-64	17,589	18,471	36,060	26.1
65-84	7539	8709	16,239	11.7
85+	774	1410	2187	1.6
Total	67,302	71,076	138,378	100.0
%	48.6	51.4	100.0	

Source: Statistics New Zealand
Note: cells may not sum to totals due to rounding

- Overall there were slightly more females (51.4%) than males (48.6%).
- This trend was present in all age groups apart from those under 25 years, where there were more males than females.
- There were nearly twice as many females than males aged over 85 years.

Figure 8. Hutt Valley population by age and gender, 2013



Source: Statistics New Zealand

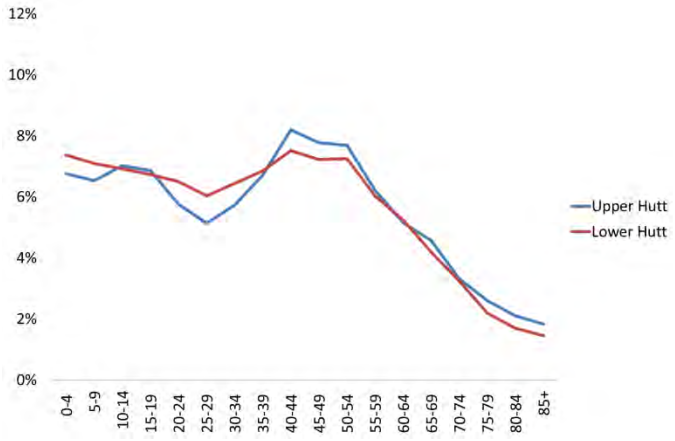
Table 7. Hutt Valley population by age and territorial authority, 2013

Age group	Upper Hutt	%	Lower Hutt	%	DHB	%
0-4	2718	6.8	7230	7.4	9951	7.2
5-14	5442	13.5	13,761	14.0	19,200	13.9
15-24	5064	12.6	12,984	13.2	18,048	13.0
25-44	10,350	25.8	26,343	26.8	36,690	26.5
45-64	10,773	26.8	25,287	25.8	36,060	26.1
65-84	5082	12.6	11,157	11.4	16,239	11.7
85+	750	1.9	1434	1.5	2187	1.6
Total	40,179	100.0	98,199	100.0	138,378	100.0
%	29.0		71.0		100.0	

Source: Statistics New Zealand
Note: cells may not sum to totals due to rounding

- Seventy-one percent of the Hutt Valley population lived in Lower Hutt and 29% in Upper Hutt.
- The age distribution in Lower Hutt and Upper Hutt was similar, although Lower Hutt had a slightly higher proportion of children and young people.

Figure 9. Hutt Valley age distribution by territorial authority, 2013



Source: Statistics New Zealand

Ethnicity

Table 8. Hutt Valley ethnicity by age group, 2013

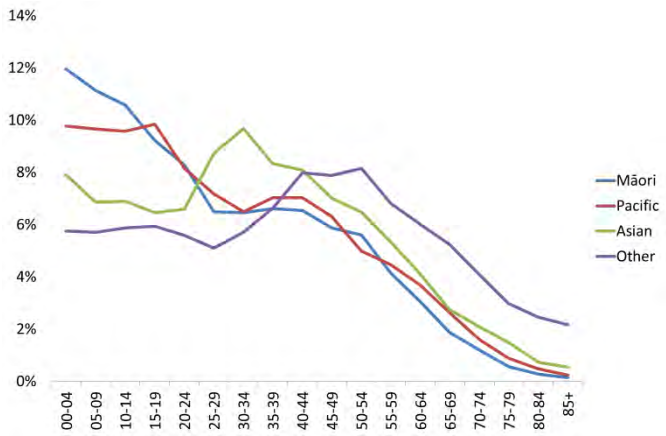
Age group	Māori	%	Pacific	%	Asian	%	Other	%	Total
0-4	2535	12.0	975	9.8	987	7.9	5451	5.8	9951
5-14	4605	21.7	1914	19.3	1719	13.7	10,953	11.6	19,200
15-24	3717	17.5	1785	18.0	1635	13.1	10,917	11.5	18,048
25-44	5532	26.1	2757	27.7	4341	34.7	24,066	25.4	36,690
45-64	3963	18.7	1932	19.4	2865	22.9	27,300	28.8	36,060
65-84	834	3.9	552	5.6	885	7.1	13,968	14.7	16,239
85+	30	0.1	27	0.3	69	0.6	2058	2.2	2187
Total	21,213	100.0	9939	100.0	12,504	100.0	94,722	100.0	138,378
%	15.3		7.2		9.0		68.5		100.0

Source: Statistics New Zealand
Note: cells may not sum to totals due to rounding

The age distribution varied by ethnicity:

- Sixty-nine percent of the Hutt Valley population was in the Other ethnic group.
- Māori made up 15% of the population, Pacific people made up seven percent and Asian groups made up nine percent.
- A third of Māori and 29% of Pacific people were children aged under 15 years.
- Seventeen percent of the Other ethnic group were over 65 years.

Figure 10. Hutt Valley ethnicity by age group, 2013

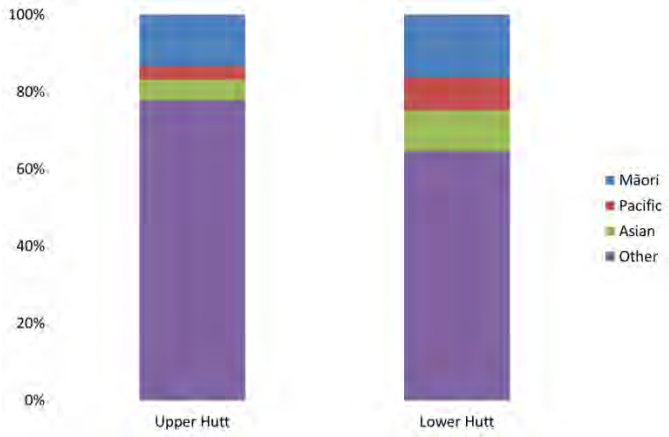


Source: Statistics New Zealand

The ethnic composition of the two TAs differed slightly:

- Lower Hutt had a higher proportion of Māori (16%), Pacific people (9%) and Asian (11%) compared to Upper Hutt (13%, four percent and five percent respectively).

Figure 11. Hutt Valley ethnicity by territorial authority, 2013



Source: Statistics New Zealand

Capital & Coast DHB demographic profile

CCDHB had a population of 283,704 people at the 2013 Census. It includes the territorial authorities of Wellington City, Porirua City, and most of the Kapiti Coast District.

The age distribution in CCDHB population is characterised by a large proportion of working age people. Around half of the population were between the ages of 25 and 64 years. Of note also is that around nine percent of the population was aged 20-24 years.

Age and gender

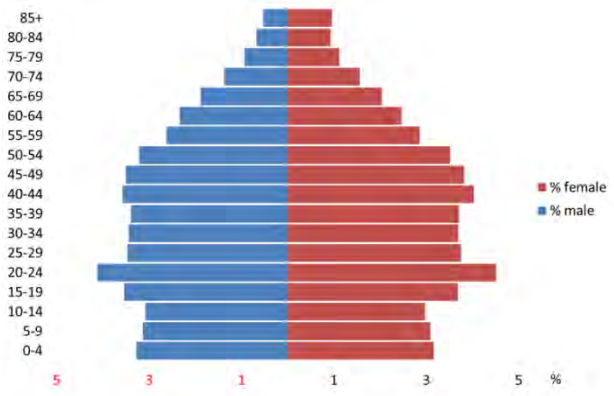
Table 9. CCDHB population by age and gender, 2013

Age group	Male	Female	Total	Total %
0-4	9306	8976	18,279	6.4
5-14	17,631	17,223	34,854	12.3
15-24	21,735	23,244	44,979	15.9
25-44	39,360	43,104	82,461	29.1
45-64	33,135	35,940	69,072	24.3
65-84	13,836	15,993	29,832	10.5
85+	1515	2715	4227	1.5
Total	136,512	147,195	283,704	100.0
%	48.1	51.9	100.0	

Source: Statistics New Zealand
Note: cells may not sum to totals due to rounding

- Overall there were slightly more females (51.9%) than males (48.1%) in CCDHB.
- There were more boys than girls aged under 15 years.
- In the majority of age groups the proportions of males and females was similar, but as age increased females outnumbered males.

Figure 12. CCDHB population by age and gender, 2013



Source: Statistics New Zealand

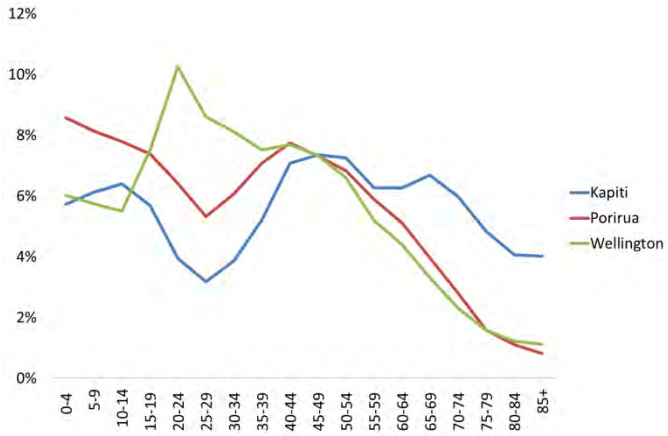
Table 10. CCDHB population by age and territorial authority, 2013

Age group	Kapiti Coast	%	Porirua	%	Wellington	%	DHB	%
0-4	2358	5.7	4431	8.6	11,493	6.0	18,279	6.4
5-14	5136	12.5	8244	15.9	21,474	11.2	34,854	12.3
15-24	3957	9.6	7140	13.8	33,882	17.7	44,979	15.9
25-44	7938	19.3	13,572	26.2	60,951	31.9	82,461	29.1
45-64	11,136	27.1	13,002	25.1	44,931	23.5	69,072	24.3
65-84	8853	21.6	4896	9.5	16,074	8.4	29,832	10.5
85+	1653	4.0	432	0.8	2142	1.1	4227	1.5
Total	41,028	100.0	51,717	100.0	190,959	100.0	283,704	100.0
%	14.5		18.2		67.3		100.0	

Source: Statistics New Zealand
Note: cells may not sum to totals due to rounding

- Two-thirds of the CCDHB population lived in Wellington, 18% in Porirua and 15% on the Kapiti Coast.
- Wellington featured a large proportion of people in the younger working age groups (20-44 years).
- The Porirua population was younger in comparison, with around a quarter of the population aged under 15 years.
- A quarter of the Kapiti Coast population was aged over 65 years.

Figure 13. CCDHB age distribution by territorial authority, 2013



Source: Statistics New Zealand

Ethnicity

Table 11. CCDHB ethnicity by age group, 2013

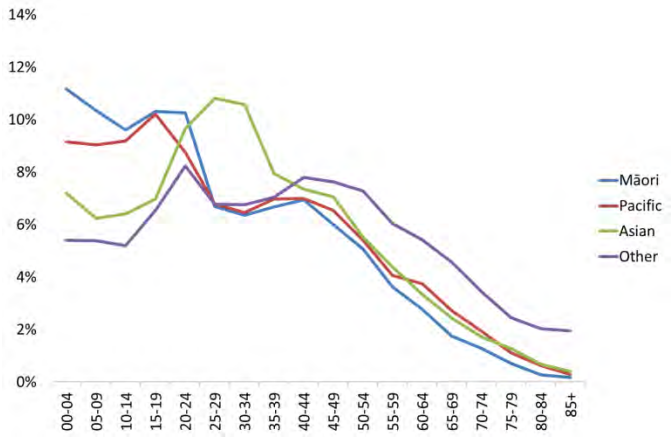
Age group	Māori	%	Pacific	%	Asian	%	Other	%	Total
0-4	3207	11.2	1746	9.2	2283	7.2	11,046	5.4	18,279
5-14	5736	19.9	3471	18.2	4005	12.6	21,636	10.6	34,854
15-24	5910	20.6	3615	19.0	5274	16.6	30,177	14.8	44,979
25-44	7671	26.7	5184	27.2	11,628	36.7	57,981	28.4	82,461
45-64	5016	17.4	3759	19.7	6432	20.3	53,868	26.4	69,072
65-84	1161	4.0	1218	6.4	1932	6.1	25,518	12.5	29,832
85+	51	0.2	57	0.3	129	0.4	3993	2.0	4227
Total	28,752	100.0	19,044	100.0	31,689	100.0	204,219	100.0	283,704
%	10.1		6.7		11.2		72.0		100.0

Source: Statistics New Zealand
Note: cells may not sum to totals due to rounding

The age distribution varied by ethnicity:

- The Other ethnic group was the largest in CCDHB, comprising 72% of the total population.
- Māori accounted for ten percent of the population, Pacific people for seven percent and Asian groups for 11%.
- Māori and Pacific people had young populations in comparison to other groups. Thirty-one percent of Māori and 27% of Pacific people were children aged under 15 years.
- Over a third of Asian (37%) were adults aged 25-44 years.
- The Other ethnic group had the largest proportion of older adults, with 15% of the population aged over 65 years.

Figure 14. CCDHB ethnicity by age group, 2013

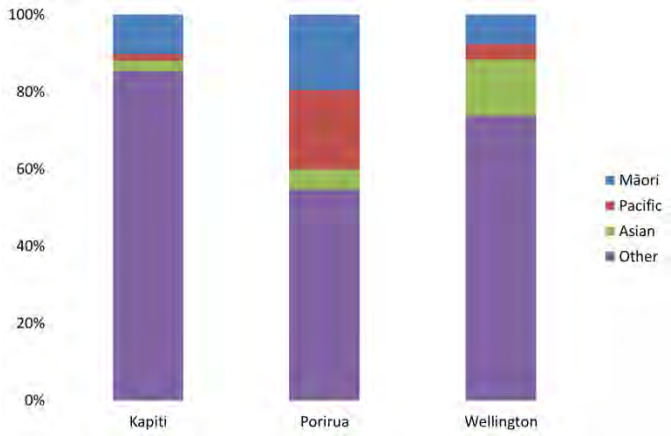


Source: Statistics New Zealand

The ethnic composition of the three TAs was quite different:

- Over 70% of the Wellington population were in the Other ethnic group. Wellington also had the largest Asian population (15%).
- Porirua had a larger proportion of Māori (20%) and Pacific people (21%) than the other TAs.
- Eight-five percent of the Kapiti Coast population were in the Other ethnic group.

Figure 15. CCDHB ethnicity by territorial authority, 2013



Source: Statistics New Zealand

Socioeconomic deprivation

Over the last few decades there have been major changes in the way New Zealand society is organised and in the ways in which we view our communities. A wealth of data is available from censuses, surveys and research that describe some of the effects of these changes. The New Zealand Index of Deprivation 2013 (NZDep2013) is a summary measure derived from the 2013 Census.

The index is constructed from nine Census 2013 variables, and provides a summary deprivation score from one to ten for small areas. A score of one is allocated to the least deprived ten percent of areas, and ten is allocated to the most deprived ten percent of areas. NZDep2013 is sometimes presented as quintiles, with one representing the least deprived and five the most deprived.

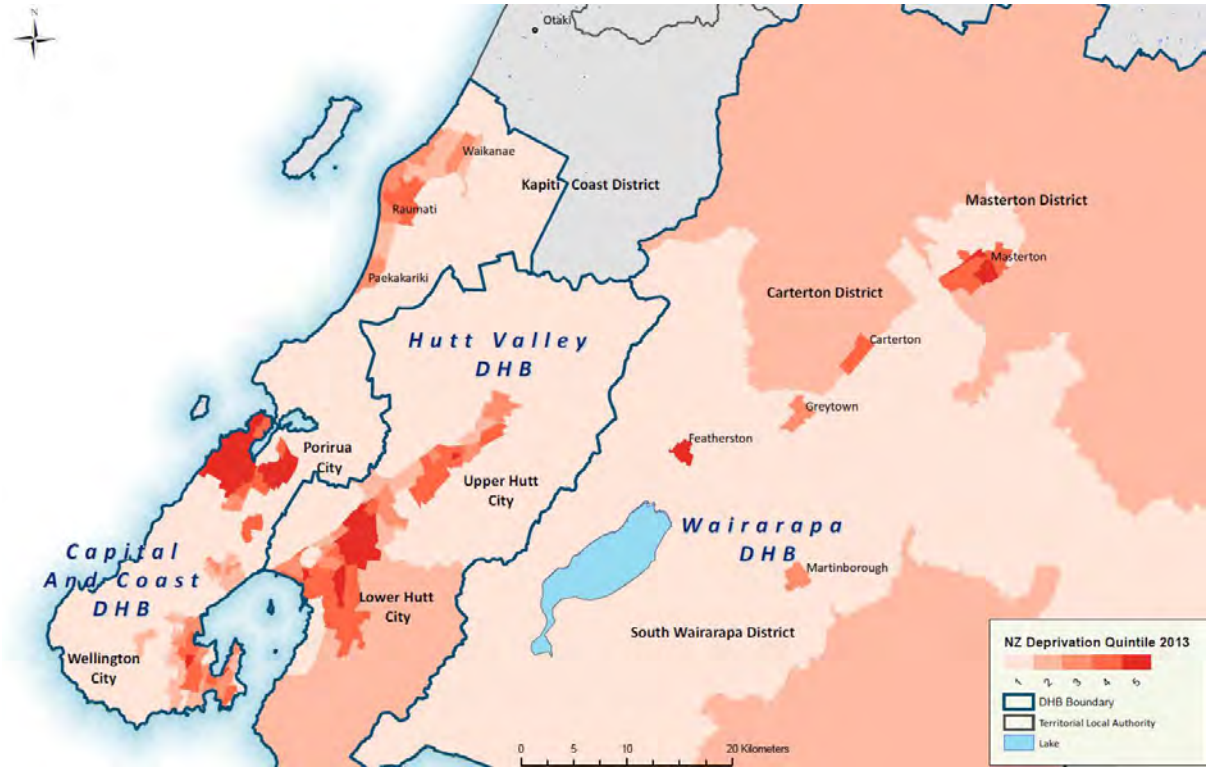
The NZDep2013 reflects eight dimensions of material and social deprivation. These dimensions reflect lack of income, employment, communication, transport, support, qualifications, owned home and living space.

Table 12. Variables included in NZDep2013 in order of decreasing weight in the index

People aged < 65 with no access to the Internet at home
People aged 18 - 64 receiving a means tested benefit
People living in equivalised households with income below an income threshold
People aged 18 - 64 unemployed
People aged 18 - 64 without any qualifications
People not living in own home
People aged < 65 living in a single parent family
People living in equivalised households below a bedroom occupancy threshold
People with no access to a car

The NZ Index of Deprivation is used in a wide variety of contexts as a tool for needs assessment, resource allocation, research and advocacy. It has been shown to be strongly correlated with smoking prevalence (Atkinson et al, 2014), mortality rates and infant hospitalisation rates (White et al, 2008). The map in Figure 16 shows the deprivation distribution by quintile across the sub-region.

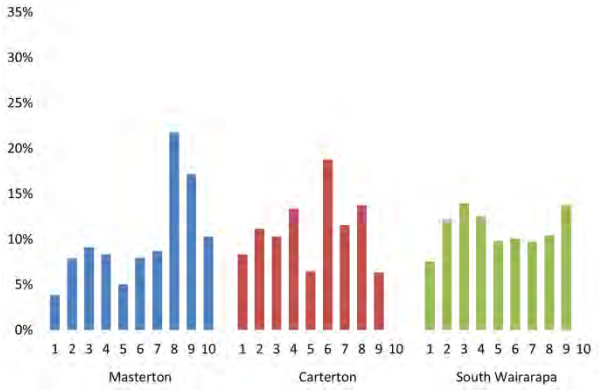
Figure 16. Map of the sub-regional area by NZDep2013 quintiles



Source: Regional Public Health

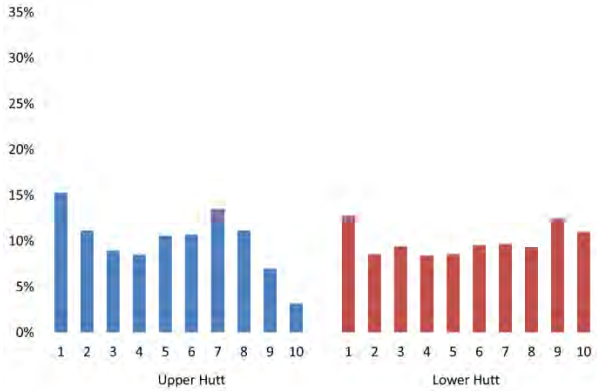
The most deprived areas are concentrated in Porirua City (eastern Porirua and areas to the west of the state highway), Lower Hutt around areas of Taita, Naenae and Wainuiomata, and in the Wairarapa, areas in central Masterton, and Featherston. More detailed maps can be found in Appendix two: NZ Index of Deprivation 2013 maps.

Figure 17. Wairarapa population distribution across deprivation deciles, 2013



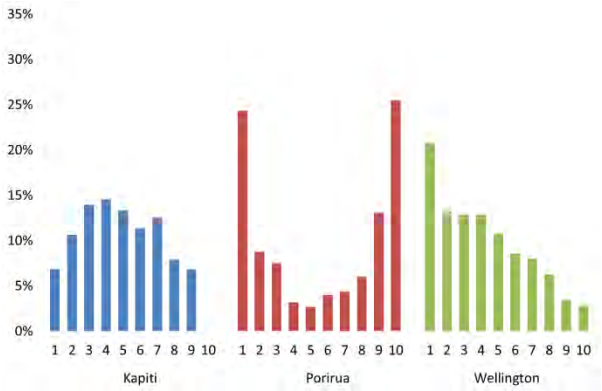
Source: University of Otago

Figure 18. Hutt Valley population distribution across deprivation deciles, 2013



Source: University of Otago

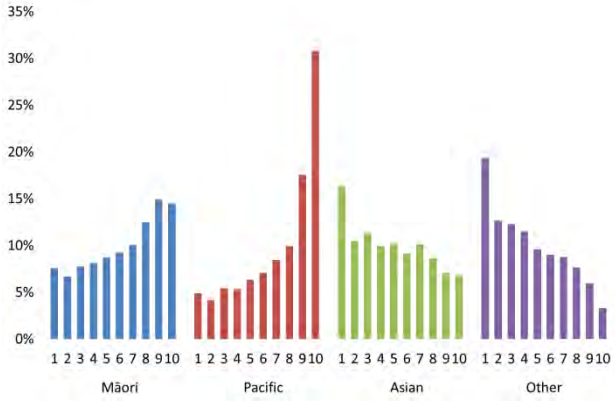
Figure 19. CCDHB population distribution across deprivation deciles, 2013



Source: University of Otago

- There are no decile ten areas (the most deprived) in Carterton or South Wairarapa, although nearly a quarter of the South Wairarapa population lived in decile eight (ten percent) or nine (14%). Twenty-seven percent of the Masterton population lived in decile nine or ten areas and a further 22% in decile eight areas.
- In Upper Hutt, 26% of the population lived in decile one and two areas and only three percent in decile ten. A quarter of the Lower Hutt population lived in decile nine and ten areas, and 13% in decile one.
- There are few decile nine and ten areas on the Kapiti Coast; more than three-quarters of the population lived in decile two to seven areas. In Porirua, a quarter of the population lived in decile one areas and another quarter in decile ten areas. A further 13% lived in decile nine areas. Twenty percent of the Wellington population lived in decile one areas and only six percent lived in decile nine or ten.

Figure 20. Sub-regional population distribution across deprivation deciles by ethnicity, 2013



Source: University of Otago

Within the sub-region, 48% of Pacific people were living in the most deprived neighbourhoods (decile nine or ten). Nearly a third were living in a decile ten area. Māori were also over-represented in the most deprived neighbourhoods, with 29% living in decile nine or ten. In comparison, 16% of Asian and 19% of Other lived in a decile one neighbourhood.

How will the population change in the future?

Population projections are important for health planning purposes. As the population grows, so does the demand on health services, education, employment, food, housing and other necessities.

Statistics New Zealand projections for the Ministry of Health predict that in the next 20 years (from 2013) the sub-region's population will grow by 11%. CCDHB is projected to experience a strong growth (15%) with growth in Hutt Valley (four percent) and Wairarapa (five percent) projected to be more modest. The Wairarapa population is predicted to decline slightly after 2023.

Table 13. Projected population growth for sub-region

	2013	2023	2033	2013-2023	2013-2033
Wairarapa DHB	42,340	45,020	44,525	6.3%	5.2%
Hutt Valley DHB	142,450	147,240	148,300	3.4%	4.1%
CCDHB	293,570	317,420	338,330	8.1%	15.2%
Sub-region	478,360	509,680	531,155	6.5%	11.0%

Source: Ministry of Health

The population will age

The sub-region's population is ageing, and this is projected to continue in the next 20 years. In all three DHBs, the number of older people (65+ years) is expected to increase while the population aged under 25 years stays about the same or declines. This growth in the population of older people has an impact on the region's health resources because older people are likely to require more health care services than the younger population group.

Table 14. Projected population by DHB and age group, 2013-2033

	Wairarapa DHB		Hutt Valley DHB		CCDHB		Sub-region	
Age group	2013	2033	2013	2033	2013	2033	2013	2033
00-14	8435	7290	29,960	26,390	54,970	55,750	93,365	89,430
15-24	4780	3805	18,840	15,650	46,510	46,350	70,130	65,805
25-44	8870	9130	37,680	38,790	85,410	101,150	131,960	149,070
45-64	12,180	10,435	37,070	33,620	71,460	69,330	120,710	113,385
65-84	7125	11,730	16,690	29,200	30,900	56,130	54,715	97,060
85+	950	2135	2210	4650	4320	9620	7480	16,405
Total	42,340	44,525	142,450	148,300	293,570	338,330	478,360	531,155

Source: Ministry of Health

By 2033 at least one in five people will be aged over 65 years. The largest percentage growth in the sub-region is projected to be in the very old population group (85+ years). By 2033 this population will have more than doubled from 2013 levels in all three DHBs.

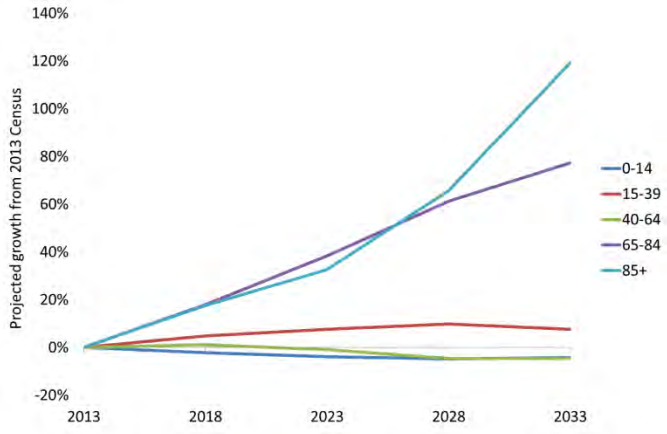
Table 15: Projected change in population by DHB and age group, 2013-2033

	Wairarapa DHB		Hutt Valley DHB		CCDHB		Sub-region	
Age group	Change	%	Change	%	Change	%	Change	%
00-14	-1145	-13.6%	-3570	-11.9%	780	1.4%	-3935	-4.2%
15-24	-975	-20.4%	-3190	-16.9%	-160	-0.3%	-4325	-6.2%
25-44	260	2.9%	1110	2.9%	15740	18.4%	17110	13.0%
45-64	-1745	-14.3%	-3450	-9.3%	-2130	-3.0%	-7325	-6.1%
65-84	4605	64.6%	12510	75.0%	25230	81.7%	42345	77.4%
85+	1185	124.7%	2440	110.4%	5300	122.7%	8925	119.3%
Total	2185	5.2%	5850	4.1%	44760	15.2%	52795	11.0%

Source: Ministry of Health

In CCDHB, the total population is expected to increase by nearly 45,000 people to around 338,000 people by 2033, at an average of 0.7% per year. The other main increase is expected to come from the 25-44 year old population, projected to grow by nearly 16,000. In contrast the Hutt Valley DHB is only expected to increase by about 6,000 people (at an average of 0.2% per year) and Wairarapa DHB by about 2,000 people (an average of 0.3% per year).

Figure 21. Sub-regional population growth by age group



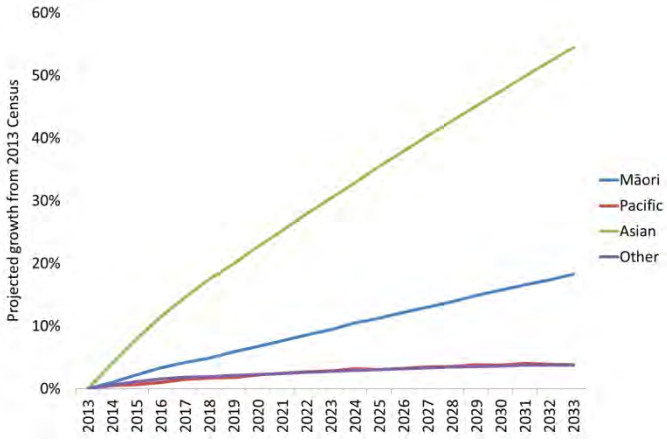
Source: Ministry of Health

Ethnic groups will grow at different rates

The ethnic composition of the sub-region is likely to change in the next 20 years, with some similarities but also some differences between the three DHBs. The Asian population is the fastest growing population and by 2033 is expected to have grown by at least 50% from 2013 numbers in all three DHBs. Growth is also expected in the Māori population, most noticeably in CCDHB where it is expected to be about 20% larger than in 2013.

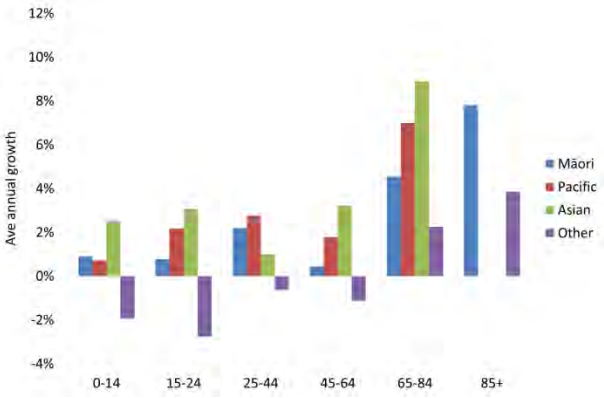
Pacific and Other populations are expected to grow much more slowly and even decline in some younger age groups. Overall both the Pacific and Other populations are expected to have grown three percent by 2023, and four percent by 2033.

Figure 22. Sub-regional population growth by ethnicity



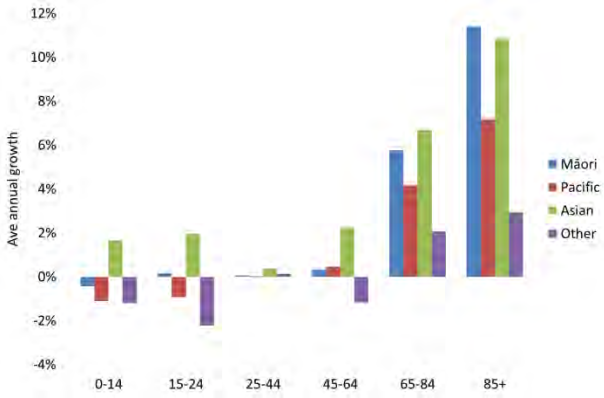
Source: Ministry of Health

Figure 23. Wairarapa average annual growth rates by ethnicity, 2013-2033



Source: Ministry of Health

Figure 24. Hutt Valley average annual growth rates by ethnicity, 2013-1033



Source: Ministry of Health

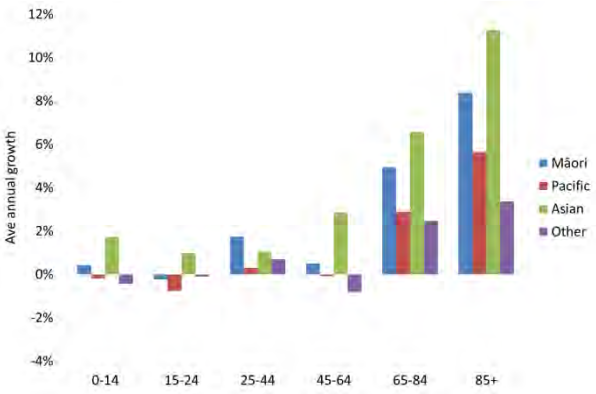
In Wairarapa DHB:

- The Māori population is expected to increase on average 1.4% per year. Growth will be highest for Māori aged over 65 years.
- The small population of Pacific people in Wairarapa is expected to increase by around two percent per year to reach approximately 1300 by 2033.
- The small Asian population in Wairarapa is expected to grow around three percent on average each year. By 2033 it is projected there will be slightly more Asian than Pacific people living in the Wairarapa.
- The Other population is expected to decrease slightly overall; the result of a decrease in all age groups under 65 years. The population aged over 65 years will increase.

In Hutt Valley DHB:

- A small overall growth is expected in the Māori population (0.4% per year on average), mainly in the older age groups (65+ years). The number of Māori children aged under 15 years is projected to decline slightly.
- Similarly, only a very small overall growth is expected in the Pacific population (0.1% per year on average), mainly in the older age groups. The number of Pacific children is projected to decline.
- The Asian population is projected to increase in all age groups; an average of 2.2% per year in total.
- The Other population is expected to decrease slightly overall; the result of a decrease in the number of people aged under 65 years. The population aged over 65 years will increase.

Figure 25. CCDHB average annual growth rates by ethnicity 2013-2033



Source: Ministry of Health

In CCDHB:

- The Māori population is expected to increase by an average of one percent each year. Growth is projected to be highest in Māori aged over 65 years although the numbers remain relatively small.
- Only a small increase of 0.2% per year is expected in the Pacific population. It is projected that the number of Pacific people aged under 25 years will decline whereas the number aged over 65 years will grow.
- The Asian population is projected to increase in all age groups; an average of 2.2% per year in total.
- The Other population is projected to grow slowly overall (0.4% per year on average). The number of people aged under 25 years is expected to decline whereas the number aged over 65 years will grow.

Are people living longer, healthier lives?

Life expectancy

Life expectancy is the most widely used measure of health, although it only takes into account the length of people's life and not their quality of life. Recent analysis from the Organisation for Economic Cooperation and Development (n.d.) suggests that health care spending growth has contributed to the improvement in life expectancy, but other determinants such as rising living standards, environmental improvements, lifestyle changes and education are also important drivers.

In 2012, a boy born in the sub-region had a life expectancy of 79 years, and a girl 82 years. Table 16 shows life expectancy at birth and 65 years by DHB. Hutt Valley and CCDHB had slightly higher than national life expectancy from birth, whereas Wairarapa's was slightly lower than national.

Table 16: Life expectancy (years) at birth and at age 65, 2012

	Wairarapa	Hutt Valley	CCDHB	National
Males at birth	78.2	80.0	80.6	79.2
Females at birth	81.0	83.0	84.1	82.8
Males from 65	82.9	84.5	84.3	84.0
Females from 65	85.2	86.0	86.8	86.2

Source: Health Quality & Safety Commission

Nationally there is still a gap of about seven years between the life expectancy of Māori and non-Māori New Zealanders. The gap has narrowed over time, from 9.3 years for females in 1995–97 to 6.8 years in 2012-14. For males the gap between Māori and non-Māori has reduced from 8.8 years in 1995-97 to 7.3 years in 2012-14

Substantial resources are devoted to reducing the incidence, duration and severity of major diseases that cause morbidity but not mortality and to reducing their impact on people's lives. It is important to capture both fatal and non-fatal health outcomes in a summary measure of average levels of population health. Health-adjusted life expectancy (health expectancy) is a summary measure that is useful for monitoring whether we are adding 'life to years' as well as 'years to life'.

Nationally, in 2006 males on average could expect to live 78.1 years, with 8.9 years (11%) in poor health, according to the health loss estimates in the New Zealand Burden of Disease Study (Ministry of Health, 2013). Females could expect to live 82.1 years, with 11.5 years (14%) in poor health. Although females could expect to live four years longer than males in 2006, 2.6 years were years of poor health and only 1.4 years were years in full health.

Two-thirds of the life years gained over the decade from 2006 to 2016 were projected to be lived in good health, assuming a continuation of recent demographic and epidemiological trends.

Self-rated health status

Self-rated health is a widely used indicator of health (Ministry of Health, 2014a). In 2012/13 about nine out of ten adults in the sub-region (89%) reported they were in good health, and this figure was fairly consistent across the three DHBs. The figure is slightly less (although not significantly) than it was in 2006/07 when the rate was 92%. In CCDHB (the only DHB for which comparisons with 2006/7 are available), there was also a slight reduction in the rate of those reporting good health (89% in 2012/13 compared to 94% in 2006/07).

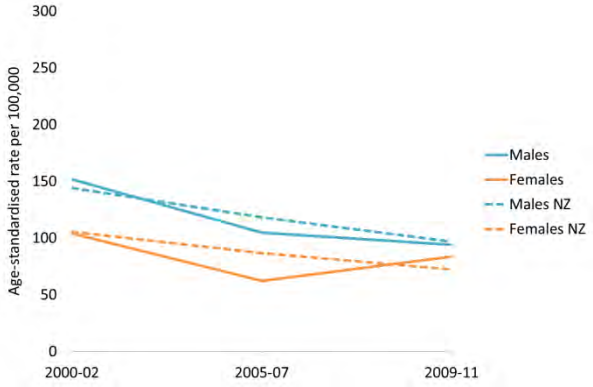
Nearly all parents in the sub-region (98%) consider their child's health to be 'excellent, very good, or good'. Parent-rated health status was similar for all age groups and the same as for New Zealand overall.

Amenable mortality

Amenable mortality is defined as premature deaths from those conditions for which variation in mortality rates reflects variation in the coverage and quality of health care. Premature deaths have been defined as deaths under 75 years of age. The conditions included in amenable mortality fall within six categories: infections, maternal and infant conditions, injuries, cancers, cardiovascular disease and diabetes, other chronic diseases.

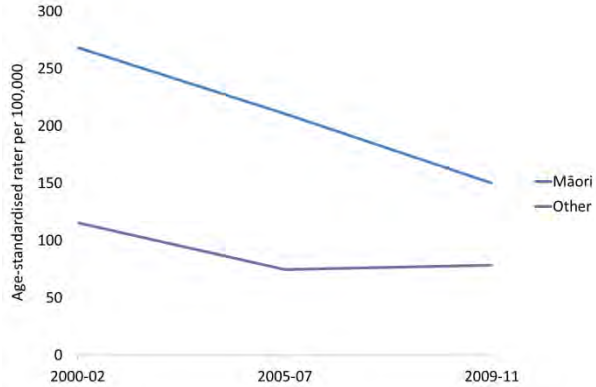
The current level of amenable mortality can be thought of as potential for population health gain through improvements in the health system. Amenable mortality cannot realistically be eliminated however by definition over nearly a third of these deaths should not have occurred, given access to currently available health technologies and interventions (Ministry of Health, 2010). From an equity perspective it is possible to use amenable mortality to ask what contribution to social inequality in health is currently being made by inequality in access to and quality of health care.

