Health Equity in Hawke's Bay

Technical Report

2014

Acknowledgements

This report would not have been possible without the knowledge, skills and dedication of Lisa Jones, Senior Population Health Analyst at the Hawkes Bay DHB.

My thanks also go to Tamsin Renwick and Kim Maitland for their technical input, advice and review.

Summary

Many things in life are unequal. Health inequities are inequalities that are avoidable or preventable – and therefore unfair.

This report finds many inequities in health in Hawke's Bay, particularly for Māori, Pasifica and people living in poorer areas. There are also areas where, with determined and focused effort, we have improved outcomes and reduced inequities. This demonstrates that inequities are not inevitable. We can change them if we have the courage and determination to do so.

The most unexpected finding was that people living in Hawke's Bay are less physically active than the average person who lives elsewhere in the country, despite all the region has to offer. I was so surprised at this finding I had the data revalidated.

Lack of physical activity links directly into our obesity rates. Two in three Pasifica and one in two Māori are obese in Hawke's Bay. Obesity increases a person's risk of dying young; it increases the risk of cancer, heart disease, diabetes and a raft of other related medical conditions.

Smoking is the biggest cause of inequity in death rates in Hawke's Bay - it is the single most important cause of preventable ill health and premature mortality. The high rate of smoking amongst Māori women giving birth is a public health crisis, given the effects that this will have on the long term health of the next generation.

Inequity, however does not only relate only to our Māori and Pasifica communities in Hawke's Bay.

The overall life expectancy of the Hawke's Bay population is less than the rest of the country, with an average life expectancy of 80 years compared to 80.9 years elsewhere – this may not sound like a large difference but underpinning it is a greater chance of dying younger from preventable or treatable conditions.

Our chances of getting alcohol related cancers or alcohol related injuries is much greater in Hawke's Bay as more of us drink dangerously than anywhere else in the country. One in every four adults in Hawke's Bay is a "hazardous drinker" - this means they are likely to be harming their own health or causing harm to others through their behaviour.

More and more of our population are living in deprived areas with the standard of living dropping in areas like Tamatea and Takapau. More than half and over two thirds of our Māori and Pacific communities live in our most deprived areas.

We have improved in some areas, for example less people die of ischemic heart disease (when the heart's blood supply is blocked or interrupted by a build up of fatty substances), with a dramatic fall in deaths since a peak in 1970. But despite this, the Maori death rate is still four times higher than for non-Maori.

Our childhood immunisation rates are high and equitable- an example of what can be achieved with systematic healthcare service improvements and targeted approaches.

Inequity is not someone else's problem. We need to recognise that everyone is affected. Reducing inequity through health promotion and healthcare initiatives will only solve some of the problems. For a difference to be made we must tackle this collectively, and take responsibility as a community.

Dr Caroline McElnay

Health Equity Champion

Director of Population Health

October 2014

Key findings

More deaths at younger ages: More Māori, more Pacific people and more people living in the most deprived parts of Hawke's Bay are dying at younger ages. The equity gap is closing but not fast enough. The top causes of preventable premature death are ischaemic heart disease, diabetes, lung cancer, road traffic injuries, suicides, breast and bowel cancers.

Socioeconomic conditions : Social inequity in Hawke's Bay is widening. Income is a powerful determinant of health in many different ways. The health impacts on children are more immediate and rates of admission to hospital for 0-14 year olds for conditions known to be strongly linked to social conditions are increasing, particularly for Pasifica and Māori children. Thirty percent of young Māori in Hawke's Bay are not in education, training or employment, affecting both their future health outcomes and their future employment opportunities.

Tobacco use: The leading cause of avoidable deaths amongst Māori women is now lung cancer. There are high levels of inequity in lung cancer deaths for Māori who are six times more likely to die from lung cancer due to higher rates of smoking amongst Māori, especially Māori women. High smoking rates amongst pregnant Māori women (46%) is a significant health issue.

Obesity: One in three adults in Hawke's Bay is obese – with one in two Māori adults and two in three Pacific adults. Hawke's Bay men and women are less active at all age groups than their New Zealand average counterparts.

Alcohol use: One in every four adults in Hawke's Bay is a "hazardous" drinker – this means they are likely to be harming their own health or causing harm to others through their behaviour. Māori rates are nearly twice that of non-Māori .

Access to primary care: High self-reported unmet need and higher rates of avoidable hospital admissions, especially amongst 45-64 year olds, shows that there continue to be issues with access to primary care. Cost of primary care remains one of the most common contributing reasons reported.

Of the 49 indicators examined Hawkes Bay is worse than the New Zealand average in 15 areas.
Compared to New Zealand Hawke's Bay has;

- more people dying at younger ages
- more people with poor self-rated health
- more people who have had a diagnosis of one of the common mental disorders
- more regular smokers - both adults and year 10 students
- fewer people who are physically active
- more people drinking hazardously

- more teenage pregnancy
- more people who find it hard to get help from a GP when needed
- more people who see dentists only for emergency dental treatment
- more people living in the most deprived parts of the community
- more children, under 5 years, living in households receiving working age benefits
- more people, aged 15-24 years, not in education, training or employment
- more people who have been seriously assaulted requiring admission to hospital

Introduction

> *Hawke's Bay is a great place to live. But not everyone in Hawke's Bay has the same opportunity to be healthy. Stark health inequities exist in some parts of our community with some groups having better health outcomes than others. For Hawke's Bay to have the brightest future possible we need to collectively eliminate these health inequities*.

The purpose of this report is to inform and to influence priority actions across communities and key agencies in Hawke's Bay so that we can achieve more equitable health across the region.

Health is created by more than just good medical care. Optimal health for everyone requires excellent schools, economic opportunities, a clean environment, quality housing, good transport systems, safe neighbourhoods, opportunities for being physically active and much more. There is a limit to what one agency can do by itself in providing all of this. Good health and well-being requires broad community effort and leadership from all corners of society.

Health inequities are differences in health outcomes or health measures which are avoidable or remediable. Not all differences in health are health inequities – but when avoidable differences are consistently and systematically found between groups of people (however these groups are defined) then these differences are inequitable. There are some factors influencing health that are beyond our influence – for example, if one population dies younger than another because of genetic differences there is a health inequality, but if the lower life expectancy is due to a lack of access to medication then the situation is a health inequity.

There are many factors which influence health – these are known as the determinants of health:

- Health behaviours - such as use of tobacco, diet, use of alcohol
- Health care – this includes both access to health care and receipt of high quality health care
- Social and economic factors – income and education are two of the biggest determinants of health
- Physical environment – the quality of our air, water and other environmental factors can directly affect our health and wellbeing

Researchers in the U.S have estimated that health behaviours account for 30%, health care (including biology) 20%, socioeconomic factors 40% and physical environment 10% of the variability in health outcomes at a population level[1]. Many of these determinants are not distributed equally across different population groups resulting in differences in health outcomes. Tackling areas where significant differences exist – and which are modifiable, are therefore critical if we are to achieve more equitable health outcomes for our community.

[1] http://www.countyhealthrankings.org/our-approach

This report is the first in what will be an annual report on health equity in Hawke's Bay. It is structured around the determinants of health as outlined above and where data is available examines the differences in that determinant for Māori, Pacific people and European/Other and by deprivation quintile of residence.

Analysis of socioeconomic position and health status for Māori has shown that there is an overlap between the two: [2]

- The distribution of Māori in the population is sharply skewed towards the more deprived quintiles. In communities where income and living conditions are independent of ethnicity, there would be an equal distribution of Māori across the quintiles
- Health outcomes for Māori are often different to non-Māori even after controlling for deprivation

It is important to look at both dimensions of ethnicity and deprivation in order to get a much deeper understanding of the causes of the differences and to therefore intervene in the most effective way.

The indicators chosen in this report are ones frequently used elsewhere to describe the health of a community.[3] [4] A total of 49 indicators were analysed and are detailed in this technical report.

We need to be able to identify health inequities before we can address them – and then we need to address them - together.

2 Ajwani S, Blakely T, Robson B, Tobias M, Bonne M. 2003. Decades of Disparity: Ethnic mortality trends in New Zealand 1980-1999. Wellington: Ministry of Health and University of Otago.

[3] Public Health Outcomes Framework (http://www.phoutcomes.info/) ,

[4] NHS Outcomes framework
https://www.gov.uk/government/uploads/system/uploads/attachment_data/file/213789/dh_123138.pdf

Chapter 1 - Health Outcomes

The measures in this section cover two types of health outcome – how long people live (length of life) and how healthy people feel while alive (quality of life or well-being). Unfortunately there are very few routinely collected measures of well-being in New Zealand.

Length of life is examined using mortality (or death) data to find out how long people live and then examines in more detail various measures of premature mortality and their variation by ethnicity and deprivation across Hawke's Bay. Premature mortality is a concept which only includes deaths occurring under a set age – nowadays this is usually taken as 75 years. Many of the deaths occurring before this age are considered to be avoidable in our society today.

Two measures of wellness are used – self-rated heath and diagnosed common mental disorders, as reported in the New Zealand Health Survey. The validity of these measures is limited to some extent by the sample size of the survey in Hawke's Bay.

1. Life Expectancy

Life expectancy is a summary measure of the current death rates in a population and is an internationally used measure of population health. It reflects economic and social conditions as well as the prevalence of risk factors, the prevalence and severity of diseases and the effectiveness and interventions and treatment.

Life expectancy at birth for an area in a given time period is an estimate of the average number of years a new-born baby would survive if he or she experienced a particular areas age-specific mortality rates for that time period throughout his or her life. The figure reflects mortality among those living in the area in each time period, rather than mortality among those born in each area. It is not therefore the number of years a baby born in the area could actually expect to live, both because the death rates of the area are likely to change in the future and because many of those born in the area will live elsewhere for at least some part of their lives.

Analysis of life expectancy at the New Zealand level has shown that life expectancy is increasing over time with a reduction in the differences in life expectancy between Māori and non-Māori. However these differences still exist.

There have been no recently published updates on life expectancy by DHB but local analysis has been done for the period 2008-2010 – the most recent period for which mortality data at a local level is available. Unfortunately this means that detailed comparisons with previous analyses are not possible due to potential differences in methodology.

For the period 2008-2010 life expectancy at birth in Hawke's Bay is 80 years. This is lower than New Zealand figures.

Life expectancy at birth in Hawke's Bay for males is 77.7 years and 82.3 years for females. Life expectancy at birth in Hawke's Bay for Māori males is 71.1 years and 75.6 years for Māori females compared with 79.4 for non-Māori males and 83.4 for non-Māori females.

The gap between Māori and non-Māori life expectancy at birth in Hawke's Bay is 8.3 years for males and 7.8 years for females. For males this gap is higher than the New Zealand figures.

Table 1 - Life Expectancy in Hawke's Bay by ethnicity and gender, 2008-2010

	Hawke's Bay	Life Expectancy Gap	New Zealand	Life Expectancy Gap
Total	**80.0 years**		**80.9 years**	
Males	77.7 years	4.6 years	78.9 years	3.9 years
Females	82.3 years		82.8 years	
Māori male	71.1 years	8.3 years	72.1 years	7.6 years
Non-Māori Male	79.4 years		79.7 years	
Māori Female	75.6 years	7.8 years	75.9 years	7.7 years
Non-Māori female	83.4 years		83.6 years	

No analysis by deprivation is available.

Life expectancy in Hawke's Bay is similar to New Zealand with Māori living about 8 years less than non-Māori. This gap is decreasing but still persists.

Table 2 - Life expectancy 2008-2010

2008-2010 Life Expectancy	HB	NZ	Ratio	Comment
	80.0	80.9	0.99	HB significantly lower than NZ
	HB Māori Males	**HB Other Males**	**Ratio**	**Comment**
	71.1	79.4	0.90	Significant disparity
	HB Māori Females	**HB Other Females**	**Ratio**	**Comment**
	75.6	83.4	0.91	Significant disparity

2. Infant Mortality

Rates of Infant mortality in a community reflect the relationship between causes of infant death and the upstream determinants of health such as economic, social and environmental conditions. Infant mortality rates are usually much higher for babies from more socio-economically deprived areas.

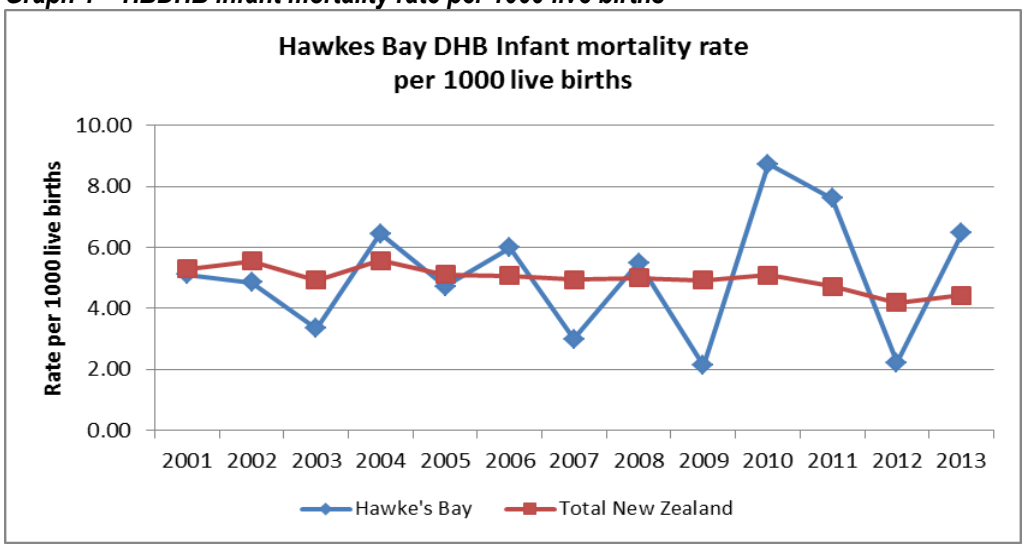
Deaths occurring in the first 28 days of life in particular are considered to reflect the health and healthcare of both mother and new-born.

New Zealand's infant mortality rates have declined during the past 40 years with rates falling from 16.9 per 1,000 live births in 1969, to 4.4 per 1,000 live births in 2013. However New Zealand's infant mortality rates are below the OECD average, being higher than the UK, Australia, and northern Europe but lower than the US.

Hawke's Bay infant mortality rates are similar to the New Zealand average but small numbers of deaths precludes detailed analysis by ethnicity or deprivation – there were 14 deaths in Hawke's Bay in 2013. A spike seen in 2010 was due to a cluster of sudden unexpected deaths in infancy (SUDI).

During the neonatal period (birth–28 days) extreme prematurity, congenital anomalies and intrauterine/birth asphyxia are the leading causes of mortality, while in the post neonatal period (29–364 days) sudden unexpected death in infancy (SUDI) and congenital anomalies make the greatest contribution. Any interventions aimed at reducing infant mortality rates must, in the first instance, be based on an understanding of their component causes.

Graph 1 – HBDHB infant mortality rate per 1000 live births



Source: Statistics NZ

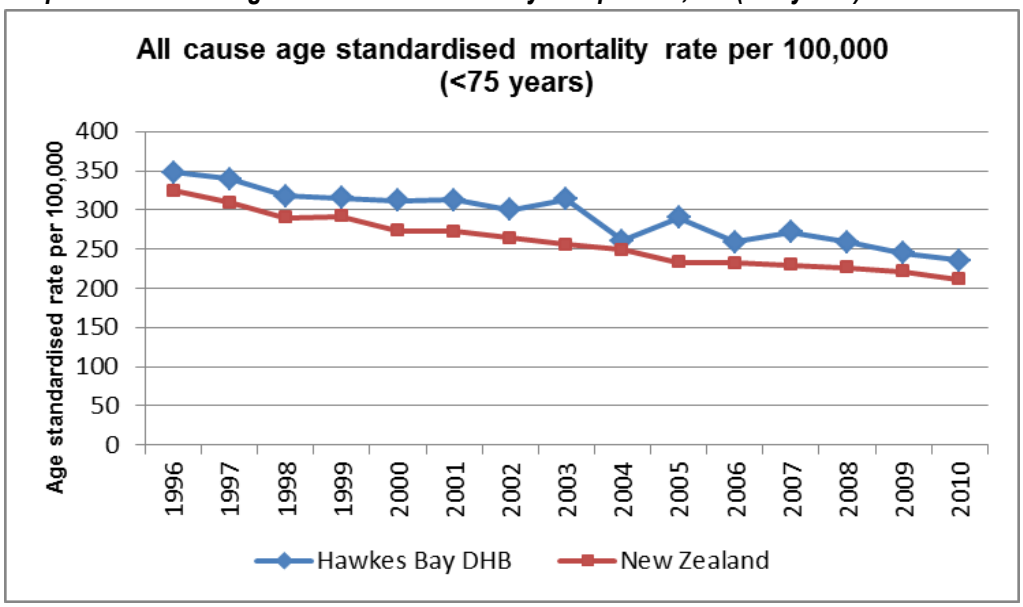
Table 3 – Infant mortality, rate per 1000 live births, 2013

	Hawke's Bay	New Zealand	Rate Ratio	Comment
Infant mortality, rate per 1000 live births, 2013	6.48	4.43	1.5	HB similar to NZ

3. All-cause Mortality Rates under 75 years

Over the period 2006-2010 approximately 40% of all deaths in Hawke's Bay occur amongst people under 75 years. There has been a steady decline in the death rates due to all causes both nationally and in Hawke's Bay amongst people under 75 years. Rates in Hawke's Bay are similar to New Zealand rates. Rates by ethnicity in Hawke's Bay are not significantly higher than equivalent rates across New Zealand.

Graph 2 – All cause age standardised mortality rate per 100,000 (<75 years)

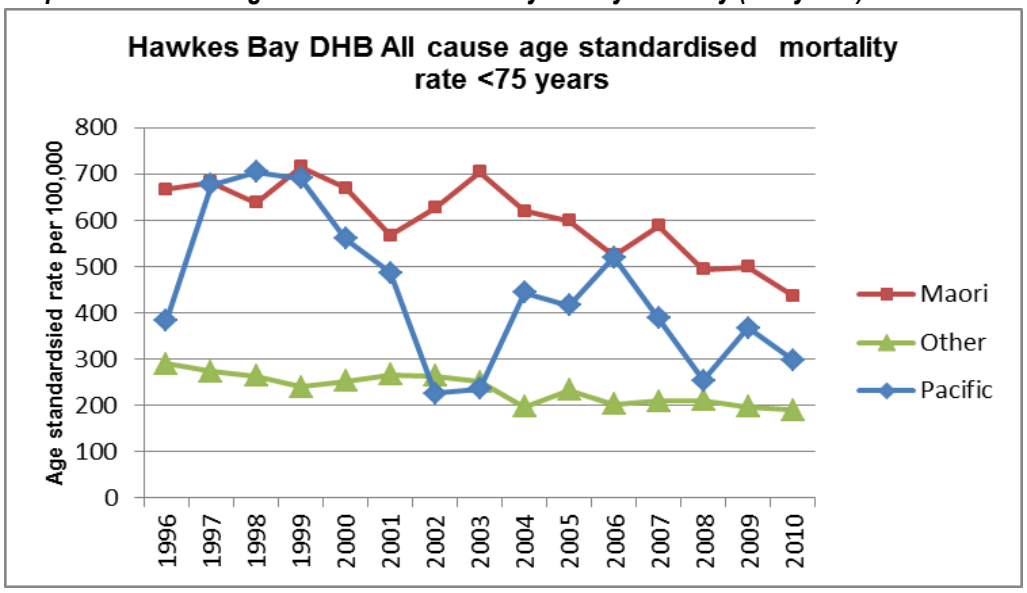


Source: Ministry of Health National Mortality Collection

Māori rates of mortality have declined steadily with a resulting reduction in disparity between Māori and non-Māori. However, Māori deaths are still twice as high as non-Māori non-Pacific people in Hawke's Bay. Pacific death rates are also higher but fluctuate due to the smaller numbers.

Over the period 2006-2010 77% of all Māori deaths and 52% of all Pasifica deaths occurred under the age of 75 years, compared with 32% amongst non-Māori non-Pasifica people.

Graph 3 – All cause age standardised mortality rate by ethnicity (<75 years)



Source: Ministry of Health National Mortality Collection

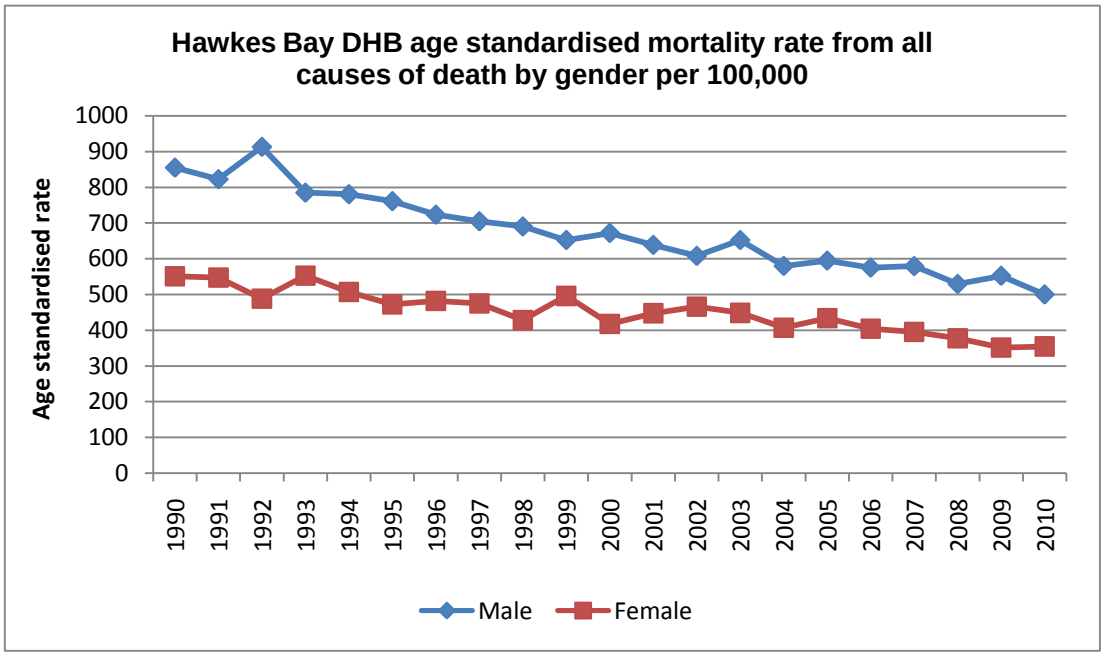
There are also inequities in the percentage of deaths occurring under the age of 50 years – 26% of Māori and 24% of Pasifica deaths occur under the age of 50 years compared with only 5% amongst non- Māori non-Pasifica people.

Table 4 - Percentage of all deaths in Hawke's Bay, 2006-2010, under 75 years and under 50 years, by ethnicity and by quintile

% Total deaths	Māori	Pasifica	Other	Quintile 5	Quintile 1	Hawke's Bay TOTAL
Under 75 years	77.0%	52.4%	31.9%	56.5%	20.6%	38.7%
Under 50 years	26.3%	23.8%	5.1%	16.1%	4.4%	9.2%

Men have higher death rates than women but this difference is declining due to male mortality rates declining faster than female rates.

Graph 4 – All-cause age standardised mortality rate by gender (1990-2010)



Source: Ministry of Health National Mortality Collection

Table 5 – 2010 All-cause mortality <75 years

All-cause mortality <75 yrs, 2010, rate per 100,000, ASR	HB Rate	NZ Rate	Rate Ratio	Comment
	235	211	1.1	HB similar to NZ
	Māori HB rate	**Other HB rate**	**Rate Ratio**	**Comment**
	437	190	2.3	Significant disparity

Table 6 – Trend analysis all-cause mortality <75 years, 1996-2010, rate per 100,000, ASR

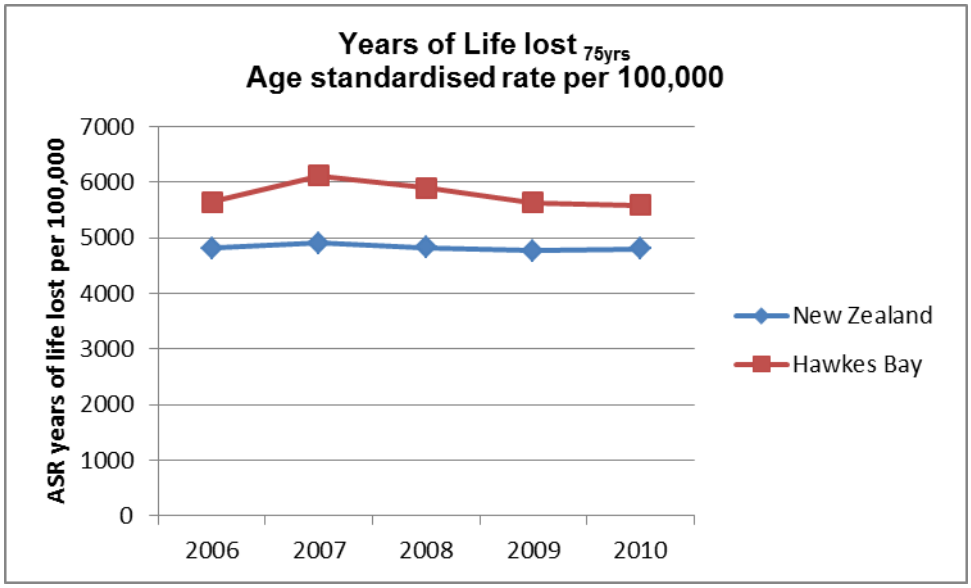
	2006	2010	Absolute change	Relative change
Other	202	190	-12 (Improving)	-5.9%
Māori	524	437	-87 (improving)	-16.6%
Gap (Other – Māori)	-322	-247	75 (closing)	-23.3%

4. Potential Years of Life Lost

"Potential years of life lost" (PYLL) is an indicator of mortality that takes into account the age at which a person dies. People who die at younger ages are considered to have lost more "potential" years of life. If premature deaths are those occurring before the age of 75 years then someone who dies at age 55 years can be considered to have lost 20 "potential " years of life lost; someone who dies at 25 years can be considered to have lost 55 years of life. At a population level it allows us to estimate the potential loss of life amongst different population groups. Higher rates of PYLL are due to both more deaths occurring under 75 years but also more deaths at younger ages.

Whilst PYLL have fallen dramatically over the past 50 years there has been little change recently. Hawke's Bay rates of PYLL are statistically significantly higher than New Zealand rates but the gap between the two is closing.

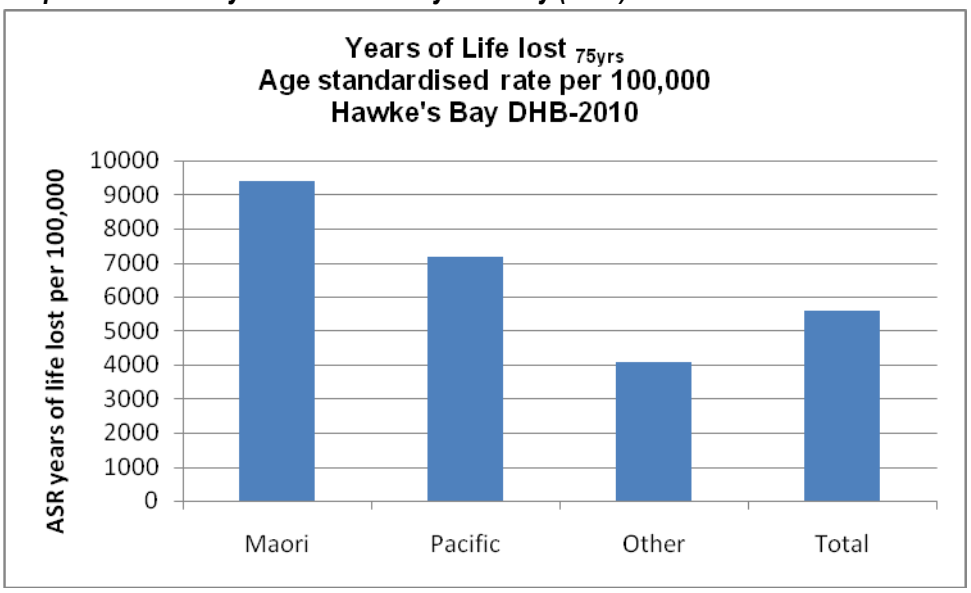
Graph 5 – Years of potential life lost (age standardised rate per 100,000)



Source: Ministry of Health National Mortality Collection

Māori and Pacific rates of PYLL are significantly higher than rates of PYLL for Other ethnicity, with Māori rates 2.3 times and Pacific rates 1.75 times higher. This is a measure both of more Māori and Pacific people dying before the age of 75 years but also dying at much earlier ages.

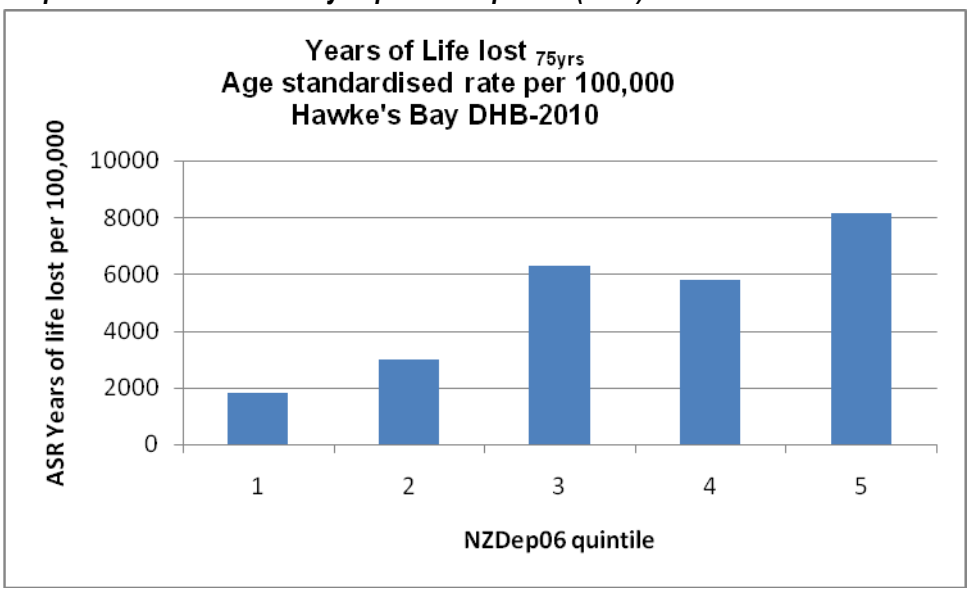
Graph 6 – Potential years of life lost by ethnicity (2010)



Source: Ministry of Health National Mortality Collection

PYLL increases with increasing deprivation with people living in quintile 5 having approximately 4 times the potential years of life lost than people living in quintile 1.

Graph 7 – Years of life lost by deprivation quintile (2010)



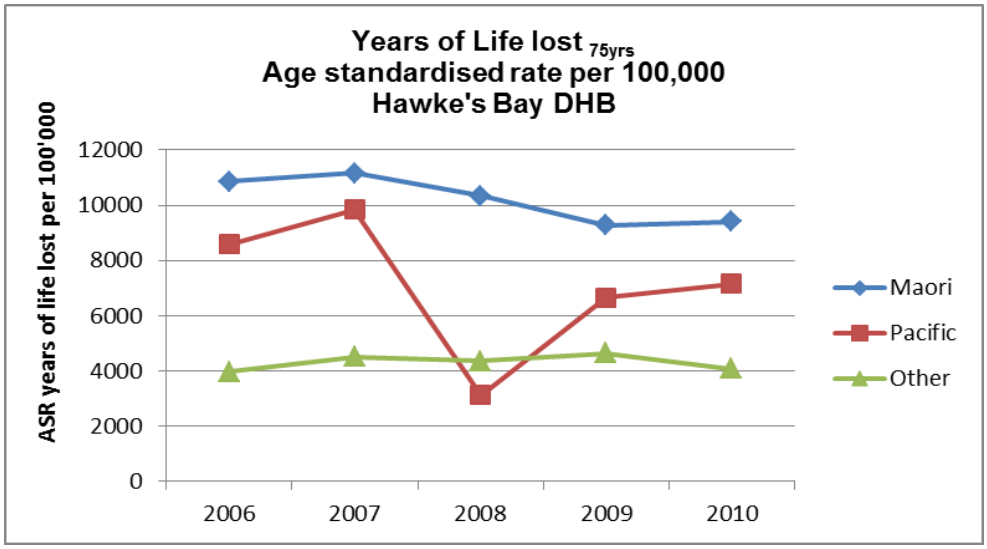
Source: Ministry of Health National Mortality Collection

There have been reductions in Māori PYLL between 2006 and 2010 and an overall closing of the disparities between Māori and Other. This is also the case for Pacific people.

By quintile there has been a statistically significant reduction in PYLL for quintiles 1 and 2 and an increase observed for quintile 3. No significant changes are seen in quintile areas 4 and 5. This means that there has been a widening in disparities in PYLL by quintile.

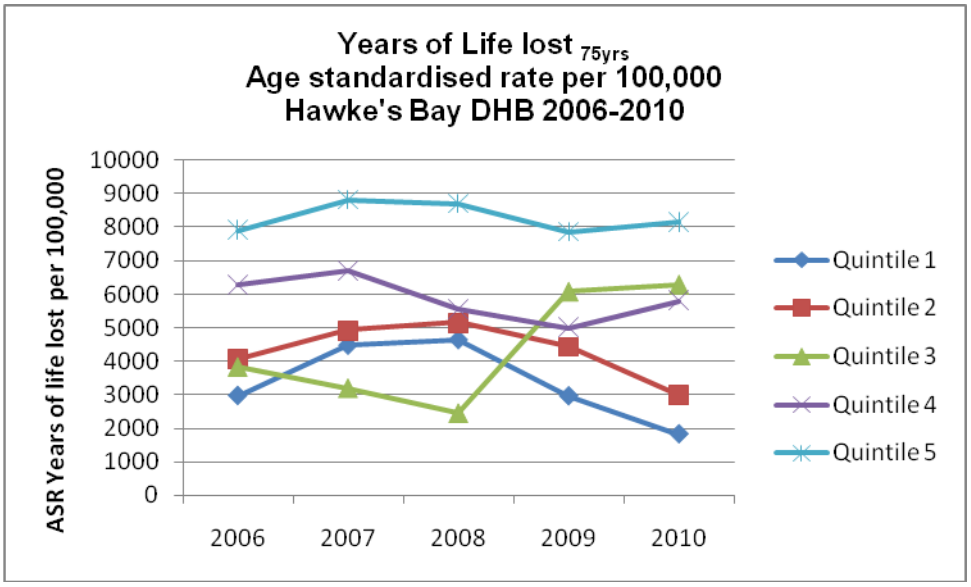
Whilst there has been a reduction of PYLL for Māori, Pacific people and for people living in quintiles 1 and 2 there remain persistent equity gaps both by ethnicity and by deprivation.

Graph 8 –Years of life lost by ethnicity (2006-2010)



Source: Ministry of Health National Mortality Collection

Graph 9 –Years of life lost by deprivation quintile (2006-2010)



Source: Ministry of Health National Mortality Collection

Ischaemic heart disease is the top cause of potential years of life lost across ethnicities. This analysis highlights the impact of transport accidents (particularly for Māori), intentional self-harm (suicides) and digestive tract cancer.

Table 7 – Top causes of potential years of life lost 2006-2010

Cause of death	PYLL Māori number (%)	PYLL Pasifica number (%)	PYLL Other number (%)
All causes	17976 (100%)	1532 (100%)	25299 (100%)
Ischaemic heart disease	1820 (10.1%)	142 (9.3%)	2487 (9.8%)
Car occupant in transport accident	1607 (8.9%)	137 (8.9%)	923 (3.6%)
Intentional self-harm	1178 (6.6%)	116 (7.6%)	2470 (9.8%)
Lung cancer	936 (5.2%)	-	1463 (5.8%)
Diabetes	902 (5.0%)	108 (7.0%)	-
Digestive tract cancer	748 (4.2%)	-	2298 (9.1%)
Breast cancer	516 (2.9%)	113 (7.4%)	1099 (4.3%)

Table 8–Rate ratio of potential years of life lost, age standardised rate per 100,000, by cause, 2006-2010

Cause of death	Māori: Other	Pasifica: Other
Ischaemic heart disease	3.8	2.9
Car occupant in transport accident	4.0	2.8
Intentional self-harm	1.3	0.8
Lung cancer	3.9	0.2
Diabetes	8.9	9.2
Digestive tract cancer	1.7	0.8
Breast cancer	2.1	4.0

Table 9 – Potential years of life lost, age standardised rate per 1,000, 2010

Potential Years of life lost, ASR per 1,000, 2010	HB Rate	NZ Rate	Rate Ratio	Comment
	56	48	1.2	HB higher than NZ
	Māori Rate	**Other Rate**	**Rate Ratio**	**Comment**
	94	41	2.3	Significant disparity
	Pacific Rate	**Other Rate**	**Rate Ratio**	**Comment**
	72	41	1.8	Significant disparity
	Quintile 5	**Quintile 1**	**Rate Ratio**	**Comment**
	82	18	4.5	Significant disparity

Table 10 - Trend analysis, potential years of life lost, age standardised rate per 1,000, 1996-2010

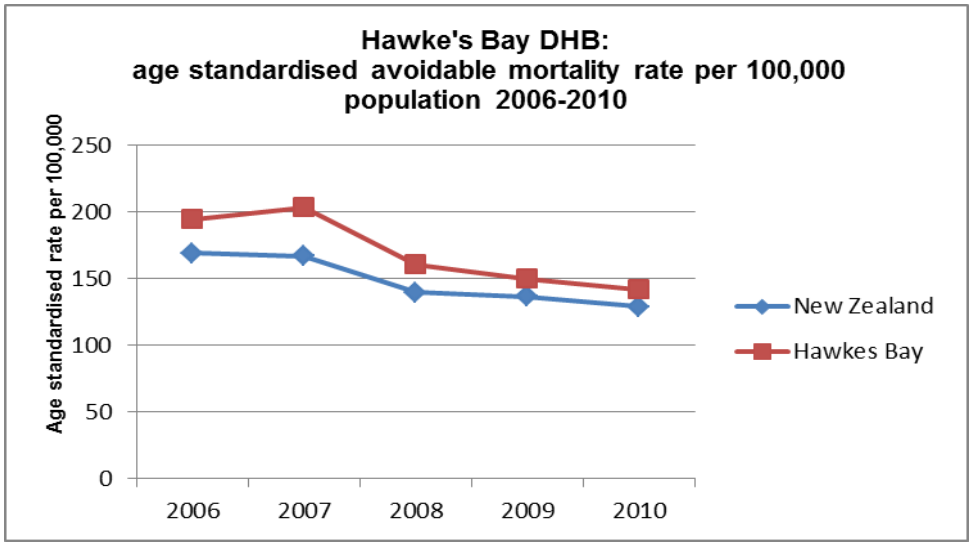
	1996	2010	Absolute change	Relative change
Other	39.7	40.8	+1.1 (worse)	+2.8%
Māori	108.7	94.1	-14.6 (improving)	-13.4%
Pacific	85.8	71.6	-14.2 (Improving)	-16.6%
Quintile 1	29.7	18.3	-11.4 (improving)	-38.4%
Quintile 5	79.2	81.6	+2.4 (worse)	+3.0%
Gap (Other – Māori)	-69	-53.3	+15.7 (closing)	22.8%
Gap (Other – Pacific)	-46.1	-30.8	+15.3 (closing)	33.2%
Gap (Q1-Q5)	-49.5	-63.3	-13.8 (widening)	-27.9%

5. Avoidable Mortality

Approximately three-quarters (75%) of all deaths under 75 years are considered avoidable and are categorised as such. These avoidable deaths can then be sub-categorised into population preventable (where the death could have been avoided through known preventive interventions) and amenable (where the death was caused by conditions that are amenable to good quality health care). Some deaths are a mixture of both and this is recognised by categorising some deaths as 50% population preventable and 50% amenable. The measures are intended to be used at a population level rather than at an individual level and are indicators of overall health system performance.

The number of avoidable deaths has been declining over the past 5 years in Hawke's Bay and across New Zealand with Hawke's Bay rates similar to the New Zealand average.

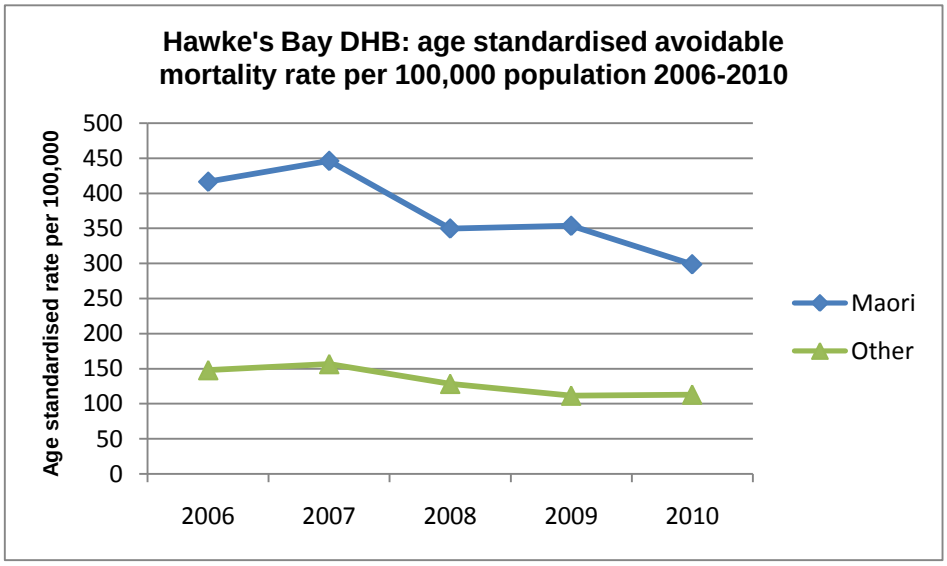
Graph 10 – HBDHB age standardised avoidable mortality rate (0-74years) (2006-2010)



Source: Ministry of Health National Mortality Collection

Avoidable mortality varies by ethnicity and whilst there have been decreases in avoidable mortality for Māori and Pacific people, the avoidable mortality rates for Māori are still more than twice those of non-Māori (Pacific numbers are too small in Hawke's Bay to allow statistical analysis but significant reductions are observed nationally). However for Māori, there has been both a reduction in rate of avoidable mortality and a closing of the gap between avoidable mortality rates for non-Māori non-Pacific. If trends continue there should be a closing of the gap between Māori and Other within the next 5 years.

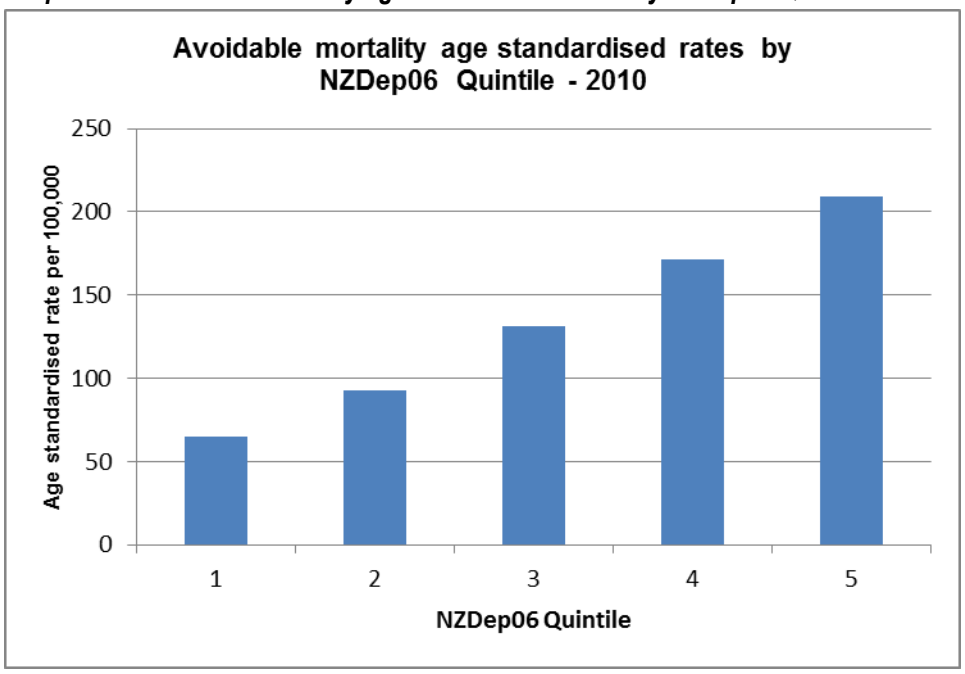
Graph 11 – Age standardised avoidable mortality rate by ethnicity (2006-2010)



Source: Ministry of Health National Mortality Collection

Avoidable mortality rates show a strong association with deprivation with rates amongst those people living in the least deprived neighbourhoods being lowest and a gradient seen across the quintiles. Avoidable mortality in quintile 5 is three-times that of quintile 1.