Figure 26. Wairarapa amenable mortality rates by gender, 0-74 years



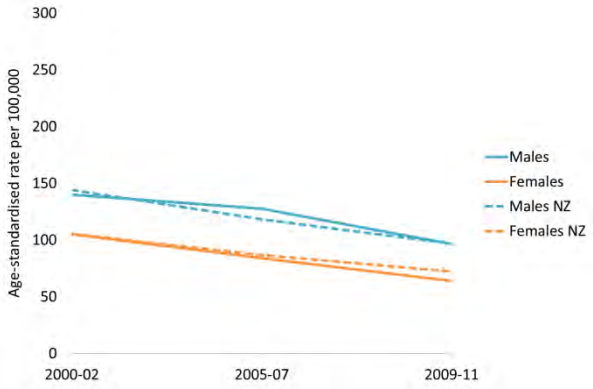
Source: Massey University

Figure 27. Wairarapa amenable mortality rates by ethnicity, 0-74 years



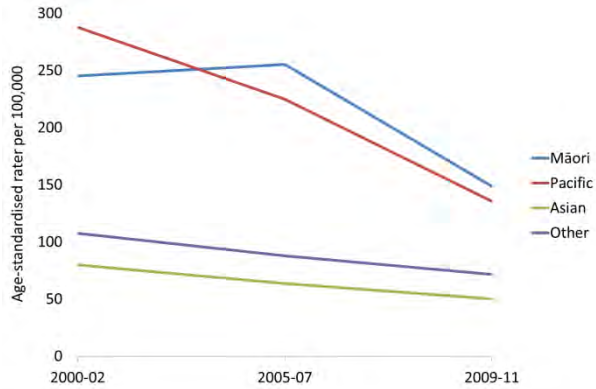
Source: Massey University

Figure 28. Hutt Valley amenable mortality by gender, 0-74 years



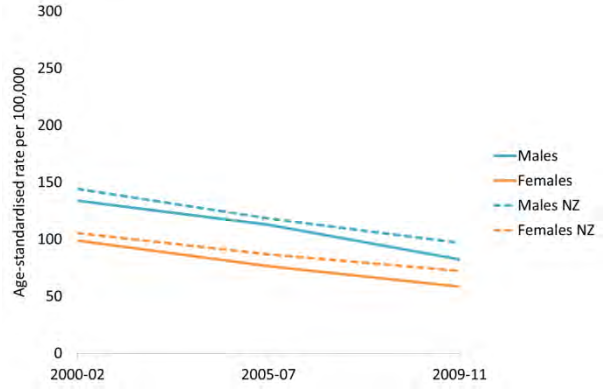
Source: Massey University

Figure 29. Hutt Valley amenable mortality by ethnicity, 0-74 years



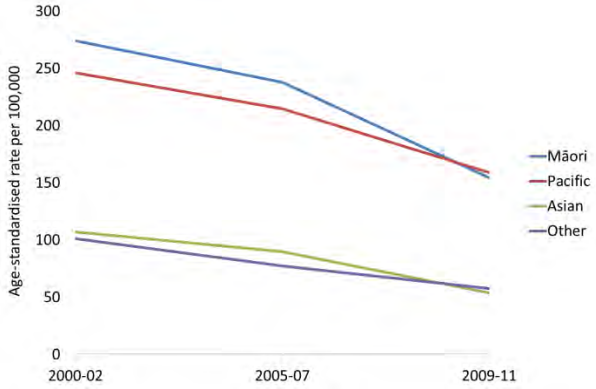
Source: Massey University

Figure 30. Capital & Coast amenable mortality by gender, 0-74 years



Source: Massey University

Figure 31. Capital & Coast amenable mortality by ethnicity, 0-74 years



Source: Massey University

Like the national rate, amenable mortality rates in the sub-region declined between 2000-02 and 2009-11: Wairarapa by 30%, Hutt Valley by 35% and CCDHB by 40%. Rates in the sub-region were not significantly different from the national average. Amenable mortality rates amongst females were lower than, but not significantly different from males.

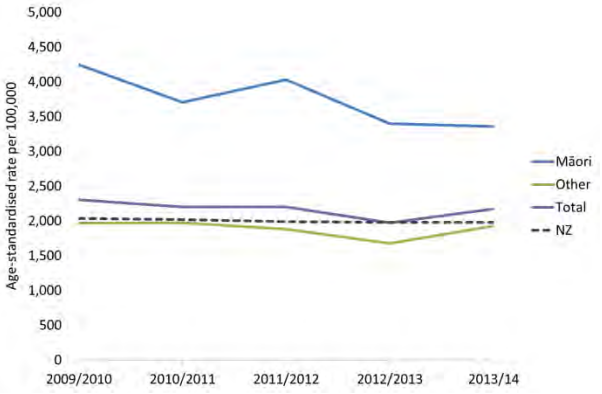
The very marked differences between ethnic groups highlight the opportunity for reduction in health inequalities. Māori and Pacific people experienced much higher amenable mortality than Asian, or people of other ethnicities (significantly higher for New Zealand). In the three year period from 2009 to 2011, Māori in Wairarapa and Hutt Valley had amenable mortality rates twice those of Other, as did Pacific people in Hutt Valley. In CCDHB, Māori and Pacific rates were two-and-a-half times that of Other.

Ambulatory sensitive hospitalisations

Ambulatory sensitive hospitalisations (ASH) are mostly acute admissions that are considered potentially reducible through prophylactic or therapeutic interventions deliverable in a primary care setting (Jackson & Tobias, 2001).

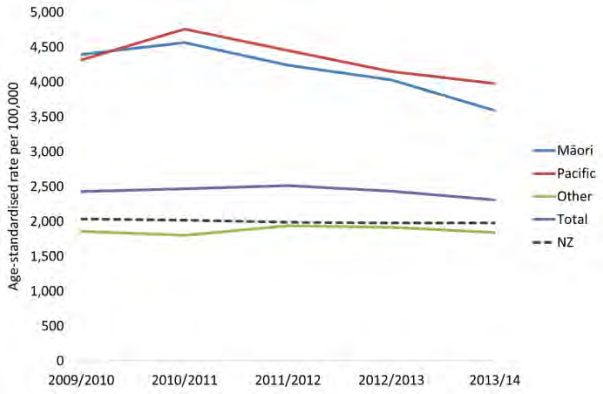
ASH accounts for almost one in five acute or arranged hospital admissions. However, determining the reasons for high or low ASH rates is complex, as it is in part a whole-of-system measure. It has been suggested that admission rates can serve as proxy markers for primary care access and quality, with high admission rates indicating difficulty in accessing care in a timely fashion, poor care coordination or care continuity, or structural constraints such as limited supply of primary care workers (Kruzikas et al, 2004).

Figure 32. Wairarapa ASH rates by ethnicity, 0-74 years



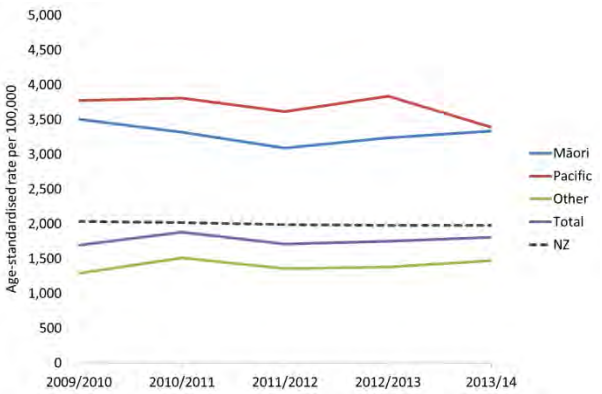
Source: Ministry of Health

Figure 33. Hutt Valley ASH rates by ethnicity, 0-74 years



Source: Ministry of Health

Figure 34. CCDHB ASH rates by ethnicity, 0-74 years

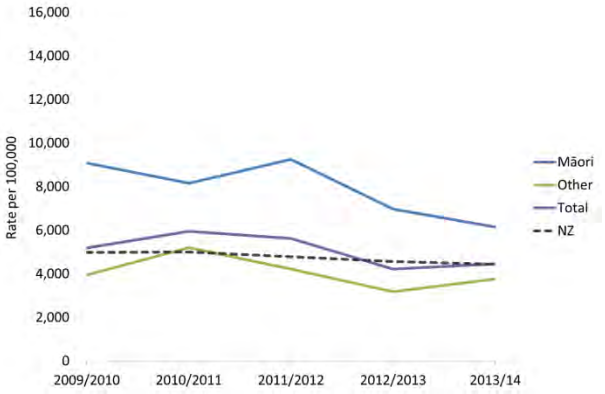


Source: Ministry of Health

ASH rates were highest in Hutt Valley, followed by Wairarapa (both above the national average) then CCDHB (slightly below the national average). Like national rates, ASH rates in Wairarapa and Hutt Valley declined between 2009/10 and 2013/14 (six percent and five percent respectively) however the rate in CCDHB increased by seven percent. Māori and Pacific rates in Hutt Valley and CCDHB were twice those of Other in 2013/14. In Wairarapa, Māori had a 70% higher ASH rate than Other.

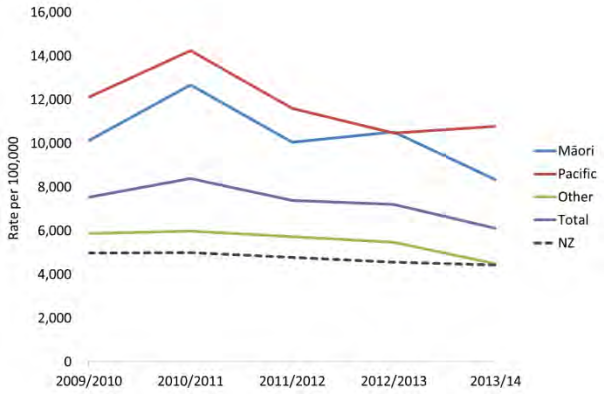
Young children

Figure 35. Wairarapa ASH rates by ethnicity, 0-4 years



Source: Ministry of Health

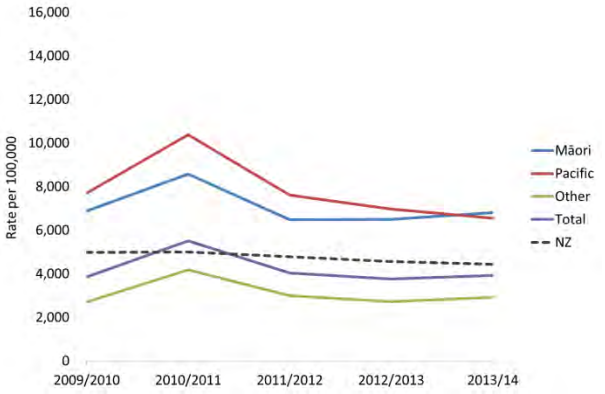
Figure 36. Hutt Valley ASH rates by ethnicity, 0-4 years



Source: Ministry of Health

- ASH rates for young children (aged under five years) were highest in Hutt Valley, followed by Wairarapa then CCDHB.
- In Wairarapa, where the rate for young children was similar to national, ASH declined 14% over five years. The Māori rate declined more quickly, however was still 60% higher than Other in 2013/14.
- Children's ASH rates in Hutt Valley have been high compared to national; however they declined 19% over five years. Māori children in Hutt Valley were nearly twice as likely to be admitted for an ASH condition as Other, and Pacific children nearly two-and-a-half times as likely.

Figure 37. CCDHB ASH rates by ethnicity, 0-4 years

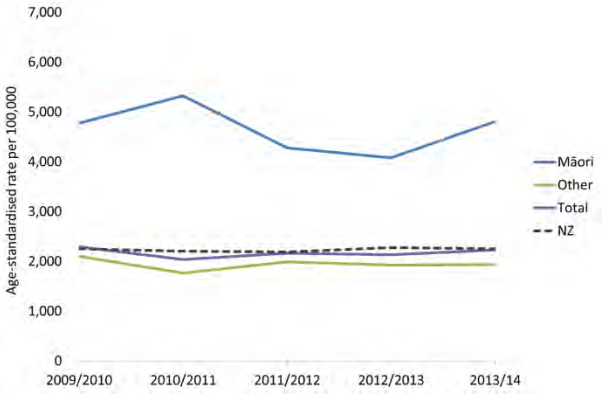


Source: Ministry of Health

- ASH rates for children in CCDHB have not changed much and remain slightly lower than national. The peak in 2010/11 was due to a policy change meaning acute assessments were sent to the national inpatient collection in that year only. ASH for Pacific children has improved, however the rate was still twice that of Other in 2013/14. Māori children were also twice as likely to be admitted for an ASH condition as Other.

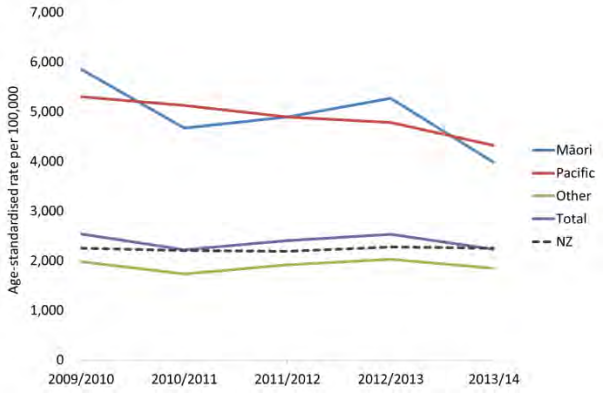
Adults 45 to 64 years

Figure 38. Wairarapa ASH rates by ethnicity, 45-64 years



Source: Ministry of Health

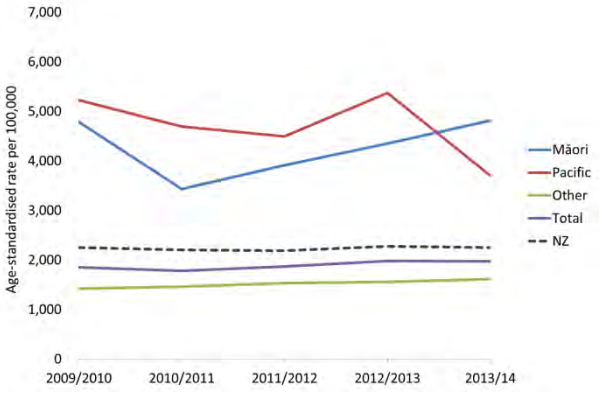
Figure 39. Hutt Valley ASH rates by ethnicity, 45-64 years



Source: Ministry of Health

- ASH rates for Wairarapa and Hutt Valley adults (45-64 years) were very similar to the national average.
- In Wairarapa, the ASH rate has not changed much over five years. The Māori rate was two-and-a-half times that of Other in 2013/14.
- The ASH rate has declined 12% over five years in Hutt Valley, with larger decreases for Māori and Pacific people. Māori and Pacific people in Hutt Valley were more than twice as likely to be admitted with an ASH condition in 2013/14 as Other.

Figure 40. CCDHB ASH rates by ethnicity, 45-64 years



Source: Ministry of Health

- An increase in the CCDHB ASH rate for 45-64 year olds (7% over five years) appears to have driven the increase in the total rate. The ASH rate for Māori adults has increased between 2010/11 and 2013/14.
- The rates for Māori and Pacific people were more than twice the rate of Other in 2013/14.

Risk factors

A risk factor is anything that increases the probability of a disease or injury occurring. To prevent diseases and injuries it is important to understand the risks to health. 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.

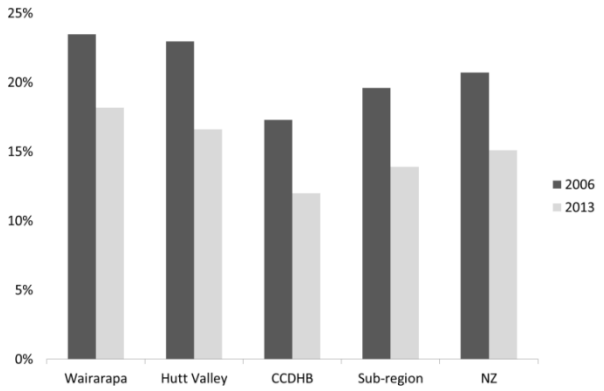
The Ministry of Health (2013) has estimated the burden of disease across New Zealand. They use a measure called disability-adjusted life years (DALYs) that includes burden from early death and from lives led with disability. In terms of modifiable risk factors that drive this health loss, four lifestyle factors have a major impact: smoking (9.1% of health loss), obesity (7.9%), physical inactivity (4.2%) and poor diet (3.3%). Major physiological risk factors include high blood pressure (6.4% of health loss) and high blood cholesterol (3.2%).

The Ministry of Health also produced DALYs projections for each risk factor. The key finding from the study was a change in ranking from tobacco to obesity as the leading risk factor cause of health loss by 2016.

Tobacco smoking

Smoking was the leading modifiable risk to health in 2006. Smoking harms nearly every organ and system in the body. It is the main cause of lung cancer and chronic obstructive pulmonary disease. It is also a major cause of heart disease, stroke and other cancers.

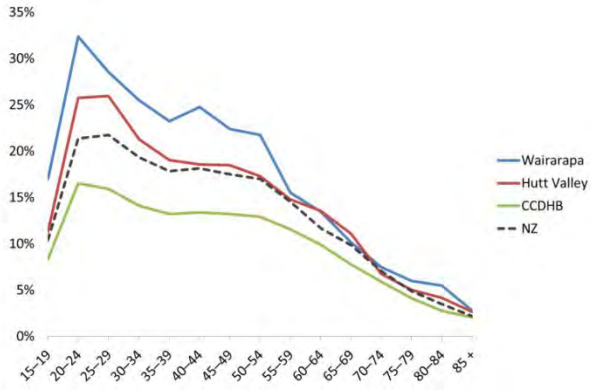
Figure 41. Proportion of adults (15+ yrs) regularly smoking



Source: Statistics New Zealand

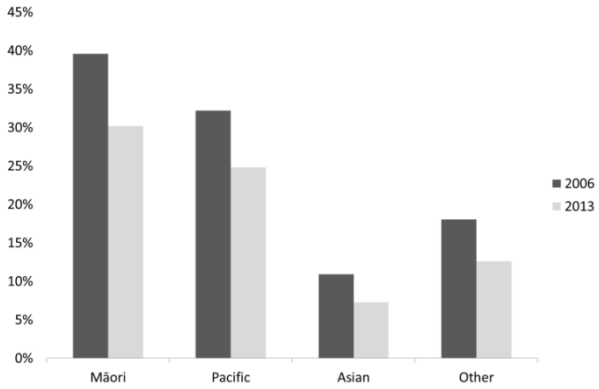
According to the 2013 Census, 14% of the sub-region's population aged over 15 years were current smokers. Smoking rates were highest (and above the New Zealand average) in the Wairarapa (18%) and Hutt Valley DHB (17%) and lowest in CCDHB (12%). Compared to 2006, in all three DHBs, a lower proportion of people were regular smokers, a higher proportion of people were ex-smokers and an increased proportion of people had never smoked regularly.

Figure 42. Proportion of adults regularly smoking, Census 2013



Source: Statistics New Zealand

Figure 43. Regular smokers (15+ yrs) by ethnicity



Source: Statistics New Zealand

Both nationally and sub-regionally, the smoking rate was highest in the 20-24 year age group. In Wairarapa and Hutt Valley smoking rates for people aged under 55 years were higher than national. CCDHB smoking rates were lower than national across all age groups.

Smoking rates vary by ethnicity and deprivation level. Smoking rates remained higher in Māori and Pacific populations than in Asian and Other populations, although the rates in all populations have dropped since the last Census. Within DHBs, the highest rates of smoking were in Porirua and Masterton (both 19%), which both have more of their population living in higher deprivation areas than other areas in the region.

Maternal tobacco use during the post-natal period decreased for all three DHBs over four years however the Wairarapa rates was still higher than the national average in 2012 (16% compared to 14%). Maternal smoking rates were highest amongst Māori mothers.

The 2013 Action on Smoking and Health Year 10 survey estimated that the proportion of students who regularly smoked was significantly lower than national in Hutt Valley (seven percent) and CCDHB (five percent). The rate amongst Wairarapa students (12%) was not significantly different from New Zealand.

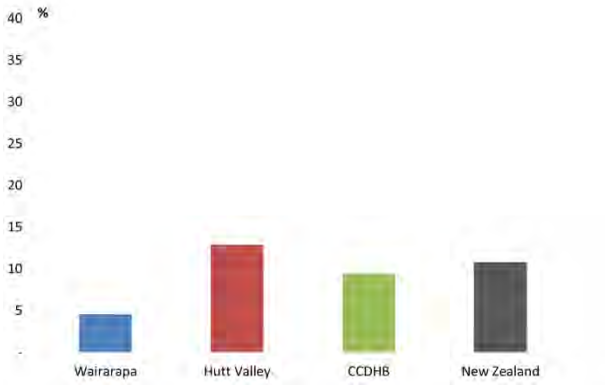
Obesity

Excess weight is a leading contributor to a number of health conditions, including type two diabetes, cardiovascular diseases and some types of cancer (eg, kidney and uterus), osteoarthritis, gout, sleep apnoea, some reproductive disorders and gallstones. Obesity is defined as a Body Mass Index (BMI) of 30 or more (or equivalent for those younger than 18 years).

Figure 44. Obesity prevalence amongst adults 15+ years, 2011-13

Source: Ministry of Health

Figure 45. Obesity prevalence amongst children 2-14 years, 2011-13



Source: Ministry of Health

Obesity prevalence amongst New Zealanders has increased significantly in recent years. The New Zealand Health Survey 2011-13 estimated 28% of adults aged 15+ years and ten percent of children aged two to 14 years in the sub-region were obese (not significantly different from the New Zealand average). Adult obesity prevalence increased from 25% in 2006/07. Geographic and ethnic patterns show that:

- Obesity prevalence amongst adults was highest in Hutt Valley (31%) and Wairarapa (30%), followed by CCDHB (26%). National estimates demonstrate the ethnic differences and social gradient associated with obesity. Prevalence was 76% higher for Māori adults compared to non-Māori, and nearly two-and-a-half times higher for Pacific people compared to non-Pacific. Adults living in the most deprived areas were one-and-a-half times more likely to be obese than those living in the least deprived areas.

- Amongst children, obesity prevalence was highest in Hutt Valley (13%), followed by CCDHB (nine percent) and Wairarapa (five percent). The Wairarapa rate was significantly lower than the national average. Ethnic and socioeconomic disparities were greater amongst children, with Māori children twice as likely as non-Māori and Pacific children three times more likely than non-Pacific to be obese. Children living in the most deprived areas were three times more likely to be obese than those living in the least deprived areas.

Healthy eating and physical activity

Eating plenty of vegetables and fruit can help protect against major diseases like heart disease, stroke, high blood pressure and some cancers. Ministry of Health nutrition guidelines recommend eating at least three servings of vegetables and at least two servings of fruit per day for good health.

- In 2012/13 nearly two-thirds of adults (65%) in the sub-region met the guideline of at least three servings of vegetables per day. This was very similar to the New Zealand rate (66%) and slightly higher than the rate for 2006/07 (62%). Wairarapa adults were significantly more likely to eat at least three servings of vegetables (75%) than New Zealand adults overall.

- Fifty-nine percent of adults in the sub-region ate the recommended two servings of fruit per day, a similar figure to the percentage in 2006/07 (61%). There was however, some variation across the three DHBS with Wairarapa adults being significantly less likely (50%) and CCDHB significantly more likely (61%) to eat at least two servings of fruit than New Zealand adults overall (57%).

- The majority of children surveyed in the sub-region (85%) had eaten breakfast at home every day in the last week, a similar figure to the national rate of 87%. The rate was similar across the three DHBs.

Physical activity helps protect against heart disease, stroke, type two diabetes, certain cancers, osteoporosis and depression. It is also important for maintaining a healthy weight and preventing and reducing obesity. The Ministry of Health recommends that adults do at least 30 minutes of moderate-intensity physical activity (eg, brisk walking) at least five days per week. In this report, being physically active is defined as meeting this recommendation.

- Just under half of all adults in the sub-region (47%) were physically active. This was similar to the rate in 2006/07 and somewhat lower than the overall New Zealand figure (54%). CCDHB adults were significantly less likely to be physically active (45%) than New Zealand adults overall.

Hazardous drinking

The health impacts of alcohol include disease and injuries. Hazardous drinking is defined as behaviour that results in a score of eight points or more on the Alcohol Use Disorders Identification Test (AUDIT). 'Hazardous drinking' refers to an established drinking pattern that carries a risk of harming the drinker's physical or mental health, or having harmful social effects on the drinker or others.

- The 2012/13 health survey estimated that 19% of adults in the sub-region drank alcohol to a level that is hazardous to their health; the same figure as in 2006/07 and slightly higher than the New Zealand figure (17%). Rates across the three DHBs were not significantly different from the national average.

Blood pressure and blood cholesterol

High blood pressure (also called hypertension) can damage the heart and kidneys. It can also lead to ischaemic heart disease, stroke and kidney (renal) failure.

- Prevalence of high blood pressure (medicated) was similar amongst adults in Wairarapa (12%), Hutt Valley (13%) and CCDHB (11%) and compared to the national average (12%). High blood pressure rates increased steeply with age; nearly half of adults aged 65 years and over were affected.

High blood cholesterol increases a person's risk of developing ischaemic heart disease and ischaemic stroke.

- Prevalence of high blood cholesterol (medicated) amongst adults in Wairarapa (nine percent) and Hutt Valley (nine percent) was not significantly different to the national average (eight percent). Adults in CCDHB were significantly less likely (six percent) to have high blood cholesterol (medicated) than the average for New Zealand. The rate of high cholesterol increased steeply with age, with nearly a third of adults 65+ years affected.

What disabilities and illnesses do people have?

Disability

The New Zealand Disability Survey (2013) is currently the most comprehensive source of information on disabled people in New Zealand. Disability is defined as long-term limitation (resulting from impairment) in a person's ability to carry out daily activities. The limitations identified were self-reported or reported on behalf of the disabled person by their parent or primary caregiver.

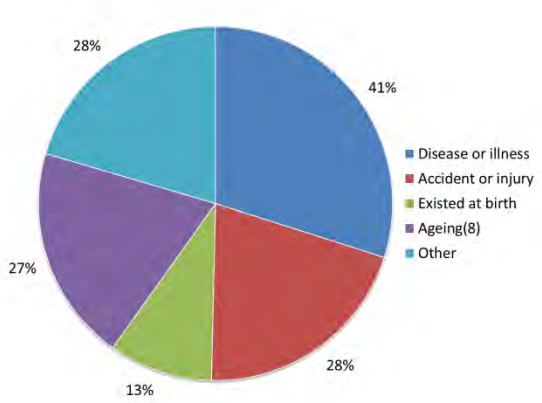
The survey collected data from adults (aged 15 years or over) and children (aged under 15 years) living in private households or group homes and from adults living in residential care facilities. In 2013, an estimated 24% of people living in New Zealand were identified as disabled.

National estimates by age and gender applied to the sub-region indicate a disabled population of approximately 109,000 people: 11,000 in Wairarapa (27%), 33,000 in Hutt Valley (24%) and 65,000 in CCDHB (23%). Differences in prevalence estimates across DHBs are due to differing age structures.

National estimates show the following patterns:

- People aged 65 years or over were much more likely to be disabled (59%) than adults aged under 65 years (21%) or children aged under 15 years (11%).
- Māori and Pacific people had higher than average disability rates, after adjusting for differences in ethnic population age profiles.
- For adults, physical limitations were the most common type of impairment. Eighteen percent of people aged 15 years or over – 64% of disabled adults – were physically impaired.
- For children, learning difficulty was the most common impairment type. Six percent of children – 52% of disabled children – had difficulty learning.
- Just over half of all disabled people (53%) had more than one type of impairment.
- The most common cause of disability for adults was disease or illness (42%). For children, the most common cause was a condition that existed at birth (49%).

Figure 46. Cause of impairment, Wellington Region disabled population living in private households, 2013



Source: Statistics New Zealand

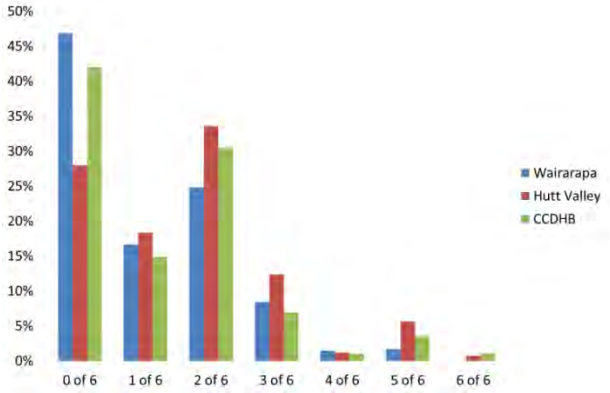
Of the Greater Wellington Region population living in private households (ie excludes the residential care population), 22% had a disability (compared with 23% nationally). Almost half (49%) of those had more than one type of impairment. The most common types of impairment were physical limitations (17%), followed by sensory impairments (ten percent). The most common cause of disability was disease or illness (41%), followed by accident or injury (28%).

Older population receiving comprehensive needs assessments

interRAI assessments are one type of comprehensive clinical assessment that considers an older person's functioning. In the sub-region, people referred to a Needs Assessment and Service Coordination (NASC) service that are considered to have more complex needs undergo an interRAI Home Care assessment. A series of outcome measures are automatically generated from an interRAI Home Care assessment that reflects level of frailty, physical and cognitive function. In the Wairarapa the interRAI Home Care assessment is also used to assess non-complex people, resulting in a high proportion of people at the lower end of each outcome scale compared to other DHBs.

The Cognitive Performance Scale (CPS) combines information on memory impairment, level of consciousness, and executive function, with scores ranging from zero (intact) to six (very severe impairment). A score of three or more can indicate a moderate to severe level of dementia.

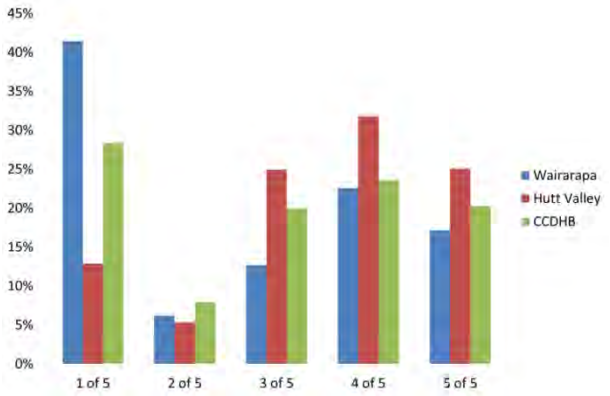
Figure 47. interRAI cognitive performance scale distribution, 2014



Source: interRAI

MAPLe (method for assigning priority level) differentiates people into five priority levels, based on their risk of adverse outcomes. People in the lowest priority level have no major functional, cognitive, behavioural, or environmental problems and are considered self-reliant. People fall within the highest level based on difficulty with activities of daily living (ADL), cognitive impairment, wandering and behaviour problems. Research shows that people in the highest priority level are nearly nine times more likely to be admitted to a long-term care facility than people in the lowest priority group.

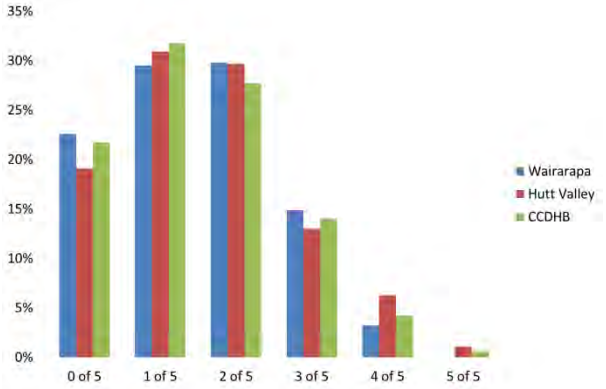
Figure 48. interRAI MAPLe score distribution, 2014



Source: interRAI

The Changes in Health, End-Stage Disease, Signs, and Symptoms Scale (CHESS) was designed to identify people at risk of serious decline. It creates a six point scale from zero (stable) to five (highly unstable) with higher levels predictive of outcomes such as death, hospitalisation, pain and caregiver stress.

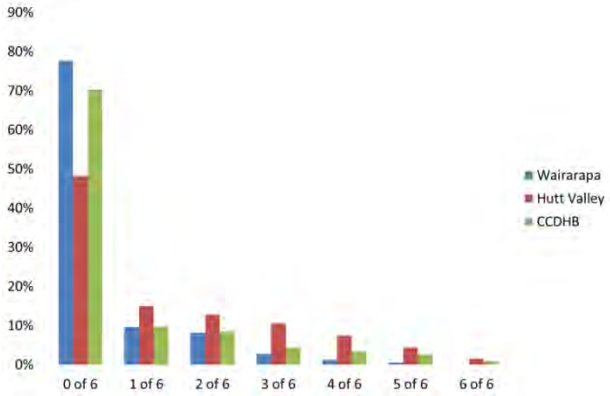
Figure 49. interRAI CHESS score distribution, 2014



Source: interRAI

The ADL scale differentiates people based on their ability to carry out activities of daily living including personal hygiene, toilet transfer, locomotion and eating. The scale ranges from zero (no impairment) to six (total dependence).

Figure 50. interRAI ADL score distribution, 2014



Source: interRAI

Burden of disease

Burden of disease studies estimate how much healthy life is lost due to early death, illness or disability. This 'health loss' is the gap between the population's current state of health and that of an ideal population in which everyone experiences long lives free from ill health or disability. The Ministry of Health (2013) has estimated the burden of disease across New Zealand using the disability-adjusted life years (DALYs) measure.

The most significant diseases causing health loss, measured in DALYs, are cancers (18% of health loss), vascular and blood disorders including coronary heart disease and stroke (18%), mental disorders (11%), musculoskeletal disorders especially back disorders (nine percent) and injury (eight percent). Together these account for almost two-thirds of the burden of all disease. Other important conditions are chronic obstructive pulmonary disease (COPD, four percent of health loss) and diabetes (three percent) (Ministry of Health, 2013).

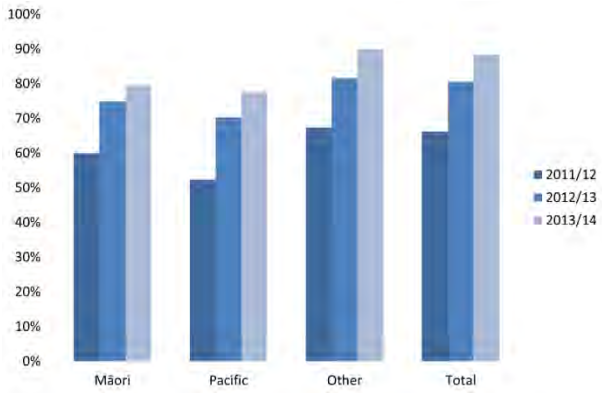
Cardiovascular disease

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 the sub-region. 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 (Ministry of Health, 2013). 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.

Risk assessment and treatment in primary care

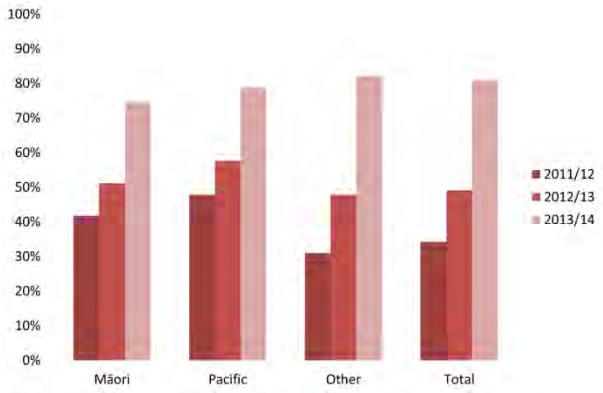
By knowing a person's cardiovascular risk, the clinician and patient can make decisions on more effective prevention and treatment of cardiovascular disease. These decisions include making choices about appropriate lifestyle change (principally diet, exercise and smoking), lipid-lowering and blood pressure lowering medication, antiplatelet medication, diabetes care, and medication after myocardial infarction, stroke and other cardiovascular events. The Government target is that 90% of the eligible population will have had their CVD risk checked in the last five years.

Figure 51. Wairarapa CVD risk assessment completion



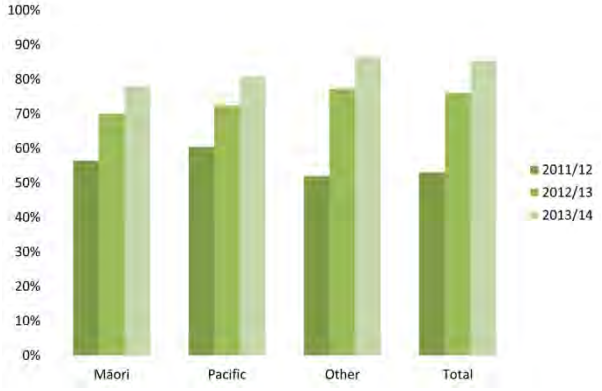
Source: DHB Shared Services

Figure 52. Hutt Valley CVD risk assessment completion



Source: DHB Shared Services

Figure 53. CCDHB CVD risk assessment completion



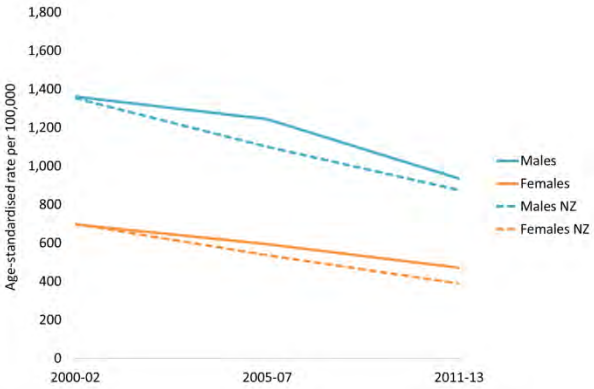
Source: DHB Shared Services

The proportion of people receiving cardiovascular risk assessment has increased substantially over the last three years to reach 88% in Wairarapa, 81% in Hutt Valley and 85% in CCDHB by the end of 2013/14. Māori and Pacific people had slightly lower rates than people of other ethnicity.

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 sub-regional residents who had been admitted to hospital with CVD in the previous ten years, 61% in Wairarapa and Hutt Valley and 56% in CCDHB were on triple therapy, compared to the national average of 58%. Men were more likely than women to be on triple therapy (Health Quality & Safety Commission, n.d.).

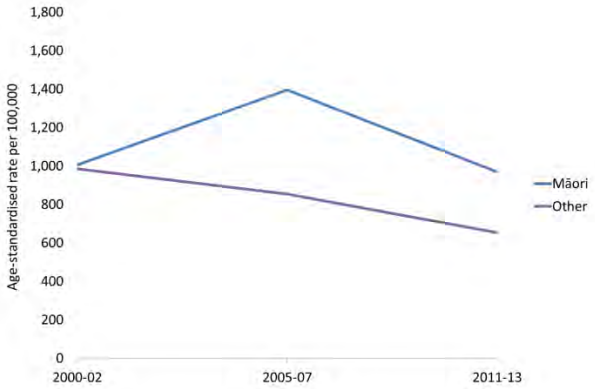
Ischaemic heart disease

Figure 54. Wairarapa IHD hospitalisation rates by gender, 25+ years



Source: Massey University

Figure 55. Wairarapa IHD hospitalisation rates by ethnicity, 25+ years

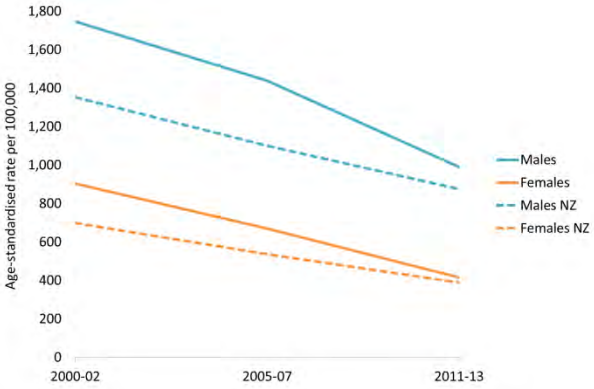


Source: Massey University

The New Zealand Health Survey estimated the prevalence of diagnosed ischaemic heart disease (IHD) to be 5.7% amongst Wairarapa adults. This was not significantly higher than the New Zealand average (3.6%). For people aged over 65 years, the prevalence in Wairarapa was significantly higher than the national average. Prevalence increased with age and men were more likely to be diagnosed with IHD than women (significant for New Zealand).

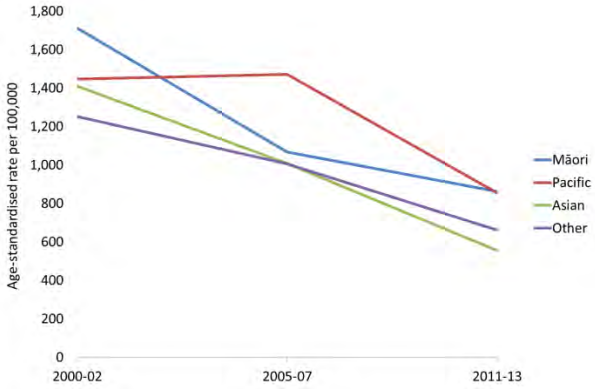
The IHD hospitalisation rate for Wairarapa was not significantly different from national and declined 31% between 2000-02 and 2011-13. Males were twice as likely to be hospitalised as females (this difference was significant at the national level) however the gender gap appears to be narrowing. The rate for Māori had wide confidence intervals and although not significant, it was one-and-a-half times that of Other in 2011-13.

Figure 56. Hutt Valley IHD hospitalisation rates by gender, 25+ years



Source: Massey University

Figure 57. Hutt Valley IHD hospitalisation rates by ethnicity, 25+ years



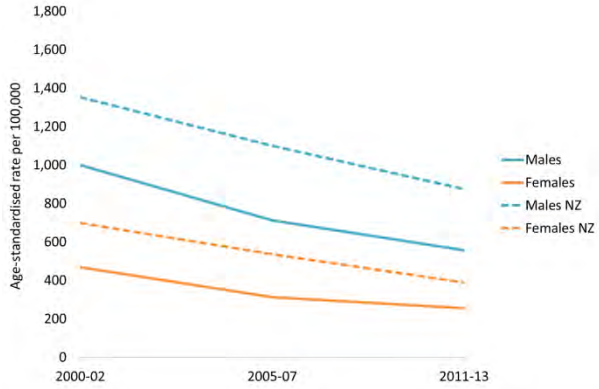
Source: Massey University

The Health Survey estimated the prevalence of diagnosed ischaemic heart disease to be 4.1% amongst Hutt Valley adults, similar to the national rate (3.6%).