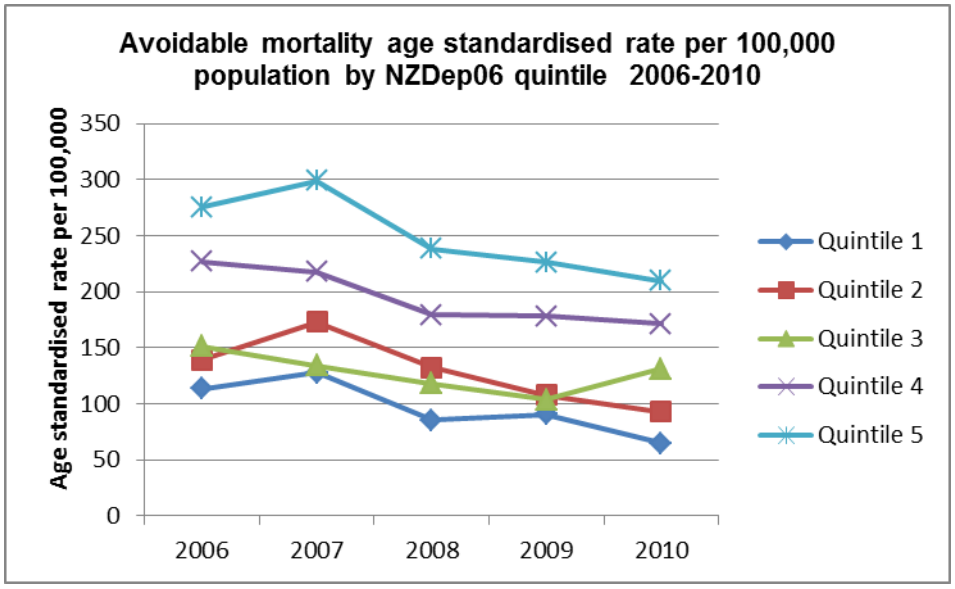
Graph 12 – Avoidable mortality age standardised rates by NZDep06 Quintile - 2010



Source: Ministry of Health National Mortality Collection

Reductions in avoidable mortality have been seen across all deprivation quintiles with a narrowing in the gap between avoidable mortality rates in quintile 1 (least deprived areas) and quintile 5 (most deprived areas).

Graph 13 – Avoidable mortality age standardised rates per 100,000 population by NZDep06 quintile 2006-2010



Source: Ministry of Health National Mortality Collection

The top cause of avoidable mortality across all ethnic groups is ischaemic heart disease, accounting for about one fifth of all avoidable deaths. Deaths from Ischaemic heart disease are considered to be avoidable both by disease preventive interventions and by good quality healthcare.

Lung cancer is the second cause of avoidable mortality for Māori and Other and deaths due to lung cancer are considered to be wholly disease preventable.

Deaths due to diabetes are a mixture of disease preventable and amenable to healthcare. Deaths from breast cancer and colorectal cancer are considered to be wholly amenable to healthcare.

The top causes of avoidable mortality are generally similar by ethnicity but actual numbers and rates of deaths due to each condition vary. Of note are the higher proportion of deaths due to diabetes, and the higher proportion of deaths due to road traffic injuries amongst Māori and Pacific people. Lung cancer is also the top cause of avoidable mortality amongst Māori women, causing more deaths than breast cancer. This is in contrast to the pattern for Other women where breast cancer is the top cause of avoidable mortality.

Table 11 – Top causes of avoidable mortality by ethnicity and gender, 2006-2010

Top causes of avoidable deaths	Māori Males	Other Males	Māori Females	Other Females
Ischaemic Heart disease	29.6 % (1)	27.1% (1)	16.1 % (2)	11.5 % (3)
Diabetes	10.6 % (2)	4.3 % (7)	7.0 % (4)	3.8 % (8)
Lung cancer	10.0 % (3)	11.7 % (2)	21.7 % (1)	11.8 % (2)
Road traffic injuries	8.6 % (4)	3.2% (9)	2.2 % (9=)	1.8 % (12)
Cerebrovascular disease	5.0 % (5=)	7.0 % (4)	4.8 % (6)	8.8 % (5)
Suicide & self-inflicted injuries	5.0% (5=)	5.2 % (6)	2.2 % (9=)	2.5 % (9=)
COPD	4.0% (7)	5.4 %(5)	7.0 % (5)	7.5 % (6)
Breast cancer	-	-	11.3 % (3)	14.9 % (1)
Colorectal cancer	3.0 % (8)	9.2 % (3)	1.7 % (12 =)	10 % (4)

Table 12 – Avoidable mortality <75 years, rate per 100,000, 2010

2010 Avoidable mortality rate per 100,000 <75 yrs	**HB Rate**	**NZ Rate**	**Rate Ratio**	**Comment**
	142	129	1.1	HB similar to NZ
	Māori HB Rate	**Other HB Rate**	**Rate Ratio**	**Comment**
	299	113	2.6	Significant disparity
	Quintile 5	**Quintile 1**	**Rate Ratio**	**Comment**
	210	65	3.2	Significant disparity

Table 13 – Trend analysis, avoidable mortality <75 years, rate per 100,000, 2006 -2010

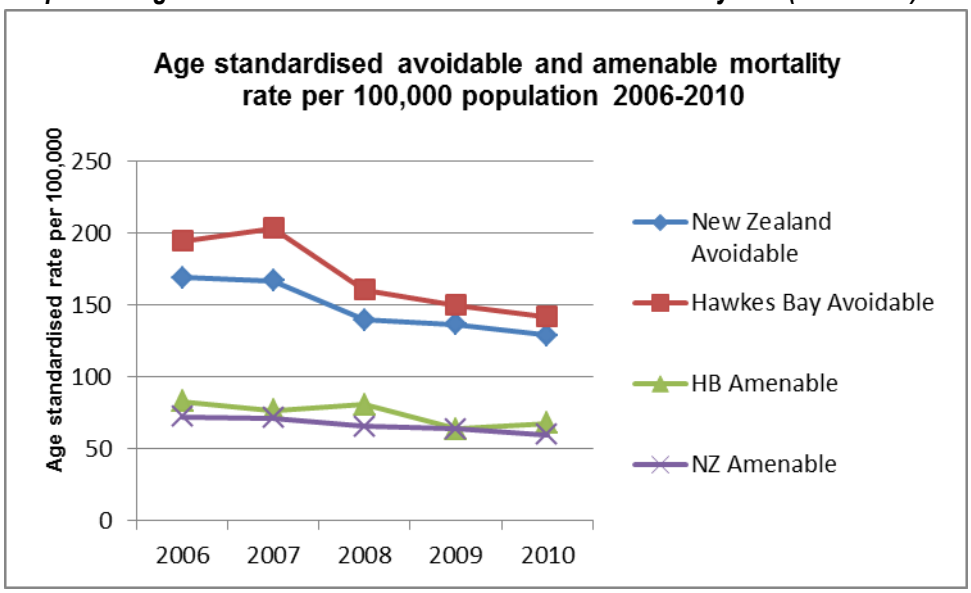
	2006	2010	Absolute change	Relative change
Other	148	113	-35 (improving)	-23.6%
Māori	417	299	-118 (improving)	-28.3%
Quintile 5	275	210	-65 (improving)	-23.6%
Quintile 1	113	65	-48 (improving)	-42.5%
Gap (Other – Māori)	-269	-186	+83 (closing)	30.9%
Gap (Q1-Q5)	-162	-145	+17 (closing)	10.5%

6. Amenable Mortality

Amenable mortality refers to deaths which could have been avoided through access to quality healthcare. In New Zealand, the proportion of avoidable deaths considered to be amenable is approximately 40%. Rates of amenable mortality in Hawke's Bay are similar to the New Zealand rate and they have been generally declining over the period 2006-2010, although not as fast as the decline in overall avoidable mortality.

If access to healthcare is truly equitable, then amenable mortality rate should be similar across ethnicity and deprivation level.

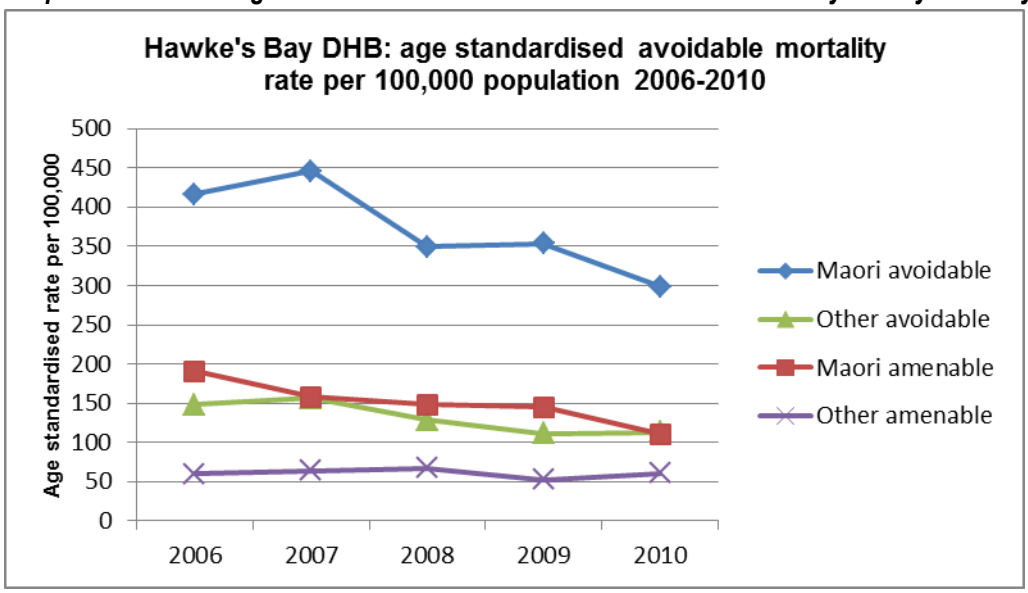
Graph 14 – Age standardised avoidable and amenable mortality rate (2006-2010)



Source: Ministry of Health National Mortality Collection

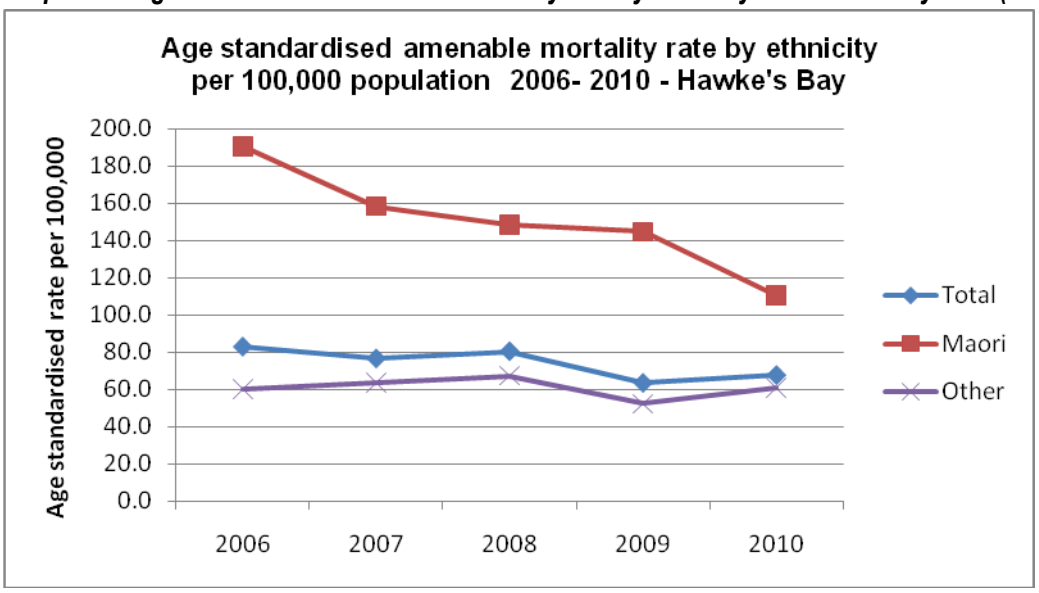
There are marked disparities in amenable mortality rate by ethnicity. Māori amenable mortality rates are 1.8 times higher than non-Māori / non-Pacific people. Pacific data for Hawke's Bay are too small for robust analysis. However the equity gap is closing quickly and if current trends continue this gap should have within the next 5 years.

Graph 15 – HBDHB: age standardised avoidable and amendable mortality rate by ethnicity (2006-2010)



Source: Ministry of Health National Mortality Collection

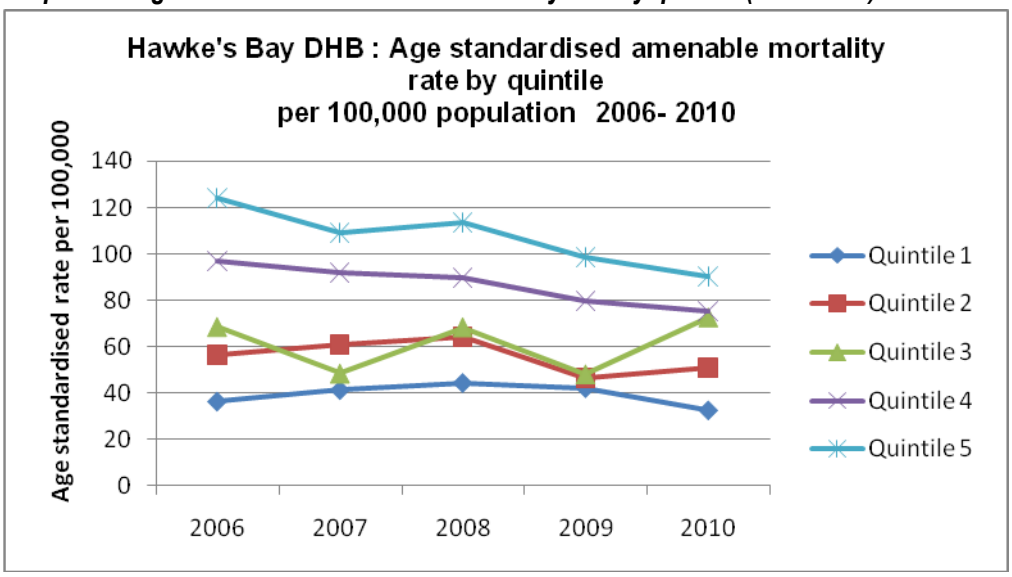
Graph 16 – Age standardised amenable mortality rate by ethnicity in Hawke's Bay DHB (2006-2010)



Source: Ministry of Health National Mortality Collection

Amenable mortality varies by quintile but since 2006 the biggest drops in amenable mortality have been seen for people living in quintiles 4 and 5. People in quintile 5 have approximately 2.8 times the amenable mortality rate of people living in quintile 1.

Graph 17 – Age standardised amenable mortality rate by quintile (2006-2010)



Source: Ministry of Health National Mortality Collection

The largest reduction in amenable mortality rates are seen for Māori with a significant closure of disparity between Māori and Other. If this trend continues then equity would have been achieved in this indicator by 2013. This is an indicator where there should be no inequity if access to healthcare is equitable.

Analysis of the top causes of amenable mortality may help explain the difference in mortality rates by ethnicity or by quintile.

Table 14 - Top conditions amenable mortality Hawke's Bay 2006-2010

Māori	Pacific	Other
Ischaemic heart disease	Ischaemic heart disease	Ischaemic heart disease
Diabetes	Breast Cancer	Colorectal cancer
Breast Cancer	Diabetes	Breast Cancer
Selected invasive bacterial & protozoal infections		Melanoma skin
Colorectal cancer = cerebrovascular disease		Cerebrovascular disease

Diabetes and ischaemic heart disease are more prevalent amongst Māori and Pacific communities and this higher prevalence of disease may account for higher amenable mortality for these conditions. Better access to care and better management of diabetes, ischaemic heart disease, breast cancer and colorectal should reduce amenable mortality rates substantially. It is important to check that access to care and quality of care for Māori and Pacific people with these conditions is equitable to others.

Table 15 – 2010 Amenable mortality, ASR per 100,000 <75 years

2010 Amenable mortality, ASR per 100,000, <75 yrs	HB Rate	NZ Rate	Rate Ratio	Comment
	68	60	1.1	HB similar to NZ
	Māori HB Rate	**Other HB Rate**	**Rate Ratio**	**Comment**
	111	61	1.8	Significant disparity
	Quintile 5	**Quintile 1**	**Rate Ratio**	**Comment**
	90	32	2.8	Significant disparity

Table 16 - Trend analysis, amenable mortality, ASR per 100,000 <75 years, 2006 - 2010

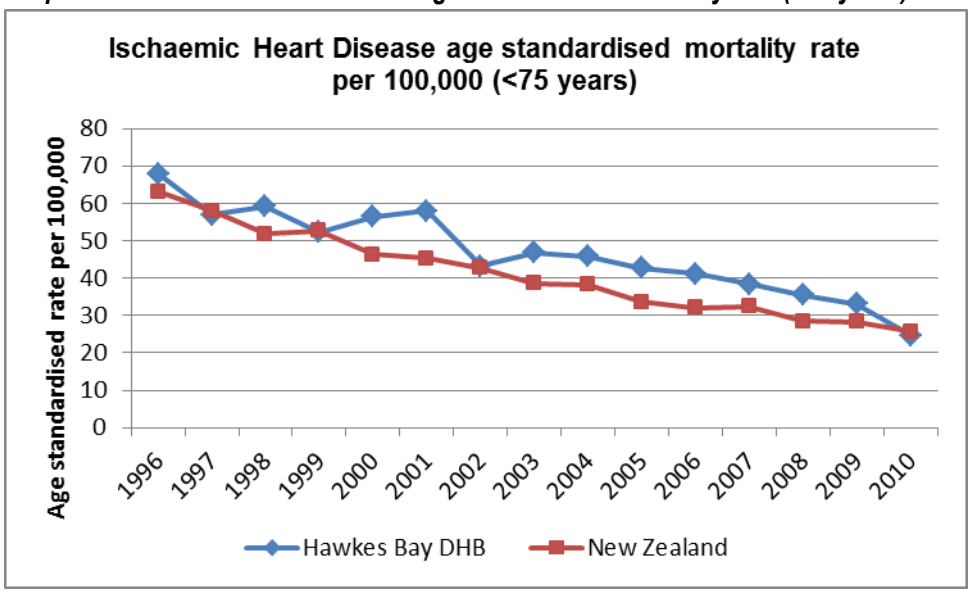
	2006	2010	Absolute Change	Relative Change
Other	60	61	+1 (worse)	+1.7%
Māori	190	111	-79 (improving)	-41.6%
Quintile 5	124	90	-34 (improving)	-27.4%
Quintile 1	36	32	-4 (improving)	-11.1%
Gap (Other – Māori)	-130	-88	80 (gap closing)	61.5%
Gap (Q1-Q5)	-88	-58	30 (gap closing)	34.1%

7. Deaths due to ischaemic heart disease

Deaths due to ischaemic heart disease are considered to be avoidable and equal weighting is given to the preventability of disease and its amenability to treatment.

Rates of death due to ischaemic heart disease have reduced both in New Zealand and in Hawke's Bay since 1990. Rates in 2010 in Hawke's Bay of 24.6 deaths per 100,000 is similar to the New Zealand rate of 25.8 deaths per 100,000.

Graph 18 – Ischaemic heart disease age standardised mortality rate (<75 years)

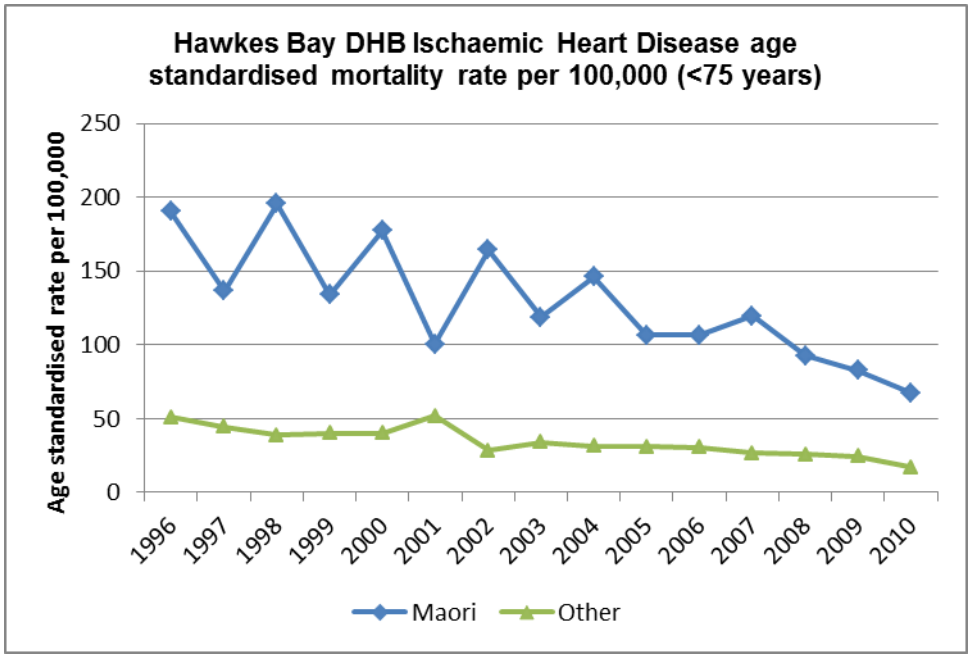


Source: Ministry of Health National Mortality Collection

There has been a marked reduction in disparity of deaths due to ischaemic heart disease for Māori with a reduction in death rates due to ischaemic heart disease for Māori since 1996 from 190 deaths per 100,000 to 67 deaths per 100,000 in 2010. Rates for Other have also declined but not as steeply. However rates of death are still four-times higher for Māori. If this trend continues then equity for Māori would be reached by 2019.

Pacific rates fluctuate due to the smaller numbers in the population..

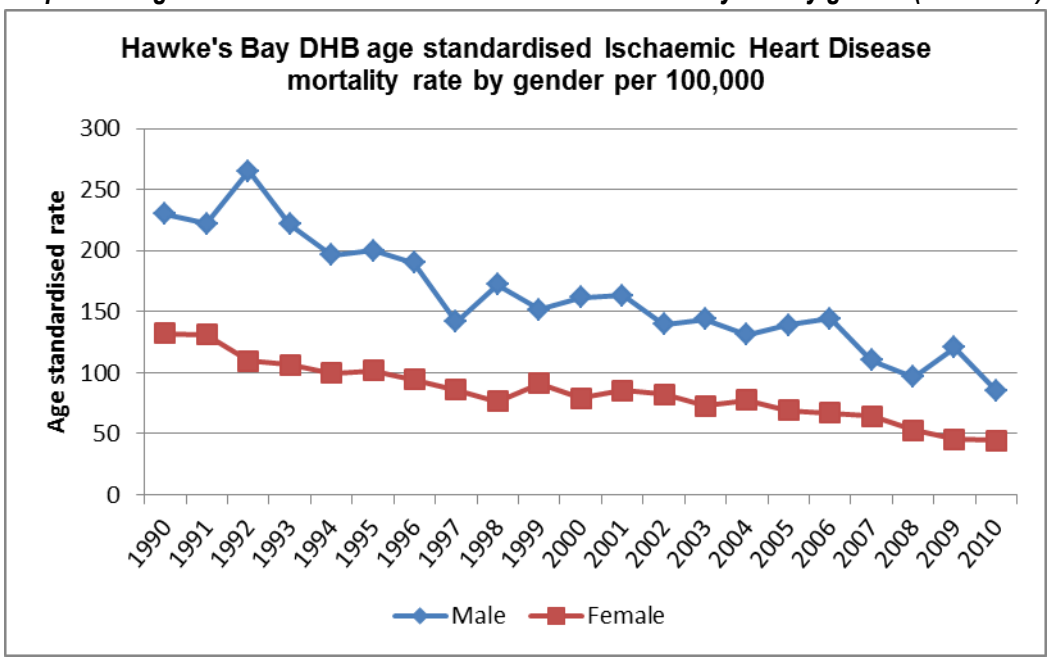
Graph 19 – Ischaemic heart disease age standardised mortality rate by ethnicity (<75 years)



Source: Ministry of Health National Mortality Collection

When analysed by gender there has been a reduction in death rates for ischaemic heart disease in both men and women but the greater reduction has been seen amongst men. Rates of death for ischaemic heart disease for men in Hawke's Bay are now 85 per 100,000 and for women 44 per 100,000. These are similar to the New Zealand rates.

Graph 20 – Age standardised Ischaemic Heart Disease mortality rate by gender (1990-2010)



Source: Ministry of Health National Mortality Collection

Table 17 - Deaths from ischaemic heart disease rate, < 75 years

2010 Ischaemic heart disease ASR mortality rate per 100,000, <75	**HB Rate**	**NZ Rate**	**Rate Ratio**	**Comment**
	24.6	25.8	1.0	HB similar to NZ
	Māori HB Rate	**Other HB Rate**	**Rate Ratio**	**Comment**
	67.4	16.9	4.0	Significant disparities

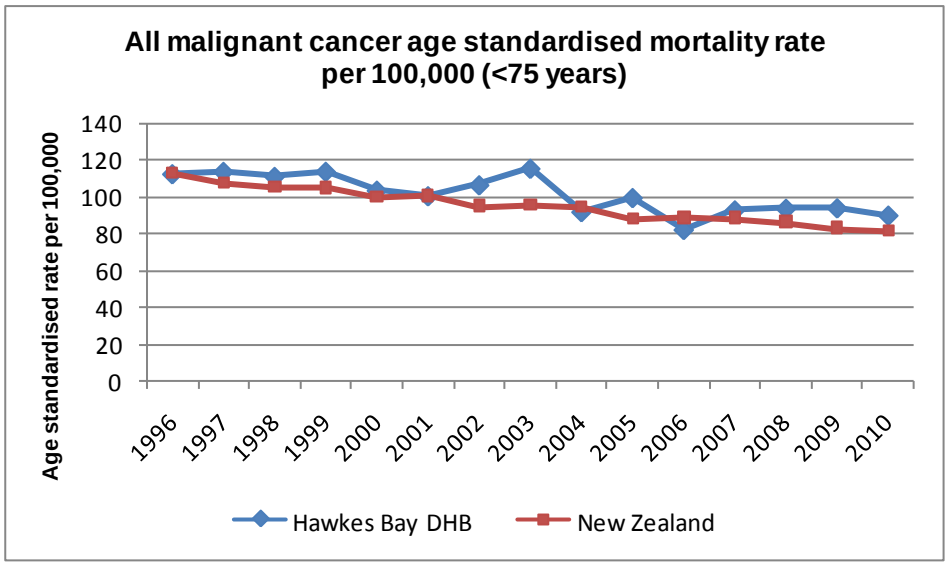
Table 18 - Trend analysis, deaths from ischaemic heart disease rate per 100,000, < 75 years, 2006-2010

	2006	**2010**	**Absolute Change**	**Relative Change**
Other	30.4	16.8	-13.6 (improving)	-44.7%
Māori	106.5	67.4	-39.1 (improving)	-36.7%
Gap (Other – Māori)	-76.1	-50.6	25.5 (gap closing)	33.5%

8. Deaths Due to Cancer

Rates of deaths due to cancer have been steadily declining both nationally and in Hawke's Bay; however the rate of decline is low. Hawke's Bay rates are not statistically significant to NZ rates.

Graph 21 – All malignant cancer age standardised mortality rate (<75 years) (1996-2010)

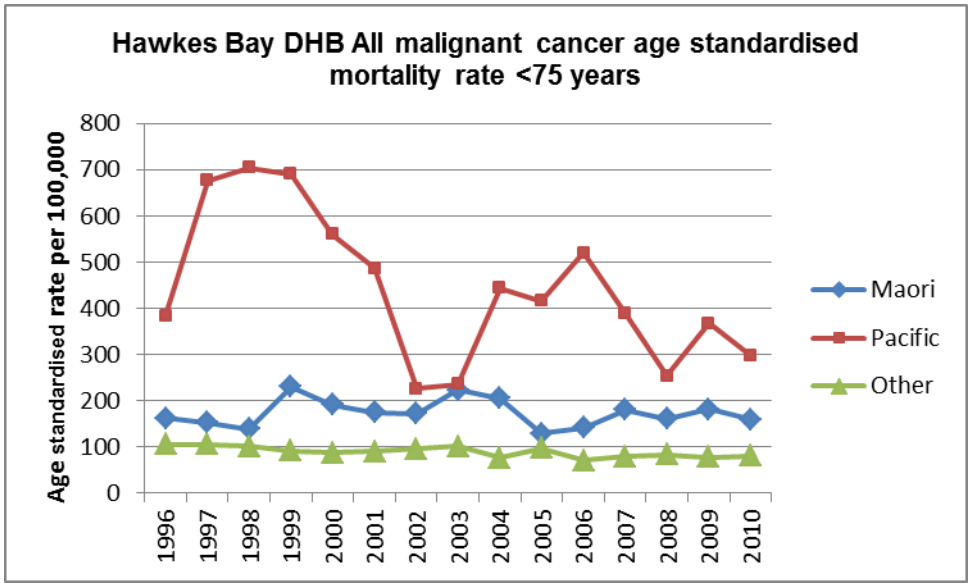


Source: Ministry of Health National Mortality Collection

Māori cancer death rates are higher than non-Māori with very little change in rates for Māori or Other. Māori rates are about twice those of Other. Rates for Pacific people fluctuate due to small numbers.

At a total level in Hawke's Bay there is a small decline in rates seen but when analysed by ethnicity there is no change across the various ethnic groups.

Graph 22 – HBDHB All malignant cancer age standardised mortality rate by ethnicity (<75 years) (1996-2010)



Source: Ministry of Health National Mortality Collection

Table 19 - 2010 All cause cancer <75 mortality

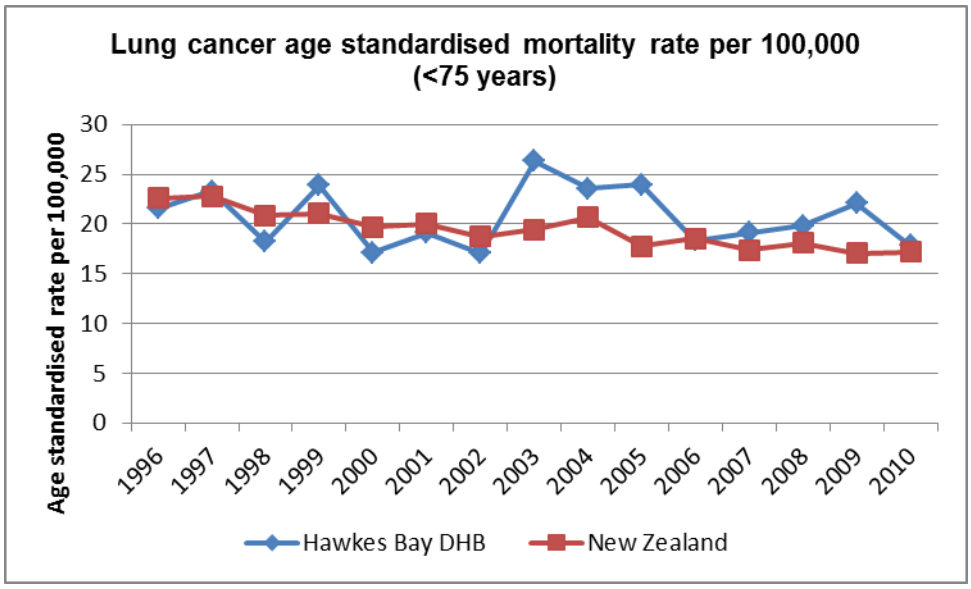
2010 All cause cancer ASR mortality rate per 100,000, <75	HB Rate	NZ Rate	Rate Ratio	Comment
	89.8	81.4	1.1	HB similar to NZ
	Māori HB Rate	**Other HB Rate**	**Rate Ratio**	**Comment**
	159.6	81.2	2.0	Significant disparities

Cancer Mortality Rates by Cause

Lung cancer

Lung cancer mortality rates are slowly declining; Hawke's Bay rates are not different to New Zealand rates.

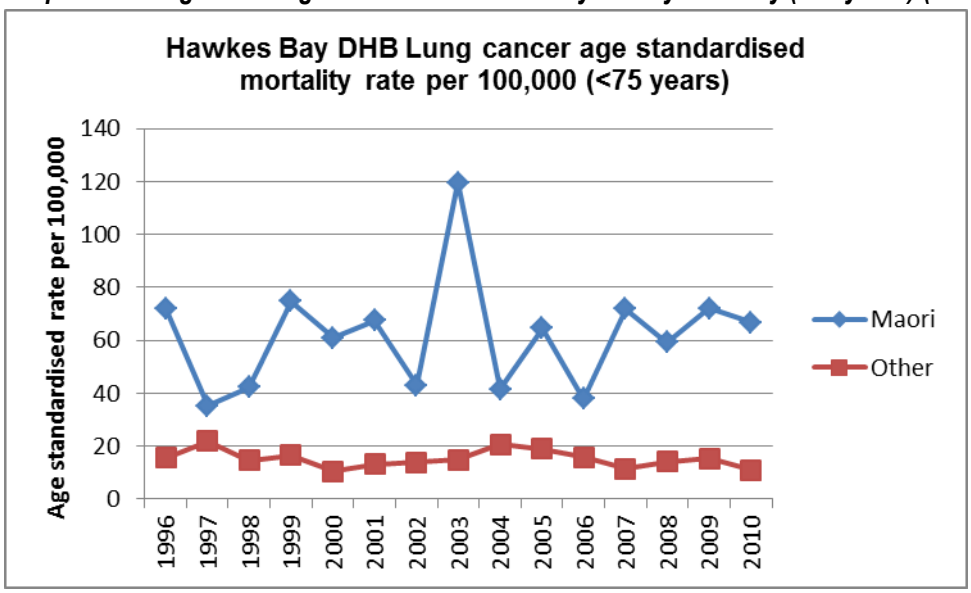
Graph 23 – Lung cancer age standardised mortality rate (<75 years) (1996-2010)



Source: Ministry of Health National Mortality Collection

Māori death rates from lung cancer are consistently higher than non-Māori and are approximately 6 times higher. There has been little change in death rates and no reduction in the disparity for Māori.

Graph 24 – Lung cancer age standardised mortality rate by ethnicity (<75 years) (1996-2010)



Source: Ministry of Health National Mortality Collection

Table 20 - Deaths from lung cancer, < 75 years

2010 Lung cancer mortality rate per 100,000, <75	HB Rate	NZ Rate	Rate Ratio	Comment
	17.8	17.2	1.0	HB similar to NZ
	Māori HB Rate	**Other HB Rate**	**Rate Ratio**	**Comment**
	66.8	11.0	6.1	Significant disparities

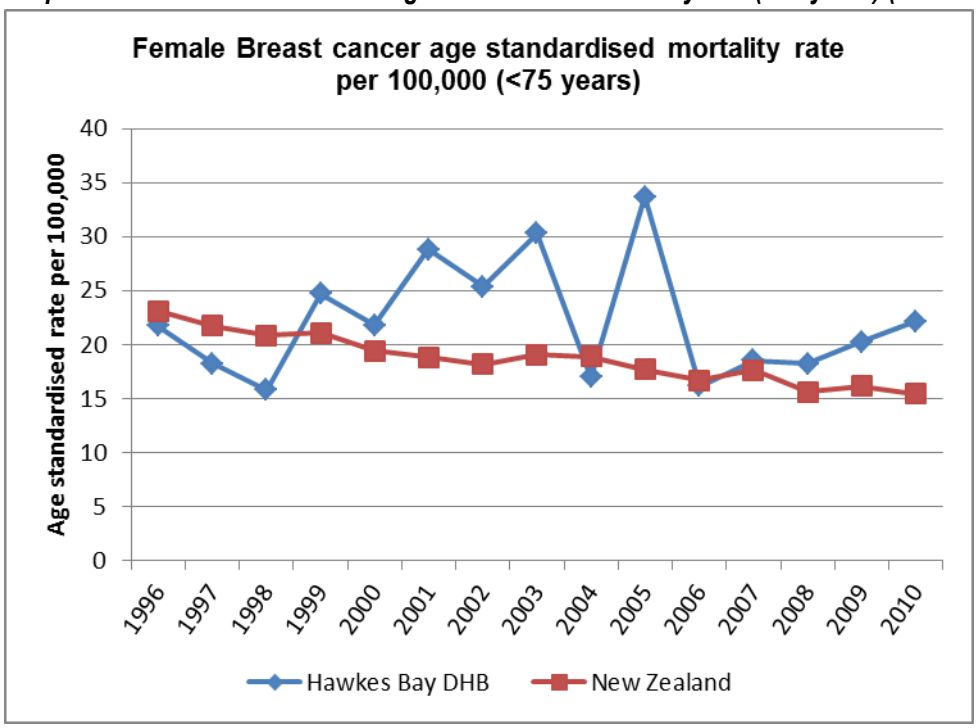
Table 21 - Trend analysis, Deaths from lung cancer, < 75 years, 2006 -2010

	2006	2010	Absolute change	Relative change
Other	15.9	11.0	-4.9 (improving)	-30.8%
Māori	37.9	66.8	+28.9 (worse)	76.3%
Gap (Other – Māori)	-22.0	-55.8	-33.8 (gap widening)	153.6%

Breast

New Zealand rates are slowly declining but there has been a fluctuation in rates in Hawke's Bay with increasing rates in the last 5 years.

Graph 25 – Female Breast cancer age standardised mortality rate (<75 years) (1996-2010)

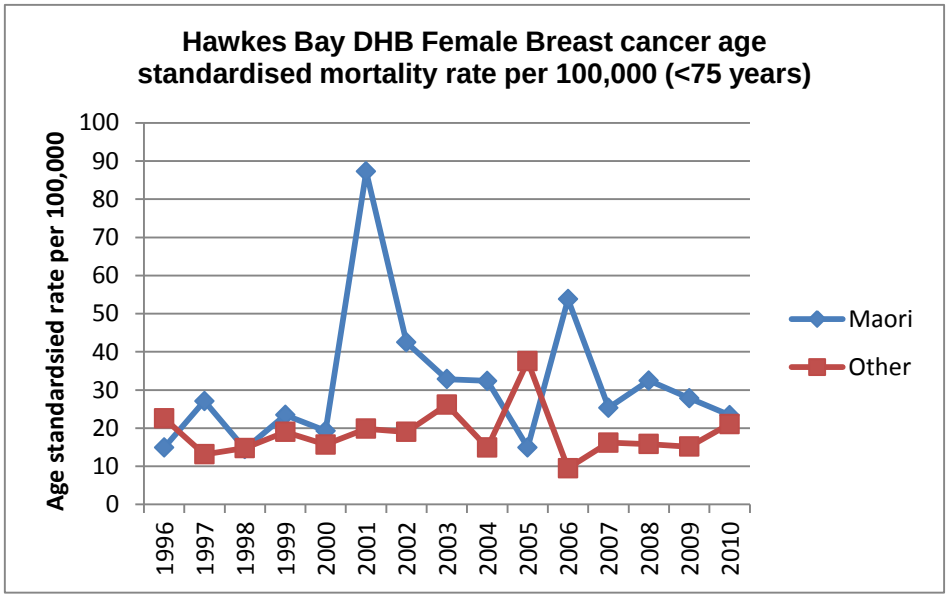


Source: Ministry of Health National Mortality Collection

Hawke's Bay rates are similar to New Zealand rates.

Māori and non-Māori rates in Hawke's Bay are similar.

Graph 26 – HBDHB Female breast cancer age standardised mortality rate by ethnicity (<75 years) (1996-2010)



Source: Ministry of Health National Mortality Collection

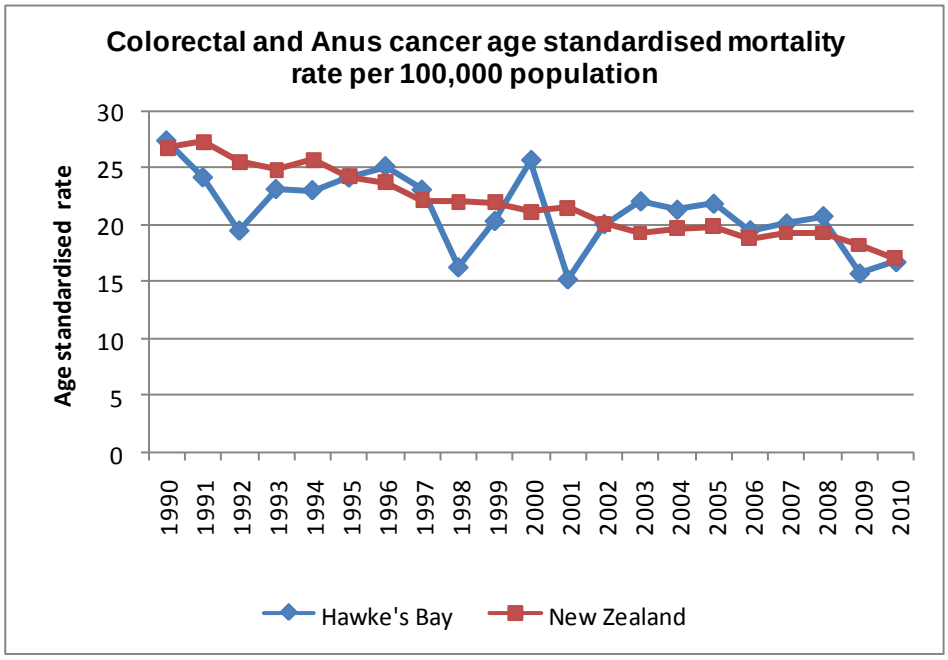
Table 22 - Deaths from breast cancer, < 75 years

2010 Breast cancer mortality rate per 100,000, <75	HB Rate	NZ Rate	Rate Ratio	Comment
	22.2	15.4	1.4	HB similar to NZ
	Māori HB Rate	**Other HB Rate**	**Rate Ratio**	**Comment**
	23.4	21.1	1.1	No significant disparity

Colorectal

Death rates due to colorectal cancer have been decreasing. There are no differences between rates in Hawke's Bay and New Zealand average.