The IHD hospitalisation rate for Hutt Valley declined significantly (47%) between 2000-02 and 2011-13 and was not significantly different from national in the most recent period (whereas it

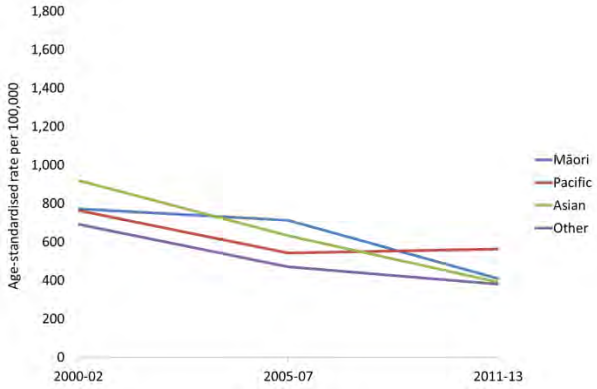
had been significantly higher previously). Males were significantly higher than females with twice the hospitalisation rate. Like national, the gender gap appears to be narrowing. Māori and Pacific rates had wide confidence intervals and although not significant were still around 1.3 times the rate of Other in 2011-13.

Figure 58. CCDHB IHD hospitalisation rates by gender, 25+ years



Source: Massey University

Figure 59. CCDHB IHD hospitalisation rates by ethnicity, 25+ years



Source: Massey University

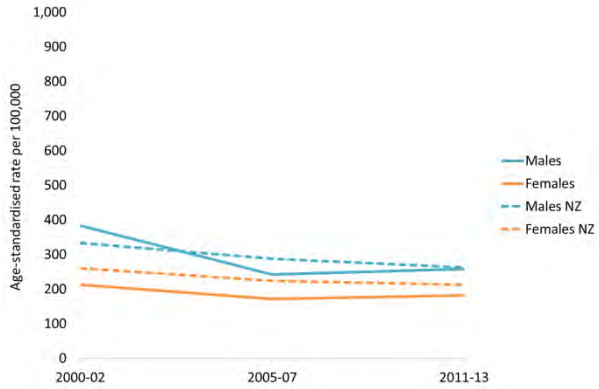
The Health Survey estimated the prevalence of diagnosed ischaemic heart disease to be 3.3% amongst Capital & Coast adults. This was not significantly lower than the New Zealand average (3.6%).

The IHD hospitalisation rate for CCDHB declined significantly (45%) between 2000-02 and 2011-13 and was significantly lower than national. Males had a significantly higher rate twice that of females although the gap appears to be narrowing. Māori and Pacific rates had wide confidence intervals however were generally higher than Other. Nationally, Māori and Pacific people had significantly higher IHD hospitalisation rates than Other.

Stroke

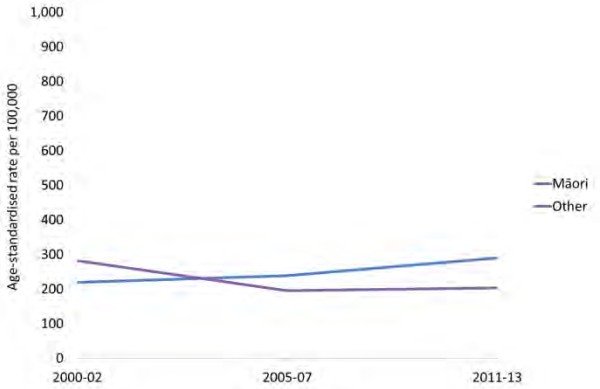
Stroke is a sudden interruption of blood flow to a part of the brain, causing damage to the brain cells. The impact of stroke and transient ischemic attack (TIA) can be catastrophic for the individual and family / Whānau and is resource intensive for health services. Management of high blood pressure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

Figure 60. Wairarapa stroke hospitalisation rates by gender, 25+ years



Source: Massey University

Figure 61. Wairarapa stroke hospitalisation rates by ethnicity, 25+ years

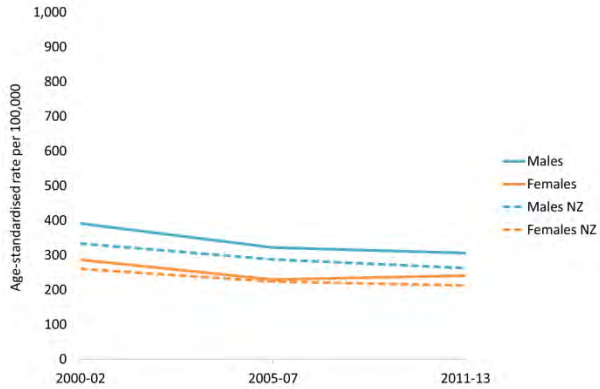


Source: Massey University

The New Zealand Health Survey estimated the prevalence of diagnosed stroke to be 2.0% amongst Wairarapa adults. This was not significantly higher than the New Zealand average (1.4%). Prevalence increased with age and although men were more likely to be diagnosed with stroke than women, this difference was not significant nationally.

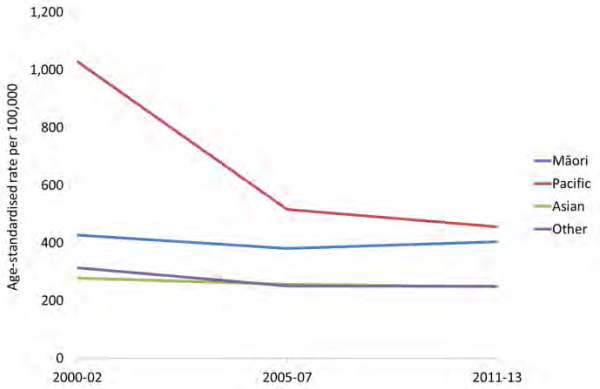
The stroke hospitalisation rate for Wairarapa was not significantly different from national and has declined 25% between 2000-02 and 2011-13. Males had a higher rate than females although this difference was only significant at the national level. The rate for Māori has increased slightly but has wide confidence intervals.

Figure 62. Hutt Valley stroke hospitalisation rates by gender, 25+ years



Source: Massey University

Figure 63. Hutt Valley stroke hospitalisation rates by ethnicity, 25+ years

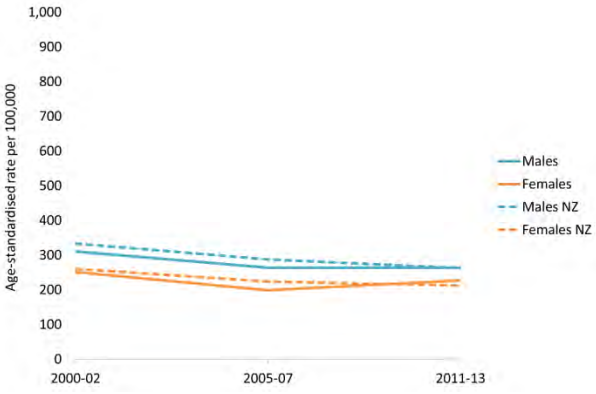


Source: Massey University

The New Zealand Health Survey estimated the prevalence of diagnosed stroke to be 1.1% amongst Hutt Valley adults. This was not significantly different from the New Zealand average (1.4%).

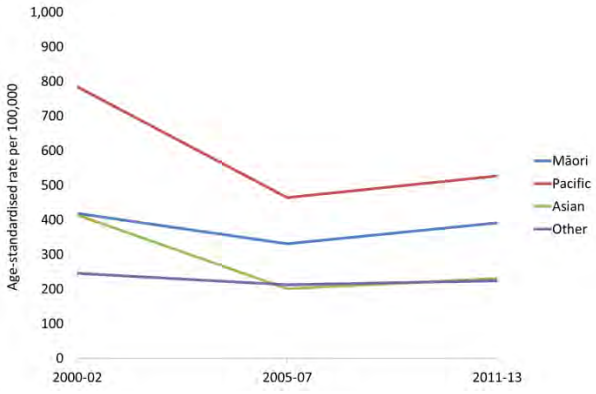
The stroke hospitalisation rate for Hutt Valley was not significantly different from national and declined 18% between 2000-02 and 2011-13. Males had a higher rate than females although this difference was only significant at the national level. Although the rates for Māori and Pacific people had wide confidence intervals they were still one-and-a-half times that of Other.

Figure 64. CCDHB stroke hospitalisation rates by gender, 25+ years



Source: Massey University

Figure 65. CCDHB stroke hospitalisation rates by ethnicity, 25+ years



Source: Massey University

The New Zealand Health Survey estimated the prevalence of diagnosed stroke to be 1.3% amongst Capital & Coast adults, similar to the New Zealand average (1.4%).

The stroke hospitalisation rate for CCDHB was not significantly different from national and declined 12% between 2000-02 and 2011-13. Males had a higher rate than females although this difference was only significant at the national level. The rates for Māori and Pacific people had wide confidence intervals however were consistently higher than Other. Māori had one-and-a-half times the rate and Pacific people twice the rate of Other in 2011-13.

Nationally, Māori and Pacific people had significantly higher stroke hospitalisation rates than Other.

Diabetes

Diabetes is a disease which affects the body's ability to control blood glucose. Type one diabetes is primarily an inherited condition generally diagnosed in childhood/adolescence. Type two diabetes is usually thought of as an adult disease, but is increasingly being diagnosed in children.

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.

The New Zealand Health Survey estimated the prevalence of diagnosed diabetes to be 5.5% amongst Wairarapa adults, 5.8% amongst Hutt Valley adults and 4.4% amongst CCDHB adults. These rates were not significantly different from the New Zealand average (4.4%).

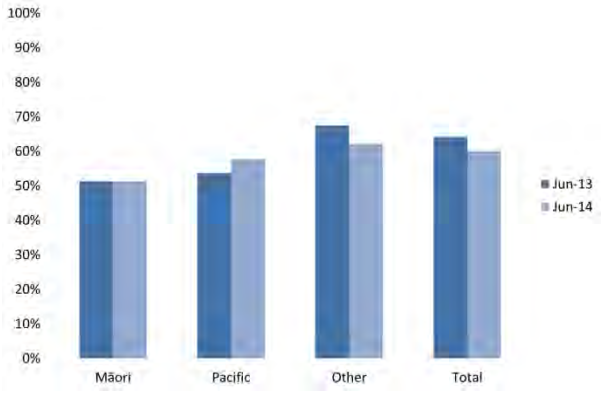
Prevalence increased with age and although men were more likely to be diagnosed with diabetes than women, this difference was not significant nationally.

Diabetes management

Type two diabetes, which makes up an estimated 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. Sub-regional rates of dispensing regular insulin or metformin in people with diabetes aged 25 years and over were higher than the 2013 national average (52%): 57% in Wairarapa, 60% in Hutt Valley and 52% in CCDHB (Health Quality & Safety Commission, n.d.).

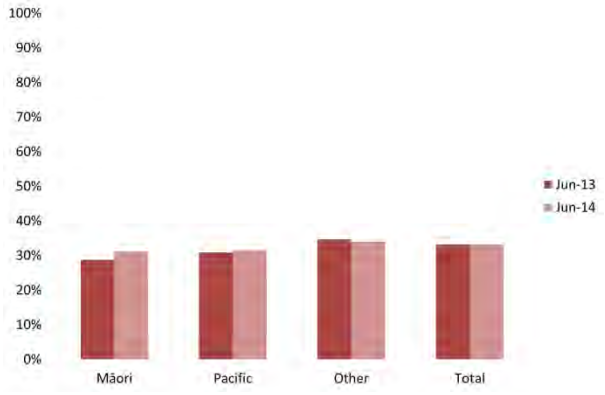
The HbA1c test (also called glycosylated haemoglobin level) is a laboratory blood test which measures average blood glucose over the previous weeks and gives an indication of longer-term blood glucose control. The test is used as a regular monitoring tool for people who have been diagnosed with diabetes

Figure 66. Wairarapa proportion of diabetics with HbA1c≤64 mmol/mol



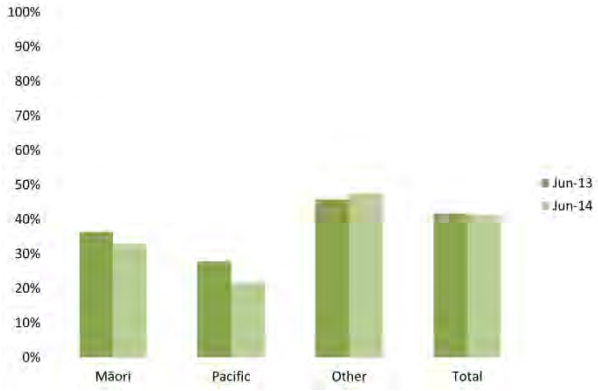
Source: DHB Shared Services

Figure 67. Hutt Valley proportion of diabetics with HbA1c≤64 mmol/mol



Source: DHB Shared Services

Figure 68. CCDHB proportion of diabetics with HbA1c≤64 mmol/mol

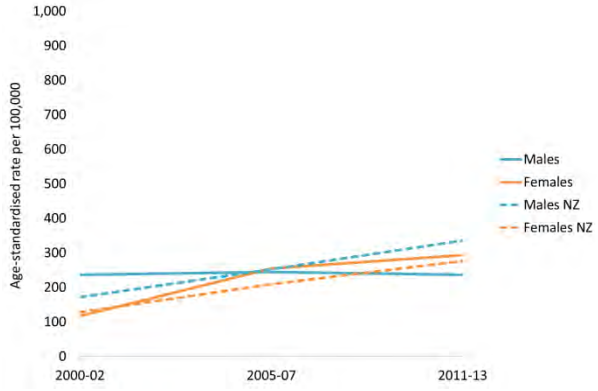


Source: DHB Shared Services

Māori and Pacific people with diabetes were less likely to have good blood glucose control than people of Other ethnicity.

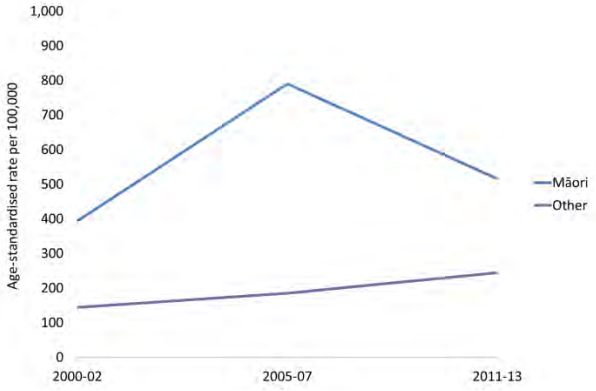
Hospitalisations

Figure 69. Wairarapa diabetes hospitalisation rates by gender, 15+ years



Source: Massey University

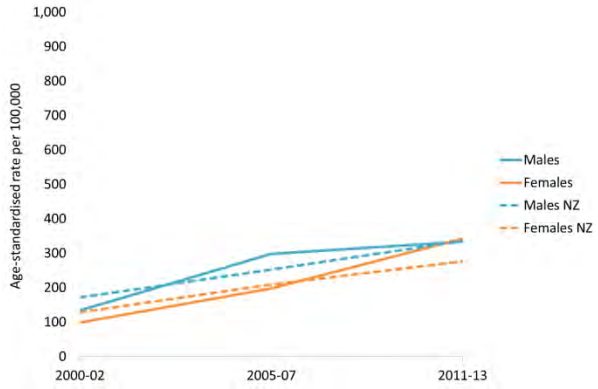
Figure 70. Wairarapa diabetes hospitalisation rates by ethnicity, 15+ years



Source: Massey University

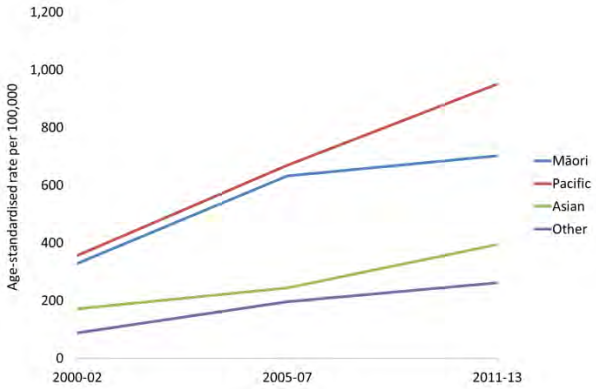
The diabetes hospitalisation rate for Wairarapa was not significantly different from national and increased 52% between 2000-02 and 2011-13. Although the rate for Māori had wide confidence intervals it was still twice the rate of Other in 2011-13.

Figure 71. Hutt Valley diabetes hospitalisation rates by gender, 15+ years



Source: Massey University

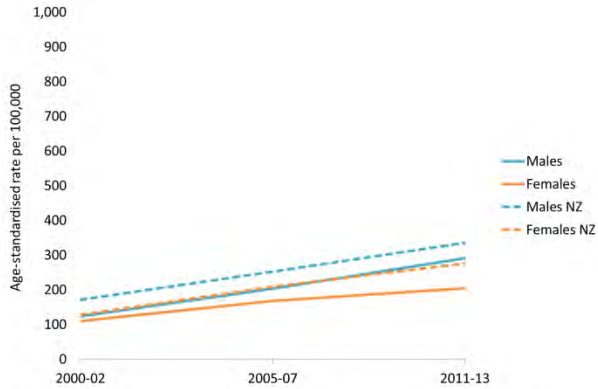
Figure 72. Hutt Valley diabetes hospitalisation rates by ethnicity, 15+ years



Source: Massey University

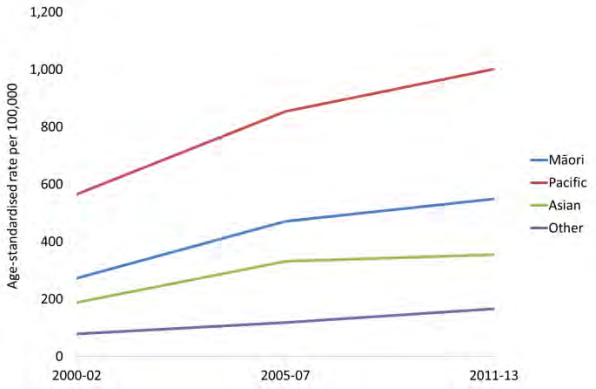
The diabetes hospitalisation rate for Hutt Valley was not significantly different from national and nearly tripled between 2000-02 and 2011-13. Although the rates for Māori and Pacific people had wide confidence intervals they were two-and-a-half and three-and-a-half times that of Other respectively.

Figure 73. CCDHB diabetes hospitalisation rates by gender, 15+ years



Source: Massey University

Figure 74. CCDHB diabetes hospitalisation rates by ethnicity, 15+ years



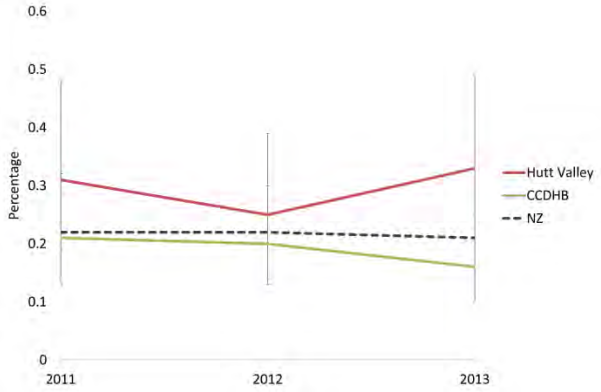
Source: Massey University

The diabetes hospitalisation rate for CCDHB was not significantly different from national and doubled between 2000-02 and 2011-13. Pacific people had the highest rate; significantly higher than Other, and although not significant Māori had three times the rate of Other in 2011-13.

Nationally, Māori, Pacific people and Asian all had significantly higher diabetes hospitalisation rates than Other.

Many people with diabetes have peripheral arterial disease which reduces blood flow to the feet. Also, many people with diabetes have nerve disease, which reduces sensation. Together, these problems make it easy to get ulcers and infections that may lead to amputation.

Figure 75. Percentage of diabetics having lower limb amputation



Source: Health Quality & Safety Commission

Hutt Valley has a higher amputation rate, and CCDHB a lower rate, compared to the national average although these differences were not statistically significant. Numbers for Wairarapa were too small to calculate rates.

Cancer

Cancer is an abnormal growth of cells that can result in the invasion of normal tissues and which may spread to other parts of the body (metastasis). The main risk factors for cancer are tobacco use, high body mass index, physical inactivity, alcohol use, low fruit and vegetable intake and unsafe sex. For melanoma, sun exposure is also important (Ministry of Health, 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 the sub-region.

The Ministry of Health and Otago University has published information on trends and inequalities in cancer survival for 21 cancers diagnosed in New Zealand over a 13 year period, from 1991 to 2004 (Soeberg et al, 2012). Survival for both Māori and non-Māori improved over time, and there was no observed widening of the gap between the ethnic groups, for any cancer type.

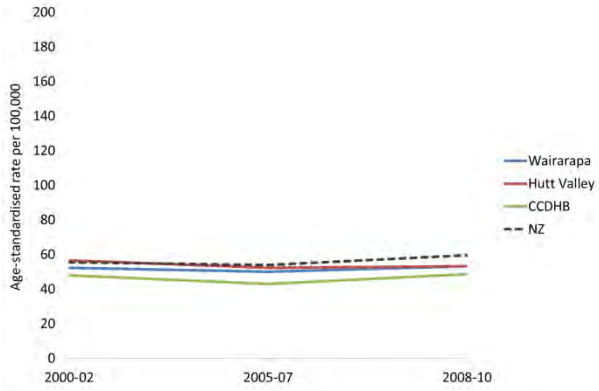
However unacceptably large gaps in survival still persist between Māori and non-Māori for some cancers. Across all cancers, Māori experienced a 29% higher excess mortality on average compared to non-Māori. Of the 21 cancer sites studied, 17 had an excess mortality rate that was higher for Māori compared to non-Māori by ten percent or more.

One explanation for this persistent gap may be the higher prevalence of concurrent diseases for Māori. The presence of other diseases, such as diabetes or heart disease, together with the cancer may restrict the ability of patients to tolerate certain cancer treatments and so lead to poorer cancer treatment outcomes. Differences in the stage of disease when a cancer is diagnosed, as well as differences in access to and coordination of cancer treatment services, may also explain some of the ethnic (and socioeconomic) inequalities in cancer survival.

The New Zealand Cancer Registry (NZCR) is a population-based register of all primary malignant diseases diagnosed in New Zealand, excluding squamous and basal cell skin cancers. Incidence rates by cancer type are presented in the following sections, based on registrations to the NZCR.

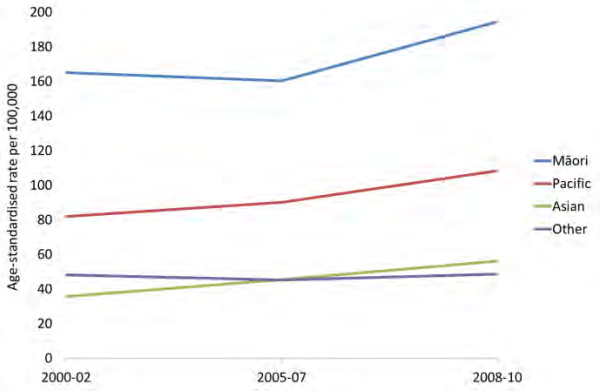
Lung cancer

Figure 76. Lung cancer registration rates, 25+ years



Source: Massey University

Figure 77. New Zealand lung cancer registration rates by ethnicity, 25+ years



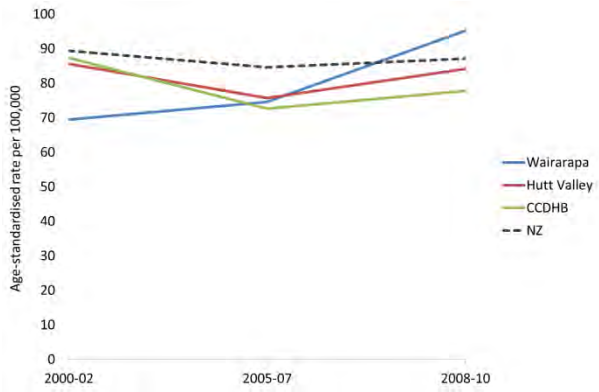
Source: Massey University

Nationally, there has been no significant change in lung cancer registration rates. Males had higher rates than females although this was not significant. Māori had a significantly higher rate (four times) than Other.

Locally, the DHB lung cancer registration rates were not significantly different from national and there was little change between 2000-02 and 2008-10. The CCDHB rate was lower than national and there was a slight drop in Hutt Valley, however these differences were not significant. Despite the wide confidence intervals for DHB ethnic rates (not presented in the charts due to relatively small numbers), Māori had the highest rates followed by Pacific people, consistent with national patterns.

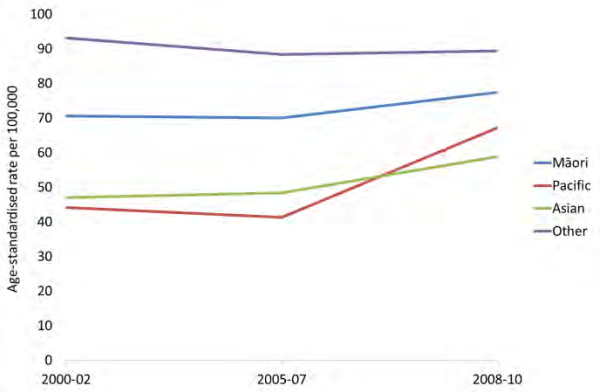
Colorectal cancer

Figure 78. Colorectal cancer registration rates, 25+ years



Source: Massey University

Figure 79. New Zealand colorectal cancer registration rates by ethnicity, 25+ years



Source: Massey University

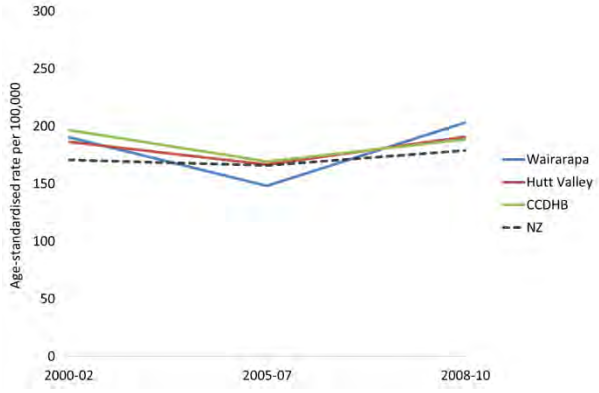
Nationally, there has been no significant change in colorectal cancer registration rates. Males had higher rates than females although this was not significant. There were no significant ethnic

differences however colorectal cancer registrations for Māori, Pacific people and Asian, which were all still lower than Other, have increased.

Locally, the DHB colorectal cancer registration rates were not significantly different from national and there was little change between 2000-02 and 2008-10. The CCDHB rate dropped slightly but not significantly. Despite the wide confidence intervals for DHB ethnic rates (not presented in the charts due to relatively small numbers) similar ethnic patterns to national exist.

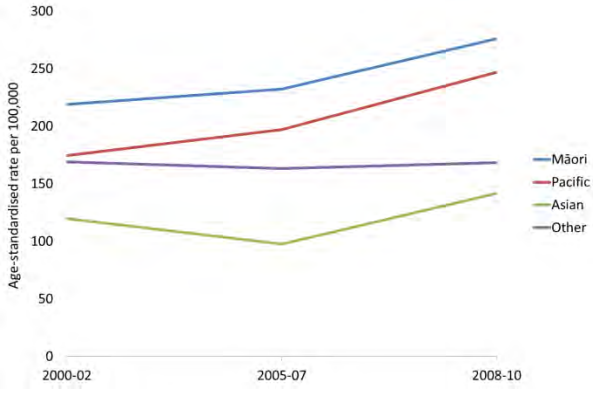
Breast cancer

Figure 80. Breast cancer registration rates, 25+ years



Source: Massey University

Figure 81. New Zealand breast cancer registration rates by ethnicity, 25+ years



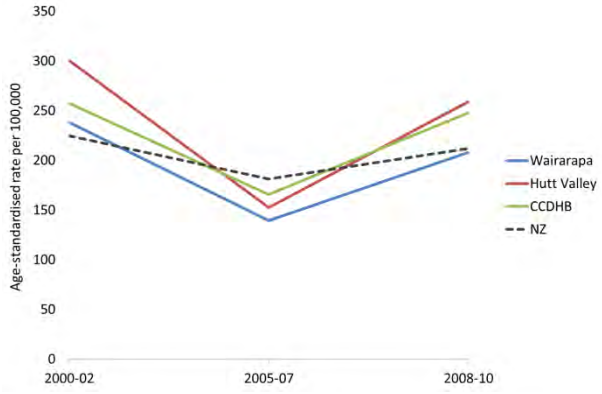
Source: Massey University

Nationally, there has been no significant change in breast cancer registration rates. There were no significant ethnic differences however breast cancer registrations for Māori and Pacific women, which were higher than Other, have increased. This may reflect the impact of increased promotion and screening of Māori and Pacific women for breast cancer.

Locally, the DHB breast cancer registration rates were not significantly different from national and there was little change between 2000-02 and 2008-10. Despite the wide confidence intervals for DHB ethnic rates (not presented in the charts due to relatively small numbers) similar ethnic patterns to national exist.

Prostate cancer

Figure 82. Prostate cancer registration rates, 25+ years



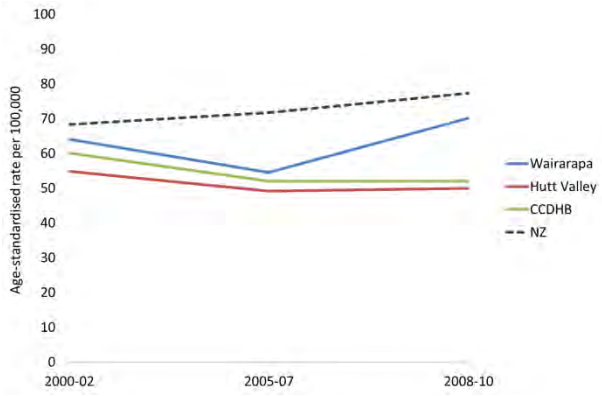
Source: Massey University

Nationally, there has been no significant change in prostate cancer registration rates and there were no significant ethnic differences.

Locally, the DHB prostate cancer registration rates were not significantly different from national. Like national, DHB rates fluctuated and ended up slightly lower, but not significantly different from 2000-02.

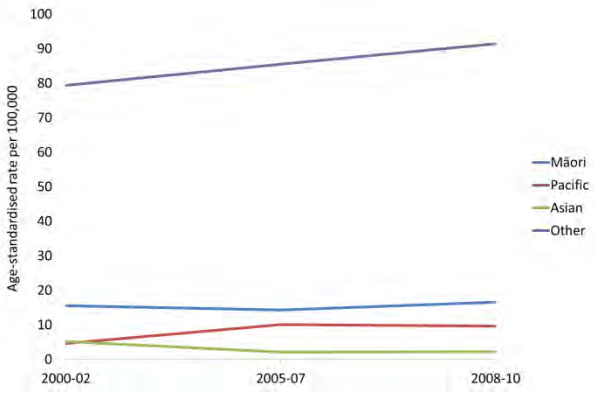
Melanoma

Figure 83. Melanoma registration rates, 25+ years



Source: Massey University

Figure 84. New Zealand melanoma registration rates by ethnicity, 25+ years



Source: Massey University

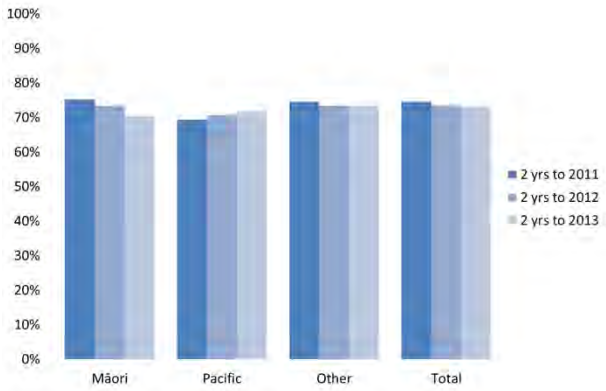
Nationally, melanoma registration rates have increased although not significantly. Males had higher rates than females although this was not significant. Māori, Pacific people and Asian all had significantly lower rates than Other.

Locally, the DHB melanoma cancer registration rates were all lower, but not significantly different from national. Hutt Valley and CCDHB rates declined slightly between 2000-02 and 2008-10. DHB ethnic rates are not presented in the charts due to very small numbers.

Cancer screening

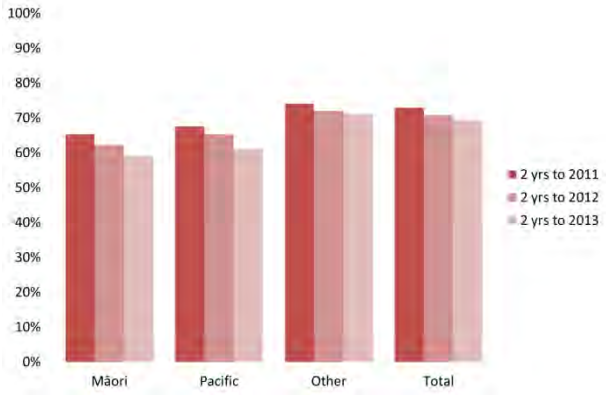
BreastScreen Aotearoa aims to reduce deaths from breast cancer by regularly screening women who have no symptoms of breast cancer. The more women who have breast screening, the more likely it is that death rates from breast cancer will be reduced. Women with an increased chance of having breast cancer will be offered further testing to see if they do have breast cancer.

Figure 85. Wairarapa breast screening coverage, women 45-69 years



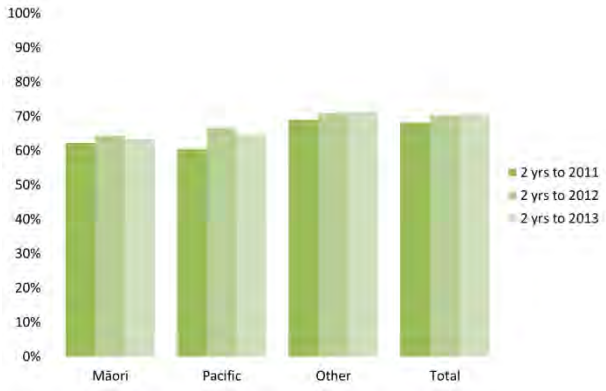
Source: National Screening Unit

Figure 86. Hutt Valley breast screening coverage, women 45-69 years



Source: National Screening Unit

Figure 87. CCDHB breast screening coverage, women 45-69 years

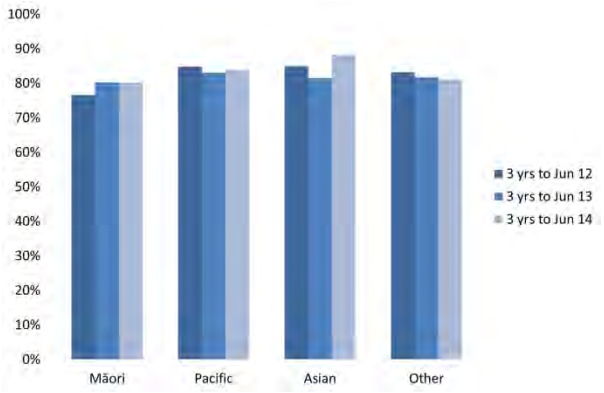


Source: National Screening Unit

Women aged 45-69 years are eligible for free screening and the target is to screen 70% every two years. This target has been met for women of all ethnicities in Wairarapa, although coverage amongst Māori women decreased slightly. In Hutt Valley and CCDHB, at least 70% of women of Other ethnicity had been screened however Māori and Pacific women had lower coverage rates.

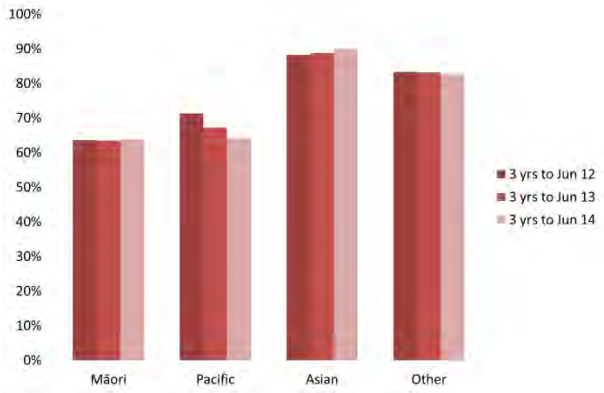
The National Cervical Screening Programme aims to reduce the number of women in New Zealand who develop cervical cancer and the number who die from it. It is estimated that up to 90% of cases of the most common form of cervical cancer could be prevented if women have a smear test every three years.

Figure 88. Wairarapa cervical screening coverage, women 20-69 years



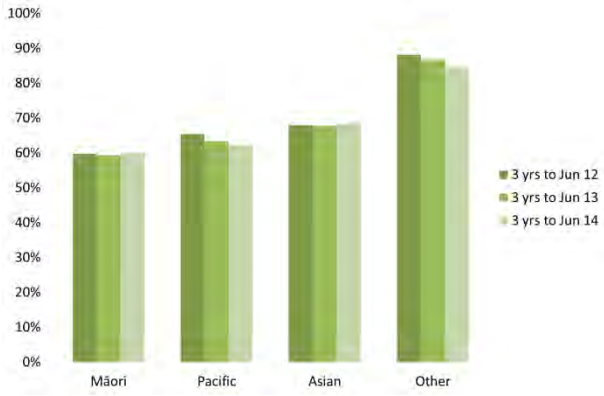
Source: National Screening Unit

Figure 89. Hutt Valley cervical screening coverage, women 20-69 years



Source: National Screening Unit

Figure 90. CCDHB cervical screening coverage, women 20-69 years



Source: National Screening Unit

The programme is available to women aged 20-69 years and the target is to screen 80% every three years. This target has been met for women of all ethnicities in Wairarapa. In Hutt Valley and CCDHB, at least 80% of women of Other ethnicity had been screened however Māori and Pacific women had lower coverage rates. Asian women in CCDHB were also less likely to have had cervical screening than women of Other ethnicity.

Bowel screening can save lives by detecting bowel cancers at an early stage, when they can be treated more successfully. A four year pilot is running from October 2011 to December 2015 to test whether bowel screening should be introduced throughout New Zealand.

Mental illness

Good mental health is an essential part of a person's overall health and well-being, with mental illness being one of the leading causes of disability throughout the world. Effects are most often of a relatively mild and short-term nature, but if left untreated an illness can become serious with significant long-term impacts on a person's life.

Adult prevalence

Te Rau Hinengaro: The NZ Mental Health Survey (Oakley Browne, 2006) provides the best available estimate of the number of adults aged 16 years or over that will experience mild to severe mental health or addiction (MH&A) issues in a 12 month period, taking into account factors such as ethnicity and deprivation. Approximately 60,000 (15%) of adults across the sub-region can be expected to experience problems during the 2015/16 year.

Table 17: Percentage of adult (16+years) population estimated to have experience of Mental Illness or addiction in the 2015/16 12 month period

	Mild		Moderate		Severe	
Wairarapa DHB	1,326	3.90%	1,967	5.80%	960	2.90%
Hutt Valley DHB	5,340	4.80%	8,018	7.20%	4,093	3.70%
CCDHB	11,781	5.00%	17,730	7.50%	8,726	3.70%
Sub-region	18,447	4.80%	27,713	7.30%	13,780	3.60%

Source: Ministry of Health

The New Zealand Health Survey estimated the prevalence of diagnosed common mental disorder (depression, bipolar disorder, anxiety disorder) to be 22% amongst Wairarapa adults, 17% amongst Hutt Valley adults and 18% amongst CCDHB adults. These rates were not significantly different from the national average.

Prevalence was highest amongst adults 25-64 years. Women were more likely to be diagnosed than men, which was significant at the national level.

Prevalence of psychological distress (high or very high probability of anxiety or depressive disorder) was estimated at 3.6% amongst Wairarapa adults, 4.8% amongst Hutt Valley adults and 7.3% amongst CCDHB adults. These rates were not significantly different from the national average. There were some differences by age across the sub-region:

- Older adults (65+ years) in all three DHBs were significantly less likely to have experienced psychological distress than older adults nationally.
- Adults aged 25-44 years in Wairarapa also had a significantly lower prevalence than national.
- Young people (15-24 years) in CCDHB had a significantly higher prevalence of psychological distress than national.