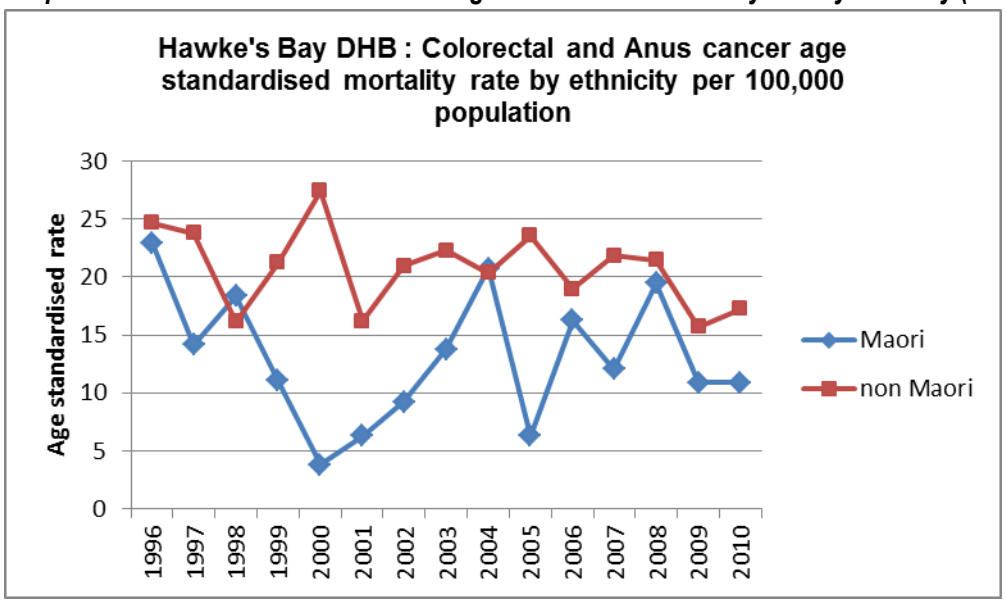
Graph 27 – Colorectal and anus cancer age standardised mortality rate (1990-2010)



Source: Ministry of Health National Mortality Collection

Non-Māori colorectal cancer death rates are higher than Māori but this difference is not statistically significant in Hawke's Bay.

Graph 28 – Colorectal and anus cancer age standardised mortality rate by ethnicity (1996-2010)



Source: Ministry of Health National Mortality Collection

Men have higher colorectal cancer death rates than women.

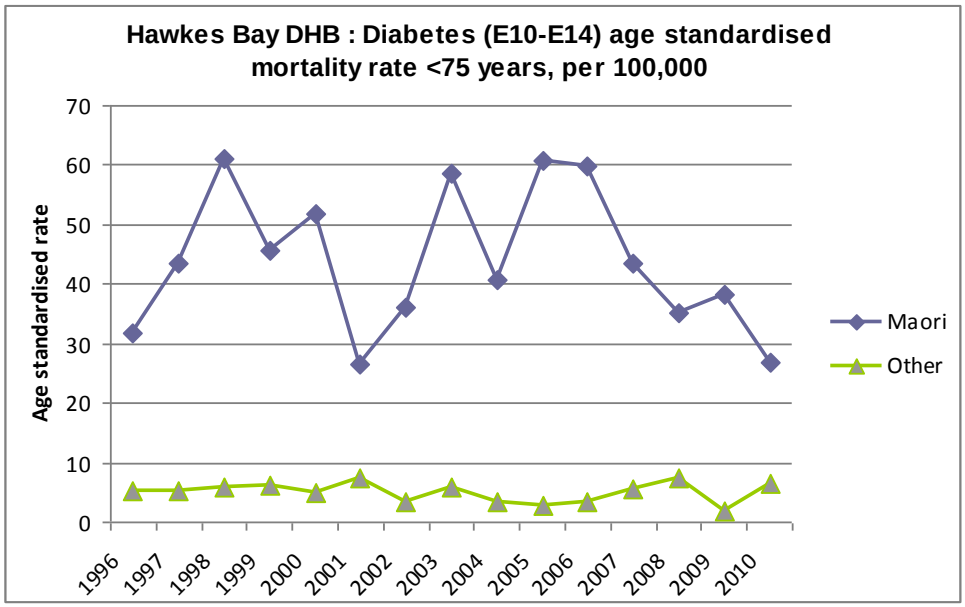
Table 23 - Deaths from colorectal cancer, < 75 years

2010 Colorectal mortality rate per 100,000, <75	**HB Rate**	**NZ Rate**	**Rate Ratio**	**Comment**
	16.8	17.1	0.98	HB similar to NZ
	Māori HB Rate	**Other HB Rate**	**Rate Ratio**	**Comment**
	10.9	17.4	0.63	No significant disparity

9. Deaths from Diabetes

Deaths due to diabetes are small in number with an average of 20 deaths per year in Hawke's Bay. Hawke's Bay rates are similar to New Zealand rates. There are significant differences in deaths due to diabetes between Māori and non-Māori in Hawke's Bay (Pacific figures are too small to allow analysis) but death rates amongst Māori are decreasing and the gap in disparity is closing. If current trends continue this gap should have closed by 2019.

Graph 29 – Diabetes (E10-E14) age standardised mortality rate <75 years, per 100,000



Source: Ministry of Health National Mortality Collection

Table 24 - Deaths from diabetes, < 75 yrs

2010 Diabetes <75, ASR mortality per 100,000	HB Rate	NZ Rate	Rate Ratio	Comment
	9.7	6.3	1.5	HB similar to NZ
	Māori HB Rate	**Other HB Rate**	**Rate Ratio**	**Comment**
	26.8	6.5	4.2	Significant disparity

Table 25 - Trend analysis, deaths from diabetes, ASR per 100,000 < 75 years, 2006 -2010

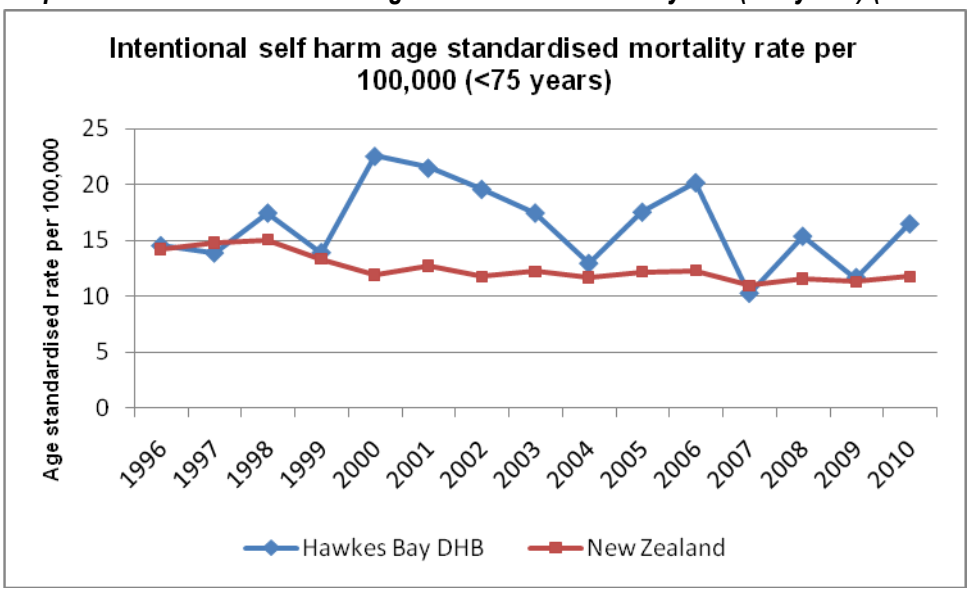
	2006	2010	Absolute change	Relative change
Other	3.3	6.5	+3.1 (worse)	94%
Māori	59.7	26.8	-32.9 (improving)	-55%
Gap (Other – Māori)	-56.4	-20.3	+ 36 (gap closing)	64%

10. Deaths from Suicide

Deaths from suicide and self-inflicted injures are a major cause of avoidable death and years of life lost. For non-Māori the potential years of life lost due to suicide are equal to the potential years of life lost from ischaemic heart disease. For Māori the potential years of life lost rank third behind ischaemic heart disease and road traffic injuries. This reflects the generally younger age at which suicides occur.

Numbers and rates of suicide fluctuate from year to year but while there has been a slight decline in rates seen in New Zealand since 1996 no real decline has been seen in Hawke's Bay. Numbers are small though with an average of about 22 suicides reported per year in Hawke's Bay.

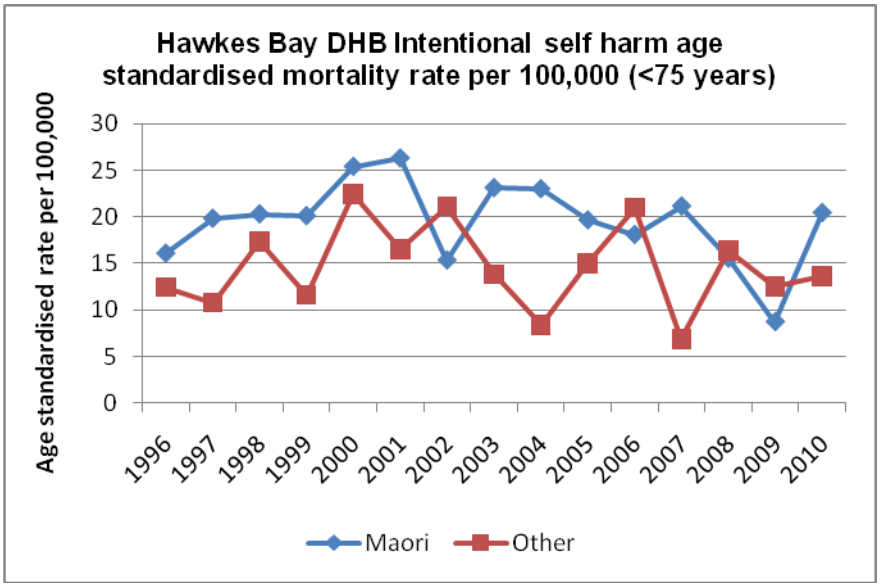
Graph 30 – Intentional self harm age standardised mortality rate (<75 years) (1996-2010)



Source: Ministry of Health National Mortality Collection

There are also no significant differences in rates of death by suicide by ethnicity. Whilst suicide is an important cause of avoidable mortality and numbers years of potential life lost there are no discernible disparities observed at a population level in Hawke's Bay.

Graph 31 – Intentional self harm age standardised mortality rate by ethnicity (<75 years) (1996-2010)



Source: Ministry of Health National Mortality Collection

Table 26 - Deaths from suicide, < 75 yrs

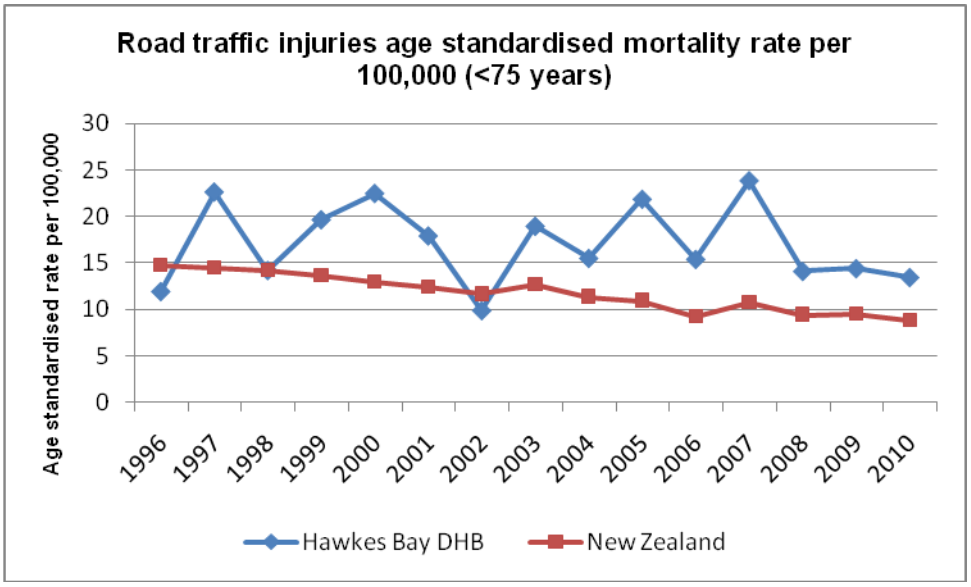
2010 Suicide <75 mortality	**HB Rate**	**NZ Rate**	**Rate Ratio**	**Comment**
	16.5	11.8	1.5	HB similar to NZ
	Māori HB Rate	**Other HB Rate**	**Rate Ratio**	**Comment**
	20.4	13.6	1.5	Not significant disparities

11. Deaths from Road Injury

Deaths from road injury are a significant cause of avoidable mortality, especially for Māori and Pacific people. They also are the second biggest cause of potential years of life lost for Māori reflecting the fact that many of the deaths occur amonst young people.

Whilst rates of deaths from road injures have been declining across New Zealand there is no obvious trend in Hawke's Bay. Again actual numbers are relatively small averaging at 23 per year. Hawke's Bay rates are higher than New Zealnd rate but this is not statistically significant.

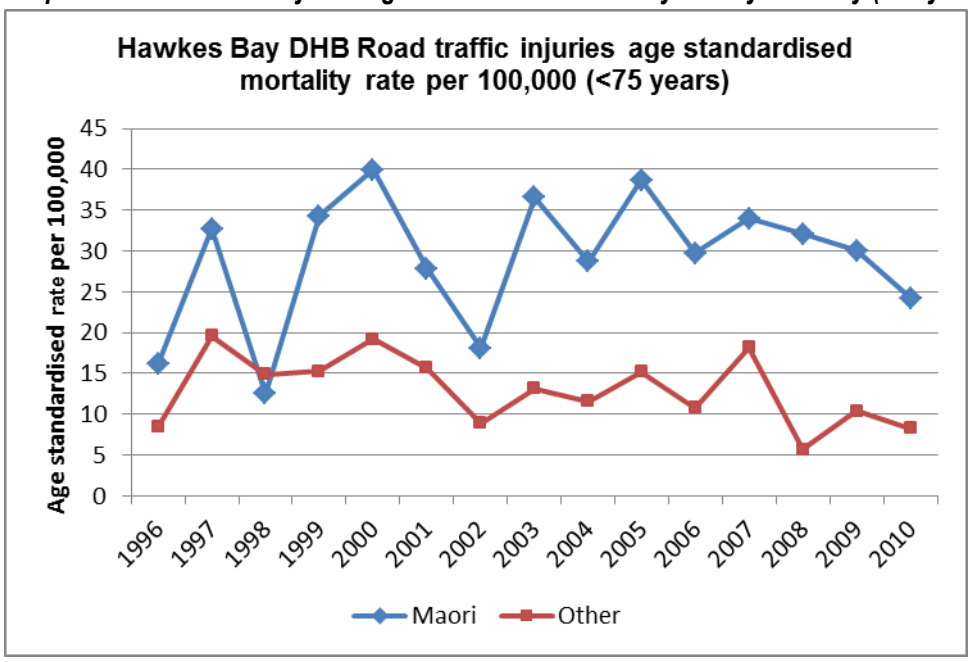
Graph 32 – Road traffic injuries age standardised mortality rate (<75 years) (1996-2010)



Source: Ministry of Health National Mortality Collection

Rates of death from injuries due to road traffic injury are higher for Māori compared to non-Māori but this is not statistically significant - again small numbers prevent any detailed analysis at a local level.

Graph 33 – Road traffic injuries age standardised mortality rate by ethnicity (<75 years) (1996-2010)



Source: Ministry of Health National Mortality Collection

Table 27 - Road traffic deaths, <75 years

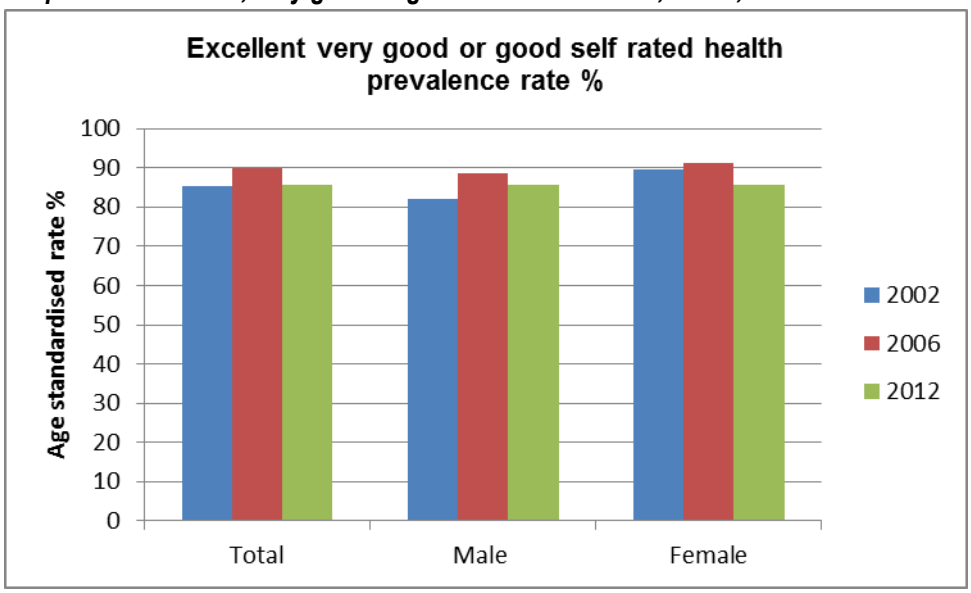
2010 Road Traffic deaths <75	HB Rate	NZ Rate	Rate Ratio	Comment
	13.5	8.9	1.5	HB rates similar to NZ
	Māori HB rate	**Other HB rate**	**Rate Ratio**	**Comment**
	24.2	8.3	2.9	No significant disparity

12. Self-rated Health

Self-rated health is a measure of people's perception of their own physical and mental wellbeing and is used internationally as a measure of health. The data source is the NZ Health Survey which asks the question: "*how would you rate your health - Excellent, very good, good, fair or poor?* " Being in good health means having excellent, very good or good self-reported health'.

Most adults in Hawke's Bay (86%) rated that they were in good health – this is significantly lower than the New Zealand average of 89%. 14% rated their health as poor, compared to a New Zealand average of 11%. There are no differences in self-rated health between men and women.

Graph 34 – Excellent, very good or good self-rated health, NZHS, 2002-2012.



Source: Ministry of Health New Zealand Health Survey

Māori adults are less likely to rate their health as good than non-Māori with 81% of Māori in Hawke's Bay rating their health as good (or 16% rated as fair or poor) compared to 87% non- Māori. There is little change since the last survey in 2006.

Younger people are more likely to report being in good health - however most adults aged 65+ (86%) reported good health.

People living in the most deprived area were less likely to report being in good health (83%) than people living in the least deprived areas (90%).

Table 28 – Self-rated health, NZHS, 2012

Excellent, very good or good health , %, ASR	**HB Rate**	**NZ Rate**	**Rate Ratio Age Adjusted**	**Comment**
	86.3	90	0.96	HB significantly lower than NZ
	Māori HB Rate	**Other HB Rate**	**Rate Ratio**	**Comment**
	80.4	88	0.91	Not significant
	Quintile 5	**Quintile 1**	**Rate Ratio**	**Comment**
	82.4	92.4	0.9	Not significant

13. Mental Health

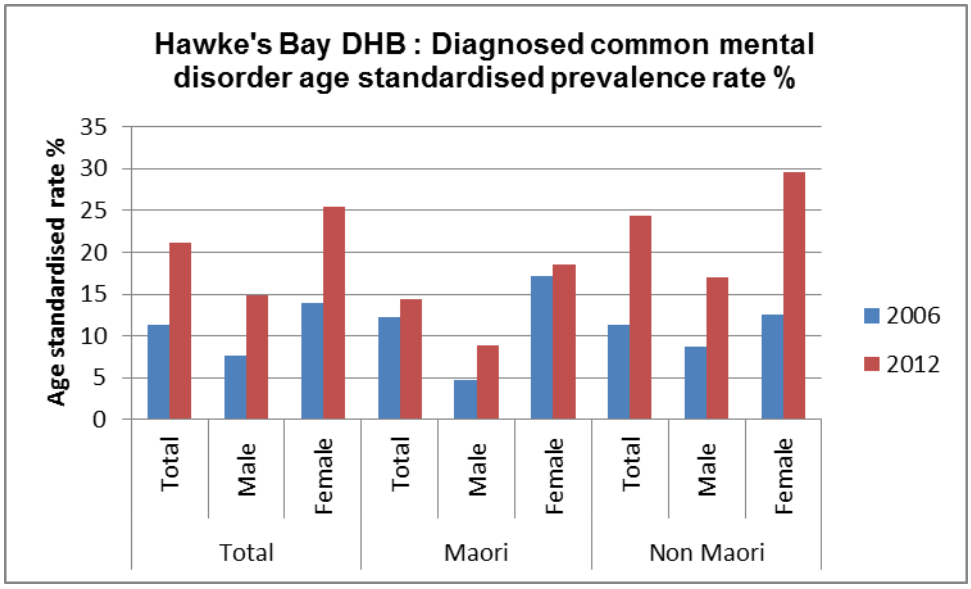
Good mental health is an essential part of overall good health and wellbeing and mental health conditions ('mental disorders') can have a large impact on a person's life. They can affect people's ability to perform everyday tasks, have healthy relationships and cope with anger or stress.

The NZ Health survey asked about common mental disorders – this included people who reported that at some time in their life a doctor has told them they had; depression, bipolar disorder and/or anxiety disorder (including generalised anxiety disorder, phobias, post-traumatic stress disorder and obsessive-compulsive disorder). It does not include substance use disorder or other mental disorders.

Changes over time may be due to changes in the level of mental illness in the community and/or changes in the number of people presenting for diagnosis and treatment.

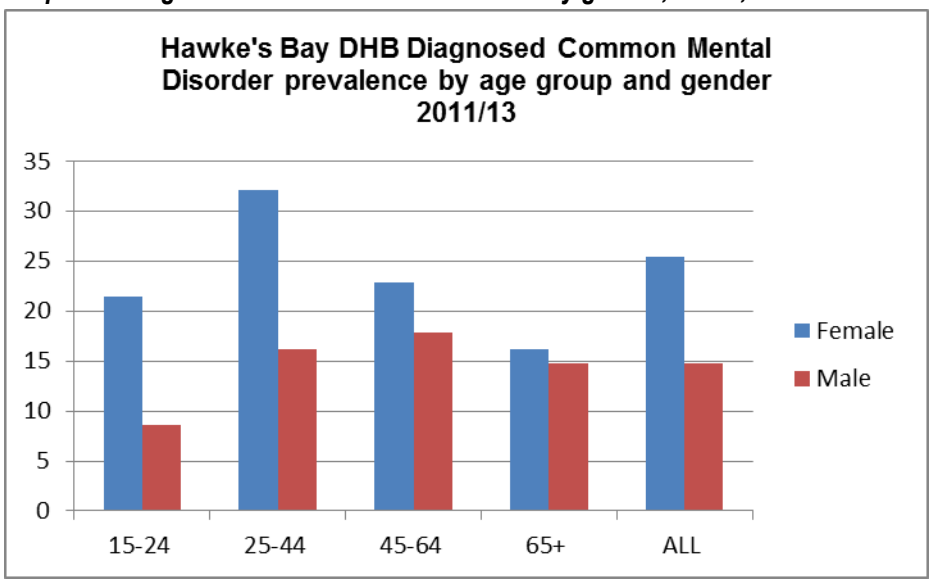
20% of adults in Hawke's Bay reported that they had been diagnosed with a common mental disorder in their lifetime. This figure is higher than the New Zealand average (16%). The most commonly diagnosed mental health disorder nationally was depression with 16% adults, followed by anxiety disorders (6%) and bipolar disease (1%). Women are more likely to be diagnosed with a common mental disorder in their lifetime (24%) than men (16%). More people in 2011/12 reported being diagnosed with a common mental disorder than in 2006/2007. This increase was seen for men and women and for Māori and non-Māori.

Graph 35: Diagnosed common mental disorder, NZHS, 2012.



Source: Ministry of Health New Zealand Health Survey

Graph 36: Diagnosed common mental disorder by gender, NZHS, 2012.



Source: Ministry of Health New Zealand Health Survey

Māori rates are lower than non-Māori rates (14.4% compared with 29.5%). The rates of diagnosed mental disorders were similar across the deprivation quintiles.

Table 29: Percentage diagnosed with a common mental disorder, ASR, 2012

Diagnosed with a common mental disorder, %	**HB Rate**	**NZ Rate**	**Rate Ratio Age Adjusted**	**Comment**
	21	16	1.3	HB higher than NZ
	HB Females	**NZ Females**	**Rate Ratio Age Adjusted**	**Comment**
	25.4	19.8	1.3	HB higher than NZ
	Māori HB Rate	**Other HB Rate**	**Rate Ratio**	**Comment**
	14.4	24.3	0.6	Māori significantly lower than non-Māori
	Quintile 5	**Quintile 1**	**Rate Ratio**	**Comment**
	20.7	19	1.1	No significant disparity

Chapter 2 - Health Behaviours

The measures in this section look at health behaviours. These are known risk factors which have a direct influence on health and are modifiable through changes in behaviour - tobacco use, diet and exercise, alcohol consumption, sexual activity and intentional self-harm.

14. Tobacco Use

Smoking is the single biggest cause of inequity in death rates in Hawke's Bay. It is the single most important cause of preventable ill health and premature mortality. The different smoking rates amongst Māori versus non-Māori and amongst people living in more affluent areas versus people living in less affluent areas is the reason behind much of the inequity in premature mortality and preventable ill health in Hawke's Bay.

Smoking causes a range of illness, most of which only become apparent after many years of smoking. It is a major risk factor for lung cancer, chronic obstructive pulmonary disease (COPD), heart disease, and other cancers including lip, mouth and throat cancers, bladder cancer, cervical and stomach cancer. Exposure to second hand smoke increases the risk of sudden unexpected death in infancy (SUDI), asthma attacks, chest infections, and glue ear in children. Smoking during pregnancy affects the growth and development of the baby and can cause miscarriage, stillbirth, premature birth and low birth weight.

The 2013 census shows that currently just under 1 in 5 (18%) of the Hawke's Bay population are regular smokers - nearly 20,000 people. This is higher than the New Zealand average (15%) but a significant drop since the last census in 2006 when 25% of the population were regular smokers. Māori rates are more than twice that of non-Māori with 36% regular smokers compared to 15% European. Māori women are more likely to be smokers than Māori men (39% Māori women, 33% Māori men).

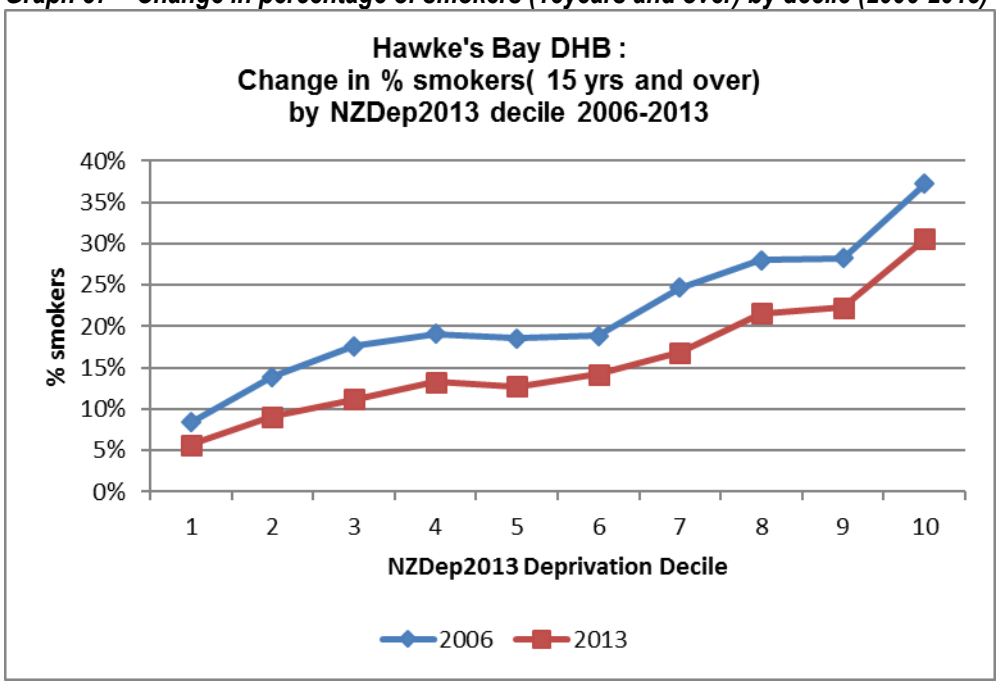
Table 30- Number of regular smokers and prevalence (%) in the population by ethnicity

Ethnic Group – Total Responses (1)	Regular Smoker			% Smokers		
	Male	Female	Total	Male	Female	Total
European	6,120	6,834	12,954	**15.4%**	**15.1%**	**15.2%**
Māori	3,165	4,533	7,695	32.6%	38.6%	35.9%
Pacific Peoples	462	381	843	26.6%	23.6%	25.2%
Asian	204	84	288	12.2%	4.4%	8.1%
Middle Eastern/Latin American/African	54	12	69	23.4%	6.2%	16.2%
Other Ethnicity	201	135	339	16.0%	14.4%	15.5%
Total	9,192	10,407	19,602	**18.2%**	**18.4%**	**18.3%**

Source: Statistics New Zealand Census 2013

People living in the poorest quintile areas are 3 times more likely to be regular smokers than those living in quintile 1 with 26% regular smokers in quintile 5 compared to 8% smokers in quintile 1.

Graph 37 – Change in percentage of smokers (15years and over) by decile (2006-2013)



Source: Statistics New Zealand

These rates have all improved since the last census with approximately a 6% decrease for people living in quintile 5, a 6% for non-Māori and a 9% decrease for Māori. However this decrease for Māori is not yet sufficient to achieve equity.

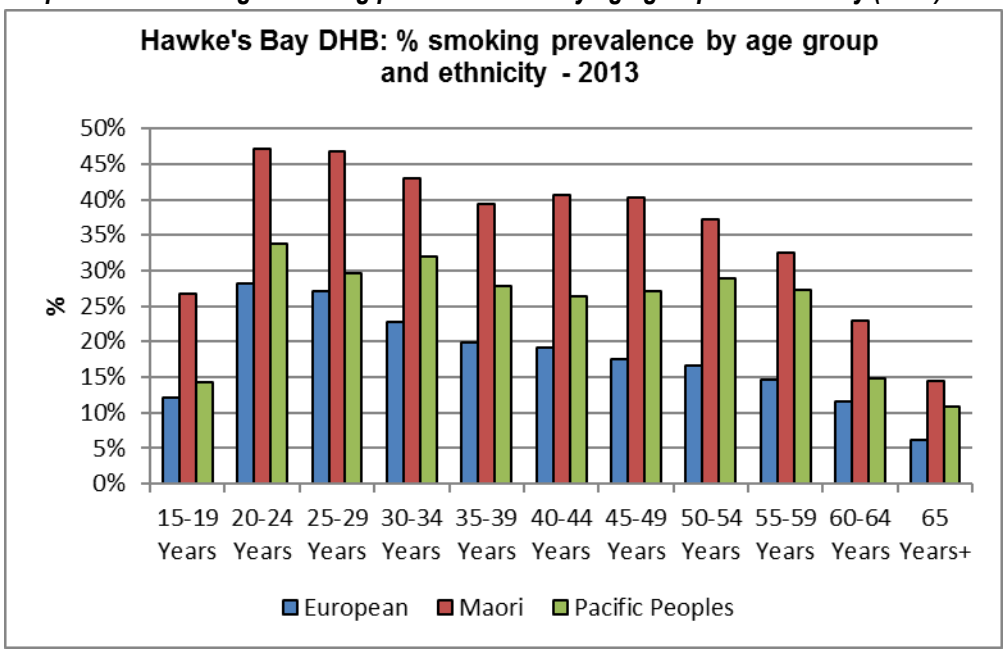
- Māori women have decreased from 49% smokers to 39% (10% drop)
- Māori men decreased from 41% smokers to 33% (8% drop)
- Non-Māori women have decreased from 19% smokers to 13% (6% drop)
- Non-Māori men have decreased from 21% to 15% (6% drop)

By age group the highest rates of smoking are among young people aged 20-24 years (32%).

The highest smoking rates seen in Hawke's Bay are amongst Māori women aged 20-29 with 49% regular smokers.

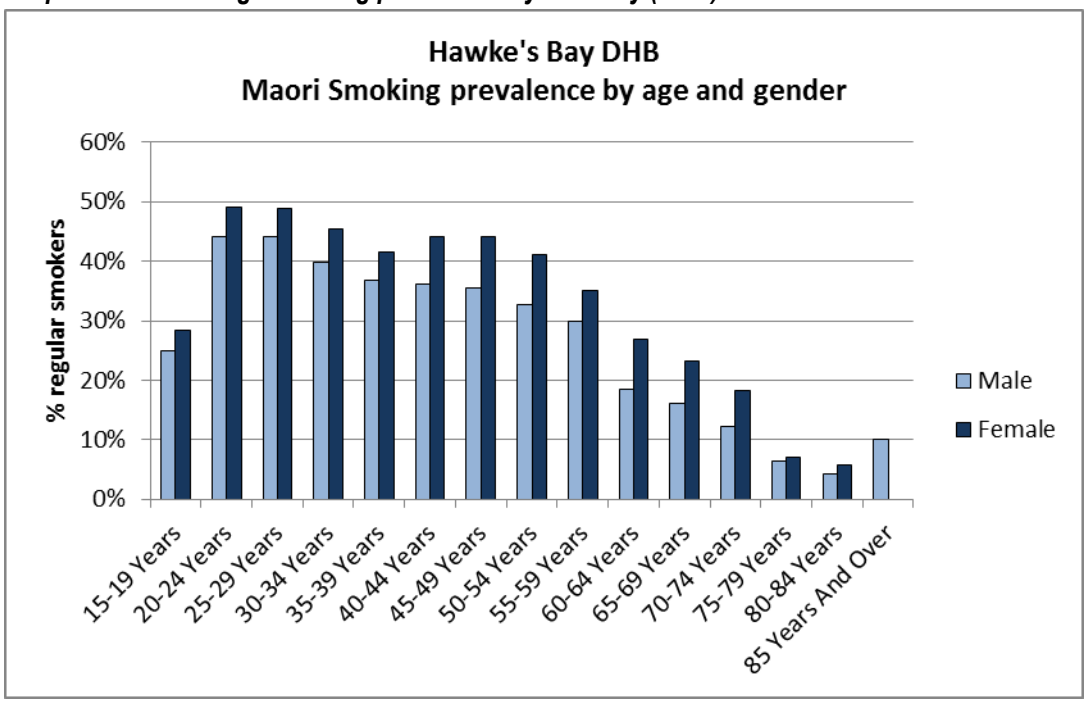
There are more Māori and Pacific regular smokers than European at all age groups. Nearly half of all Māori aged between 20 and 29 years are regular smokers with more Māori females regular smokers than Māori males at all age groups.

Graph 38 – Percentage smoking prevalence rate by age group and ethnicity (2013)



Source: Statistics New Zealand

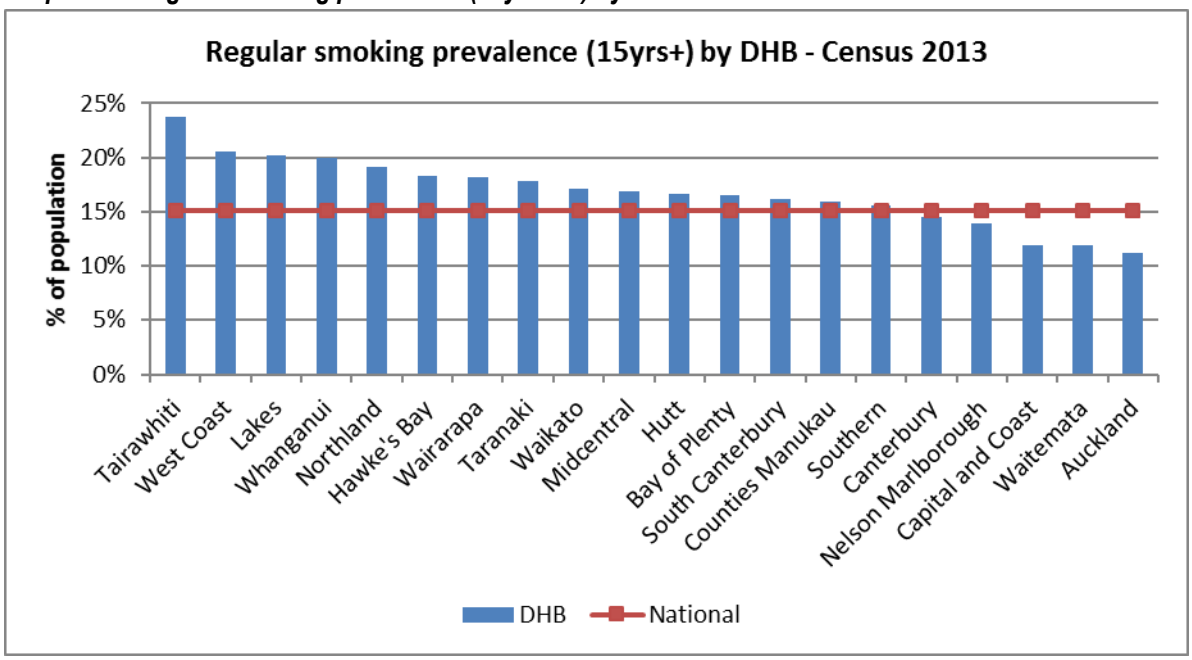
Graph 39 – Percentage smoking prevalence by ethnicity (2013)



Source: Statistics New Zealand

Hawke's Bay is ranked 6th highest DHB for regular smoking prevalence with smoking prevalence varying by DHB from 11.2% to 23.7%.

Graph 40 – Regular smoking prevalence (15years+) by DHB



Source: Statistics New Zealand

Table 31 - Percentage of regular smokers 2013

% regular smokers 2013	HB	NZ	RR	Comment
	18	15	1.2	HB significantly higher than NZ
	Māori	**European**	**RR**	**Comment**
	36	15	2.4	Significant disparity
	Quintile 5	**Quintile 1**	**RR**	**Comment**
	26	8	3.2	Significant disparity
	Māori males	**European males**	**RR**	**Comment**
	33	15	2.1	Significant disparity
	Māori females	**European females**	**RR**	**Comment**
	39	15	2.6	Significant disparity

Table 32 -Trend analysis, percentage of regular smokers, 2013

	2006	2013	Absolute Change	Relative Change
Non-Māori Males	21.4	14.7	-6.7 (improving)	-31%
Māori Males	40.9	32.6	-8.3 (improving)	-20%
Non-Māori females	18.7	13.1	-5.6 (improving)	-30%
Māori females	48.7	38.6	-10.1 (improving)	-20%
Gap (males)	-19.5	-17.9	+1.6 (gap closing)	8%
Gap (females)	-30.0	-25.5	+4.5 (gap closing)	15%

Prevalence of smoking amongst Year 10 students

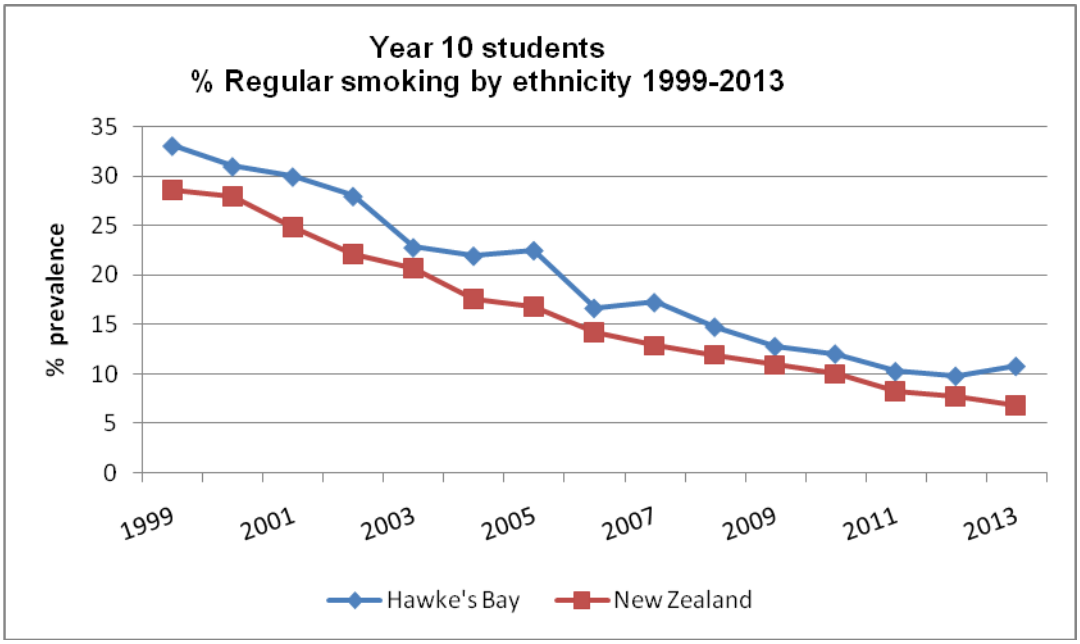
Smoking is an addiction largely taken up in childhood and adolescence, so it is crucial to reduce the number of young people taking up smoking in the first place. If smoking is seen by young people as a normal part of everyday life, they are much more likely to become smokers themselves.

Research has shown that a 15 year old living with a parent who smokes is 80 per cent more likely to smoke than one living in a household where no one smokes. Most current and ex-smokers say that they started smoking regularly before they were 18 with many smoking regularly before the age of 16.

The Action on Smoking and Health (ASH) Year 10 survey is an annual questionnaire of around 30 000 students in New Zealand and funded by the Ministry of Health. It is conducted each year in schools throughout the country and is one of the biggest surveys of its kind. It has been going for over a decade and gives us a valuable and robust insight into youth smoking. Each year ASH (Action on Smoking and Health) publishes a summary report showing youth smoking trends.

The percentage of year 10 students who are regular smokers has been dropping consistently since the first survey in 1999 when 28.6% of students across New Zealand were regular smokers compared to only 6.8% in 2013. The latest survey indicates that 10.8% of year 10 students are regular smokers - this is a statistically higher % than the 6.8% for New Zealand.

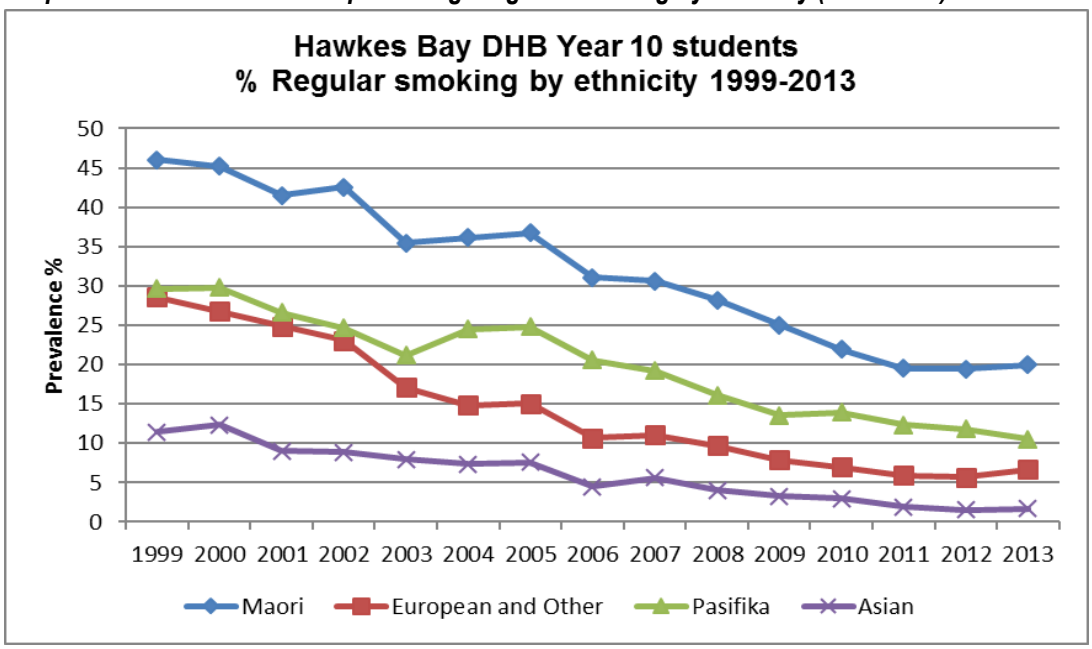
Graph 41 –Year 10 students – percentage regular smoking (1999-2013)



Source: Action on Smoking and Health (ASH)

This decrease has been seen across all ethnic groups with a narrowing of the gap in prevalence noticeable since 2006. Māori continue to have higher rates of regular smokers (20%) with the lowest rates seen amongst Asian students (1.7%) and 7.8% European.