Child and youth prevalence

Studies worldwide point to a prevalence of significant mental disorder as being somewhere between 15 and 25% of the child and adolescent population.

Currently we have no valid and reliable data on the prevalence of disorder seen in the sub-regional infant, child and youth population, however anecdotal evidence suggests the local population is similar to Christchurch and Dunedin longitudinal studies and also the Youth 2000 Survey Series.

The Christchurch Health and Development Studies (CHDS), which have studied a birth cohort of 1267 children from mid-1977, estimated the prevalence at age 11 years of any mental health disorder was about 18%. By 18 years this figure had risen to 42% meeting the criteria for at least one of the mental health disorders of childhood and adolescence. Māori clients had higher prevalence rates of mental health disorder with rates between one-and-a-half and two times that of non-Māori. Results from the CHDS demonstrate a significant persistence of childhood disorders into adult life (Fergusson & Horwood, 2001).

Investigations from another New Zealand longitudinal research study, the Dunedin Multidisciplinary Health and Development Study (1975-76) has found that of those adults now receiving intensive mental health services around 78% had received a diagnosis prior to 18 years of age and around 60% received one prior to the age of 15 years (Kim-Cohen et al, 2003).

The Youth'12 *The Health and Wellbeing of Secondary School Students in New Zealand* study (Clark et al, 2013) found that in the last 12 months before filling out the survey:

- 29% of female students and 18% of male students had deliberately hurt themselves or done something they knew may have harmed or even killed them
- Six percent of female students and two percent of male students had attempted suicide
- 21% of female students and ten percent of male students reported suicidal thoughts
- 16% of female students reported significant symptoms of depression compared with nine percent of male students
- 23% of students reported an episode of binge drinking in the previous month, with the proportion increasing significantly with age.

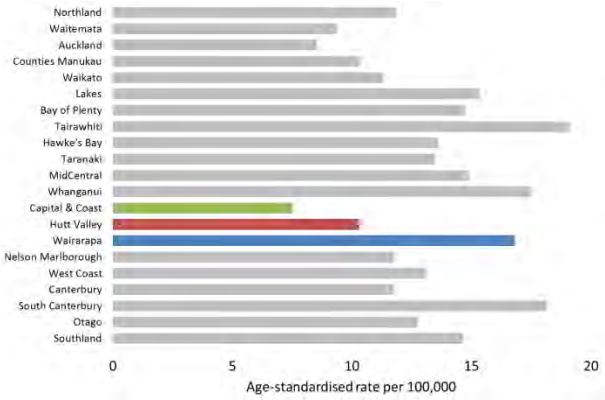
Self-harm and suicide

The sub-groups of the New Zealand population with the highest suicide mortality rates in 2011 were males (3.5 times the rate of females), Māori (1.8 times the rate of non-Māori), male youth (those aged 15–24 years) and those residing in the most deprived (quintile five) areas (Ministry of Health, 2014b). Figure 91 below shows suicide rates by DHB for the period 2007-2011. CCDHB had a significantly lower rate than national whereas the rate for Wairarapa was one of the highest (although small numbers meant this was not statistically significant).

Suicide was the most common cause of death for youth in the sub-region, accounting for a third of all deaths in this age group between 2006 and 2010. Ethnic disparities were larger for youth

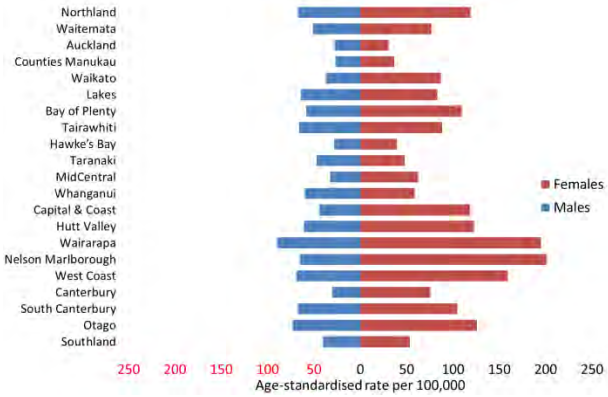
compared to total; the national Māori youth suicide rate in 2011 was 2.4 times the rate for non-Māori. Youth suicide rates for New Zealanders do not compare favourably with other OECD countries; both the male and female rates were the second highest of the countries covered (Ministry of Health, 2014b).

Figure 91. Suicide rates, 2007-2011



Source: Ministry of Health

Figure 92. Self-harm hospitalisation rates, 2009-2011



Source: Ministry of Health

Figure 92 above shows DHB hospitalisation rates for intentional self-harm. The motivation for intentional self-harm varies. Note that data on hospitalisations for intentional self-harm does not provide a measure of suicide attempts.

Wairarapa had the highest rate for intentional self-harm hospitalisations across all DHB regions over the three-year period 2009–2011. Hutt Valley and CCDHB also had significantly higher rates than national. Females were more likely to be hospitalised for intentional self-harm than males; 2.3 times more likely in Wairarapa, 2.5 in Hutt Valley and 2.8 in CCDHB. Amongst males in Hutt Valley and CCDHB, Māori had a higher hospitalisation rate than non-Māori.

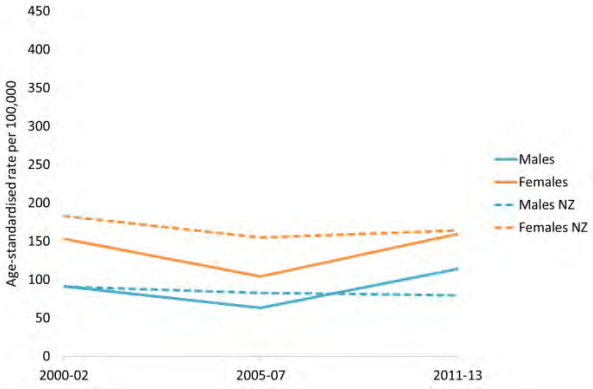
Respiratory disease

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 around nine percent of deaths in the sub-region.

Asthma

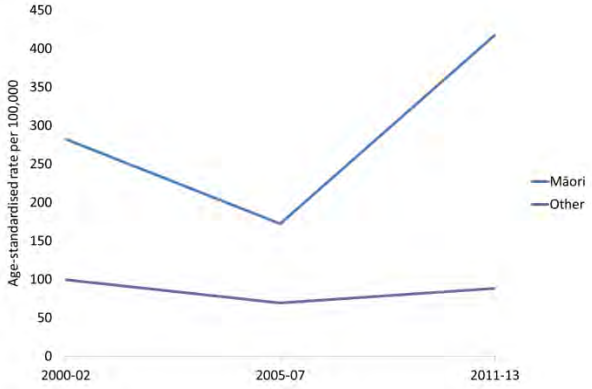
According to the New Zealand Health Survey, 15% of Wairarapa adults, 15% of Hutt Valley adults and 13% of CCDHB adults were taking medication for asthma. The Hutt Valley rate was significantly higher than the national average. Women were more likely than men to have medicated asthma (significant at the national level).

Figure 93. Wairarapa asthma hospitalisation rates by gender, 15+ years



Source: Massey University

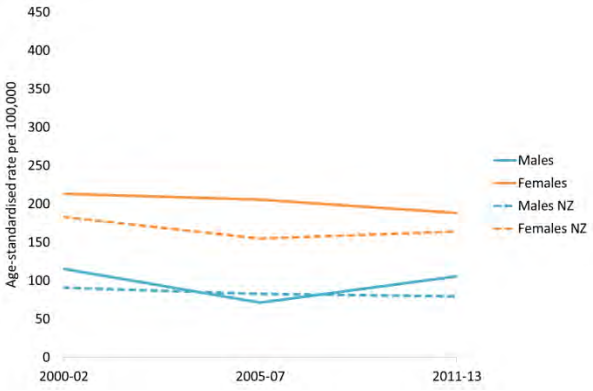
Figure 94. Wairarapa asthma hospitalisation rates by ethnicity, 15+ years



Source: Massey University

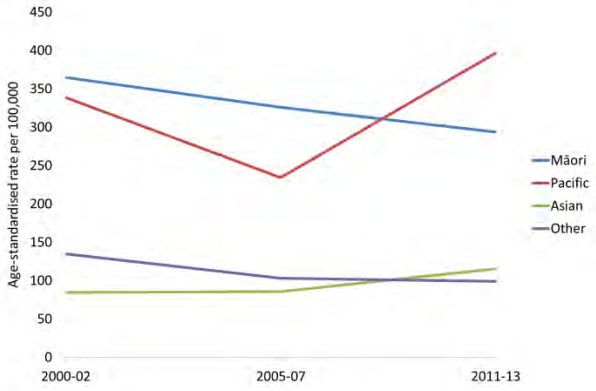
The asthma hospitalisation rate for adults in Wairarapa was not significantly different from the national rate and increased slightly overall between 2000-02 and 2011-13. Rates for females were higher than males however this difference was only significant at the national level. In the three year period 2011-13, the rate for Māori was over four-and-a-half times that of Other. The confidence intervals around the Māori rate were wide, reflecting wide variability in the rate due to small numbers.

Figure 95. Hutt Valley asthma hospitalisation rates by gender, 15+ years



Source: Massey University

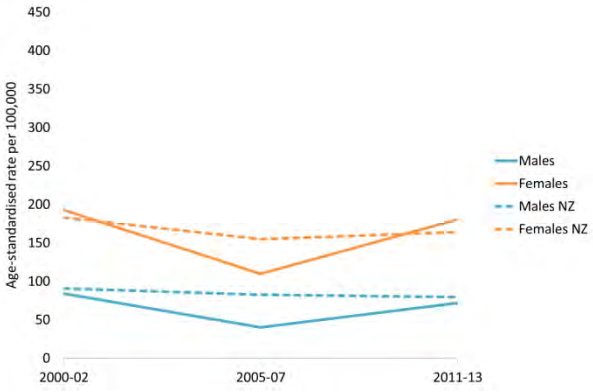
Figure 96. Hutt Valley asthma hospitalisation rates by ethnicity, 15+ years



Source: Massey University

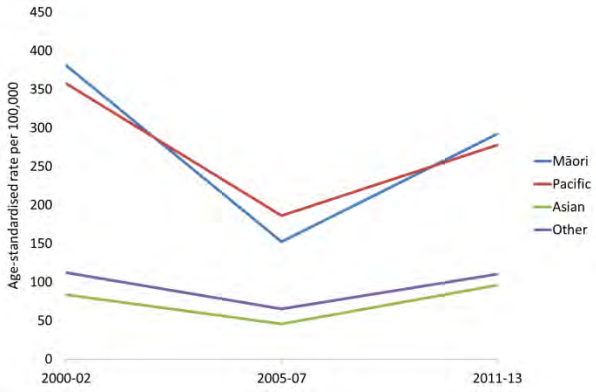
The asthma hospitalisation rate for adults in Hutt Valley was not significantly different from the national rate and decreased slightly between 2000-02 and 2011-13. Rates for females were higher than males however this difference was only significant at the national level. In the three year period from 2011 to 2013, the rate for Māori was three times that of Other and the rate for Pacific people was four times that of Other. For New Zealand, the Māori and Pacific rates were significantly higher than Other.

Figure 97. CCDHB asthma hospitalisation rates by gender, 15+ years



Source: Massey University

Figure 98. CCDHB asthma hospitalisation rates by ethnicity, 15+ years

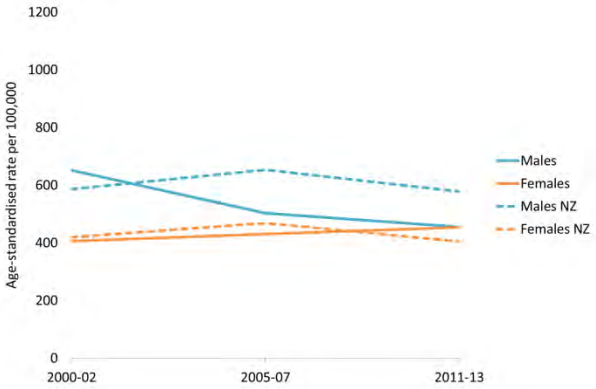


Source: Massey University

The asthma hospitalisation rate for adults in CCDHB was not significantly different from the national rate and dipped slightly in the mid-2000s. Rates for females were higher than males however this difference was only significant at the national level. In the three year period from 2011 to 2013, the rates for Māori and Pacific people were two-and-a-half times the rate for Other.

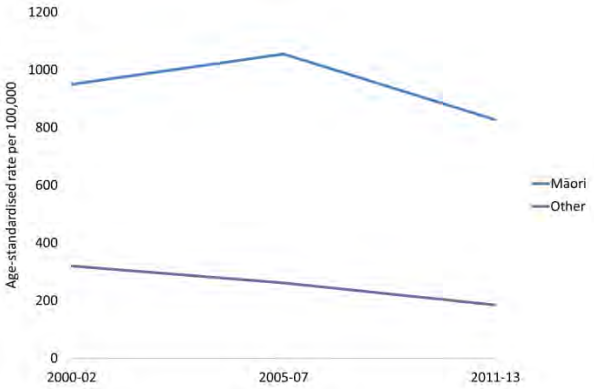
The New Zealand Health Survey also estimated that 15% of Wairarapa children (two to 14 years), 13% of Hutt Valley children and 15% of CCDHB children were taking medication for asthma. These rates were not significantly different from the national average.

Figure 99. Wairarapa asthma hospitalisation rates by gender, 0-14 years



Source: Massey University

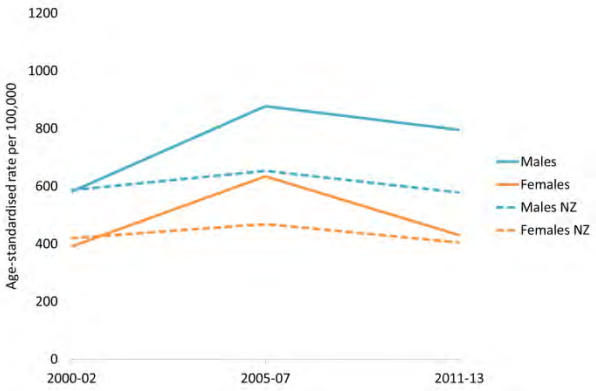
Figure 100. Wairarapa asthma hospitalisation rates by ethnicity, 0-14 years



Source: Massey University

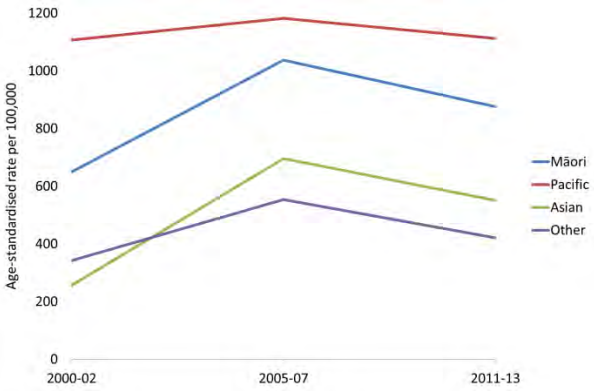
The asthma hospitalisation rate for children in Wairarapa was not significantly different from the national rate and decreased 14% between 2000-02 and 2011-13. In the three year period from 2011 to 2013, the rate for Māori was four-and-a-half times the rate for Other. The confidence intervals around the Māori rate were wide, reflecting wide variability in the rate due to small numbers.

Figure 101. Hutt Valley asthma hospitalisation rates by gender, 0-14 years



Source: Massey University

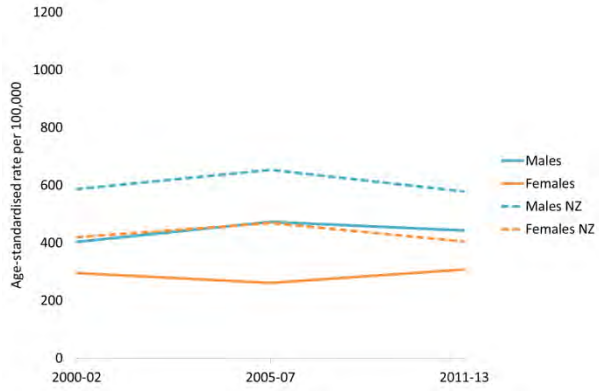
Figure 102. Hutt Valley asthma hospitalisation rates by ethnicity, 0-14 years



Source: Massey University

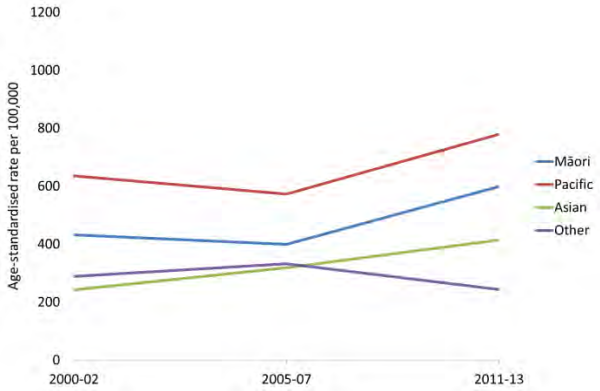
The asthma hospitalisation rate for children in Hutt Valley was significantly higher than national at its peak in 2005-07, however has decreased and is no longer significantly different. Rates for boys were higher than girls however this difference was only significant at the national level. In the three year period from 2011 to 2013, the rate for Māori was twice that of Other and the rate for Pacific people was two-and-a-half times that of Other. For New Zealand, the Māori, Pacific and Asian rates were all significantly higher than Other.

Figure 103. CCDHB asthma hospitalisation rates by gender, 0-14 years



Source: Massey University

Figure 104. CCDHB asthma hospitalisation rates by ethnicity, 0-14 years



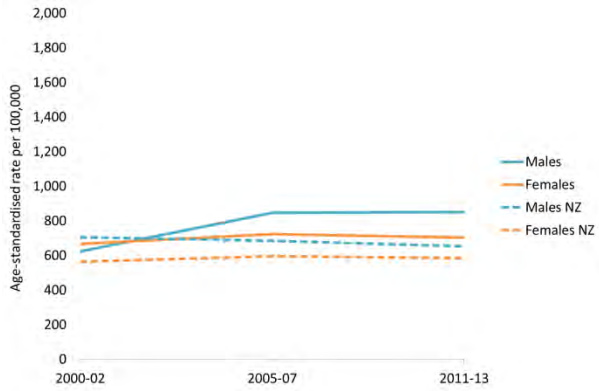
Source: Massey University

The asthma hospitalisation rate for children in CCDHB was significantly lower than the national rate. Rates for boys were higher than girls however this difference was only significant at the national level. In the three year period from 2011 to 2013, the rates for Māori and Pacific children were significantly higher than the rate for Other. Māori children were nearly one-and-a-half times and Pacific children nearly twice as likely to be hospitalised for asthma as children of Other ethnicity.

Amongst people admitted to hospital with a primary diagnosis of asthma (or wheeze in children aged under 15 years), Wairarapa had significantly higher rates than average for dispensing one or more asthma inhalers in the year following their admission. Rates in Hutt Valley and Wairarapa were not significantly different from national (Health Quality & Safety Commission, n.d.).

Chronic obstructive pulmonary disease

Figure 105. Wairarapa COPD hospitalisation rates by gender, 45+ years

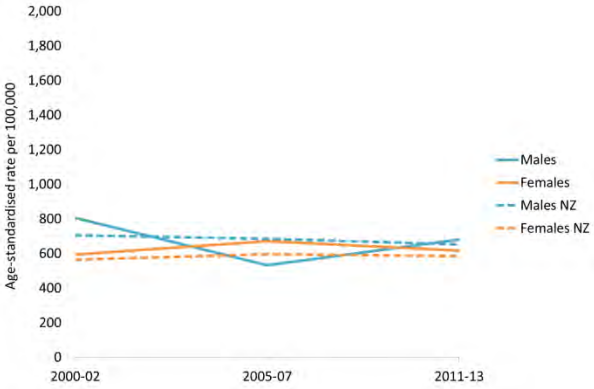


Source: Massey University

The chronic obstructive pulmonary disease (COPD) hospitalisation rate for Wairarapa was not significantly different from national and has fluctuated between 2000-02 and 2011-13. Males had higher rates than females although this difference was only significant at the national level.

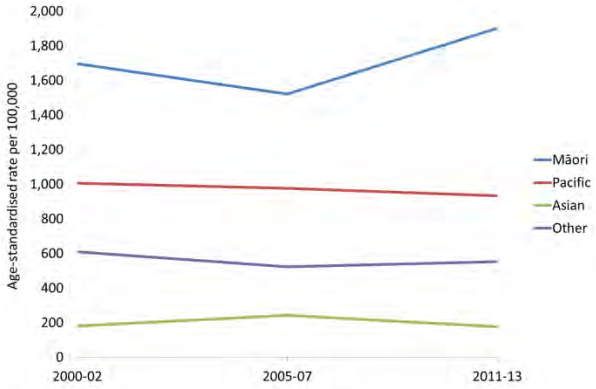
Although the Māori rate is not presented in the charts due to relatively small numbers, the rate has increased and was nearly three times that of Other in 2011-13.

Figure 106. Hutt Valley COPD hospitalisation rates by gender, 45+ years



Source: Massey University

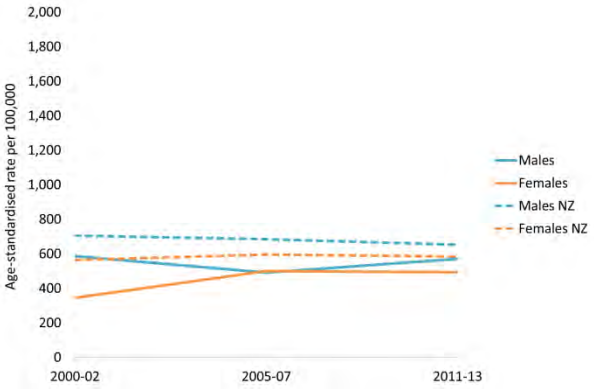
Figure 107. Hutt Valley COPD hospitalisation rates by ethnicity, 45+ years



Source: Massey University

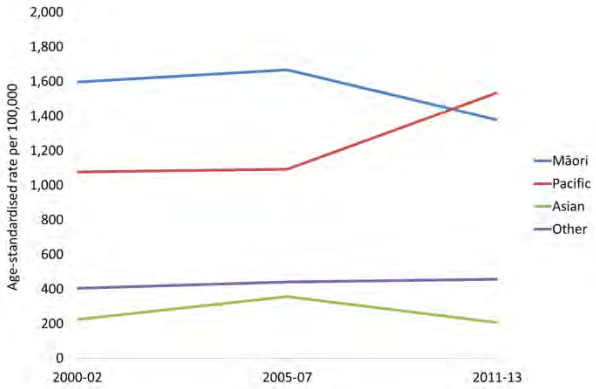
The COPD hospitalisation rate for Hutt Valley was not significantly different from national and fluctuated between 2000-02 and 2011-13. Māori had a significantly higher rate, more than three times that of Other. The Pacific rate was 1.7 times that of Other. The COPD hospitalisation rate for Asian was significantly lower, only a third of the rate for Other.

Figure 108. CCDHB COPD hospitalisation rates by gender, 45+ years



Source: Massey University

Figure 109. CCDHB COPD hospitalisation rates by ethnicity, 45+ years



Source: Massey University

The COPD hospitalisation rate for CCDHB was significantly lower than national, although has increased between 2000-02 and 2011-13. This increase was driven by an increase in the female rate. Māori and Pacific people had significantly higher rates than Other – more than three times the rate. The COPD hospitalisation rate for Asian was significantly lower, less than half the rate for Other. One of the main risk factors for COPD is smoking.

Musculoskeletal disorders

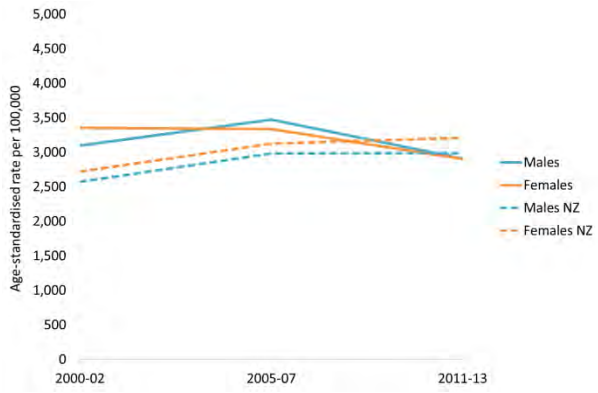
The New Zealand Burden of Disease Study (Ministry of Health, 2013) showed large – and perhaps previously under-appreciated – health loss from musculoskeletal conditions. This includes both arthritic disorders such as osteoarthritis and non-arthritic disorders such as back disorders. Musculoskeletal disorders collectively accounted for nine percent of health loss, with four conditions contributing more than one percent of disability adjusted life years: spinal (back) disorders (three percent), osteoarthritis (two percent) chronic musculoskeletal pain syndromes (1.3%) and rheumatoid arthritis (1.1%). It was estimated that obesity contributed to 60% of the osteoarthritis burden in 2006.

Arthritis

The New Zealand Health Survey estimated the prevalence of diagnosed arthritis to be 13% amongst adults in all three DHBs. These rates were not significantly different from the New Zealand average (11%), however the rate for 45-64 year olds in CCDHB was significantly lower than average. Prevalence increased with age and in the age group over 65 years women were more likely to be diagnosed with arthritis than men, significant at the national level.

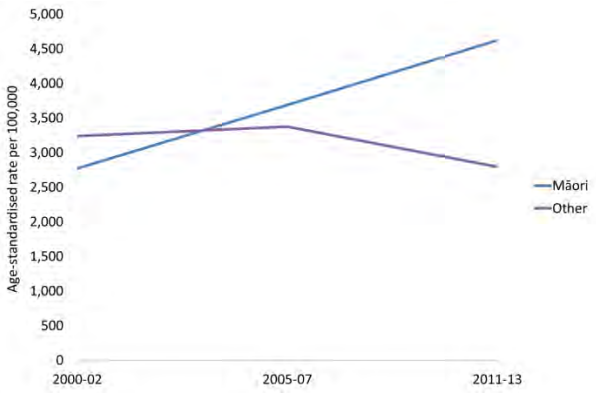
Hospitalisations

Figure 110. Wairarapa musculoskeletal hospitalisation rates by gender, 65+ years



Source: Massey University

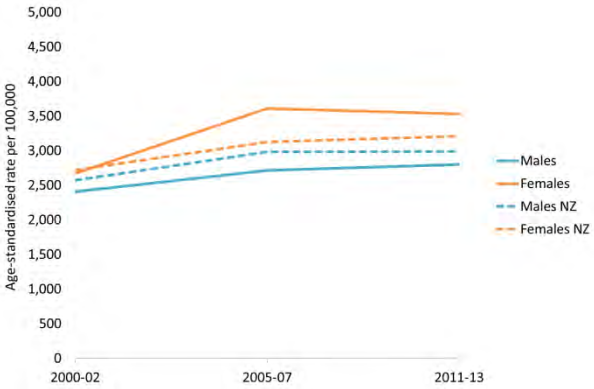
Figure 111. Wairarapa musculoskeletal hospitalisation rates by ethnicity, 65+ years



Source: Massey University

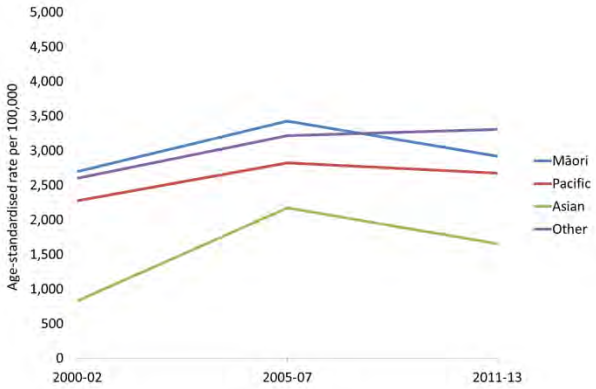
The musculoskeletal hospitalisation rate for Wairarapa decreased significantly from 2005-07 to 2011-13. The rate for Wairarapa females, and in total, was significantly lower than national averages. The Wairarapa Māori rate increased by two thirds and was significantly higher than Other as well as significantly higher than Māori nationally.

Figure 112. Hutt Valley musculoskeletal hospitalisation rates by gender, 65+ years



Source: Massey University

Figure 113. Hutt Valley musculoskeletal hospitalisation rates by ethnicity, 65+ years

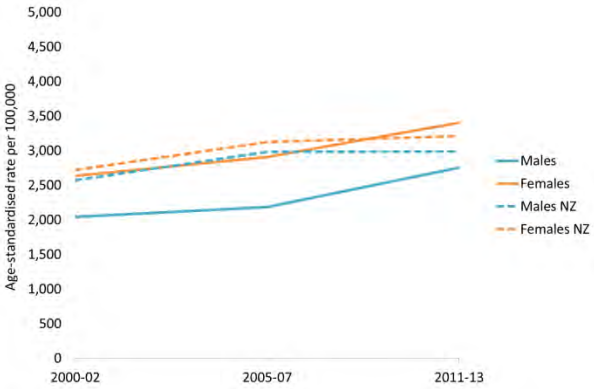


Source: Massey University

The musculoskeletal hospitalisation rate for Hutt Valley increased significantly from 2000-02 to 2011-13 (26%). The Hutt Valley rate overall was not significantly different from national however females in Hutt Valley had a significantly higher rate than females nationally. Females also had a significantly higher rate than males.

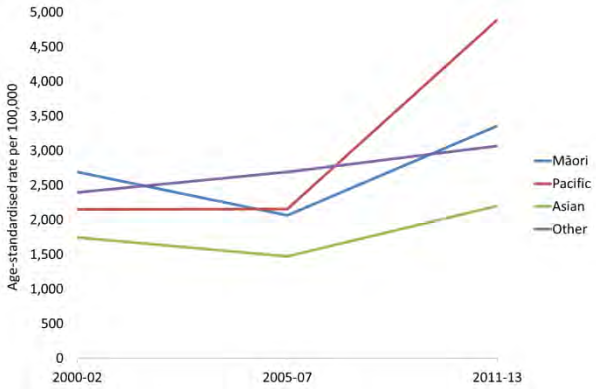
Māori, Pacific people and Asian had lower musculoskeletal hospitalisation rates than Other, although this difference was only significant for Asian. Pacific people in Hutt Valley had a significantly lower rate than Pacific people nationally, whereas Other had a significantly higher rate than Other nationally.

Figure 114. CCDHB musculoskeletal hospitalisation rates by gender, 65+ years



Source: Massey University

Figure 115. CCDHB musculoskeletal hospitalisation rates by ethnicity, 65+ years



Source: Massey University

The musculoskeletal hospitalisation rate for CCDHB increased significantly from 2000-02 to 2011-13 (30%). The CCDHB rate overall had been significantly lower than national however by 2011-13 there was no significant difference. Within this overall picture, females in CCDHB had a significantly higher rate than females nationally and males had a significantly lower rate than males nationally. Females also had a significantly higher rate than males.

Pacific people in CCDHB had a significantly higher musculoskeletal hospitalisation rate than Other and Pacific people nationally. Asian in CCDHB had a significantly lower rate than Other however it was significantly higher than Asian nationally.

Avoidable hospitalisations

The top diagnoses for ambulatory sensitive hospitalisations are ranked in the tables below. Major causes of ASH were similar across DHBs however there were some differences in rankings, which were often due to relatively small changes in numbers.

Table 18. Top diagnoses for ASH 0-74 years, rank and proportion of all ASH, 12 months to Sep 2014

Rank	Wairarapa	Hutt Valley	Capital & Coast
1	Dental conditions 11%	Cellulitis 16%	Dental conditions 13%
2	Gastroenteritis / dehydration 11%	Dental conditions 12%	Gastroenteritis / dehydration 12%
3	Diabetes 10%	Pneumonia 11%	Cellulitis 12%
4	Cellulitis 10%	Gastroenteritis / dehydration 10%	Angina and chest pain 11%
5	Pneumonia 10%	Asthma 8%	Pneumonia 9%

Source: Ministry of Health

Table 19. Top diagnoses for ASH 0-4 years, rank and proportion of all ASH, 12 months to Sep 2014

Rank	Wairarapa	Hutt Valley	Capital & Coast
1	Dental conditions 26%	Dental conditions 20%	Dental conditions 31%
2	Upper respiratory & ENT infections 16%	Gastroenteritis / dehydration 20%	Gastroenteritis / dehydration 24%
3	Gastroenteritis / dehydration 15%	Upper respiratory & ENT infections 20%	Upper respiratory & ENT infections 13%
4	Asthma 11%	Pneumonia 13%	Asthma 9%
5	Dermatitis & eczema 10%	Asthma 11%	Pneumonia 8%

Source: Ministry of Health

Table 20. Top diagnoses for ASH 45-64 years, rank and proportion of all ASH, 12 months to Sep 2014

Rank	Wairarapa	Hutt Valley	Capital & Coast
1	Pneumonia 15%	Cellulitis 16%	Angina & chest pain 22%
2	Cellulitis 13%	Myocardial infarction 11%	Cellulitis 14%
3	Gastroenteritis / dehydration 11%	Angina & chest pain 11%	Diabetes 9%
4	Angina & chest pain 9%	Pneumonia 11%	Gastroenteritis / dehydration 9%
5	Myocardial infarction 9%	Diabetes 9%	Pneumonia 8%

Source: Ministry of Health

What services do people use?

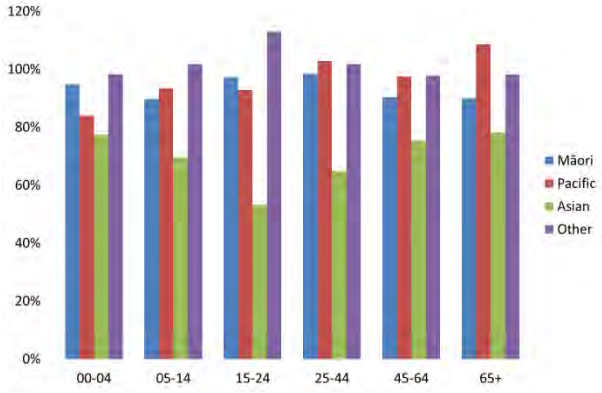
Primary healthcare services

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.

A Primary Health Organisation (PHO) provides primary health services either directly or through its provider members. There are five PHOs in the sub-region: Compass Health, delivering services in Capital & Coast and Wairarapa DHB areas; Te Awakairangi Health Network in the Hutt Valley; Cosine, with a practice in Lower Hutt and one in Wellington; Ora Toa with practices in Porirua and Wellington; and Well Health Trust, with practices in Porirua and Wellington.

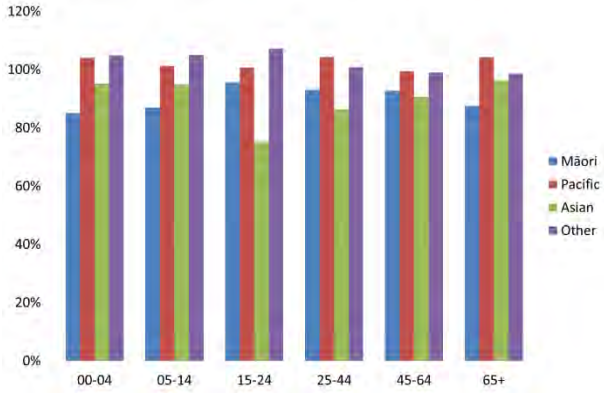
Enrolment coverage can be best estimated by comparing PHO registers for the quarter closest to the Census, with the estimated resident population from the Census (which allows for undercount).

Figure 116. Wairarapa DHB PHO enrolment coverage, Census 2013



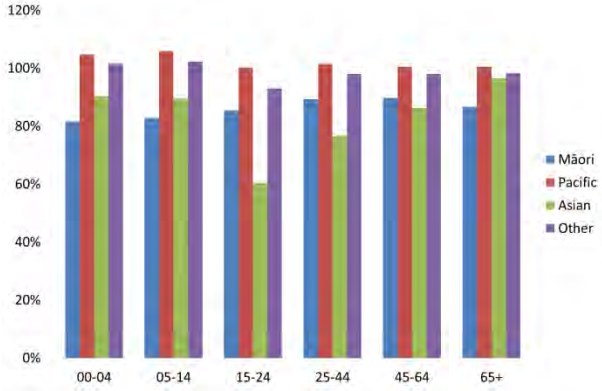
Source: Ministry of Health

Figure 117. Hutt Valley DHB PHO enrolment coverage, Census 2013



Source: Ministry of Health

Figure 118. CCDHB PHO enrolment coverage, Census 2013



Source: Ministry of Health

- 99% of Wairarapa residents were enrolled with a PHO. Māori enrolment was slightly lower at 94%.
- 98% of Hutt Valley residents were enrolled with a PHO. Māori enrolment was lower (91%), particularly for children – 85% for under-fives and 87% for five to 14 year olds. Coverage amongst Asian was lowest at 88%, with the rate for Asian youth only 75%.
- 95% of CCDHB residents were enrolled with a PHO. Māori enrolment was lower (86%), particularly for children – 82% for under-fives and 83% for five to 14 year olds. Coverage amongst Asian was lowest at 80%, with the rate for Asian youth only 60%.

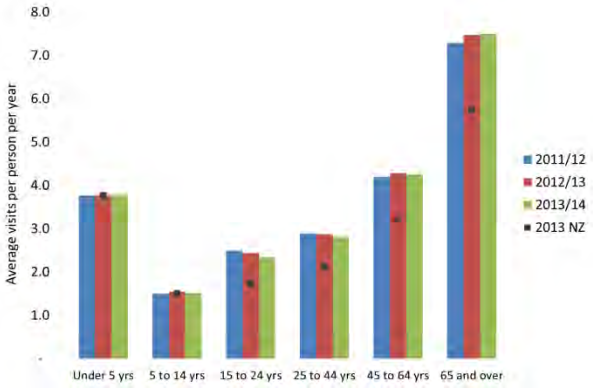
The apparently low enrolment of Māori is concerning however this could be due to two factors. Either Māori have selectively not enrolled or the difference is due to discrepancies between the health system classification of ethnicity and the classification used by Statistics New Zealand in the Census. These discrepancies are discussed by Malcolm (2010) in the New Zealand Medical Journal who argues that the gap between the Census and health statistics for Māori not being enrolled is primarily due to the different classifications of ethnicity.

Seventy-nine percent of adults in the sub-region had seen a GP in the last year according to the New Zealand Health Survey. One in five adults in Hutt Valley and CCDHB reported they were unable to get an appointment with their GP within 24 hours. This was significantly higher than the national average. Adults in Hutt Valley where significantly more likely than average to report problems accessing a GP because of transport, or cost after-hours. Six percent of adults in the sub-region reported they had not filled a prescription due to cost in the last year, a similar rate to national.

Doctor and nurse consultation rates

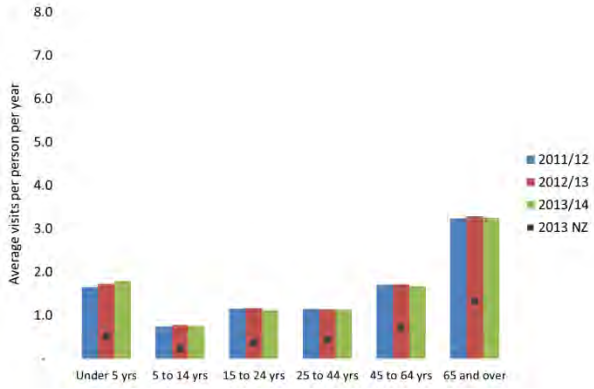
The most comparable general practice utilisation data available is from clinical performance indicator extracts set up for the national PHO Performance Programme. The series of charts below (Figure 119 to Figure 124) show average number of visits per enrolled person per year, by age and compared with a national benchmark. Note that one large practice located in Hutt Valley is part of a PHO led by CCDHB.