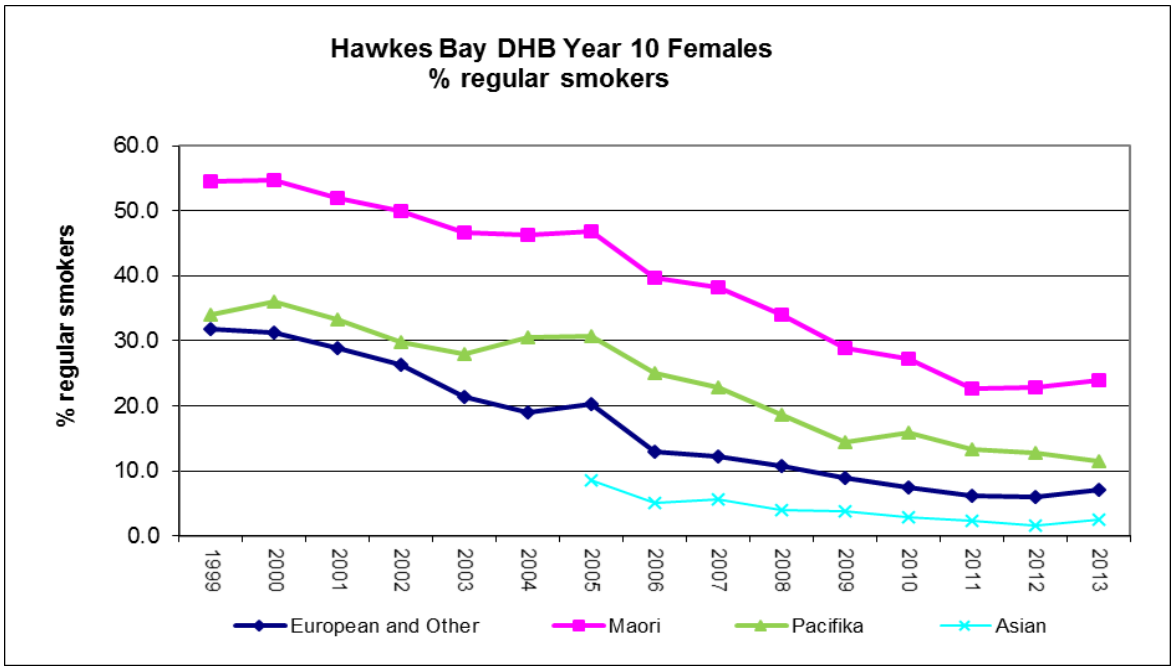
Graph 42 –Year 10 students – percentage regular smoking by ethnicity (1999-2013)



Source: Action on Smoking and Health (ASH)

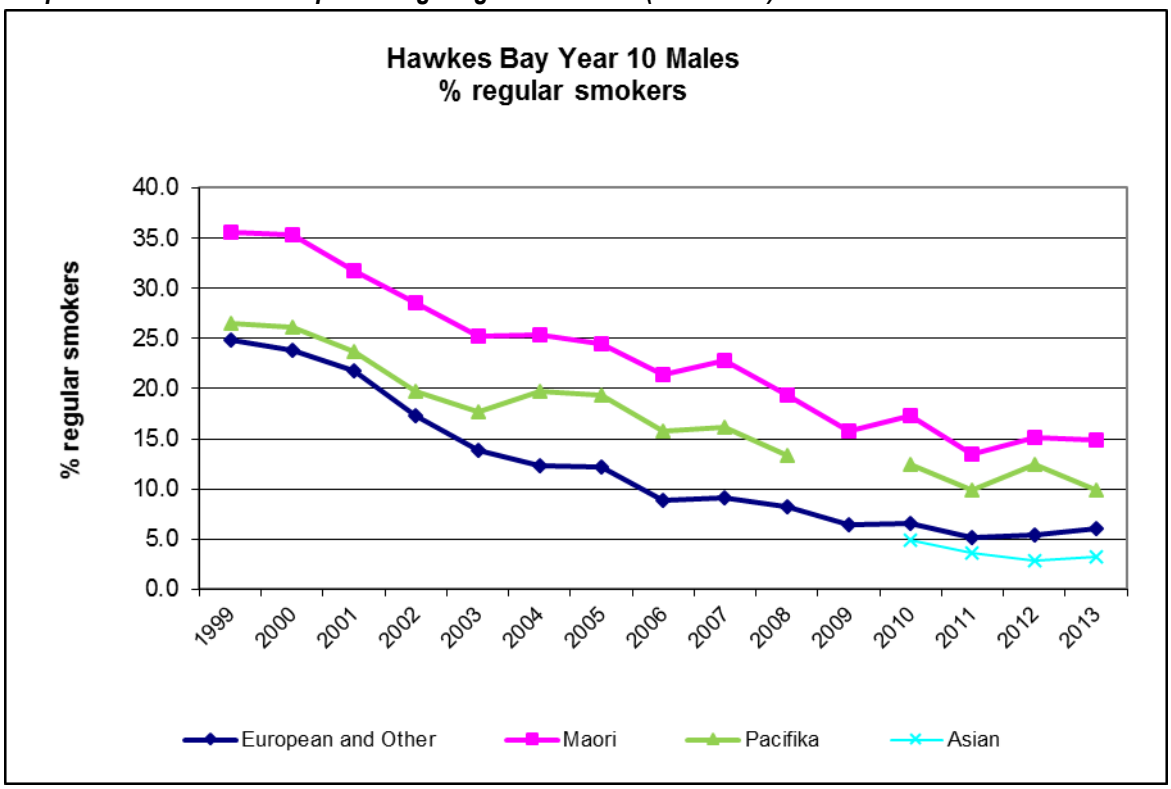
Year 10 girls are more likely to be regular smokers than year 10 boys with 6% of European boys and 7% European girls regular smokers compared to 15% Māori boys, and 9.6% Pacifica boys, and 24% Māori girls and 12% Pacifica girls

Graph 43 –Year 10 females – percentage regular smokers (1999-2013)



Source: Action on Smoking and Health (ASH)

Graph 44 –Year 10 males – percentage regular smokers (1999-2013)



Source: Action on Smoking and Health (ASH)

Table 33 - Year 10 percentage of regular smokers (2013)

Year 10 % regular smokers 2013	**HB**	**NZ**	**RR**	**Comment**
	10.8	6.8	1.6	HB higher than NZ
	Māori	**European**	**RR**	**Comment**
	20	7.8	2.6	Significant disparity
	Māori Males	**European Males**	**RR**	**Comment**
	14.85	6.0	2.5	Significant disparity
	Māori females	**European females**	**RR**	**Comment**
	23.9	7.1	3.4	Significant disparity
	Pasifika males	**European males**	**RR**	**Comment**
	9.6	6.0	1.6	Significant disparity
	Pasifika females	**European females**	**RR**	**Comment**
	11.5	7.1	1.6	Significant disparity

Table 34 – Trend analysis, Year 10 percentage of regular smokers, 2006 -2013

	2006	**2013**	**Absolute change**	**Relative change**
European / Other Males	8.9	6.0	-2.9 (Improving)	-32.6%
Māori Males	21.5	14.9	-6.6 (Improving)	-30.7%
European / Other Females	13.0	7.1	-5.9 (Improving)	-45.4%
Māori females	39.6	23.9	-15.7 (Improving)	-39.7%
Gap (males)	-12.6	-8.9	3.7 (gap closing)	29.4%
Gap (females)	-26.6	-16.8	9.8 (gap closing)	36.8%

Smoking in pregnancy

Smoking in pregnancy has well known detrimental effects for the growth and development of the baby and health of the mother. These include complications during labour and an increased risk of miscarriage, premature birth, stillbirth, low birth-weight and sudden unexpected death in infancy.

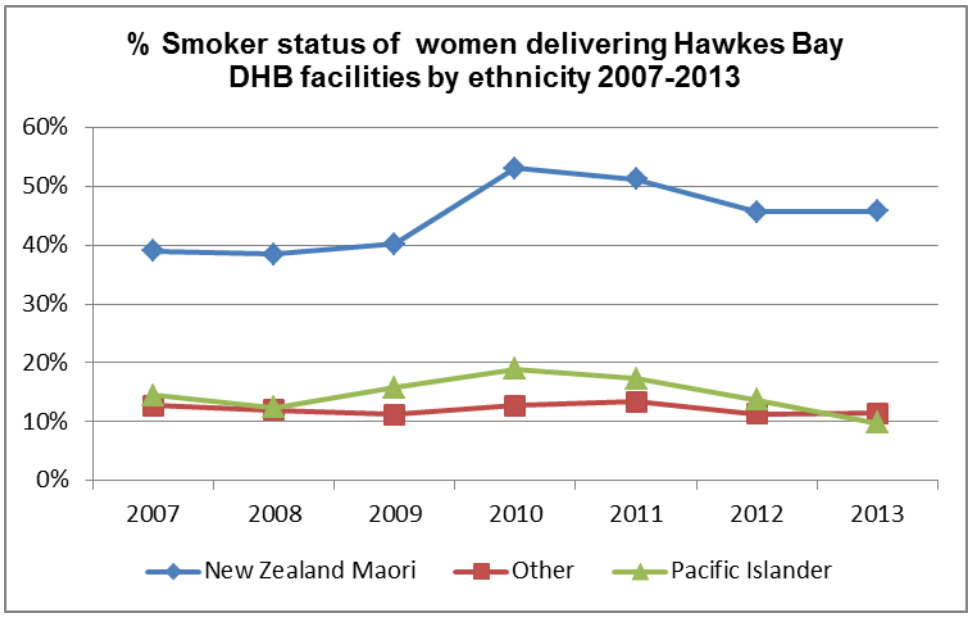
Encouraging pregnant women to stop smoking during pregnancy may also help them kick the habit for good, and thus provide health benefits for the mother and reduce exposure to second-hand smoke by the infant.

24% of all women who had a baby at one of the Hawke's Bay DHB facilities during 2013 were current smokers with big differences seen both by ethnicity and by deprivation.

46% of all Māori women giving birth were smokers compared to 11% of non-Māori non-Pacific women.

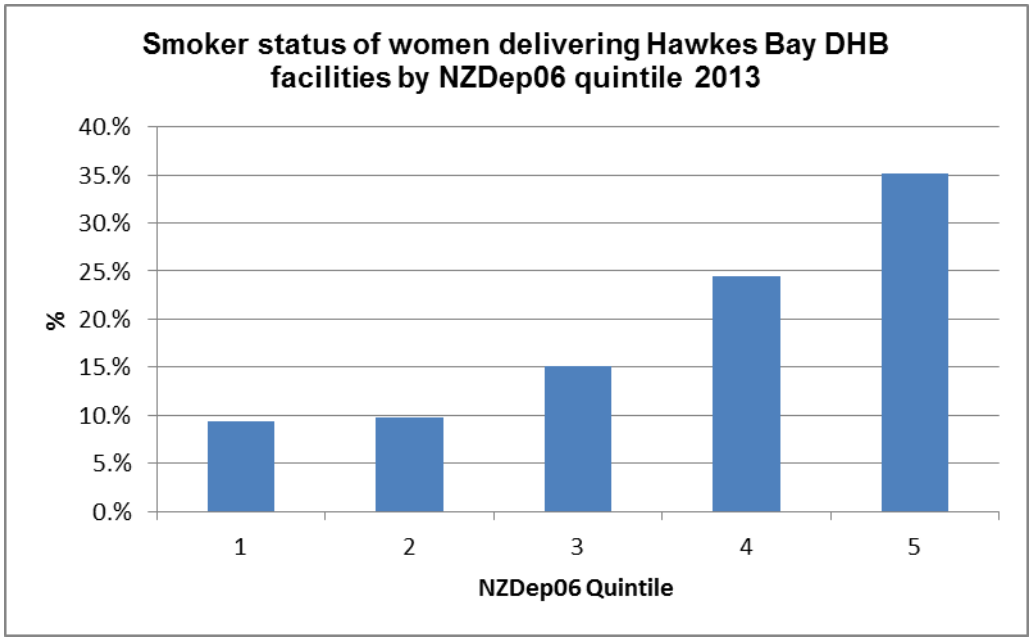
35% of women living in Quintile 5 compared to 9% living in quintile 1.

Graph 45 –Smoker status of women delivering in HBDHB facilities by ethnicity (2007-2013)



Source: HBDHB Data Warehouse

Graph 46 –Smoker status of women delivering in HBDHB facilities by quintile



Source: HBDHB Data Warehouse

Table 35 - Percentage of women smoking during pregnancy, 2013

% women smoking during pregnancy, 2013	HB	NZ	Ratio	Comment
	24.3	Not available	-	-
	Māori	Other	Ratio	Comment
	45.8	11.4	4.0	Significant disparity
	Pasifika	Other	Ratio	Comment
	9.8	11.4	0.9	Not Significant
	Quintile 5	Quintile 1	Ratio	Comment
	35.2	9.4	3.7	Significant disparity

Table 36 - Trend analysis, percentage of women smoking during pregnancy, 2007-2013

	2010	2013	Absolute change	Relative change
European / Other	12.7	11.4	-1.3 (improving)	-10.2%
Māori	53.1	45.8	-7.3 (improving)	-13.7%
Quintile 1	8.9	9.4	+0.5 (worse)	+5.6%
Quintile 5	42.7	35.2	-7.5 (improving)	-17.6%
Gap (Maori)	-40.4	-34.4	+6 (gap closing)	-14.9%
Gap (Quintile 5-1)	-33.8	-25.8	+8 (gap closing)	-23.7%

15. Obesity

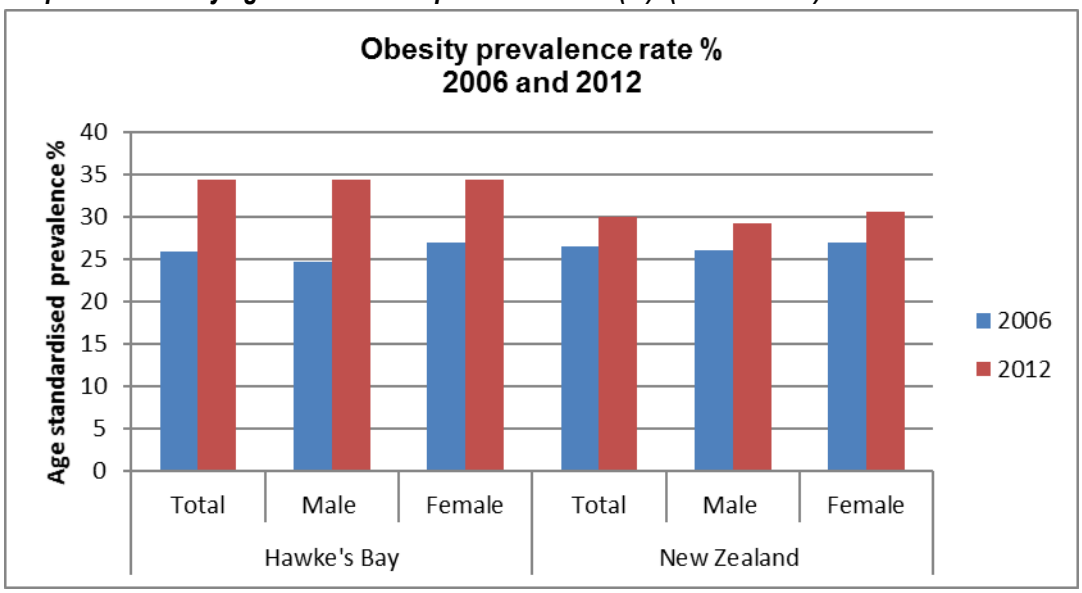
Obesity is a major public health problem in New Zealand. It is a known risk factor for numerous health problems, including hypertension, high cholesterol, diabetes, cardiovascular diseases, respiratory problems (asthma), musculoskeletal diseases (arthritis) and some forms of cancer.

Information about obesity is collected as part of the New Zealand Health Survey. Obesity in adults is defined as a body mass index (BMI) of 30 or more. This can be easily calculated by dividing your weight in kilograms by the square of your height in metres. For example, a person who weighs 75 kilograms and is 1.75 metres tall has a BMI equal to 24.5 (75/ (1.75 x 1.75) = 24.5).

New Zealand is ranked fourth worst in the OECD for rates of obesity (behind the United States, Mexico, and Hungary) with 31% of our population obese – this is higher than Australia (25%) and the OECD average (17%). Furthermore the rates of obesity have increased substantially and significantly over the past 15 years from 19% in 1997 to 26.5% in 2006 and 31% in 2012/13.

Detailed data from the NZ Health survey on obesity rates in Hawke's Bay confirms that a similar pattern is seen in Hawke's Bay - 34% of the adult population in Hawke's Bay are obese according to the latest results, an increase of 8 percentage points from 26% since 2006. (Whilst our % is higher than the New Zealand figure this is not statistically significant).

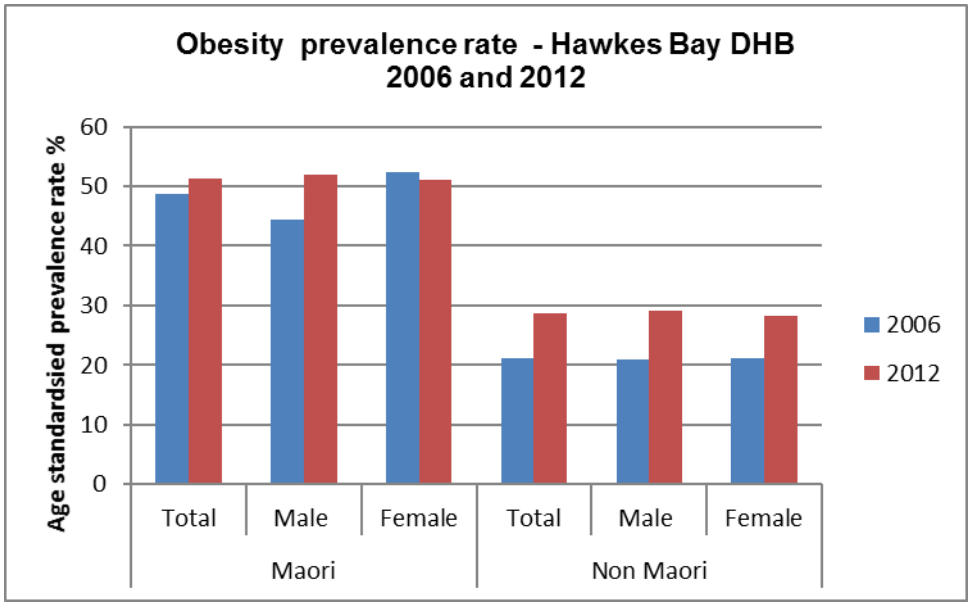
Graph 47 – Obesity age standardised prevalence rate (%) (2006 & 2012)



Source: Ministry of Health New Zealand Health Survey

Obesity rates amongst Māori are significantly higher than non-Māori with 51% of Māori adults obese and 29% of Non-Māori adults – and these figures have both increased since the previous survey in 2006. There is no local data for the Pacific population in Hawke's Bay due to the small numbers in the survey but obesity rates for Pacific adults for New Zealand are even higher with 68% obese.

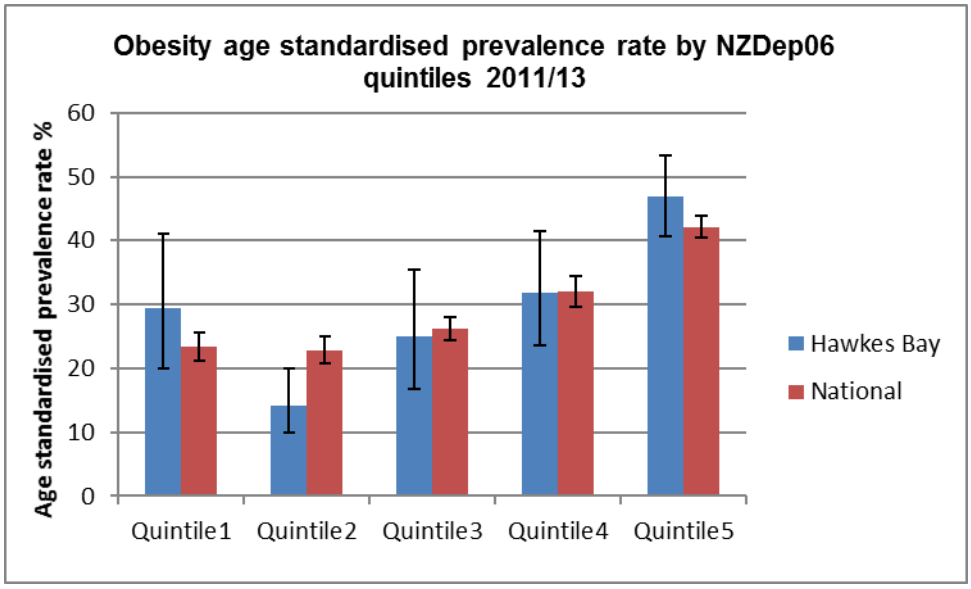
Graph 48 – Obesity age standardised prevalence rate (%) by ethnicity (2006 & 2012)



Source: Ministry of Health New Zealand Health Survey

Obesity prevalence varies by age group with higher prevalence amongst those aged over 45 yrs.

Graph 49 – Obesity age standardised prevalence rate (%) by quintile (2011/2013)



Source: Ministry of Health New Zealand Health Survey

Obesity also varies by deprivation quintile – although the pattern does not follow the usual pattern of lowest prevalence in the quintile – in Hawke's Bay the lowest levels of obesity are seen in quintile 2 (14% when adjusted for age differences) compared to 47% in quintile 5.