Figure 119. Doctor consultation rates, Wairarapa DHB-led PHOs



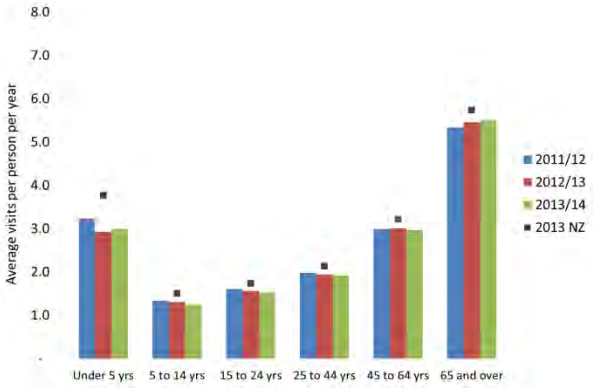
Source: DHB Shared Services

Figure 120. Nurse consultation rates, Wairarapa DHB-led PHOs



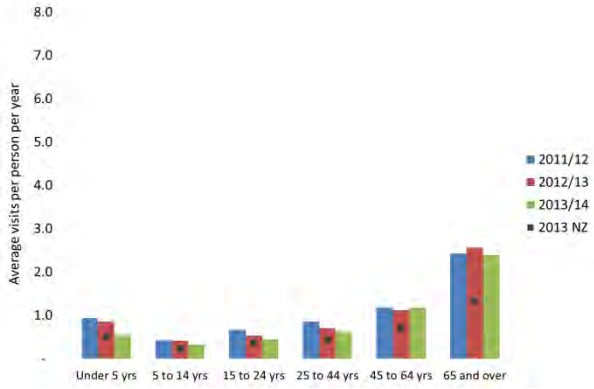
Source: DHB Shared Services

Figure 121. Doctor consultation rates, Hutt Valley DHB-led PHOs



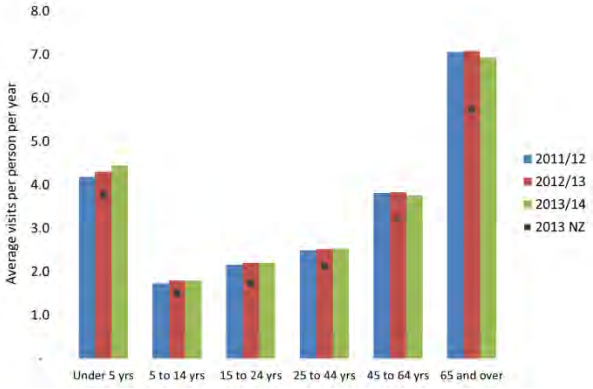
Source: DHB Shared Services

Figure 122. Nurse consultation rates, Hutt Valley DHB-led PHOs



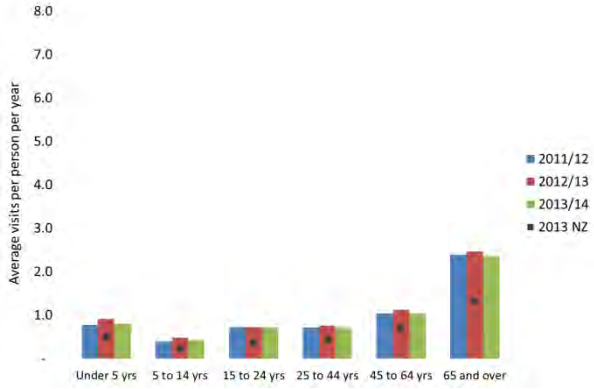
Source: DHB Shared Services

Figure 123. Doctor consultation rates, CCDHB-led PHOs



Source: DHB Shared Services

Figure 124. Nurse consultation rates, CCDHB-led PHOs



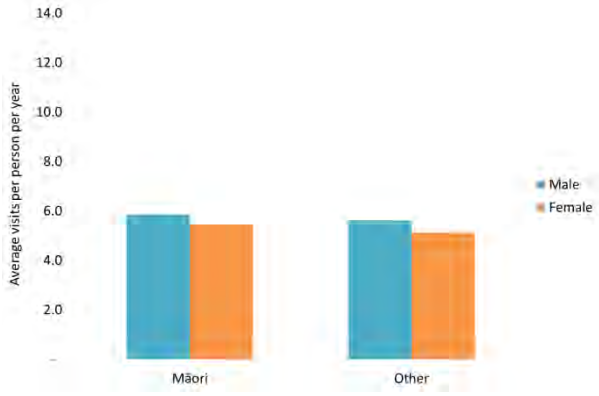
Source: DHB Shared Services

- Doctor consultation rates in Wairarapa and CCDHB PHOs were consistently higher than national averages whereas rates in Hutt Valley were lower than average.
- People aged over 65 years had the highest rate, followed by children aged under five years and adults 45-64 years.

- There was a drop in utilisation for children aged under five years in Hutt Valley between 2011/12 and 2012/13.
- All three DHBs had nurse consultation rates above national averages.

Consultation rates by ethnicity and gender

Figure 125. Total 0-4 yr old consult rates, Wairarapa DHB-led PHOs, 2013/14

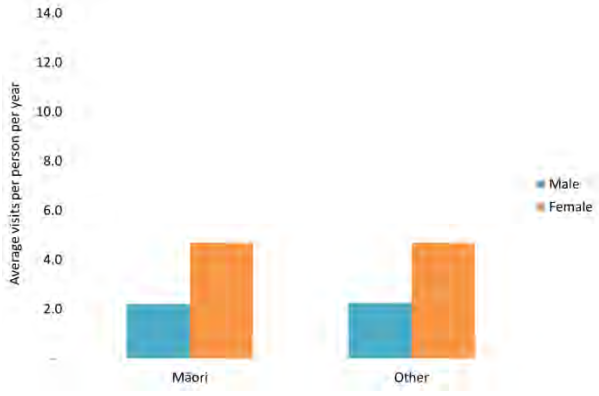


Source: DHB Shared Services

Figure 126. Total 5-14 yr old consult rates, Wairarapa DHB-led PHOs, 2013/14

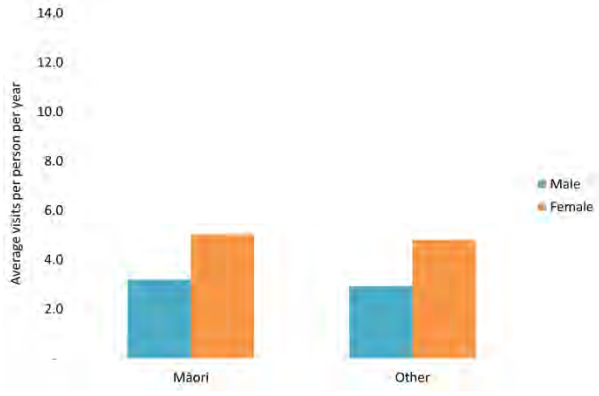
Source: DHB Shared Services

Figure 127. Total 15-24 yr old consult rates, Wairarapa DHB-led PHOs, 2013/14



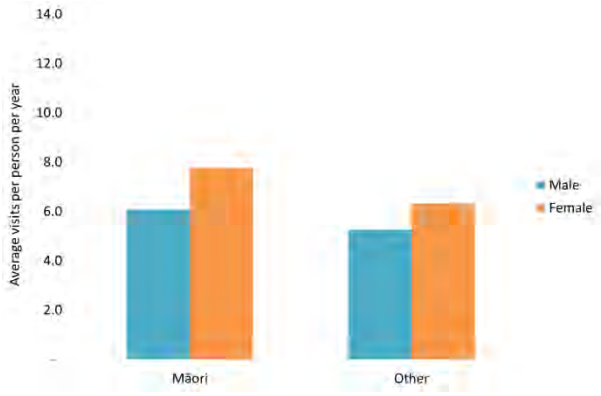
Source: DHB Shared Services

Figure 128. Total 25-44 yr old consult rates, Wairarapa DHB-led PHOs, 2013/14



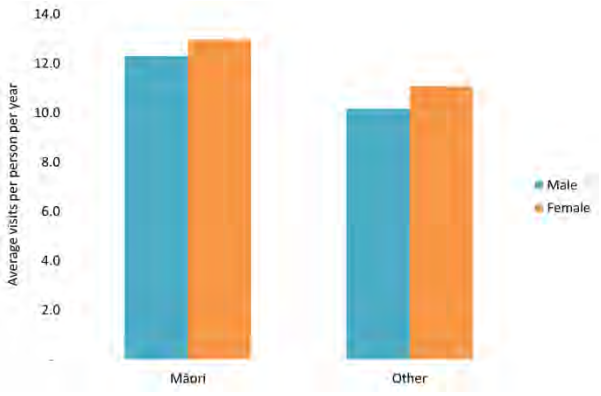
Source: DHB Shared Services

Figure 129. Total 45-64 yr old consult rates, Wairarapa DHB-led PHOs, 2013/14



Source: DHB Shared Services

Figure 130. Total 65+ yr old consult rates, Wairarapa DHB-led PHOs, 2013/14



Source: DHB Shared Services

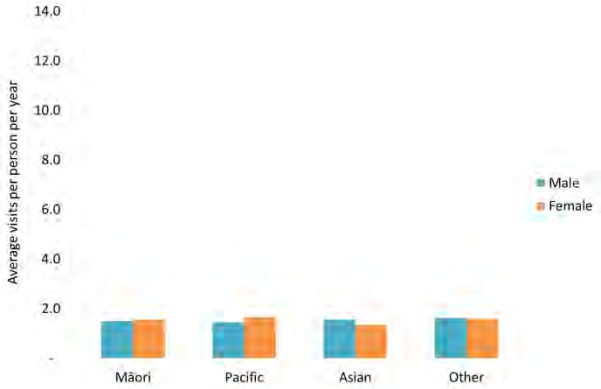
Utilisation rates for Wairarapa show:

- Rates for Māori were similar to Other up to age 45 years, after which Māori rates were higher.
- Young boys had higher rates than girls.
- Women had higher utilisation rates than men, particularly for youth, and adults 25-44 years.

Figure 131. Total 0-4 yr old consult rates, Hutt Valley DHB-led PHOs, 2013/14

Source: DHB Shared Services

Figure 132. Total 5-14 yr old consult rates, Hutt Valley DHB-led PHOs, 2013/14

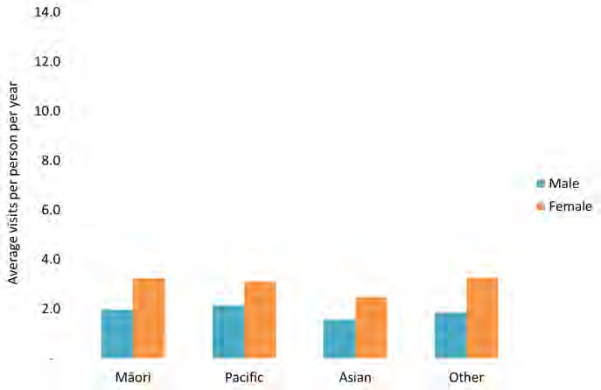


Source: DHB Shared Services

Figure 133. Total 15-24 yr old consult rates, Hutt Valley DHB-led PHOs, 2013/14

Source: DHB Shared Services

Figure 134. Total 25-44 yr old consult rates, Hutt Valley DHB-led PHOs, 2013/14



Source: DHB Shared Services

Figure 135. Total 45-64 yr old consult rates, Hutt Valley DHB-led PHOs, 2013/14

Source: DHB Shared Services

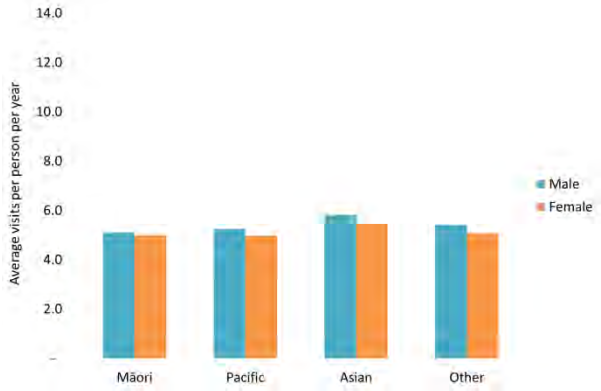
Figure 136. Total 65+ yr old consult rates, Hutt Valley DHB-led PHOs, 2013/14

Source: DHB Shared Services

Utilisation rates for Hutt Valley show:

- Asian and Other boys had higher utilisation rates than girls whereas for Māori and Pacific children it was more similar.
- Māori and Pacific children had similar rates to Asian and Other whereas for adults they had higher rates.
- Women generally had higher utilisation rates than men with the exception of Māori and Pacific people over 65 years.

Figure 137. Total 0-4 yr old consult rates, CCDHB-led PHOs, 2013/14

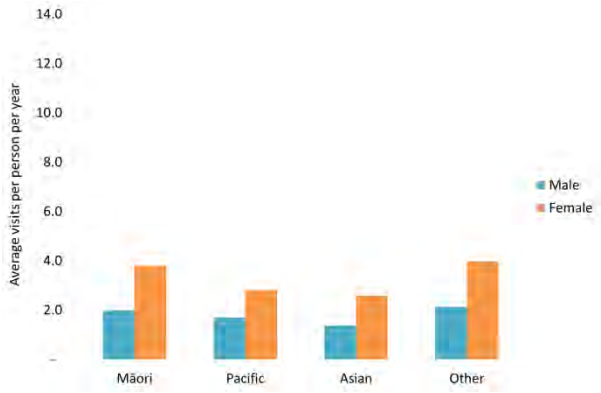


Source: DHB Shared Services

Figure 138. Total 5-14 yr old consult rates, CCDHB-led PHOs, 2013/14

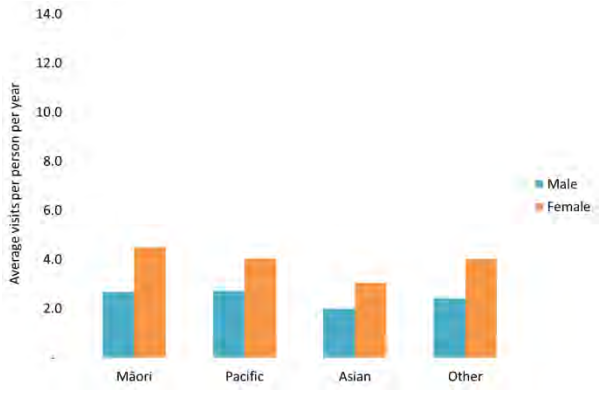
Source: DHB Shared Services

Figure 139. Total 15-24 yr old consult rates, CCDHB-led PHOs, 2013/14



Source: DHB Shared Services

Figure 140. Total 25-44 yr old consult rates, CCDHB-led PHOs, 2013/14

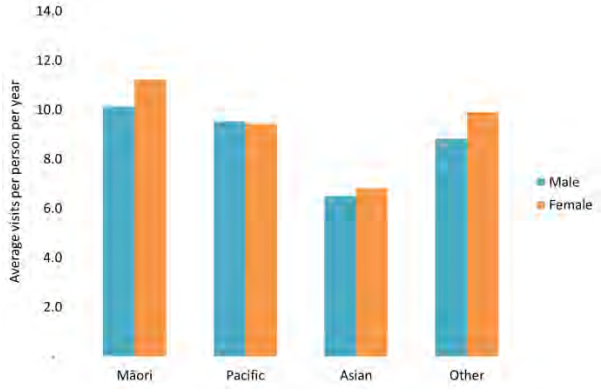


Source: DHB Shared Services

Figure 141. Total 45-64 yr old consult rates, CCDHB-led PHOs, 2013/14

Source: DHB Shared Services

Figure 142. Total 65+ yr old consult rates, CCDHB-led PHOs, 2013/14



Source: DHB Shared Services

Utilisation rates for CCDHB show:

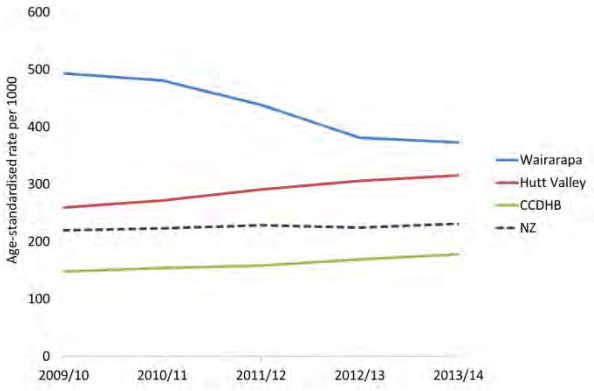
- Asian had the highest rate for children aged under five years yet the lowest rates for all other age groups.
- Young boys generally had higher utilisation rates than girls.
- Amongst adults women had higher rates than men except for Pacific people aged over 65 years.
- Māori and Pacific people had the highest rates amongst adults.

Emergency Department attendances

Emergency Medicine is the branch of medicine that involves the diagnosis, management and treatment of acute and urgent illnesses and injuries that may be life-threatening and require immediate attention. There are three Emergency Departments (ED) in the sub-region: at Wellington Regional Hospital in Newtown, Hutt Hospital in central Lower Hutt and Wairarapa Hospital in Masterton. An Accident & Medical Centre operates out of Kenepuru Hospital that is free for patients that required secondary level care but also refers to Wellington ED.

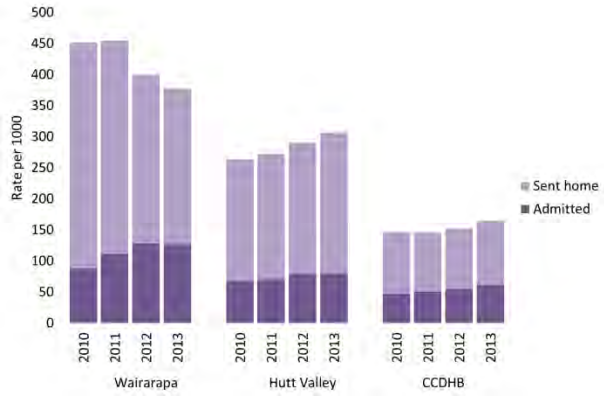
Patients arrive at ED a number of ways. They may be referred by their GP or primary healthcare provider, delivered by ambulance or they may self-present. Regardless, all patients undergo a brief triage or screening to determine the nature and severity of the illness or injury. Patients are then seen in order of urgency so those with more severe symptoms or injuries are treated before those with less serious conditions. After the initial assessment and treatment, patients may be admitted to the hospital, transferred to another hospital or discharged.

Figure 143. ED attendance rates by DHB



Source: Ministry of Health

Figure 144. ED attendance rates by discharge disposition

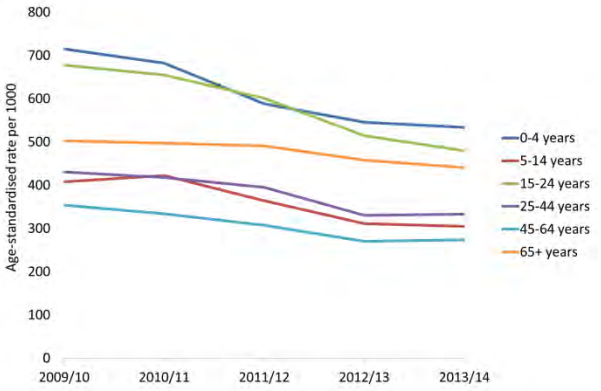


Source: Ministry of Health

In the sub-region Wairarapa DHB had the highest Emergency Department (ED) attendance rate, followed by Hutt Valley and CCDHB. The ED attendance rate for Wairarapa residents declined 24% over five years, converging towards the national rate, which increased five percent over the same period. Hutt Valley had a 22% increase in ED attendance rate; the rate was higher than national and diverging. CCDHB had a 21% increase in ED attendance rate; the rate was lower than national but converging.

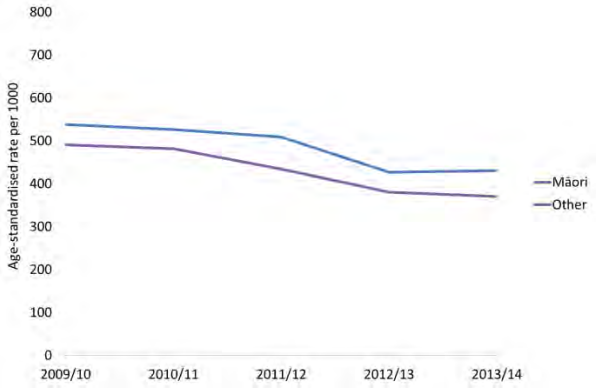
Across all three DHBs, the rate of ED attendance for patients that were admitted as a result increased between 2010 and 2013. The overall decrease for Wairarapa was driven by the decreasing rate for patients that are sent home (and potentially may not have needed to be seen in an ED). The proportion of attendances resulting in admission has also increased slightly for CCDHB. The proportion of attendances resulting in admission is comparatively low for Hutt Valley – around a quarter of ED patients were admitted in 2013 compared to over a third for Wairarapa and CCDHB.

Figure 145. Wairarapa ED attendance rates by age



Source: Ministry of Health

Figure 146. Wairarapa ED attendance rates by ethnicity

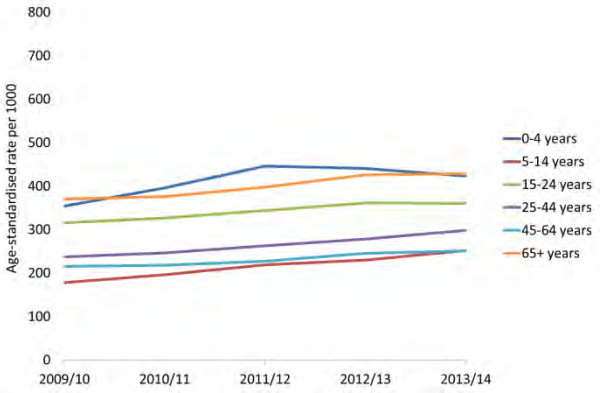


Source: Ministry of Health

The highest rates of ED attendance for Wairarapa residents were amongst young children aged under five years, followed by youth aged 15-24 years and people aged over 65 years. Rates declined across all age groups although the decrease was smallest amongst older people.

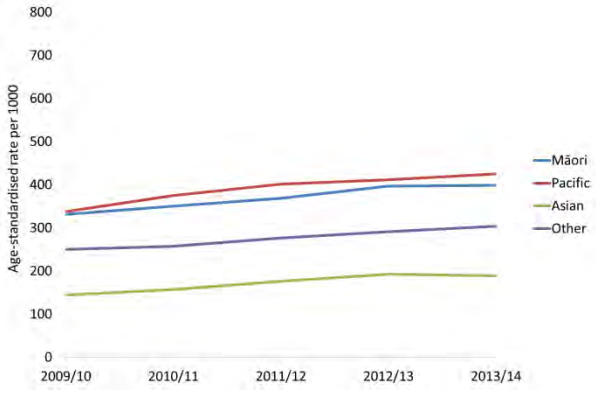
Māori in Wairarapa experienced a similar decrease to Other, although the rate was still 20% higher than Other in 2013/14.

Figure 147. Hutt Valley ED attendance rates by age



Source: Ministry of Health

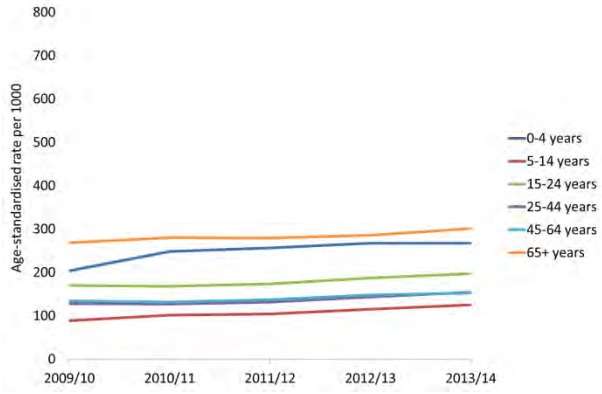
Figure 148. Hutt Valley ED attendance rates by ethnicity



Source: Ministry of Health

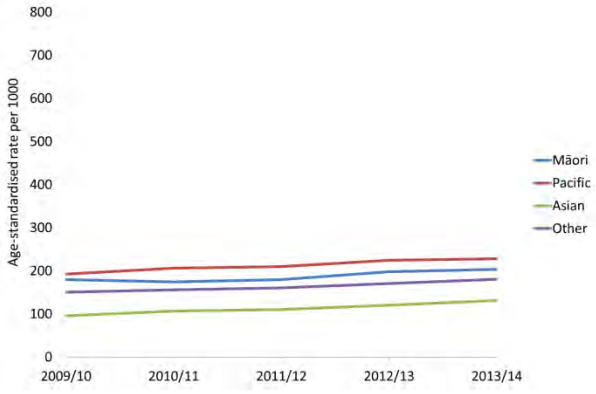
The highest rates of ED attendance for Hutt Valley residents were amongst young children aged under five years and people aged over 65 years. Growth in rates was fastest amongst children five to 14 years and adults 25-44 years; however rates for these age groups were amongst the lowest. ED attendances for children aged under five grew 20% between 2009/10 and 2013/14. All ethnic groups in Hutt Valley experienced similar increases. ED attendances were highest amongst Pacific people (40% higher than Other) and Māori (30% higher). The Asian rate had the fastest increase however was still less than two-thirds that of Other.

Figure 149. CCDHB ED attendance rates by age



Source: Ministry of Health

Figure 150. CCDHB ED attendance rates by ethnicity



Source: Ministry of Health

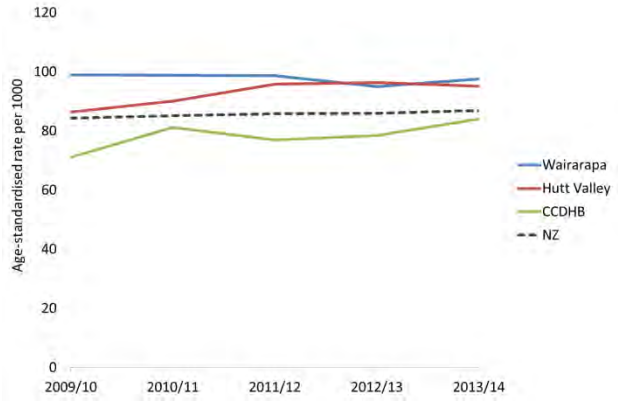
The highest rates of ED attendance for CCDHB residents were amongst older people aged over 65 years followed by children aged under five years. Growth was fastest amongst children and all ethnic groups in CCDHB experienced increases in rates. ED attendances were highest amongst Pacific people (30% higher than Other) followed by Māori (13% higher). The Asian rate had the fastest increase (37% between 2009/10 and 2013/14) however was still around two-thirds that of Other.

ED attendance rates by ethnicity for each age group are included in Appendix three: ED attendances. They show that:

- Pacific children had the highest ED attendance rates. Māori children in CCDHB had a rate similar to Other.
- In Wairarapa the ED attendance rate for Māori youth was slightly lower than the rate of Other. In Hutt Valley and CCDHB Māori, Pacific people and Other all had similar youth ED attendance rates.
- By 25-44 years, rates for Māori and Pacific people were higher than Other across all DHBs.
- Māori aged over 65 years were the only group in Wairarapa for whom ED attendance rates increased over the five year period.
- In Hutt Valley, growth was fastest amongst Pacific people aged 45-64 years and Māori aged over 65 years.
- For CCDHB, ED attendance growth was relatively low for Māori and Pacific people but faster for Asian and Other.

Acute hospital inpatients

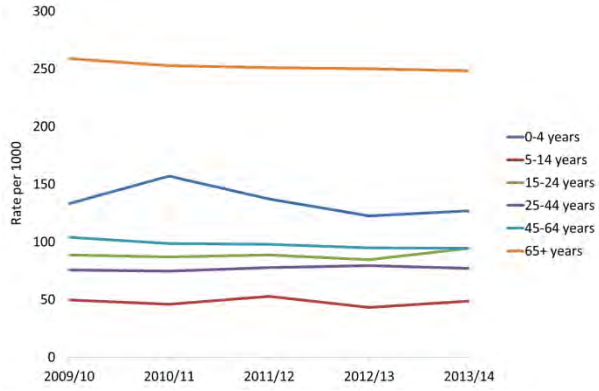
Figure 151. Acute medical & surgical inpatient rates



Source: Ministry of Health
Note: Excludes short stay ED events

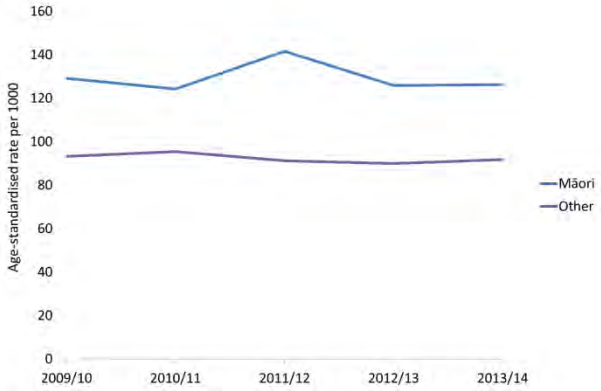
Acute medical & surgical hospital admissions (excluding neonatal admissions) were higher than the national average in Wairarapa and Hutt Valley DHBs and lower in CCDHB. Wairarapa's rate was reasonably static between 2009/10 and 2013/14 whereas it increased in Hutt Valley (ten percent) and CCDHB (18%). Hutt Valley's acute inpatient rate was diverging from national and CCDHB's was approaching national.

Figure 152. Wairarapa acute medical & surgical inpatient rates by age group



Source: Ministry of Health
Note: Excludes short stay ED events

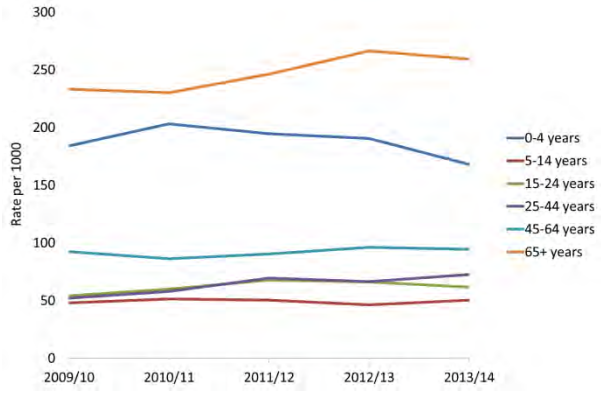
Figure 153. Wairarapa acute medical & surgical inpatient rates by ethnicity



Source: Ministry of Health
Note: Excludes short stay ED events

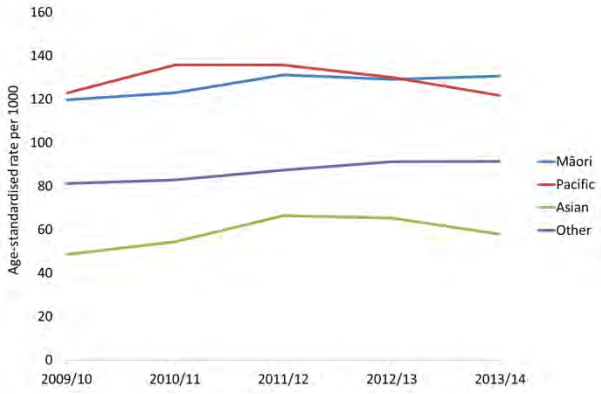
Acute admission rates were highest amongst adults aged over 65 years in Wairarapa. They were twice as likely to be admitted acutely as children aged under five years, the group with the next highest rate. Māori had a 38% higher acute admission rate than Other in 2013/14.

Figure 154. Hutt Valley acute medical & surgical inpatient rates by age group



Source: Ministry of Health
Note: Excludes short stay ED events

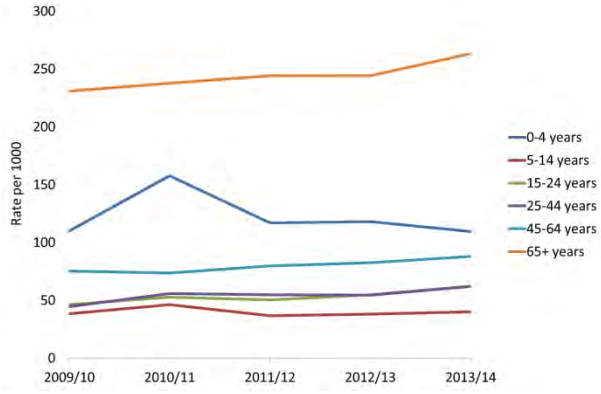
Figure 155. Hutt Valley acute medical & surgical inpatient rates by ethnicity



Source: Ministry of Health
Note: Excludes short stay ED events

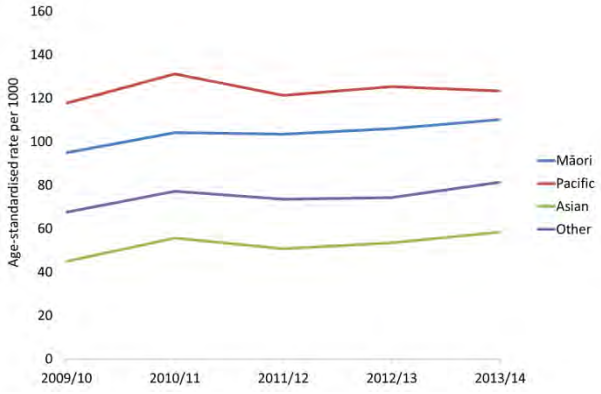
Acute admission rates were highest amongst adults aged over 65 years in Hutt Valley and increased 11% from 2009/10 to 2013/14 (note that ED short stay events have been excluded). The rate for children aged under five years was particularly high; partially due to the practice of submitting paediatric acute assessments to the National Minimum Data Set. Acute admissions for this age group have improved however; with a reduction in rates across most ethnic groups. Māori and Pacific people had acute admission rates 33% and 43% higher respectively than Other. The rate for Pacific people has flattened, mainly due to decreases for young children and older adults.

Figure 156. CCDHB acute medical & surgical inpatient rates by age group



Source: Ministry of Health
Note: Excludes short stay ED events

Figure 157. CCDHB acute medical & surgical inpatient rates by ethnicity



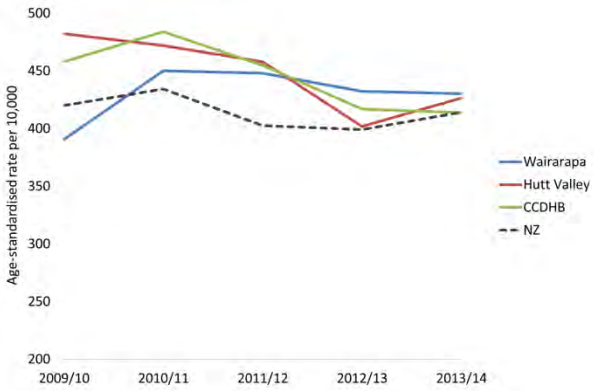
Source: Ministry of Health
Note: Excludes short stay ED events

Acute admission rates were highest amongst adults aged over 65 years in CCDHB and increased 14% from 2009/10 to 2013/14 (note that ED short stay events have been excluded). Acute admissions amongst young children in CCDHB have not increased (the peak in 2010/11 was due to a counting change which only affected that year). Pacific people were one-and-a-half times more likely to be admitted acutely as Other, and Māori had a 35% higher rate. The acute admission rate for Māori increased 16% between 2009/10 and 2013/14. The Asian rate grew the most quickly, however was still around 30% lower than Other.

Elective services

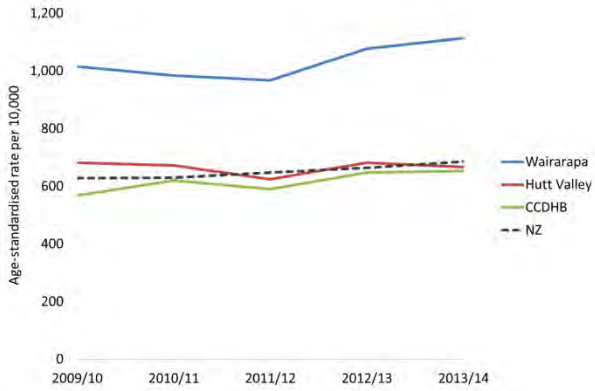
Elective services are medical and surgical services for people who do not need immediate treatment. A practitioner, usually a GP or primary care provider, refers patients to a DHB to be assessed by a specialist. This is known as a First Specialist Assessment (FSA). Specialists determine a priority score for patients requiring treatment dependent on need and how much the patient will benefit from treatment compared to others. Treatment is then made available to people in priority order, given available resources. Current Government policy is that people should receive treatment within four months. The Ministry of Health has set a goal of improving access to elective surgery and equalising access across DHBs.

Figure 158. Medical FSA intervention rates



Source: Ministry of Health

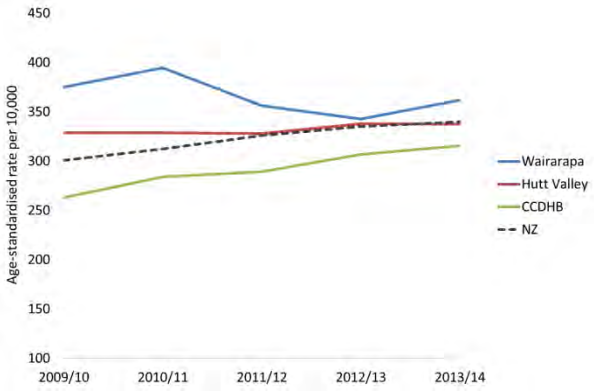
Figure 159. Surgical FSA intervention rates



Source: Ministry of Health

In 2013/14, there was no significant difference in medical FSA rates between Wairarapa and CCDHB and the national average. Hutt Valley had a significantly higher medical FSA rate compared to national. Although the Wairarapa rate was slightly higher than Hutt Valley's, the smaller numbers mean the difference was not statistically significant. The 2013/14 surgical FSA rates in Hutt Valley and CCDHB were significantly below the national average whereas Wairarapa's rate was significantly higher than national.

Figure 160. Elective surgical intervention rates



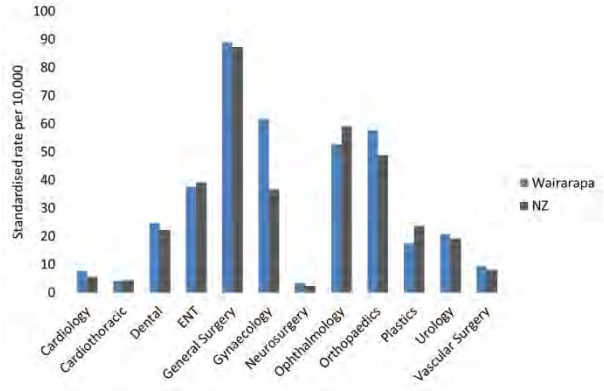
Source: Ministry of Health

Elective surgical intervention rates were significantly higher than the national average for Wairarapa residents. For Hutt Valley residents the rate was not significantly different from

national. The intervention rate for CCDHB has increased markedly (20% over five years) however was still significantly below the national average.

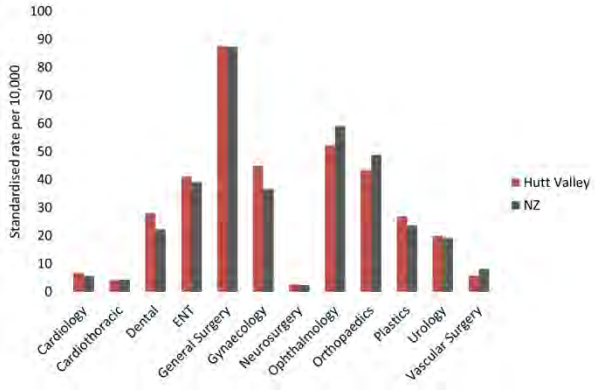
Wairarapa had a much higher rate of surgical FSAs compared to the national average however this gap reduced for surgical intervention. This raises questions around conversion to surgery rates, non-surgical treatment pathways, or potential data issues.

Figure 161. Wairarapa surgical intervention rates, 2013/14



Source: Ministry of Health

Figure 162. Hutt Valley surgical intervention rates, 2013/14

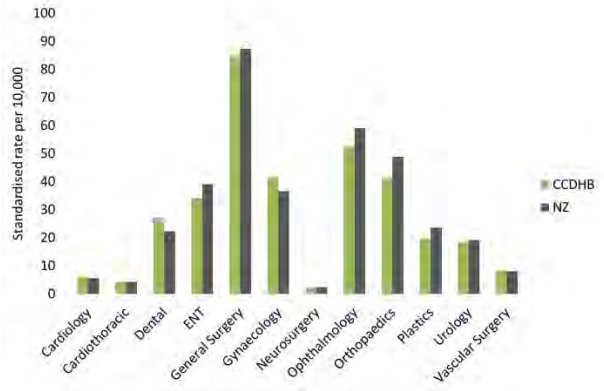


Source: Ministry of Health

When comparing surgical intervention rates by service related groupings, Wairarapa had significantly higher rates than national in Cardiology, Gynaecology and Orthopaedics. The Plastics intervention rate was significantly lower than the national average.

Hutt Valley had significantly higher rates than national in Dental, Gynaecology and Plastics. Rates were significantly lower than national in Ophthalmology, Orthopaedics and Vascular Surgery.

Figure 163. CCDHB surgical intervention rates, 2013/14



Source: Ministry of Health

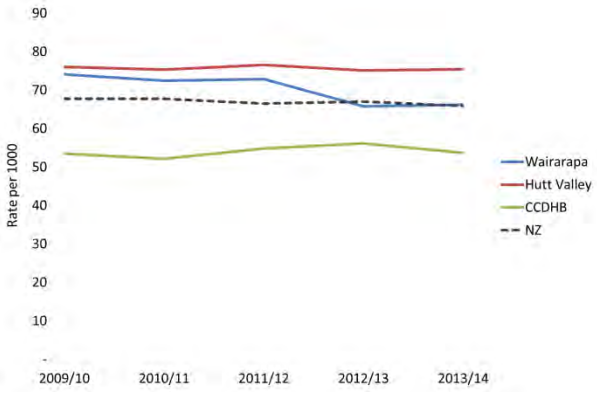
CCDHB had significantly higher rates than national in Dental and Gynaecology, and significantly lower rates than national in Ear, Nose & Throat (ENT), Ophthalmology, Orthopaedics and Plastics.

Elective intervention rates are influenced by level of need and referral patterns, access to the private market, available capacity and Government targets. The Ministry of Health sets target intervention rates for a small number of common, effective procedures, in order to improve equity of access across DHBs. Cardiac surgery rates are below the national benchmark in the sub-region, and access to major joint surgery is an issue for CCDHB. Pressure on Orthopaedic services will increase as the population ages and obesity prevalence increases.

Maternity services

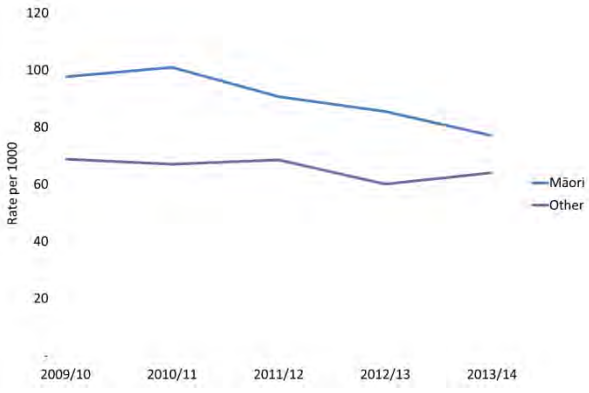
The charts below show Maternity discharge rates for the three DHBs compared to national, and by ethnicity. They include deliveries as well as other admissions relating to pregnancy and birth and reflect birth rates across the DHBs and by ethnicity. Maternity discharges were highest for Hutt Valley, followed by Wairarapa then CCDHB. Rates were highest amongst Māori and Pacific women.

Figure 164. Maternity discharge rates, 15-49 years



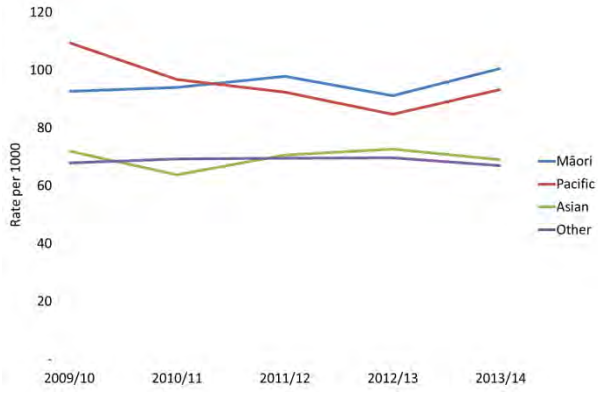
Source: Ministry of Health

Figure 165. Wairarapa maternity discharge rates, 15-49 years



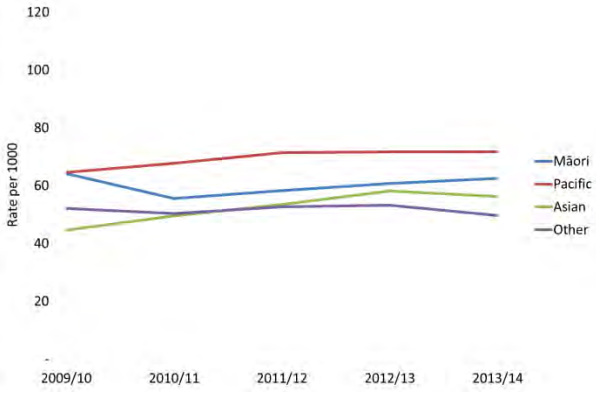
Source: Ministry of Health

Figure 166. Hutt Valley maternity discharge rates, 15-49 years



Source: Ministry of Health

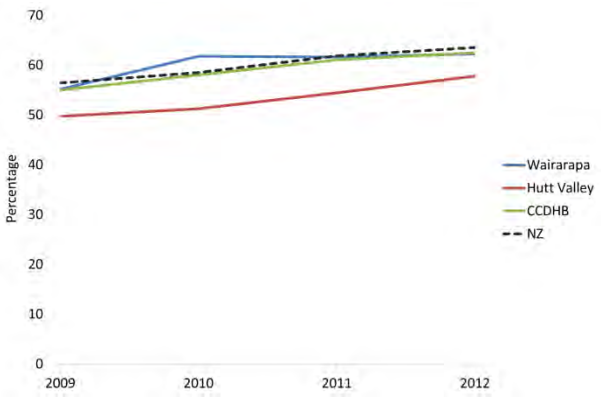
Figure 167. CCDHB maternity discharge rates, 15-49 years



Source: Ministry of Health

Early engagement with a Lead Maternity Carer (LMC) enables opportunities for screening, education and referral, and begins the primary maternity continuity of care relationship between a woman and her LMC. **Error! Not a valid bookmark self-reference.** below shows the number of women who registered with an LMC in the first trimester of their pregnancy, out of all women who had an LMC providing their primary maternity care. A similar proportion of mothers in Wairarapa and Hutt Valley registered with an LMC in the first trimester as national. The rate for Hutt Valley was lower than national.

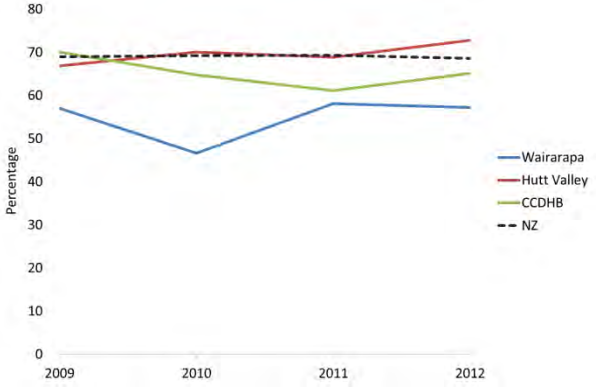
Figure 168. Registration with LMC in first trimester



Source: Ministry of Health

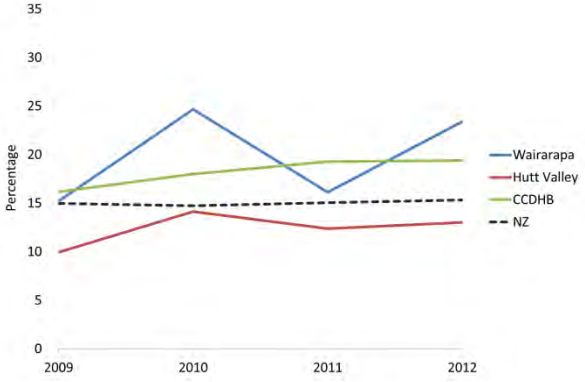
Standard primiparae are a group of mothers considered to be clinically comparable and expected to require low levels of obstetric intervention. A full definition is included in Appendix four: definitions.

Figure 169. Spontaneous vaginal births for standard primiparae



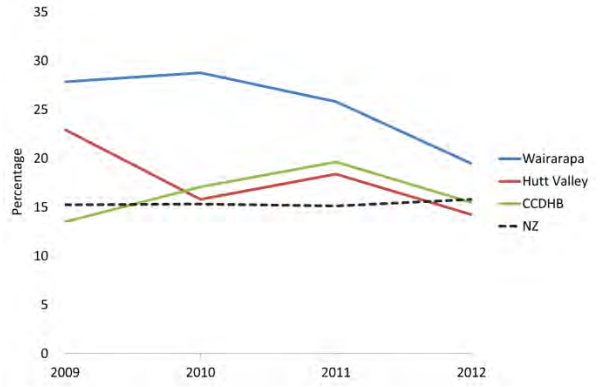
Source: Ministry of Health

Figure 170. Instrumental vaginal births for standard primiparae



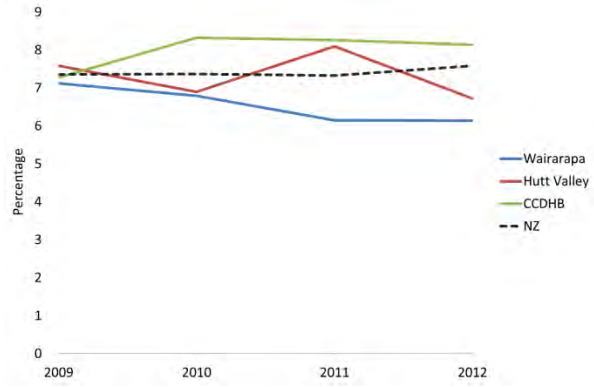
Source: Ministry of Health

Figure 171. Caesareans for standard primiparae



Source: Ministry of Health

Figure 172. Pre-term births



Source: Ministry of Health

For standard primiparae, Wairarapa women were the least likely to have a spontaneous vaginal birth, followed by CCDHB. The rate for Hutt Valley mothers was similar to national. Caesarean section rates were particularly high for Wairarapa, although they have declined in the more recent period. Despite the high rates of interventional births, pre-term births were lowest in Wairarapa.

Mental health services

Blueprint II (Mental Health Commission, 2012) champions a new vision to improve the mental health and wellbeing of all New Zealanders. It is a ten year vision that provides guidance to DHBs on what is required to meet future needs.

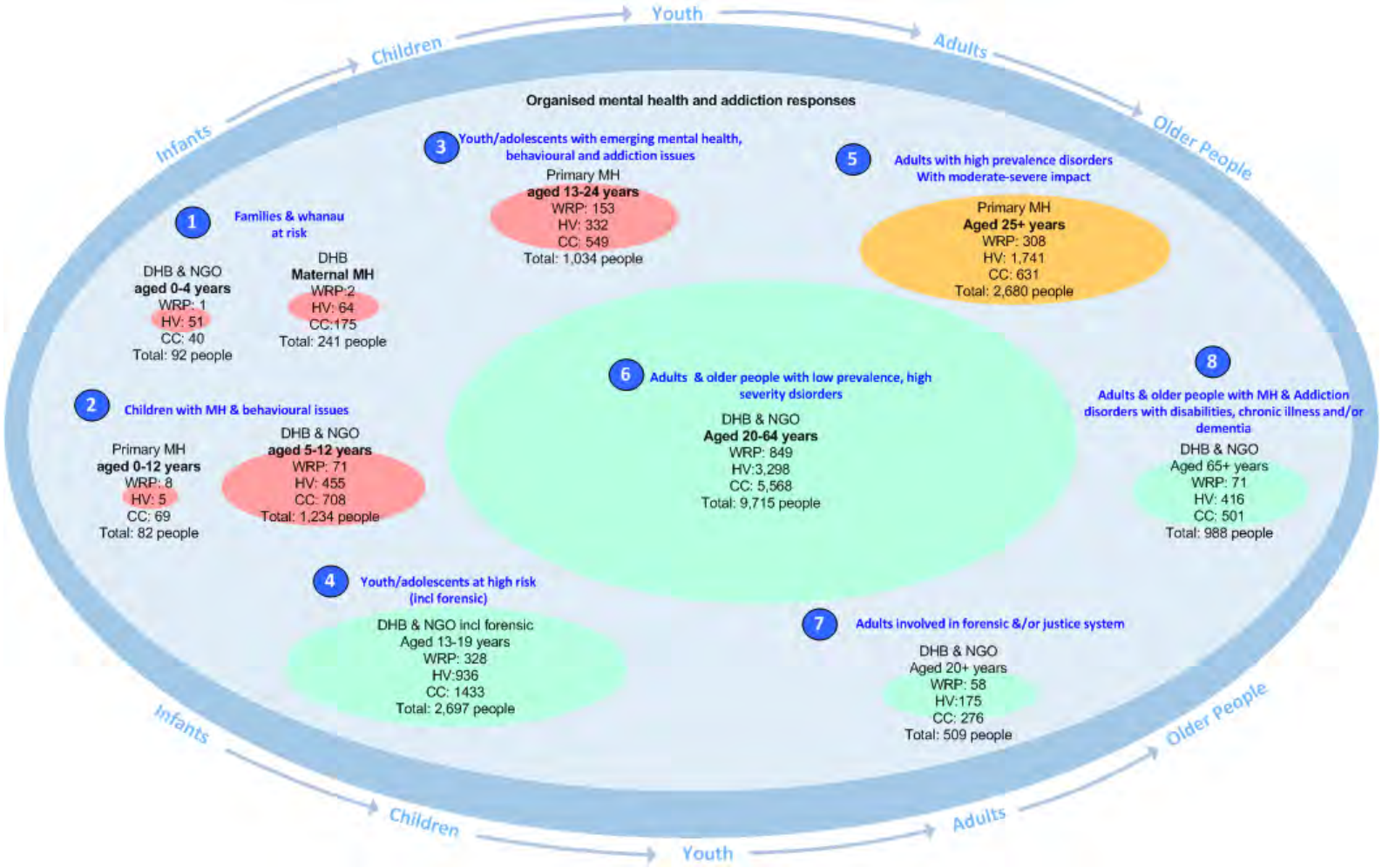
Blueprint II identifies eight priorities:

- Providing a good start
- Positively influencing high risk pathways
- Supporting people with episodic needs
- Supporting people with severe needs
- Supporting people with complex needs
- Promoting wellbeing, reducing stigma and discrimination
- Providing a positive experience of care
- Improving system performance

Blueprint II introduces a "life course" approach to help show that early response is important for everyone and that intervening at key moments can have a positive impact over time.

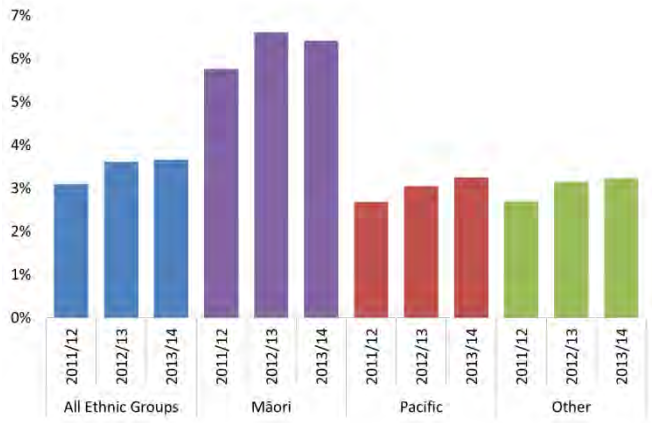
Eight critical points in the development of mental health and addiction (MH&A) issues are identified in the Blueprint II life course model. Figure 173 provides a snapshot of the number of people that utilised primary and secondary services in the sub-region during the 2012/13 year, mapped against the life course clusters.

Figure 173. Number of people seen by sub-regional MH&A services in 2012/13 mapped against the Blueprint II life course model



In 2013/14 a total of 17,781 people of all ages (four percent of the population), were seen for severe conditions by DHB or Non-Governmental Organisation (NGO) providers of specialist MH&A services. Among this group, the large percentage of Māori using specialist services reflects the particularly high and complex needs of this population, as demonstrated in Figure 174. Individuals and Whānau seeking help for mild to moderate issues are most commonly seen in primary health care settings, often as part of a GP consultation, and are not included in this data.

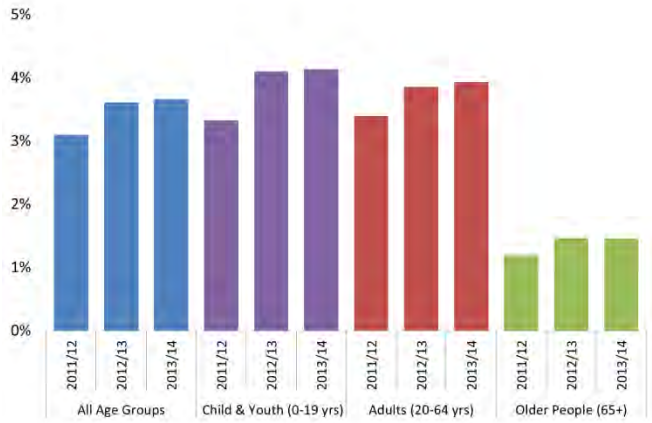
Figure 174. Population seen by secondary services by ethnicity



Source: Ministry of Health

Secondary services in the sub-region are delivered mainly in clinical teams based in the each of the three DHBs. NGOs provide a diverse range of community support, addictions, Pacific and Kaupapa Māori services which have helped greatly in achieving greater access rates for all populations and age groups over the last three years.

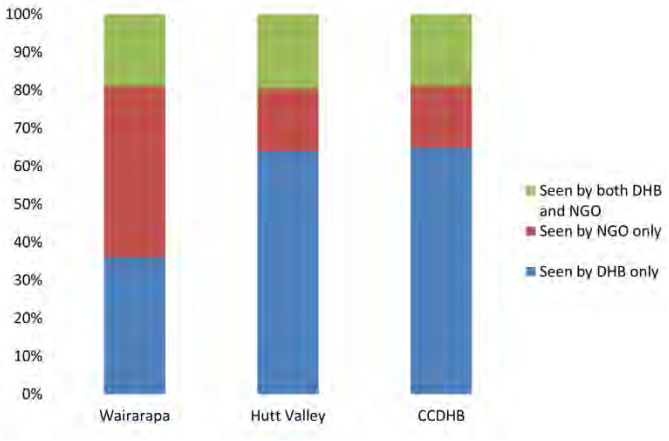
Figure 175. Population seen by secondary services by age group



Source: Ministry of Health

In the sub-region there are different configurations of services between the three DHBs. Figure 176 illustrates the different way consumers access services in the Wairarapa in comparison to the other two DHBs.

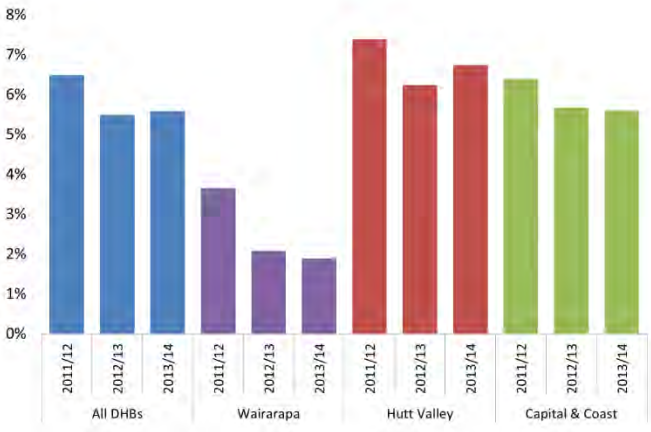
Figure 176. People seen by secondary services by service setting, 2013/14



Source: Ministry of Health

Among all people seen by secondary services, the great majority are seen by either DHB or NGO services in a community based setting. In each DHB there are an array of intensive support services aimed at keeping people well, and providing alternatives to inpatient admission for people in an acute phase of their illness. There are two adult acute inpatient units in the sub-region, based at Wellington and Hutt Hospitals. Wairarapa utilises acute beds at both Hutt Valley and Mid-Central DHBs. Figure 177 demonstrates the likelihood of being admitted if you are a user of secondary MH&A services, depending on which DHB area you are resident in.

Figure 177. Adults seen by secondary services that require acute inpatient admission



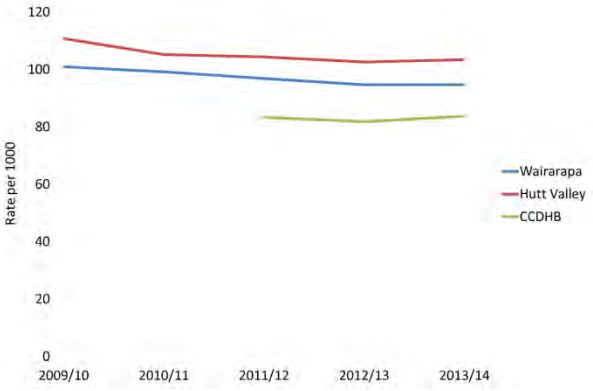
Source: Ministry of Health

Services for older people

The large majority of older people in the sub-region are able to live unassisted in their own homes. Many older people continue to work or do voluntary work. An estimated 11% of the sub-regional population aged over 65 years was receiving funded support as at the end of June 2014.

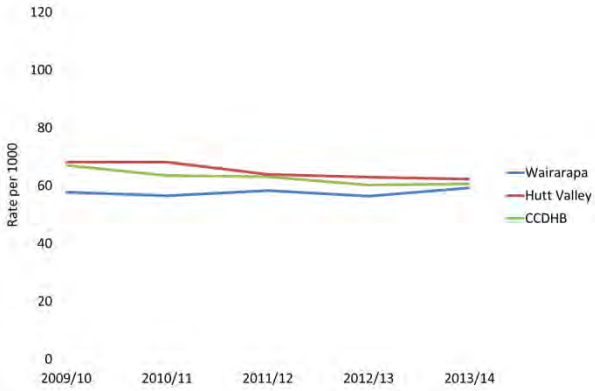
Most people receive household management and personal care or subsidised bed days in an aged-residential care (ARC) facility. People living at home also receive respite through carer support, overnight or day respite in ARC facilities or day activities in the community. Entry into all of these services is through assessment by the Needs Assessment and Service Coordination (NASC) service and hospital clinician sign-off for ARC.

Figure 178. People receiving home support services, 65+ years



Source: Ministry of Health, CCDHB providers

Figure 179. People receiving aged residential care services, 65+ years

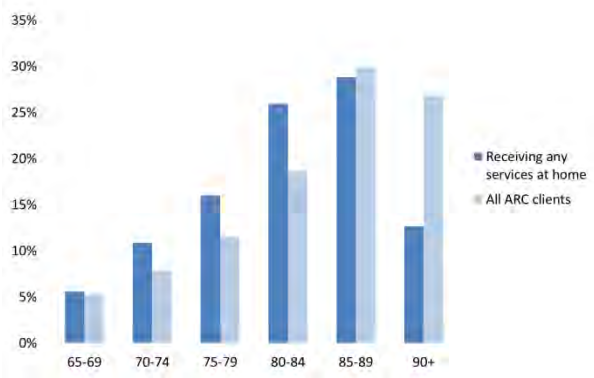


Source: Ministry of Health

The charts above compare the people receiving home support and subsidised ARC in each DHB. Hutt Valley had the highest rate of people receiving these services and CCDHB the lowest. This is a reflection of the health or frailty of the population as well as the service model. For Hutt Valley and Wairarapa, the rate of people receiving home support dropped slightly from 2009/10 to 2012/13. For CCDHB and Hutt Valley, the rate of people receiving subsidised ARC has dropped since 2009/10 whereas the rate has been stable for Wairarapa. The number of people receiving a subsidy is related to income and asset levels as well as the health of the population.

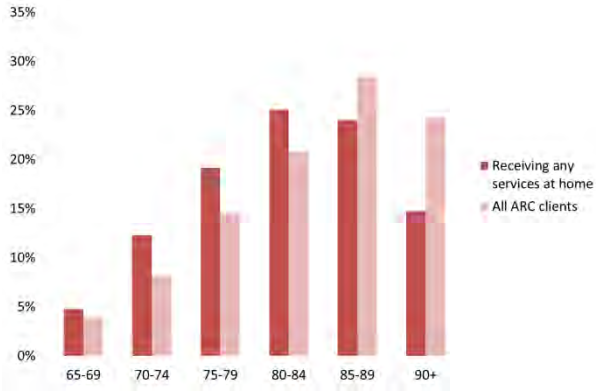
The following graphs show a snapshot of the age range of the people receiving DHB funded services that were living at home or in ARC as at June 2014.

Figure 180. Wairarapa age profile of people receiving HOP services, June 2014



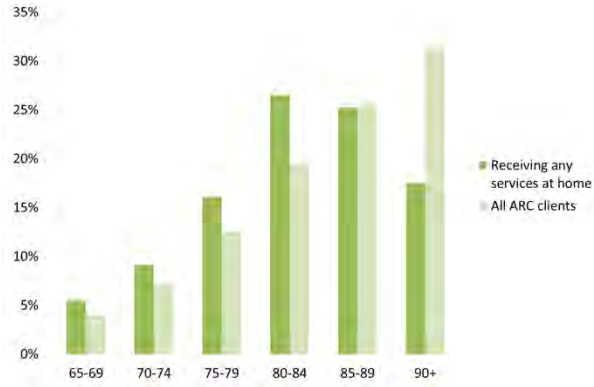
Source: Ministry of Health

Figure 181. Hutt Valley age profile of people receiving HOP services, June 2014



Source: Ministry of Health

Figure 182. CCDHB age profile of people receiving HOP services, June 2014



Source: Ministry of Health, CCDHB providers

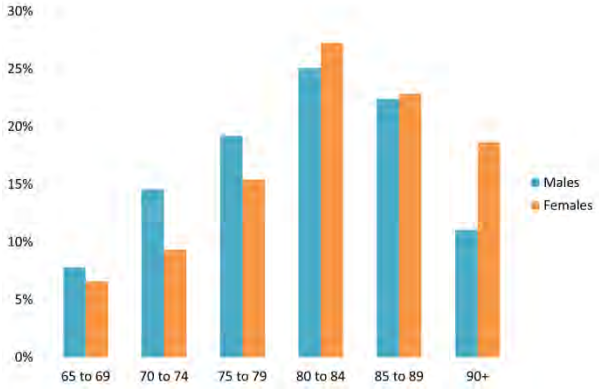
Although people are eligible for services from age 65 years, most of the people receiving services were aged 75 years or more. There were people aged more than 90 years who were living at home with support.

The average age of people entering subsidised aged residential care in 2013/14 was 82 years in Wairarapa and 84 years in Hutt Valley and CCDHB. For those that died, or left ARC in 2013/14 the average length of time in ARC was 1087 days (nearly three years) in Wairarapa, 731 days (two years) in Hutt Valley and 812 days (over two years) in CCDHB.

Assessment, treatment & rehabilitation

Specialist inpatient services provide assessment, treatment and rehabilitation (AT&R) for people with neurological conditions, stroke, brain injury, musculoskeletal and orthopaedic conditions or who have the potential to benefit from rehabilitation that is best provided by a specialist non-acute service.

Figure 183. Profile of people in AT&R, 2011/12 - 2013/14



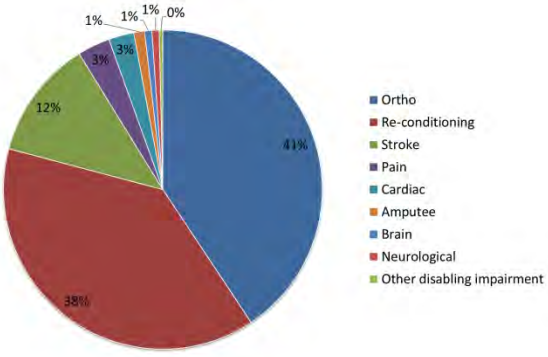
Source: Ministry of Health

There were more males in AT&R than females under the age of 80 years whereas the proportion of females is higher in the older age groups. Nearly two-thirds of AT&R patients were over 80 years old.

The Australasian Rehabilitation Outcomes Centre (AROC) collects and reports on data from the specialist medical rehabilitation sector. AROC aims include development of a benchmarking system to improve clinical rehabilitation outcomes; and of clinical and management reports based on functional outcomes and impairment groupings.

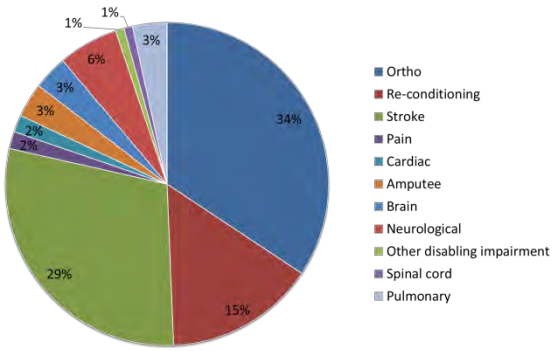
Services only report AROC data for people who have rehabilitation potential. They don't record data for all admissions and they exclude people who are there for assessment for long term support.

Figure 184. Masterton AT&R patients by impairment, 2013/14



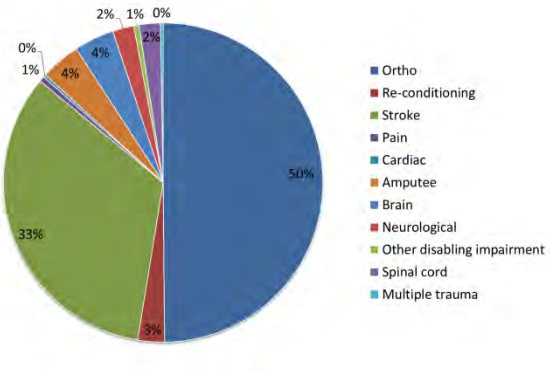
Source: Australasian Rehabilitation Outcomes Centre

Figure 185. Hutt AT&R patients by impairment, 2013/14



Source: Australasian Rehabilitation Outcomes Centre

Figure 186. Kenepuru AT&R patients by impairment, 2013/14



Source: Australasian Rehabilitation Outcomes Centre

The most common impairment for rehabilitation inpatients was orthopaedic impairment, followed by stroke and re-conditioning. Note that the Kenepuru rehabilitation service has only recently started to submit data on patients requiring re-conditioning, therefore the proportion was relatively small.

Most patients were admitted to AT&R from an acute ward in the same hospital: 89% in Masterton, 94% in Hutt Hospital and 66% in Kenepuru Hospital. The Kenepuru service had a substantial number of admissions from other hospitals (30%).

Most patients were living at home in a private residence prior to admission (92% for Masterton, 96% for Hutt, 96% for Kenepuru) and are discharged back to their usual accommodation (90%, 85%, and 90%).

Travel times to sub-regional hospitals

The maps below display driving times to hospital facilities in the sub-region. Each map shows the areas from which a particular facility can be reached in 15 minute increments, up to an hour, and then between 60-90 minutes and over 90 minutes.

Figure 187. Map of driving times to Wellington Regional Hospital

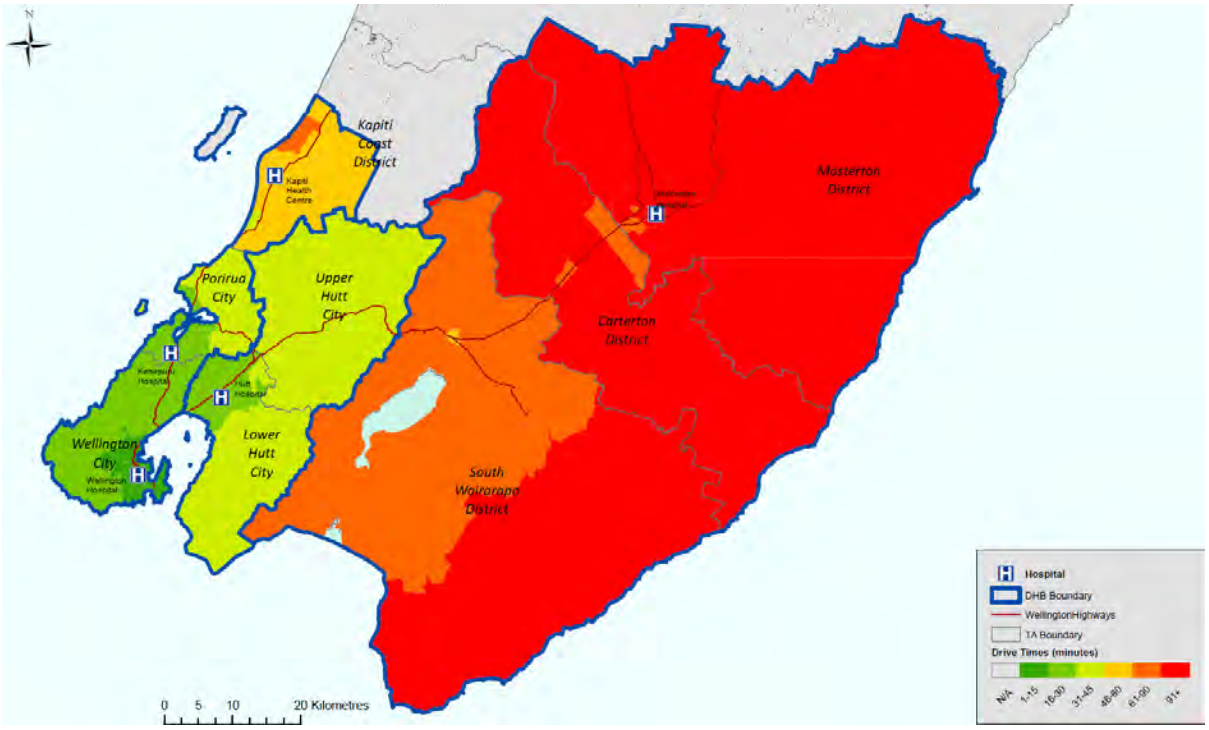


Figure 188. Map of driving times to Kenepuru Hospital

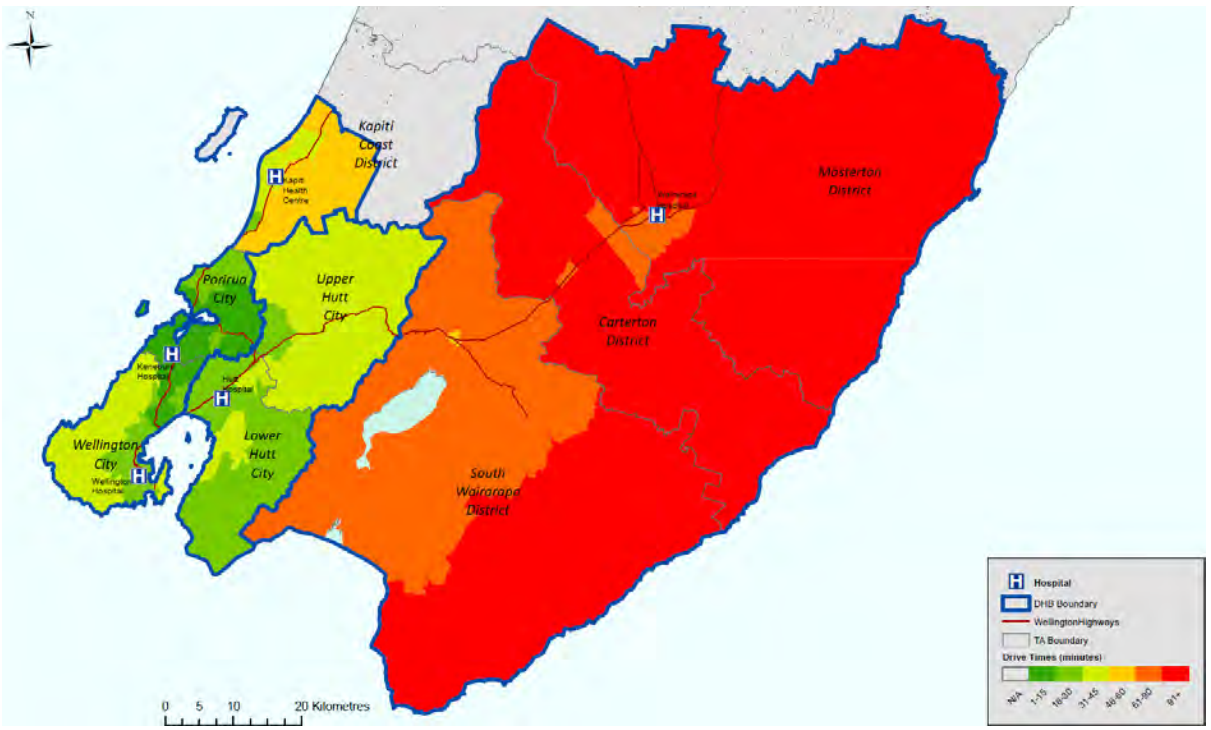


Figure 189. Map of driving times to Kapiti Health Centre

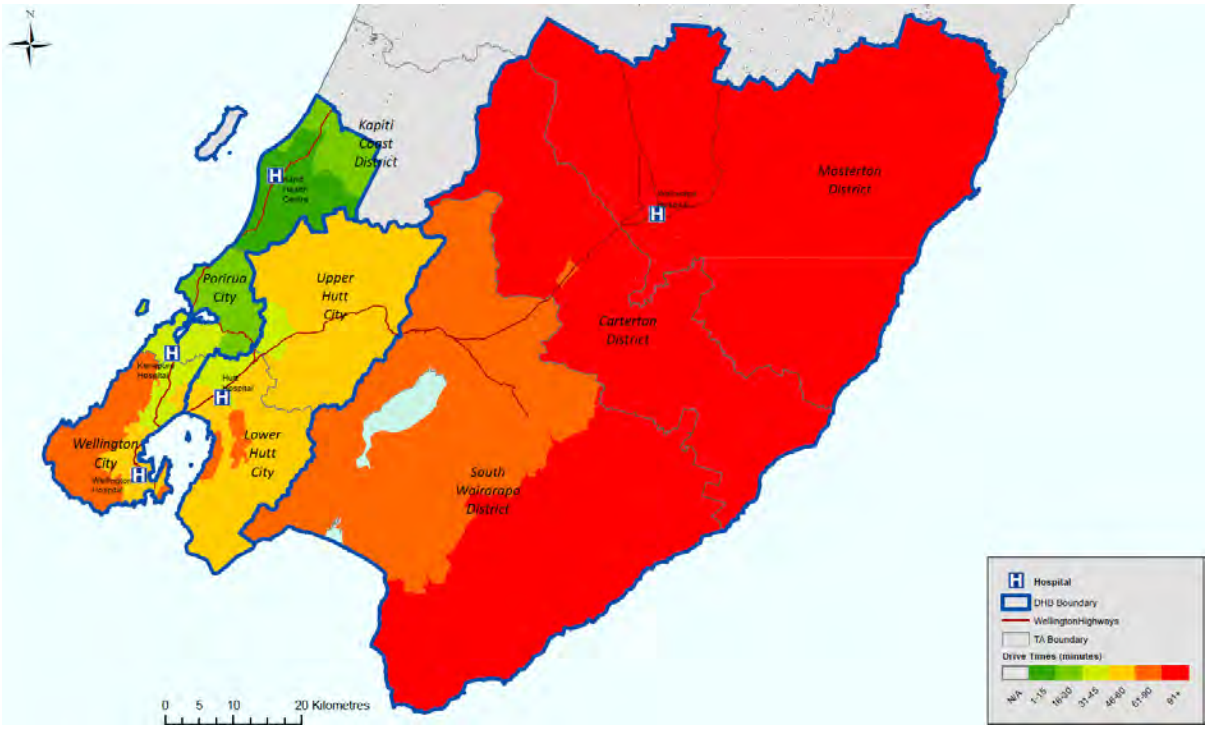


Figure 190. Map of driving times to Hutt Hospital

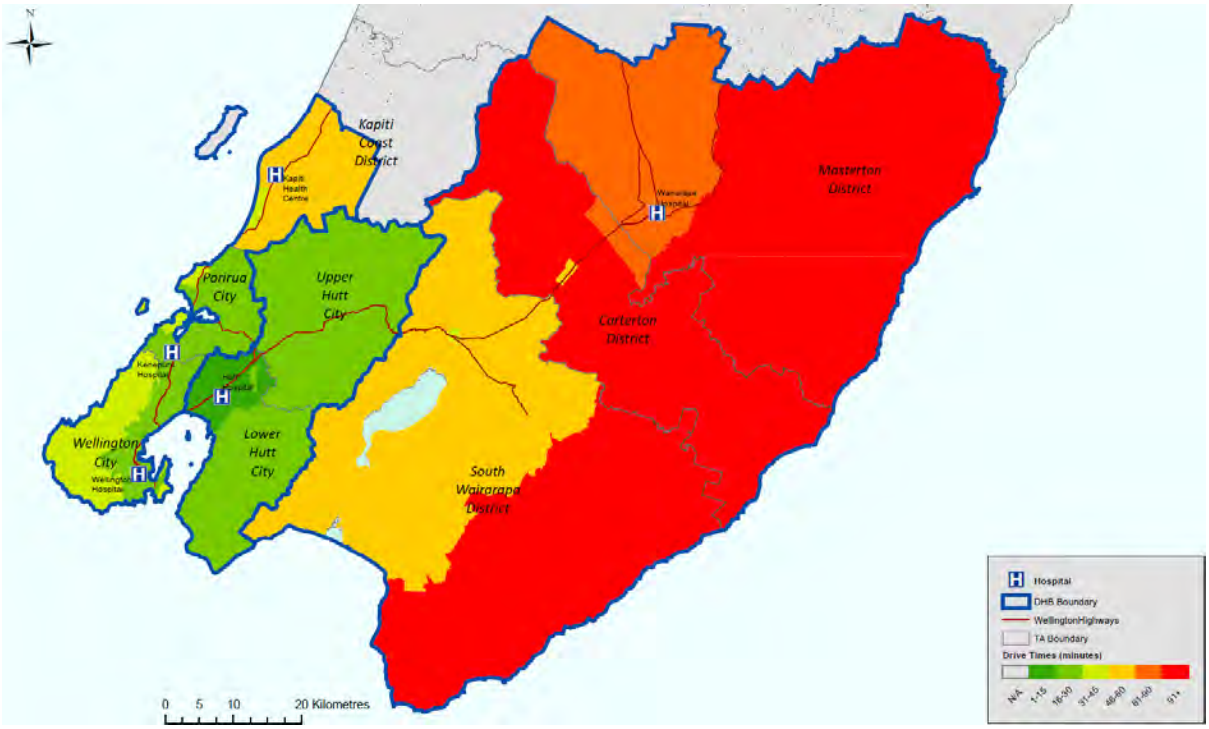
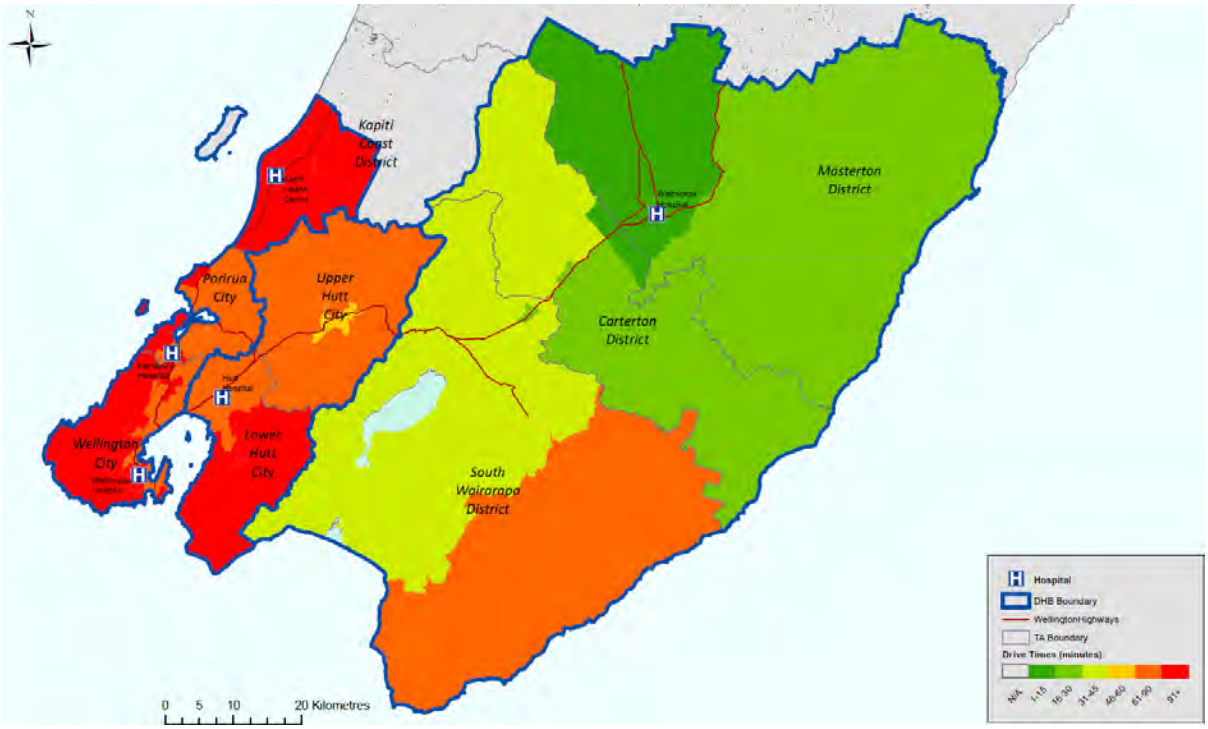


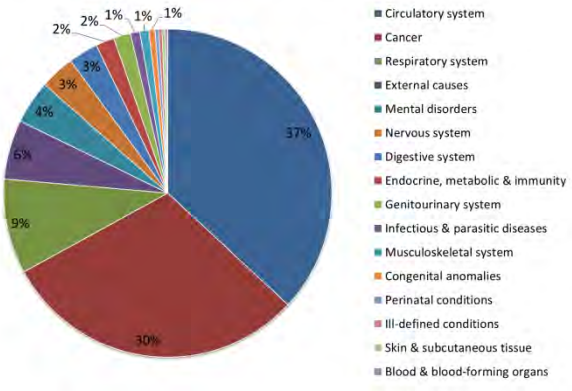
Figure 191. Map of driving times to Masterton Hospital



What are the common causes of death?

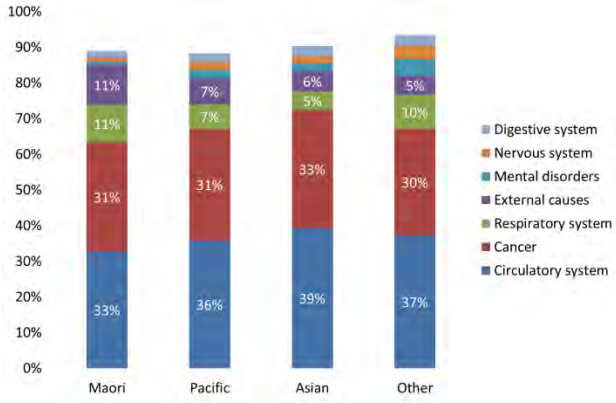
Around 3000 people die each year in the sub-region and 80% of these are aged over 65 years. The top cause of death in the sub-region was cardiovascular disease, accounting for 37% of all deaths between 2006 and 2010. This was followed by cancers (30%), respiratory conditions (nine percent) and external causes – mainly injuries – (six percent). CVD and cancer together account for two-thirds of all death. The top causes of death were the same across ethnic groups however the proportions and order of some of the lower ranked causes were slightly different.

Figure 192. Sub-regional causes of death, all ages, 2006-2010



Source: Ministry of Health

Figure 193. Sub-regional top causes of death by ethnicity, all ages, 2006-2010



Source: Ministry of Health

The way we respond to the causes of death has far-reaching implications for the kind of health system we want. There was a time when cancer was the predominant form of 'slow death', and short-comings in the traditional health system responses to this led to the development of palliative care as a discipline. Heart disease was a speedy killer of the middle-aged. The tables below reveal an on-going shift in the age profile of causes of death. Cancer is still the biggest killer of the 'younger old', but is challenged in the oldest age groups by heart and respiratory disease, and increasingly by dementia. These are often found in the same person, and crucially, they may be living with one or more of these conditions for many years. We now have time to prepare for dying, and the health system is slowly changing to acknowledge that need. What these tables do not reveal is the expected huge growth in the proportion of the very old among those dying, though they hint at the kinds of health challenges many will face.

Table 21. Top causes of death for infants <1 year, 2006-2010, rank and %

Cause of death	Wairarapa	Hutt Valley	Capital & Coast
Perinatal conditions		2 (23%)	1 (42%)
Congenital anomalies		2 (23%)	2 (31%)
SUDI		1 (36%)	3 (14%)

Source: Ministry of Health
Note: data suppressed where actual number of deaths was less than five

Table 22. Top causes of death for children 1-14 years, 2006-2010, rank and %

Cause of death	Wairarapa	Hutt Valley	Capital & Coast
External causes (injuries)			1 (24%)
Cancer		1 (26%)	2 (20%)

Source: Ministry of Health
Note: data suppressed where actual number of deaths was less than five

The majority of infant deaths in CCDHB were due to perinatal conditions or congenital anomalies. The top cause of infant death in Hutt Valley was sudden unexpected death (which includes sudden infant death syndrome and other accidental threats to breathing). For children over one, the major causes of death were injuries and cancer.

Table 23. Top causes of death for young people 15-24 years, 2006-2010, rank and %

Cause of death	Wairarapa	Hutt Valley	Capital & Coast
Suicide		1 (28%)	1 (38%)
Transport accident	1 (29%)	2 (23%)	2 (26%)
Other external causes (injuries)		2 (23%)	3 (15%)

Source: Ministry of Health
Note: data suppressed where actual number of deaths was less than five

The top cause of death for young people was suicide in Hutt Valley and CCDHB, and transport accidents in Wairarapa. Injuries from other external causes were the other major category for young people.

Table 24. Top causes of death for adults 25-44 years, 2006-2010, rank and %

Cause of death	Wairarapa	Hutt Valley	Capital & Coast
Cancer	1 (29%)	1 (36%)	1 (31%)
Cardiovascular	4 (10%)	2 (19%)	2 (16%)
Suicide	2 (19%)	3 (15%)	3 (14%)
Other external causes (injuries)	3 (13%)	4 (16%)	4 (11%)

Source: Ministry of Health

Table 25. Top causes of death for adults 45-64 years, 2006-2010, rank and %

Cause of death	Wairarapa	Hutt Valley	Capital & Coast
Cancer	1 (51%)	1 (49%)	1 (49%)
Cardiovascular	2 (25%)	2 (24%)	2 (26%)
External causes	3 (10%)	3 (8%)	3 (9%)

Source: Ministry of Health

Amongst younger adults (25-44 years), cancer was the top cause of death in all DHBs. Suicide and injuries from other external causes were ranked above cardiovascular disease in Wairarapa. In the 45-64 year old age group, cancer was still the top cause of death followed by CVD and external causes. These were consistent across all three DHBs.

Table 26. Top causes of death for adults 65-84 years, 2006-2010, rank and %

Cause of death	Wairarapa	Hutt Valley	Capital & Coast
Cardiovascular	2 (35%)	2 (34%)	1 (38%)
Cancer	1 (37%)	1 (36%)	2 (36%)
Respiratory	3 (11%)	3 (12%)	3 (9%)

Source: Ministry of Health

Table 27. Top causes of death for adults 85+ years, 2006-2010, rank and %

Cause of death	Wairarapa	Hutt Valley	Capital & Coast
Cardiovascular	1 (52%)	1 (44%)	1 (49%)
Cancer	2 (15%)	2 (17%)	2 (14%)
Respiratory	3 (9%)	3 (11%)	3 (12%)
Dementia	4 (6%)	4 (9%)	4 (8%)

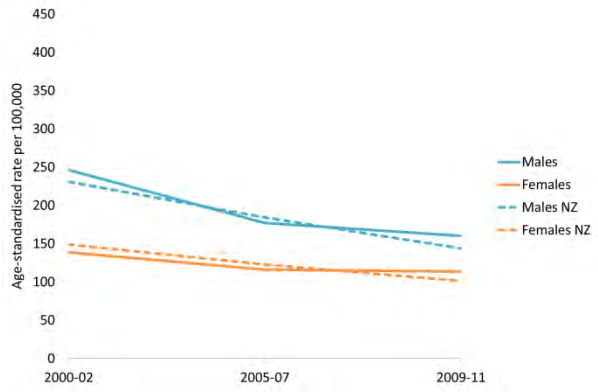
Source: Ministry of Health

In older adulthood, cardiovascular disease overtakes cancer as the leading cause of death and the proportion increases with age. Cancer was still the second major cause, followed by respiratory conditions. For people aged over 85 years, dementia was the fourth largest contributor to mortality.

Cardiovascular disease

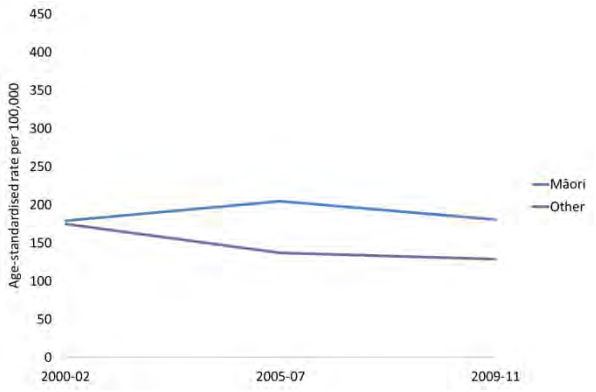
Cardiovascular disease was the leading cause of death in New Zealand and the sub-region. Just over half of CVD mortality was due to ischaemic heart disease and another quarter due to stroke. Nationally, men were significantly more likely to die from CVD than women, and Māori significantly more likely than Other.

Figure 194. Wairarapa CVD mortality rates by gender, all ages



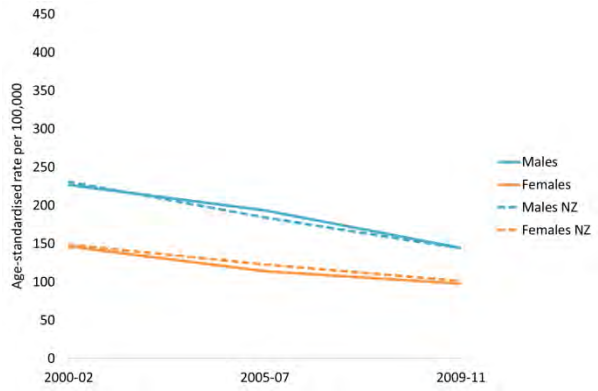
Source: Ministry of Health

Figure 195. Wairarapa CVD mortality rates by ethnicity, all ages



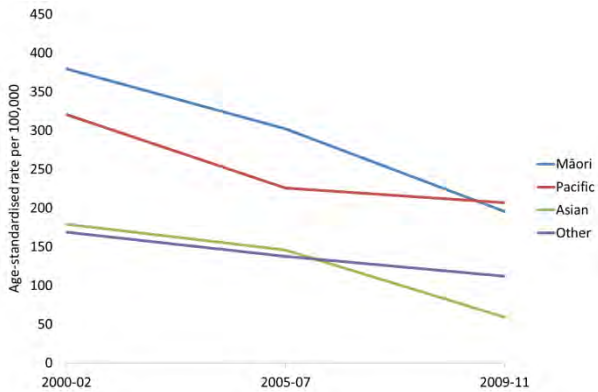
Source: Ministry of Health

Figure 196. Hutt Valley CVD mortality rates by gender, all ages



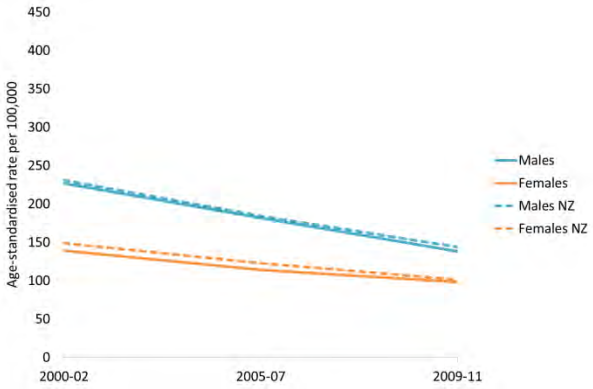
Source: Ministry of Health

Figure 197. Hutt Valley CVD mortality rates by ethnicity, all ages



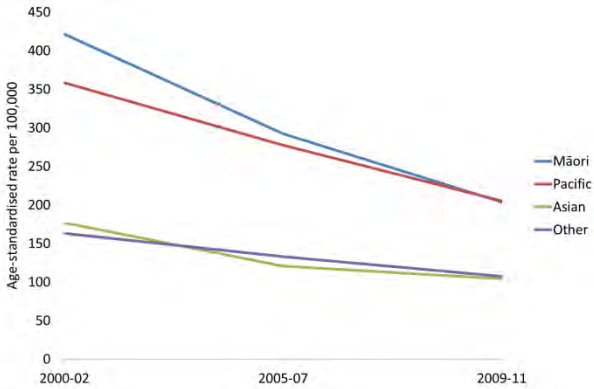
Source: Ministry of Health

Figure 198. CCDHB CVD mortality rates by gender, all ages



Source: Ministry of Health

Figure 199. CCDHB CVD mortality rates by ethnicity, all ages



Source: Ministry of Health

CVD mortality rates in the sub-region were similar to the national average and declined steadily in all DHBs between 2000-02 and 2009-11. Māori and Pacific people in the sub-region were more likely to die from CVD than Other, although the differences were not significant.

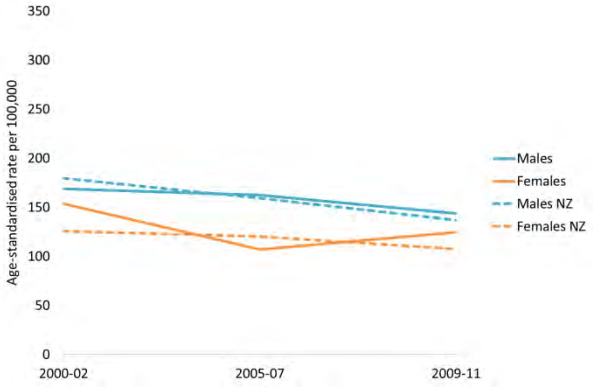
Cancer

Cancer was the second leading cause of death in New Zealand and the sub-region. Major cancer causes of death were lung (17%) and colorectal (15%), followed by leukaemias and lymphomas (nine percent), breast (eight percent) and prostate (seven percent). Māori and Pacific people were more likely to die from cancer than Other, although the difference was not significant.

Ethnic inequalities were different depending on the type of cancer. Nationally:

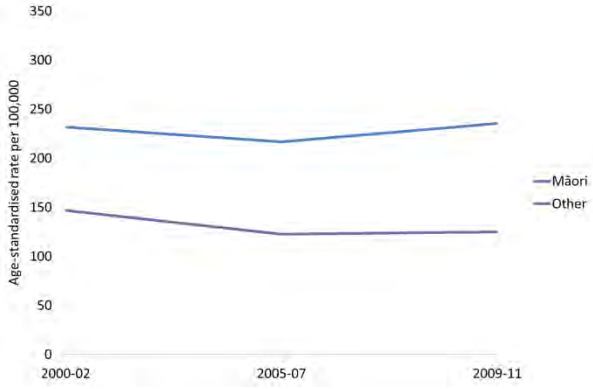
- Māori adults had significantly higher lung cancer mortality rates than Other. Pacific people over 65 years also had significantly higher rates than Other.
- Pacific people and Asian over 65 years were significantly less likely to die from colorectal cancer than Other.
- Pacific and Māori women had higher breast cancer mortality rates than women of Other ethnicity.
- Māori and Pacific men had higher prostate cancer mortality rates than Other.

Figure 200. Wairarapa cancer mortality rates by gender, all ages



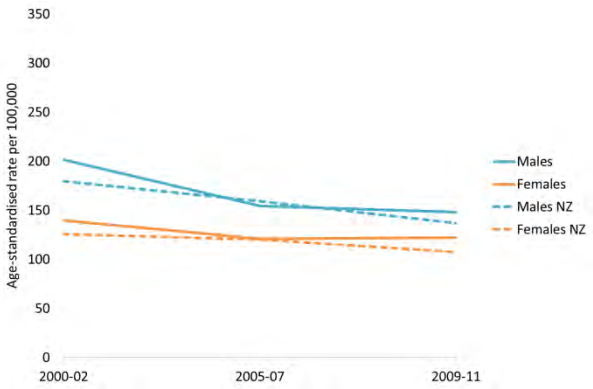
Source: Ministry of Health

Figure 201. Wairarapa cancer mortality rates by ethnicity, all ages



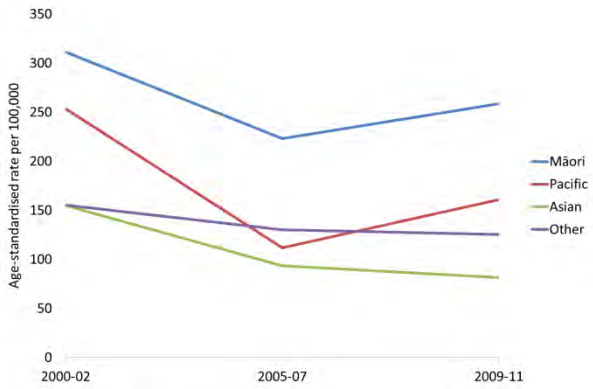
Source: Ministry of Health

Figure 202. Hutt Valley cancer mortality rates by gender, all ages



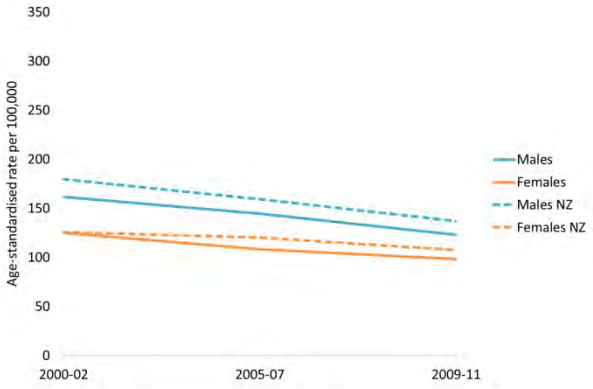
Source: Ministry of Health

Figure 203. Hutt Valley cancer mortality rates by ethnicity, all ages



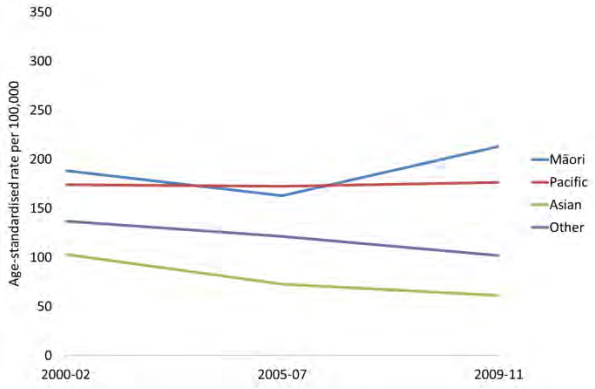
Source: Ministry of Health

Figure 204. CCDHB cancer mortality rates by gender, all ages



Source: Ministry of Health

Figure 205. CCDHB cancer mortality rates by ethnicity, all ages



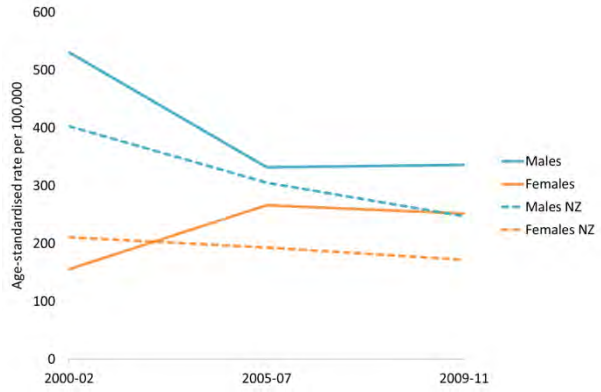
Source: Ministry of Health

Cancer mortality rates in the sub-region were similar to the national average and declined across all DHBs between 2000-02 and 2009-11.

Chronic obstructive pulmonary disease

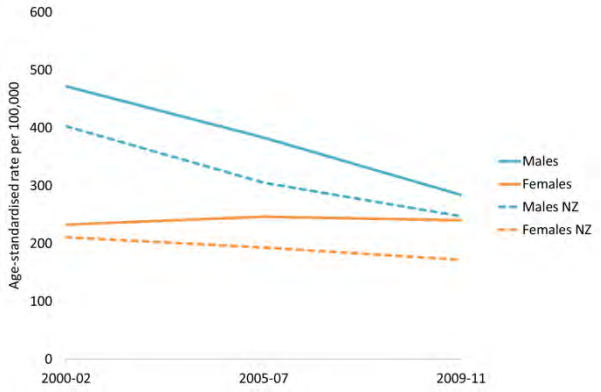
Chronic obstructive pulmonary disease accounted for 65% of respiratory deaths, the third leading cause of death in the sub-region. For people aged over 65 years nationally, males had a significantly higher mortality rate than females. Māori and Pacific people had a significantly higher rate than Other.

Figure 206. Wairarapa COPD mortality rates by gender, 65+ years



Source: Ministry of Health

Figure 207. Hutt Valley COPD mortality rates by gender, 65+ years

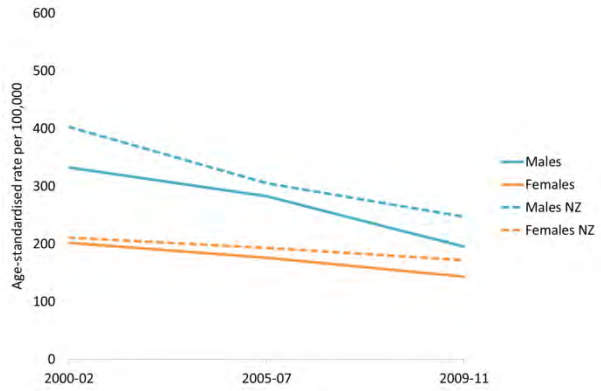


Source: Ministry of Health

The COPD mortality rate for older people in Wairarapa has not declined as quickly as the national rate and was significantly higher by 2009-11. This was due to an increase in the rate for females, which was significantly higher than females nationally.

In Hutt Valley, although the COPD mortality rate for males declined, the rates for females and in total were significantly higher than national averages.

Figure 208. CCDHB COPD mortality rates by gender, 65+ years



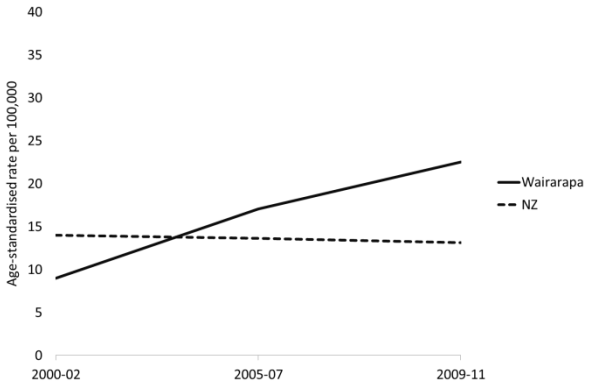
Source: Ministry of Health

The COPD mortality rate for older people in CCDHB has declined and was significantly lower than national for males and in total. Māori in CCDHB were significantly more likely to die from COPD than Other.

Suicide

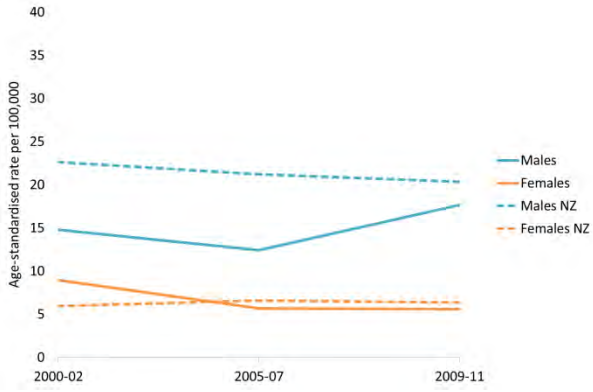
Suicide rates in New Zealand have remained relatively static between 2000-02 and 2009-11. Amongst young people, males were significantly more likely to die by suicide than females and Māori were significantly more likely than Other. Although the number of cases is very small, the suicide rate in Wairarapa increased markedly between 2000-02 and 2009-11.

Figure 209. Wairarapa suicide rates, 5+ years



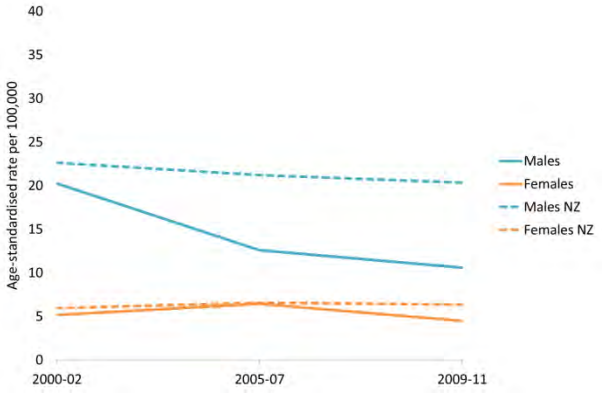
Source: Ministry of Health

Figure 210. Hutt Valley suicide rates by gender, 5+ years



Source: Ministry of Health

Figure 211. CCDHB suicide rates by gender, 5+ years

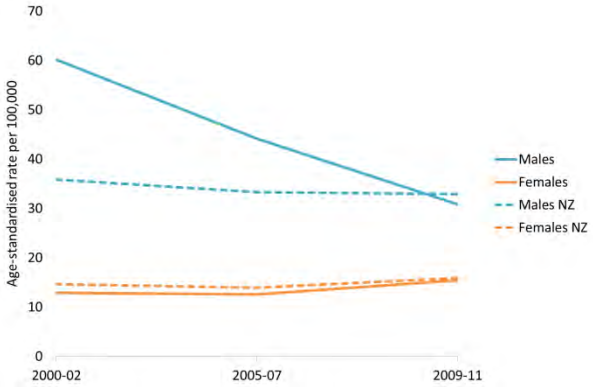


Source: Ministry of Health

Unintentional injuries

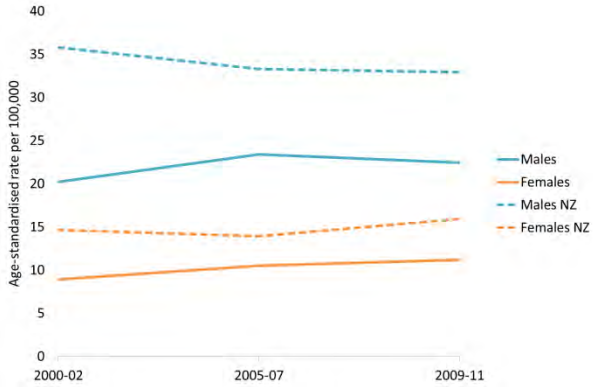
Nationally, there has been little change in mortality rates due to unintentional injuries. Amongst young people, males were significantly more likely to die from unintentional injuries than females and Māori were significantly more likely than Other.

Figure 212. Wairarapa unintentional injury mortality rates by gender, all ages



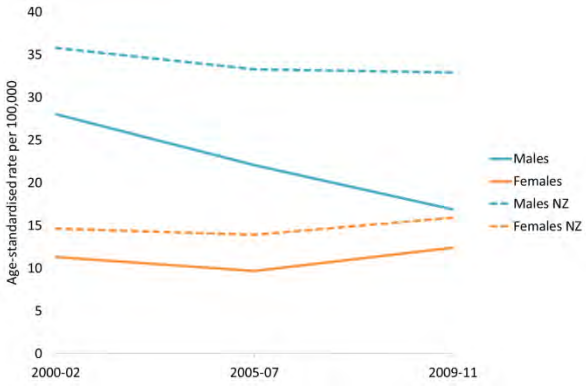
Source: Ministry of Health

Figure 213. Hutt Valley unintentional injury mortality rates by gender, all ages



Source: Ministry of Health

Figure 214. CCDHB unintentional injury mortality rates by gender, all ages



Source: Ministry of Health

Although numbers were small, the mortality rates for males in Wairarapa and CCDHB have declined.

Appendix one: population tables

Census 2013 usually resident population – territorial authority, age & ethnicity

Wairarapa DHB population by territorial authority, age & ethnicity, 2013

Territorial authority	Age group	Māori	Pacific	Asian	Other	Total
Masterton	0-4	492	54	39	864	1449
	5-14	966	129	78	2040	3216
	15-24	774	102	66	1842	2775
	25-44	954	141	192	3630	4929
	45-64	750	105	96	5571	6522
	65-84	222	9	12	3564	3837
	85+	15	0	0	600	618
	Total	4170	552	489	18,138	23,349
Carterton	0-4	108	12	0	417	543
	5-14	204	24	15	846	1095
	15-24	177	9	9	651	858
	25-44	204	9	33	1452	1716
	45-64	183	6	27	2253	2475
	65-84	57	0	0	1329	1401
	85+	0	0	0	138	141
	Total	933	93	102	7104	8232
South Wairarapa	0-4	147	15	9	453	624
	5-14	303	24	15	876	1227
	15-24	204	9	21	660	906
	25-44	270	27	63	1617	1989
	45-64	267	12	48	2577	2919
	65-84	63	0	6	1596	1686
	85+	9	0	0	168	177
	Total	1257	114	171	7986	9528

Source: Statistics New Zealand

Hutt Valley DHB population by territorial authority, age & ethnicity, 2013

Territorial authority	Age group	Māori	Pacific	Asian	Other	Total
Upper Hutt	0-4	654	132	189	1743	2718
	5-14	1128	276	324	3708	5442
	15-24	930	252	255	3627	5064
	25-44	1404	420	756	7761	10,350
	45-64	990	267	483	9015	10,773
	65-84	228	81	120	4653	5082
	85+	0	0	9	732	750
	Total	5337	1437	2145	31,263	40,179
Lower Hutt	0-4	1881	840	801	3711	7230
	5-14	3477	1635	1395	7248	13,761
	15-24	2784	1533	1377	7287	12,984
	25-44	4128	2331	3585	16,299	26,343
	45-64	2970	1665	2385	18,276	25,287
	65-84	609	474	765	9294	11,157
	85+	24	24	60	1323	1434
	Total	15,876	8502	10,359	63,465	98,199

Source: Statistics New Zealand

CCDHB population by territorial authority, age & ethnicity, 2013

Territorial authority	Age group	Māori	Pacific	Asian	Other	Total
Kapiti Coast	0-4	522	75	87	1677	2358
	5-14	939	153	186	3861	5136
	15-24	744	114	156	2937	3957
	25-44	966	171	378	6423	7938
	45-64	762	141	267	9972	11,136
	65-84	243	33	69	8493	8853
	85+	12	0	0	1632	1653
	Total	4185	690	1152	35,007	41,028
Porirua	0-4	1314	1032	234	1851	4431
	5-14	2313	2025	405	3501	8244
	15-24	1857	1998	396	2886	7140
	25-44	2484	2727	954	7407	13,572
	45-64	1719	2079	558	8649	13,002
	65-84	432	729	147	3585	4896
	85+	12	27	0	387	432
	Total	10,131	10,614	2700	28,272	51,717

Territorial authority	Age group	Māori	Pacific	Asian	Other	Total
Wellington	0-4	1368	639	1962	7524	11,493
	5-14	2490	1296	3414	14,277	21,474
	15-24	3309	1500	4725	24,354	33,882
	25-44	4227	2283	10,299	44,139	60,951
	45-64	2538	1542	5601	35,250	44,931
	65-84	480	459	1710	13,428	16,074
	85+	27	27	123	1965	2142
	Total	14,433	7743	27,837	140,946	190,959

Source: Statistics New Zealand

Census 2013 usually resident population – total response ethnicity

Ethnic distribution (total response) by territorial authority and DHB, 2013

2013	Māori		Pacific		Asian		Other	
	#	%	#	%	#	%	#	%
Wairarapa DHB								
Carterton	933	11.3	147	1.8	108	1.3	7749	94.1
Masterton	4170	17.9	732	3.1	546	2.3	20,877	89.4
South Wairarapa	1257	13.2	183	1.9	192	2.0	8865	93.1
Total	6360	15.5	1062	2.6	846	2.1	37,491	91.2
Hutt Valley DHB								
Lower Hutt	15,876	16.2	10,257	10.4	10,893	11.1	73,800	75.1
Upper Hutt	5337	13.3	1857	4.6	2283	5.7	35,310	87.9
Total	21,213	15.3	12,114	8.8	13,176	9.5	109,110	78.8
CCDHB								
Kapiti Coast	4188	10.2	939	2.3	1266	3.1	38,571	94.0
Porirua	10,131	19.6	12,738	24.6	3117	6.0	35,175	68.0
Wellington	14,433	7.6	8928	4.7	28,542	14.9	155,793	81.6
Total	28,752	10.1	22,605	8.0	32,925	11.6	229,539	80.9

Source: Statistics New Zealand
Note: % is the number of ethnicity responses divided by the total TA or DHB population. The sum of the responses is greater than the total population and so percentages do not add up to 100.

Population projections by age and ethnicity

Wairarapa DHB population – 2013 estimate vs. 2033 projection

Age group	Māori		Pacific		Asian		Other		Total	
	2013	2033	2013	2033	2013	2033	2013	2033	2013	2033
0-4	830	1010	100	120	75	105	1750	1030	2755	2265
5-14	1570	1860	195	220	125	225	3790	2720	5680	5025
15-24	1330	1550	140	215	120	220	3190	1820	4780	3805
25-44	1550	2390	215	370	335	410	6770	5960	8870	9130
45-64	1320	1440	155	220	215	405	10,490	8370	12,180	10,435
65-84	390	950	35	135	50	275	6650	10,370	7125	11,730
85+	20	90	0	15	0	50	930	1980	950	2135
Total	7010	9290	840	1295	920	1690	33,570	32,250	42,340	44,525

Source: Ministry of Health

Hutt Valley DHB population – 2013 estimate vs. 2033 projection

Age group	Māori		Pacific		Asian		Other		Total	
	2013	2033	2013	2033	2013	2033	2013	2033	2013	2033
0-4	2860	2570	1090	870	1080	1320	5260	4240	10,290	9000
5-14	5100	4740	2120	1700	1820	2720	10,630	8230	19,670	17,390
15-24	4250	4400	2020	1680	1850	2730	10,720	6840	18,840	15,650
25-44	6180	6260	3080	3100	4820	5200	23,600	24,230	37,680	38,790
45-64	4420	4730	2160	2370	3190	4980	27,300	21,540	37,070	33,620
65-84	950	2920	620	1400	1000	3640	14,120	21,240	16,690	29,200
85+	30	260	30	120	70	550	2080	3720	2210	4650
Total	23,790	25,880	11,120	11,240	13,830	21,140	93,710	90,040	142,450	148,300

Source: Ministry of Health

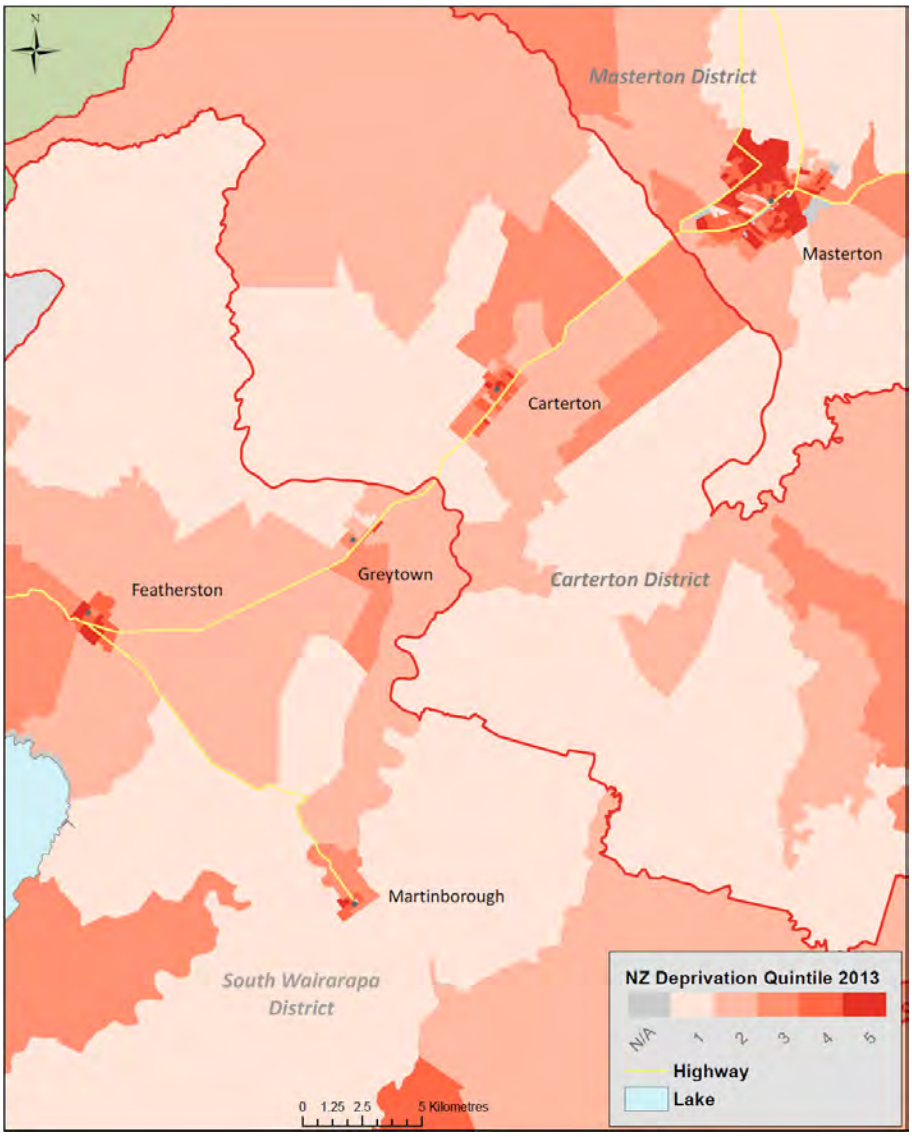
CCDHB population – 2013 estimate vs. 2033 projection

Age group	Māori		Pacific		Asian		Other		Total	
	2013	2033	2013	2033	2013	2033	2013	2033	2013	2033
0-4	3690	3920	1990	1880	2560	3240	10,970	10,970	19,210	20,010
5-14	6420	7070	3820	3710	4220	6290	21,300	18,670	35,760	35,740
15-24	6820	6520	4060	3490	5960	7230	29,670	29,110	46,510	46,350
25-44	8750	12,370	5860	6220	13,150	16,190	57,650	66,370	85,410	10,1150
45-64	5750	6360	4230	4160	7260	12,730	54,220	46,080	71,460	69,330
65-84	1350	3540	1400	2470	2210	7860	25,940	42,260	30,900	56,130
85+	60	300	70	210	150	1270	4040	7840	4320	9620
Total	32,840	40,080	21,430	22,140	35,510	54,810	203,790	221,300	293,570	338,330

Source: Ministry of Health

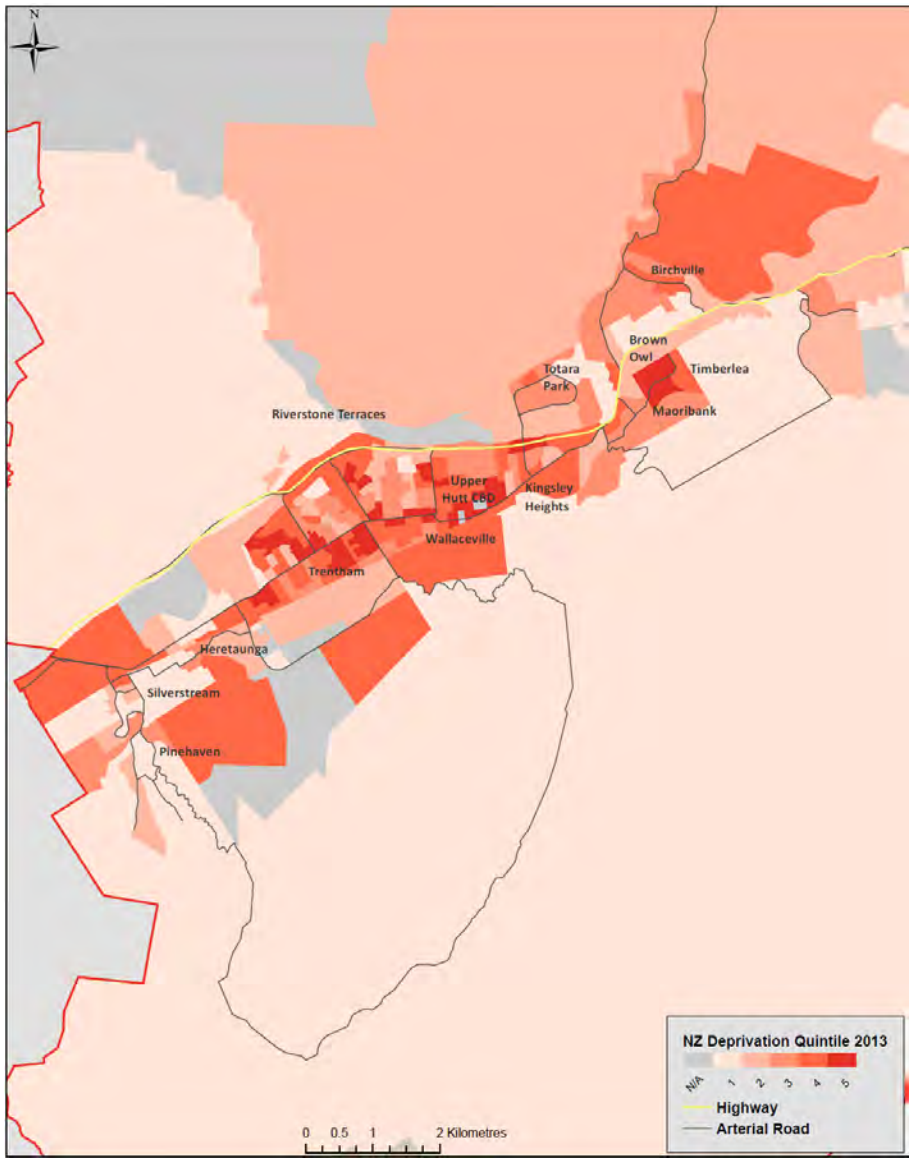
Appendix two: NZ Index of Deprivation 2013 maps

Map of the Wairarapa area by NZDep2013 quintiles



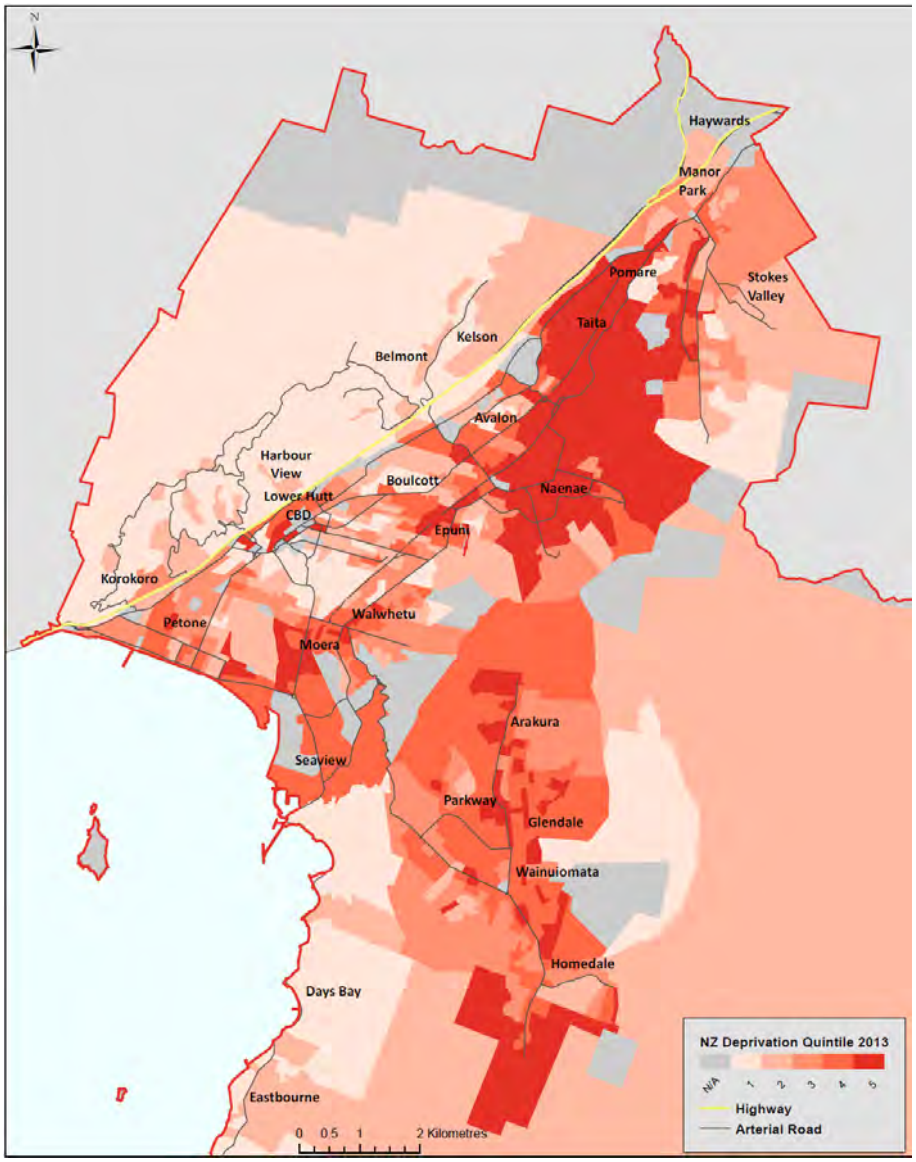
Source: Regional Public Health

Map of the Upper Hutt area by NZDep2013 quintiles



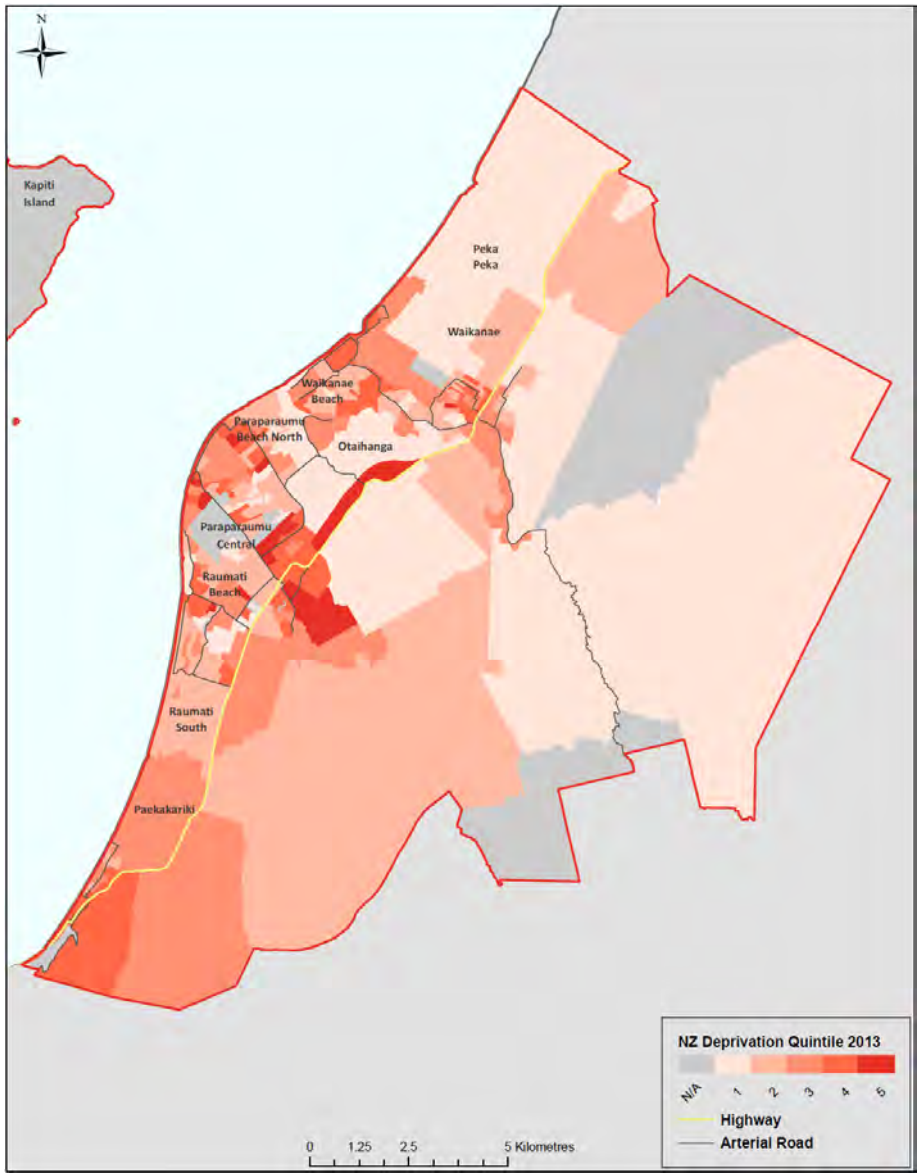
Source: Regional Public Health

Map of the Lower Hutt area by NZDep2013 quintiles



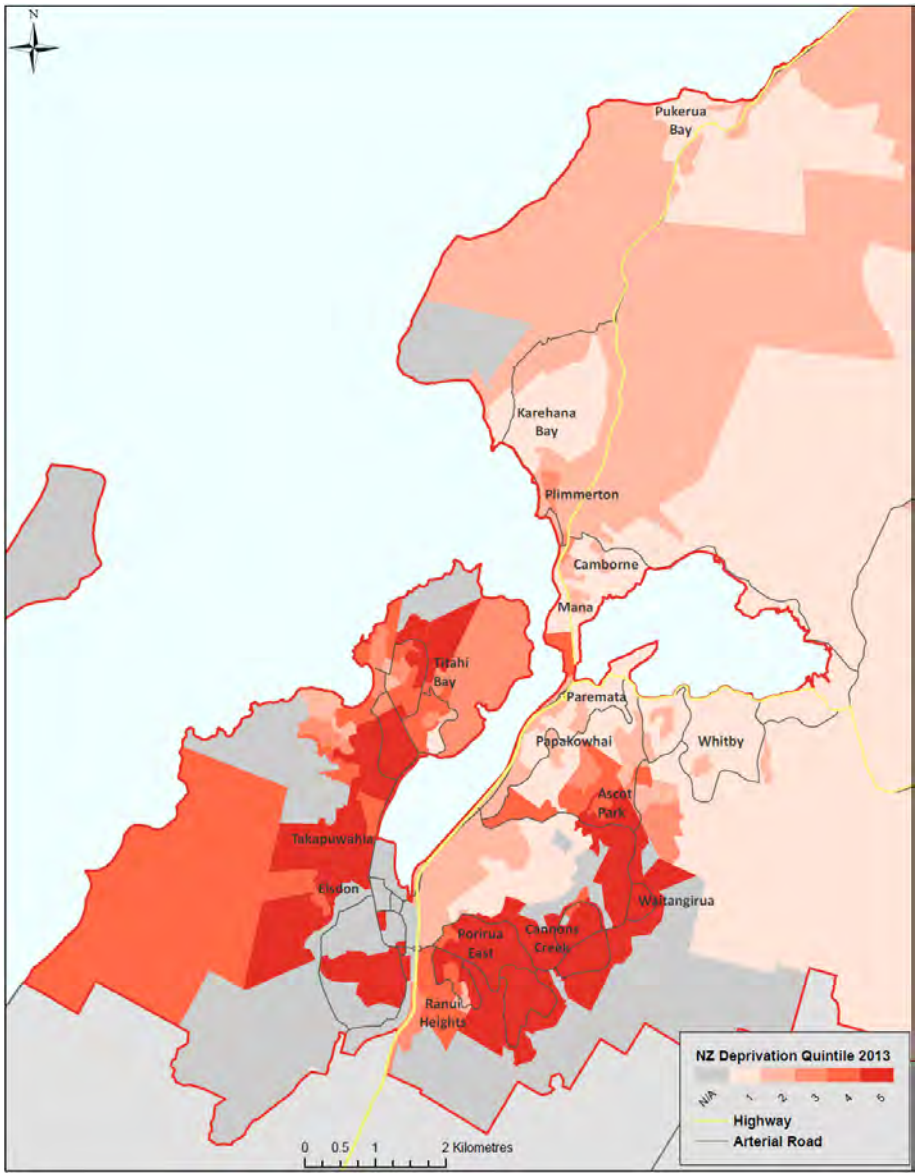
Source: Regional Public Health

Map of the Kapiti Coast area by NZDep2013 quintiles



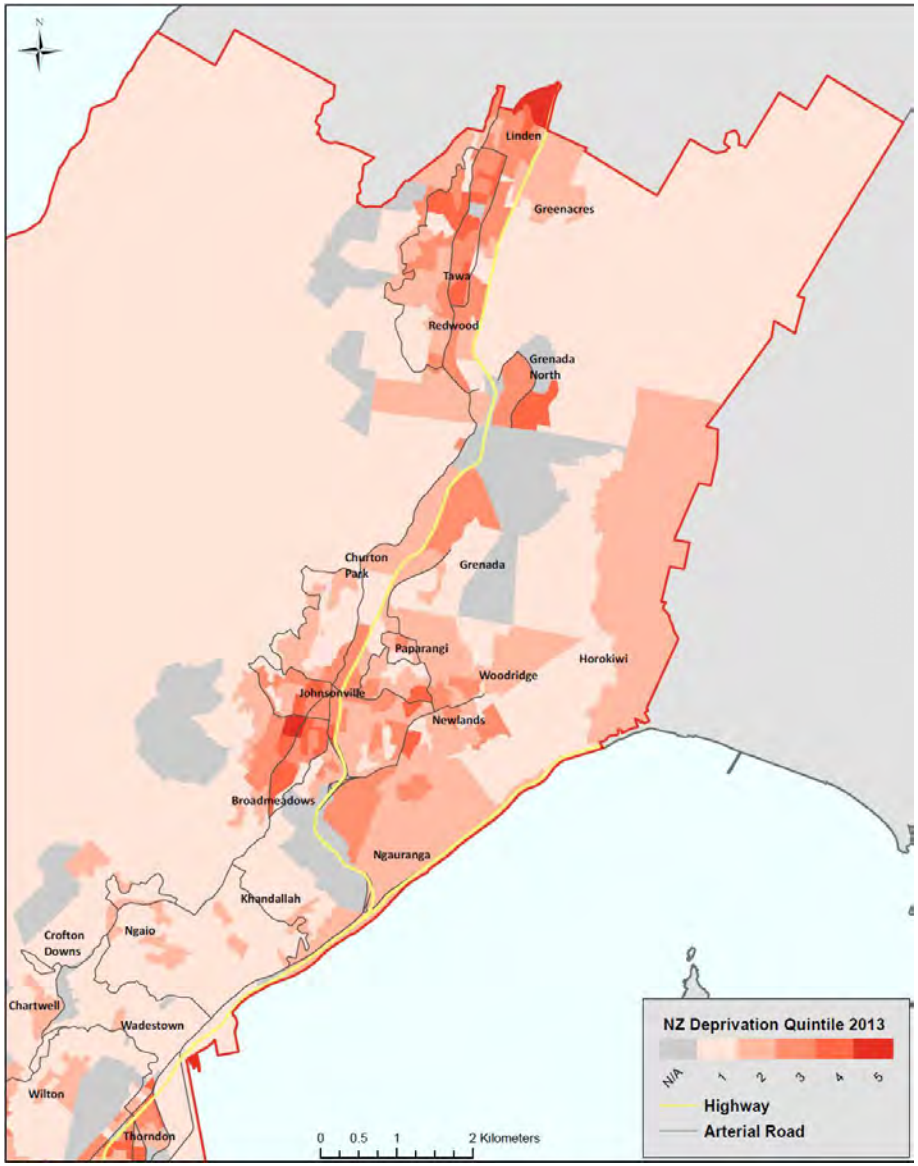
Source: Regional Public Health

Map of the Porirua area by NZDep2013 quintiles



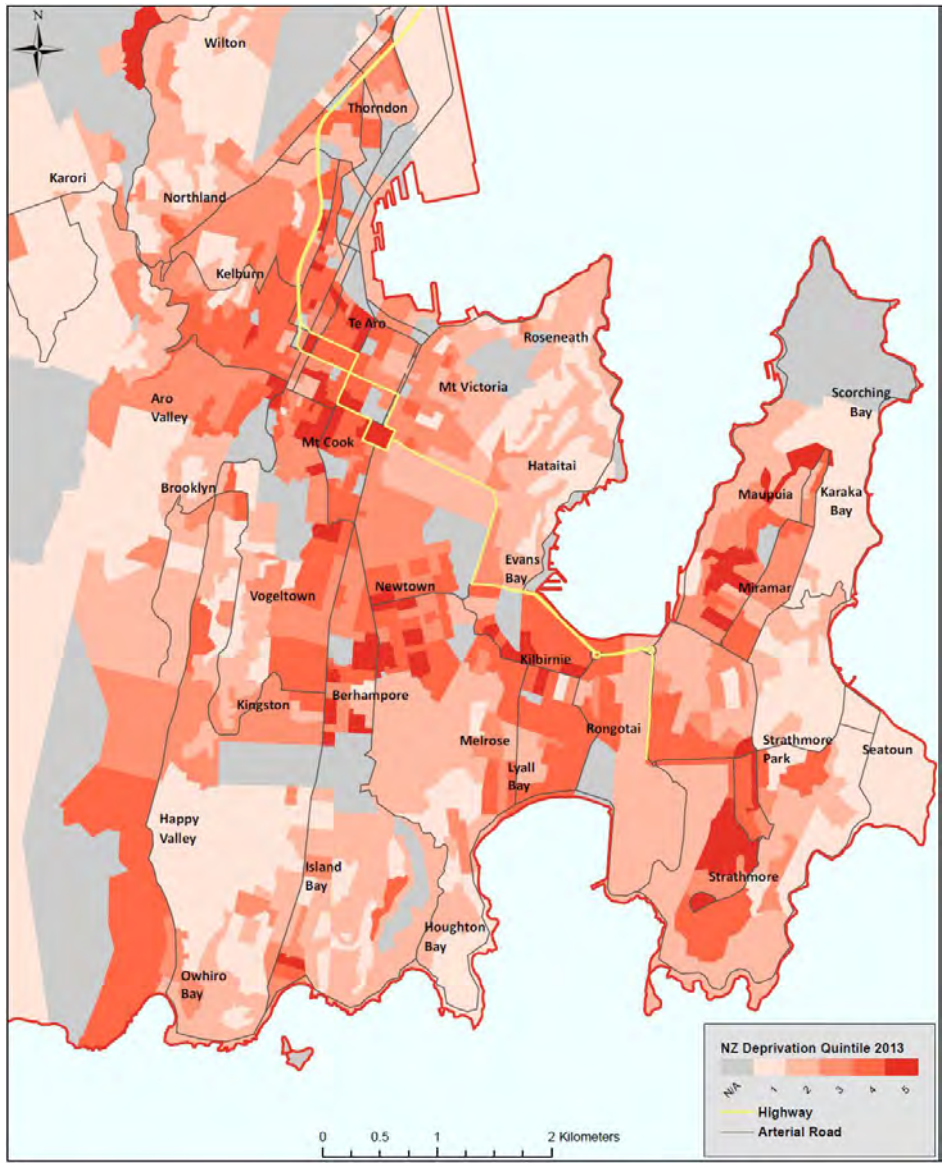
Source: Regional Public Health

Map of the north Wellington area by NZDep2013 quintiles



Source: Regional Public Health

Map of the Wellington area by NZDep2013 quintiles



Source: Regional Public Health

Appendix three: ED attendances

Wairarapa ED rates by age and ethnicity

Figure 215. Wairarapa ED attendance rates, 0-4 years

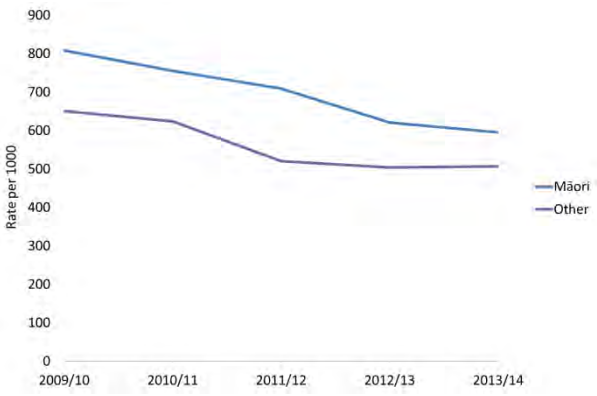


Figure 216. Wairarapa ED attendance rates, 5-14 years

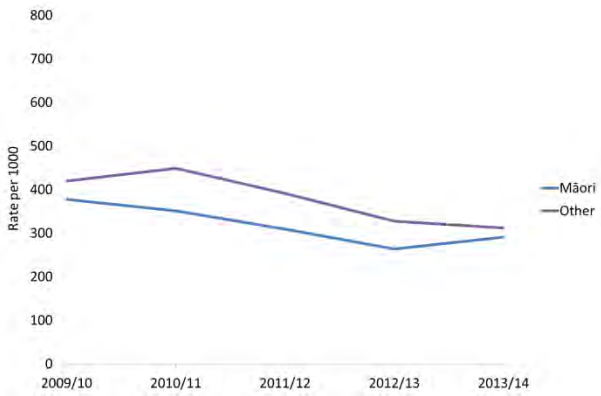


Figure 217. Wairarapa ED attendance rates, 15-24 years

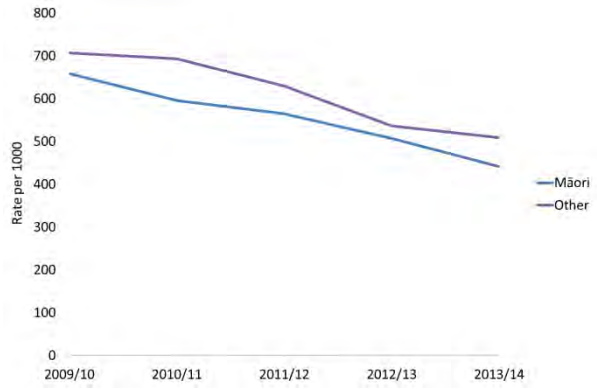


Figure 218. Wairarapa ED attendance rates, 25-44 years

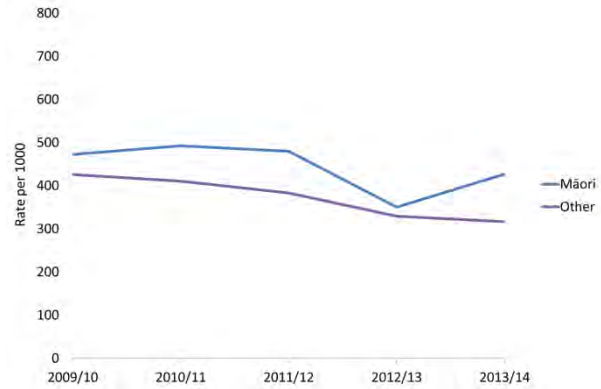


Figure 219. Wairarapa ED attendance rates, 45-64 years

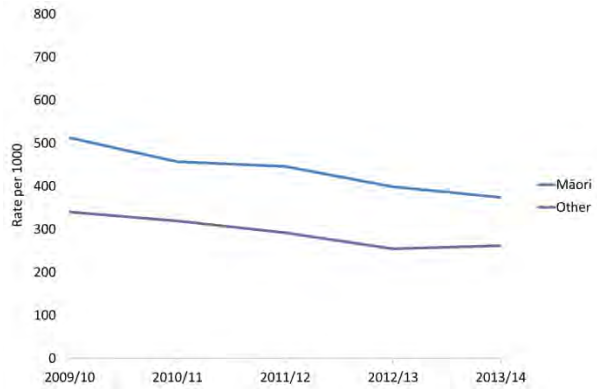
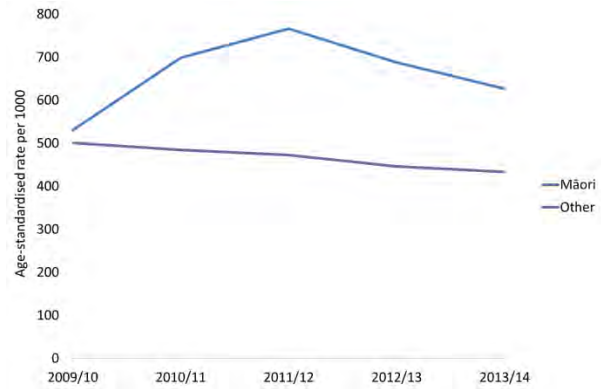


Figure 220. Wairarapa ED attendance rates, 65+ years



Source: Ministry of Health

Hutt Valley ED rates by age and ethnicity

Figure 221. Hutt Valley ED attendance rates, 0-4 years

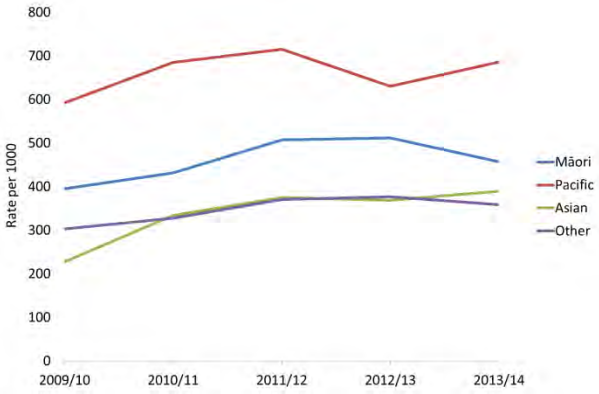


Figure 222. Hutt Valley ED attendance rates, 5-14 years

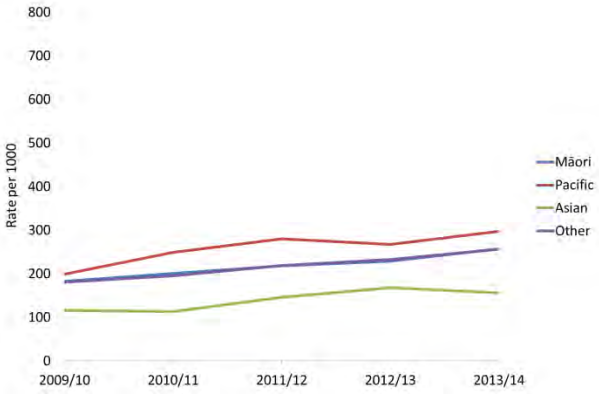


Figure 223. Hutt Valley ED attendance rates, 15-24 years

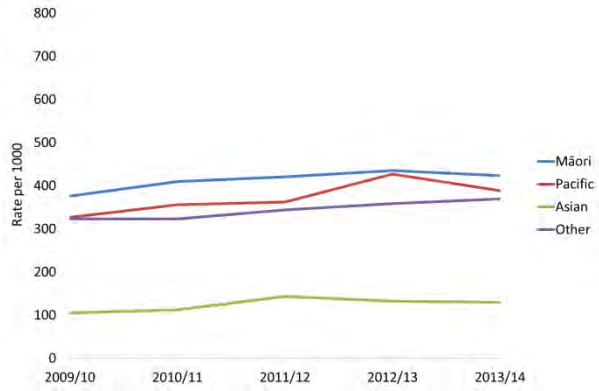


Figure 224. Hutt Valley ED attendance rates, 25-44 years

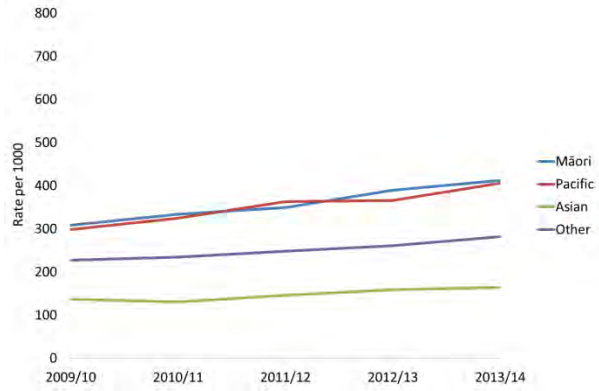


Figure 225. Hutt Valley ED attendance rates, 45-64 years

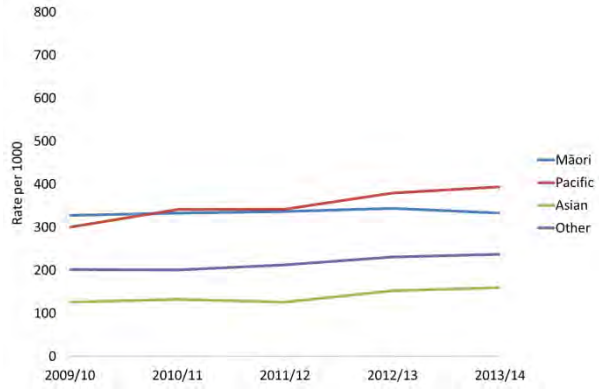
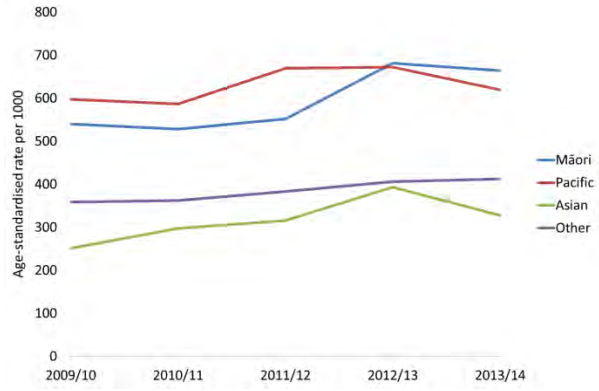


Figure 226. Hutt Valley ED attendance rates, 65+ years



Source: Ministry of Health

CCDHB ED rates by age and ethnicity

Figure 227. CCDHB ED attendance rates, 0-4 years

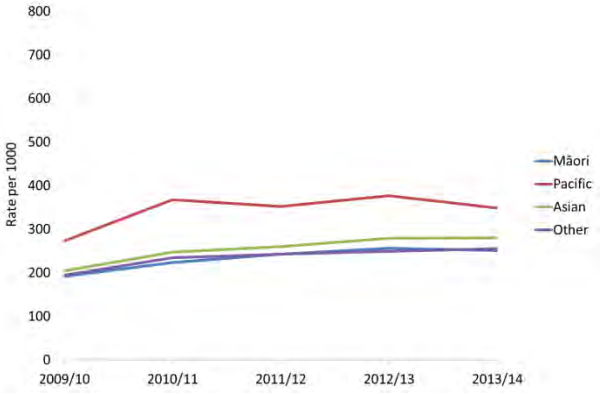


Figure 228. CCDHB ED attendance rates, 5-14 years

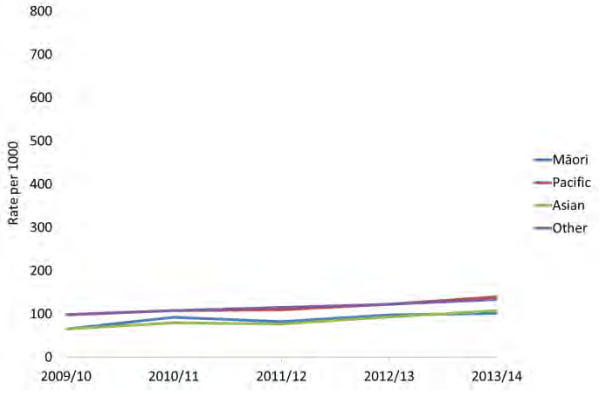


Figure 229. CCDHB ED attendance rates, 15-24 years

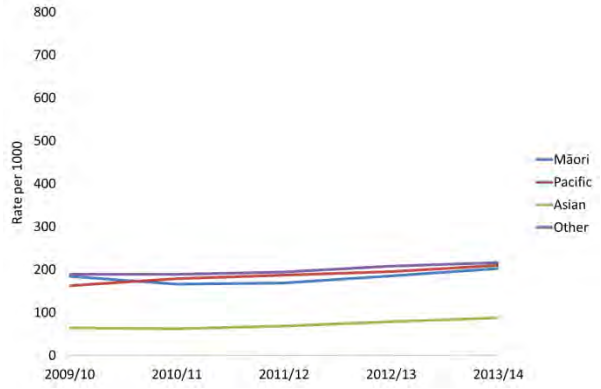


Figure 230. CCDHB ED attendance rates, 25-44 years

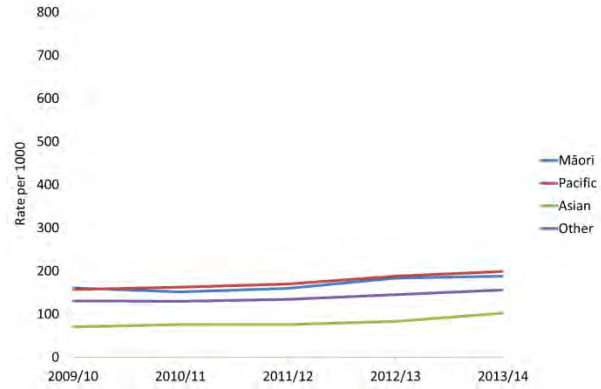


Figure 231. CCDHB ED attendance rates, 45-64 years

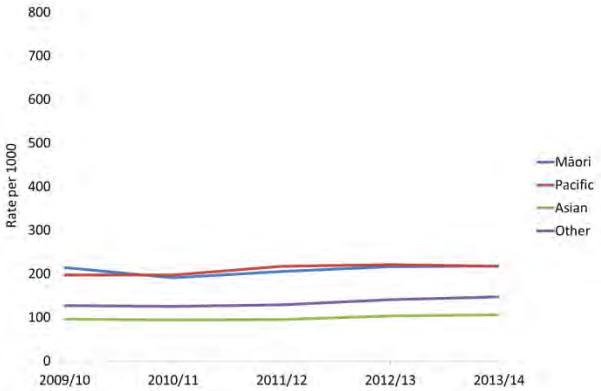
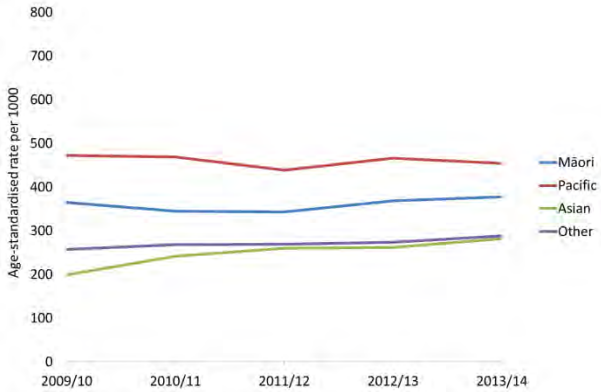


Figure 232. CCDHB ED attendance rates, 65+ years



Source: Ministry of Health

Appendix four: definitions

Abbreviations

ARC	Aged residential care
AROC	Australasian Rehabilitation Outcomes Centre
ASH	Ambulatory sensitive hospitalisation
BMI	Body Mass Index
CCDHB	Capital & Coast District Health Board
COPD	Chronic obstructive pulmonary disease
DALY	Disability adjusted life year
DHB	District Health Board
ED	Emergency department
GWRC	Greater Wellington Regional Council
HNA	Health needs assessment
HOP	Health of older people
IHD	Ischaemic heart disease
LMC	Lead Maternity Carer
MH & A	Mental health & addictions
MOH	Ministry of Health
NASC	Needs assessment & service coordination
NGO	Non-Governmental Organisation
NMDS	National Minimum Data Set
NNPAC	National Non-Admitted Patient Collection
NZBD	New Zealand Burden of Disease study
NZCR	New Zealand Cancer Registry
NZCYES	New Zealand Child & Youth Epidemiology Service
NZDep	New Zealand Index of Deprivation
NZHS	New Zealand Health Survey
PHO	Primary health organisation
PRIMHD	Programme for the Integration of Mental Health Data
TA	Territorial Authority

ICD 10 codes

Condition	ICD-10-AM code(s)
Ischaemic heart disease	I20-I25
Stroke	I60-I69
Chronic Obstructive Pulmonary Disease	J40-J44
Cancer	C00-C97
Lung cancer	C33-C34
Female breast cancer	C50
Prostate cancer	C61
Colorectal cancer	C18-C21
Melanoma	C43-C44
Unintentional injury	V01-X59
Diabetes	E10-E14
Musculoskeletal disease	M00-M99
Suicide	X60-X84

Maternity

Standard primiparae: a group of mothers considered to be clinically comparable and expected to require low levels of obstetric intervention. Standard primiparae are defined in this report as women recorded in the National Maternity Collection who meet all of the following inclusions:

- delivered at a maternity facility
- are aged between 20 and 34 years (inclusive) at delivery
- are pregnant with a single baby presenting in labour in cephalic position
- have no known prior pregnancy of 20 weeks and over gestation
- deliver a live or stillborn baby at term gestation: between 37 and 41 weeks inclusive
- have no recorded obstetric complications in the present pregnancy that are indications for specific obstetric interventions.

Spontaneous vaginal birth: the birth of a baby without obstetric intervention (that is, without caesarean section, forceps or vacuum (ventouse)), identified by the presence of a spontaneous vaginal birth clinical code with no concurrent instrumental/caesarean section code. Spontaneous vaginal births may include births where labour has been induced or augmented.

Instrumental vaginal birth: a vaginal birth requiring instrumental assistance with no concurrent clinical code indicating a caesarean section. Interventions include forceps and/or vacuum (ventouse) extraction. Instrumental vaginal births do not include failed attempts at forceps or vacuum extraction.

Caesarean section: an operative birth through an abdominal incision. This definition includes emergency and elective, lower segment and classical caesarean sections, and it is identified by the presence of any caesarean section clinical code.

Clinical code details can be found at
http://www.health.govt.nz/system/files/documents/publications/new-zealand-maternity-clinical-indicators-2012-oct14.pdf

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