Adults living in the most deprived areas are 1.5 times more likely and children living in the most deprived areas are 3 times more likely to be obese than those living in the least deprived areas.

Table 37 - Percentage obesity 2012 by ethnicity

% Obesity, ASR, 2012	HB	NZ	Rate ratio	Comment
	33	29	1.1	HB similar to NZ
	HB Māori	HB Non-Māori	Rate ratio	Comment
	53.2	26.2	2.0	Significant disparity
	Q5	Q1	Rate ratio	Comment
	47	29.5	1.6	No significant disparity

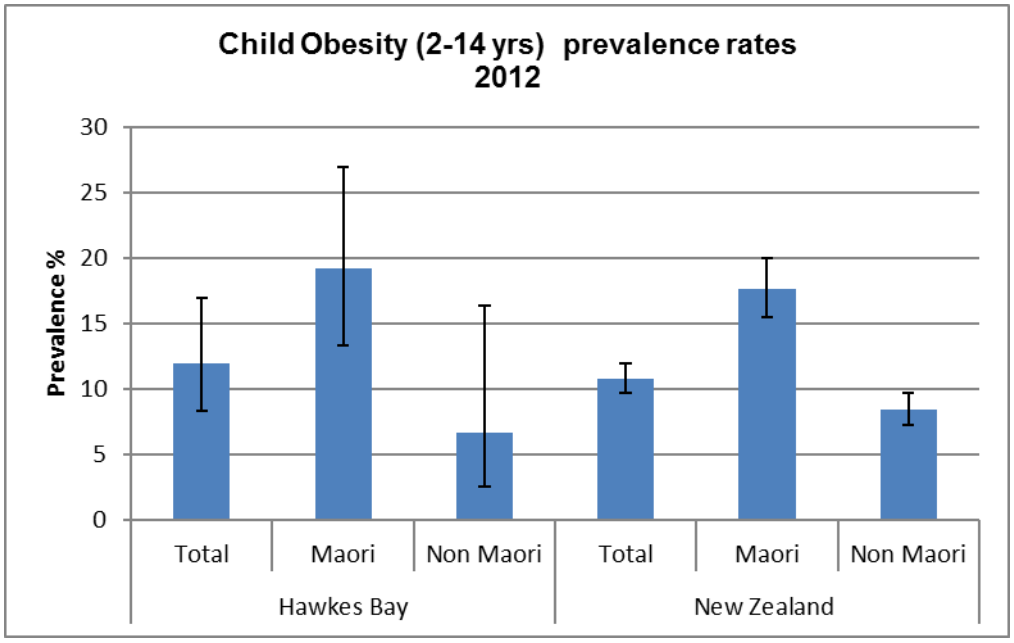
Table 38 - Trend analysis, percentage obesity, ASR, 2006-2010

	2006	2013	Absolute change	Relative change
NonMāori	19.7	26.2	+6.5 (worse)	+33%
Māori	49.7	53.2	+ 3.5 (worse)	+7%
Gap (Non-Māori – Māori)	-30	-27	3 (gap closing)	10%

Obesity in Children

According to the latest New Zealand Health survey about 12% of children in Hawke's Bay aged 2-14 years are obese, again similar to the New Zealand figure of 11%, which is an increase in rate from 8% in 2006/07. The rate of obesity is higher in Māori children (19% HB and NZ) and Pacific children (25% NZ)

Graph 50 – Child obesity (2-14years) by ethnicity (2012)



Source: Ministry of Health New Zealand Health Survey

BMI analysis from the B4 school check

The B4 school check is part of the Well Child schedule of childhood milestone checks. It generally occurs just before the child begins school when the child is aged 4 years old. Height and weight are collected at the time of the check and this provides an opportunity to analyse BMI of 4 year olds at a population level.

In 2012 the overall obesity prevalence rate in children who had a B4 school check was 4.2 %. Prevalence varies by ethnicity with higher rates in Māori and Pacific children compared to children in the non-Māori non-Pacific children. In 2012 Pacific 4 year olds obesity prevalence rates are nearly 6 times and Māori children rates are 2.5 times those of non-Māori non-Pacific children.

The prevalence of obesity in this age group has been declining since 2009 (5.7%) with a reduction in the disparity by ethnicity and deprivation. The slight widening in disparity observed for Pacific children is due to a smaller drop in obesity prevalence amongst Pacific children.

Table 39 - School checks: Obese Prevalence in 4 year olds by NZ Deprivation Quintile

Ethnicity Group	2009	2010	2011	2012
	Prevalence (%)			
NZ Māori	9.3%	7.8%	7.5%	6.0%
Other	3.6%	2.5%	2.6%	2.4%
Pacific People	14.8%	9.4%	13.8%	13.9%
Not Stated	7.7%	0.0%	0.0%	0.0%
Total	**5.7%**	**4.5%**	**4.6%**	**4.2%**

There is a clear socio-economic gradient in prevalence with the most recent data showing 6% of 4 year olds in quintile were obese compared to 1.8% in quintile 1.

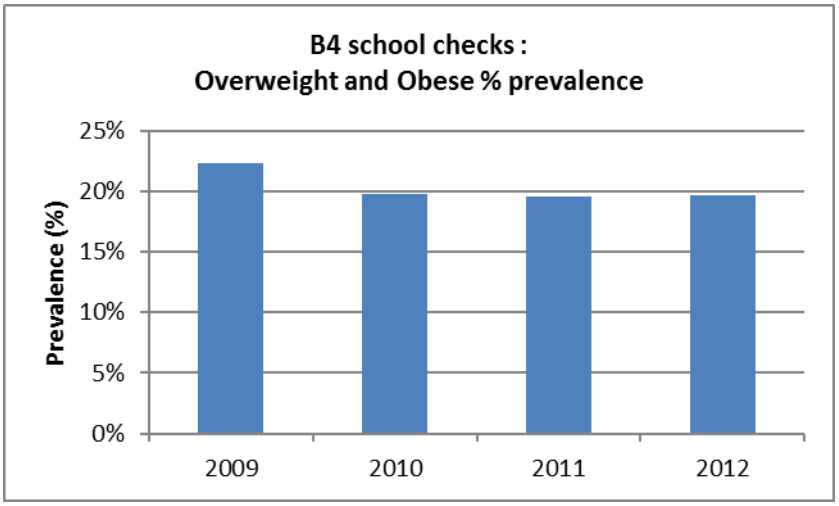
Table 40 - B4 school checks: Obesity Prevalence in 4 year olds by NZ Deprivation Quintile

Quintile	2009	2010	2011	2012
	Prevalence (%)			
1	3.6%	1.8%	1.3%	1.8%
2	3.4%	3.8%	3.6%	1.7%
3	5.3%	2.7%	2.0%	4.0%
4	5.0%	5.4%	5.3%	5.0%
5	8.7%	6.4%	7.4%	6.0%
Total	**5.7%**	**4.5%**	**4.6%**	**4.2%**

Overweight and Obese Prevalence rates

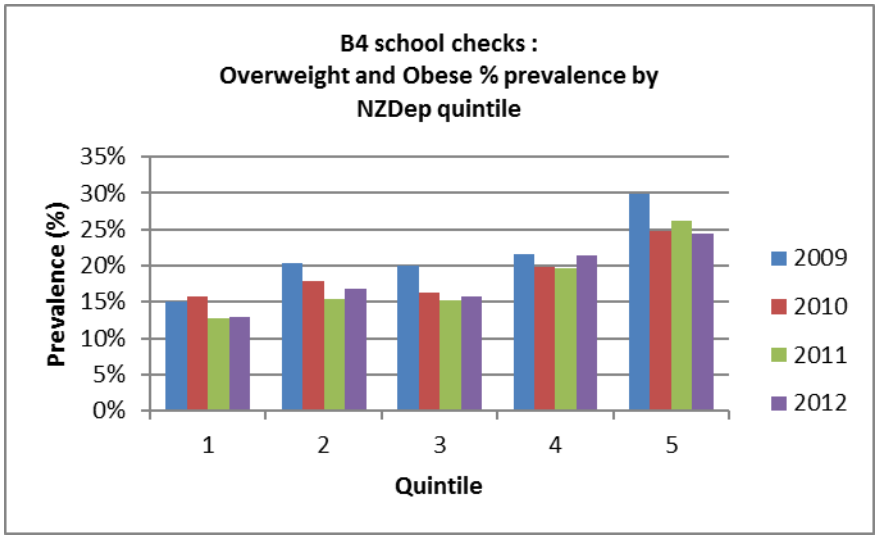
When data on obesity and overweight is combined nearly 20 % of 4 year olds in 2012 were either overweight or obese. This proportion has however declined from 22.3 % in 2009.

Graph 51 – Overweight and obese by percentage prevalence (2009-2012)



In 2012 the prevalence of being obesity or overweight amongst 4 year olds living in high deprivation areas (Quintile 5) were 1.8 times the rates in children from low deprivation areas (Quintile 1).

Graph 52 – Overweight and obese by percentage prevalence by quintile (2009-2012)



Pacific children have the highest combined overweight and obese prevalence rates of all 4 year olds. In 2012 Pacific rates were 2.6 times those of non-Māori, non-Pacific children.

While Māori rates have fallen over the period 2009-2012, Māori rates in 2012 were nearly twice those of non-Māori non-Pacific children.

Table 41 – Overweight and obese prevalence by ethnicity

Ethnicity Group	2009	2010	2011	2012
	Prevalence (%)			
NZ Māori	30.3%	28.2%	27.9%	25.3%
Other	18.0%	14.8%	13.9%	14.9%
Pacific People	34.6%	31.8%	43.1%	38.9%
Not Stated	23.1%	8.3%	40.0%	12.5%
Total	**22.3%**	**19.8%**	**19.6%**	**19.7%**

Table 42 - Percentage obesity prevalence 4 year olds, B4school check, 2012

% Obesity prevalence, 4 year olds, 2012	**HB**	**NZ**	**Rate ratio**	**Comment**
	4.2	Not available	n/a	not available
	HB Māori	**Other**	**Rate ratio**	**Comment**
	6	2.4	2.5	not available
	Pacifica	**Other**	**Rate ratio**	**Comment**
	13.9	2.4	5.8	not available
	Q5	**Q1**	**Rate ratio**	**Comment**
	6	1.8	3.3	not available

Table 43 - Trend analysis, percentage obesity prevalence 4 year olds, B4school check, 2009-12

	2009	2012	Absolute change	Relative change
Other	3.6	2.4	-1.2 (Improving)	-33.3%
Māori	9.3	6	-3.3 (Improving)	-35.5%
Pacifica	14.8	13.9	-0.9 (Improving)	-6%
Quintile 1	3.6	1.8	-1.8 (improving)	-50%
Quintile 5	8.7	6.0	-2.7 (Improving)	-31.0%
Gap(Other – Māori)	-5.7	-3.6	-2.1(gap closing)	-36.8%
Gap(Other– Pacific	-11.2	-11.5	+0.3 (gap widening)	+2.7%
Gap (Q1-Q5)	-5.1	-4.2	-0.9 (gap closing)	-17.6%

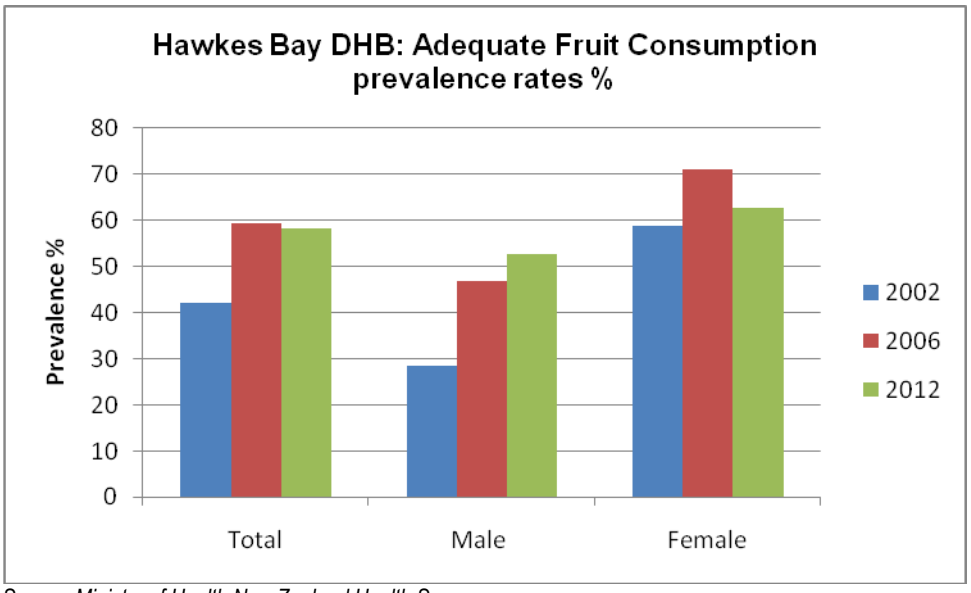
16. Fruit and Vegetable Consumption

The New Zealand Health survey asks questions on fruit and vegetable consumption. In Hawke's Bay just over half of the adult population (58.3%) eat at least 2 servings of fruit per day. This is identical to the NZ figure. In Hawke's Bay significant increases in fruit consumption were seen between 2002 and 2006 but consumption is effectively unchanged between 2006 and 2012. In Hawke's Bay there are currently no significant differences in fruit consumption by gender (males 52.7%, females 62.7%) - this is due to increases in fruit consumption since 2002 by males.

Māori rates of fruit consumption are lower than non-Māori by about 10%, both males and females (Māori male 45.7%, non-Māori male 54.7, Māori female 53.6, non-Māori female 65.8). These differences are not statistically significant for Hawke's Bay.

Fruit consumption generally increases with age, with maximum intake seen amongst those over 65 years.

Graph 53 - % adequate fruit consumption, 2012



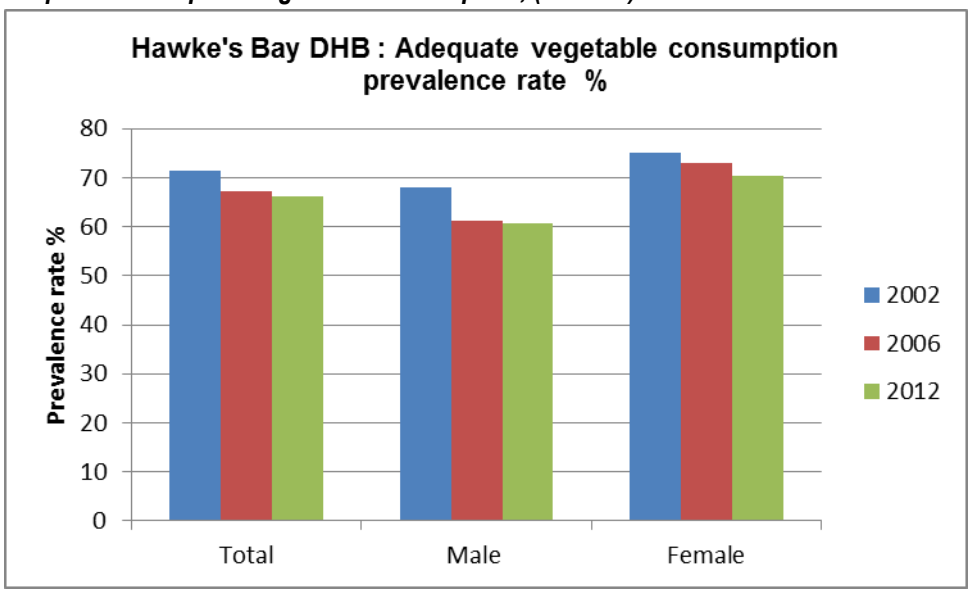
Source: Ministry of Health New Zealand Health Survey

Table 44 – Percentage of adequate fruit consumption, ASR, (2012)

% adequate fruit consumption, ASR, 2012	**HB**	**NZ**	**RR**	**Comment**
	56	57	1.0	HB similar to NZ
	HB Māori	**HB Non-Māori**	**RR**	**Comment**
	50	59	0.8	No significant disparity
	Q5	**Q1**	**RR**	**Comment**
	50	46	1.1	No significant disparity

The recommended vegetable intake is at least 3 servings per day. In HB 66.2% of the adult population meet these guidelines with no significant difference by either gender or ethnicity seen in Hawke's Bay or nationally.

Graph 54 – Adequate vegetable consumption, (2011/13)



Source: Ministry of Health New Zealand Health Survey

Of concern is the generally decreasing % adequate consumption over the years 2002, 2006 and 2012 – although this is not significant. Between 2006 and 2012 nationally consumption rose by 3.4%.

Table 45 – Percentage of adequate vegetable consumption, 2012

% adequate vegetable consumption, ASR, 2012	**HB**	**NZ**	**RR**	**Comment**
	64	66	1.0	HB similar to NZ
	HB Māori	**HB Non-Māori**	**RR**	**Comment**
	61	68	0.9	No significant disparity
	Q5	**Q1**	**RR**	**Comment**
	58	56	1.0	No significant disparity

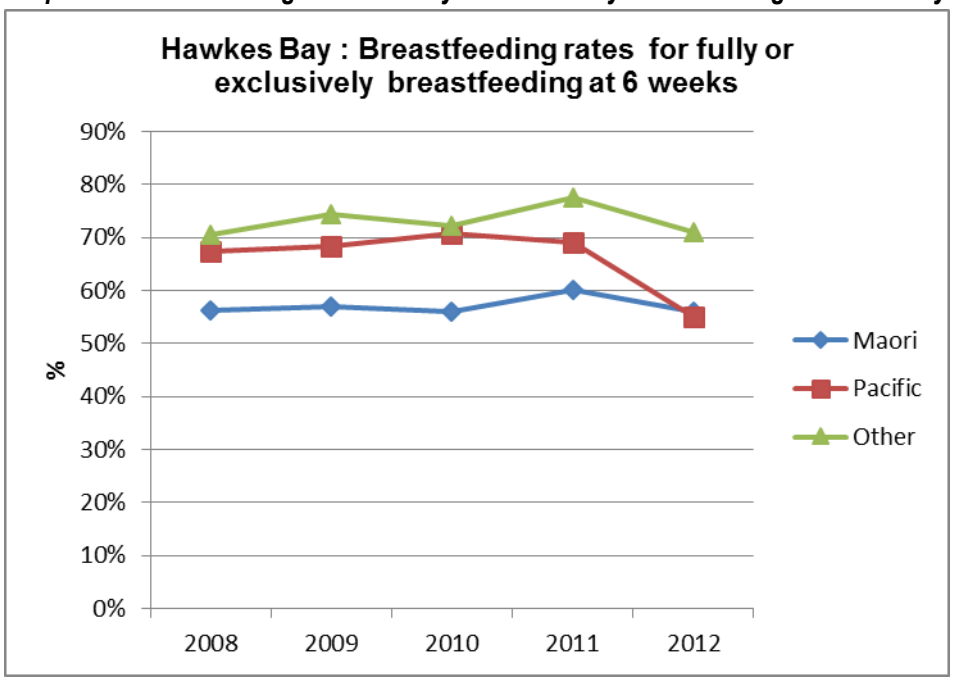
17. Breastfeeding

Breastfeeding has well known benefits both for the child and for the mother in later life. It provides the best form of nutrition for infants and has been shown to have health and social benefits including helping to protect infants against respiratory infections, gastroenteritis, ear infections, urinary tract infections, allergies and obesity.

There are 3 periods of time when breastfeeding rates are assessed from data gathered by the NZ Plunket society. This data therefore excludes those women who are not engaged with Plunket but who may be receiving well child tamariki ora care from other providers. This data is now available but no time series are yet available.

According to Plunket data Māori rates for breastfeeding are persistently lower than that for non-Māori non-Pacific infants. As at December 2013 57% of Māori infants were fully or exclusively breastfed at 6 weeks compared to 67% other infants. Pacific rates vary due to the smaller numbers of women. The national target at 6 weeks is 75%.

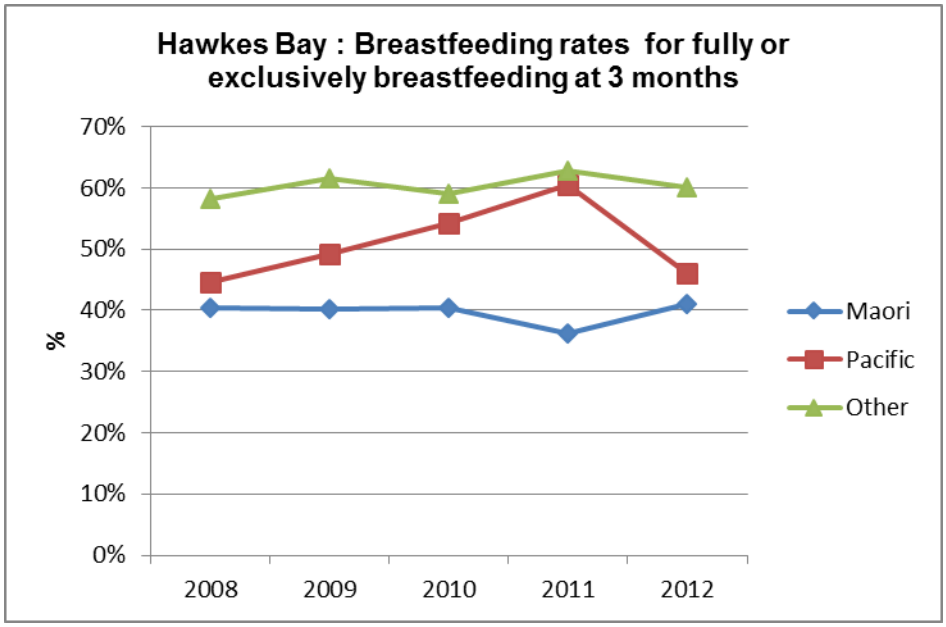
Graph 55 – Breastfeeding rates for fully or exclusively breastfeeding at 6 weeks by ethnicity (2008-2012)



Source: NZ Plunket

At 3 months the rate of Māori infants being fully or exclusively breastfed drops to 40% compared to 53% for non- Māori non-Pacific infants. Many babies have started to take on some solid foods at this age so this figure may underestimate the number of infants still receiving breast milk as their source of milk. The national target is 62%.

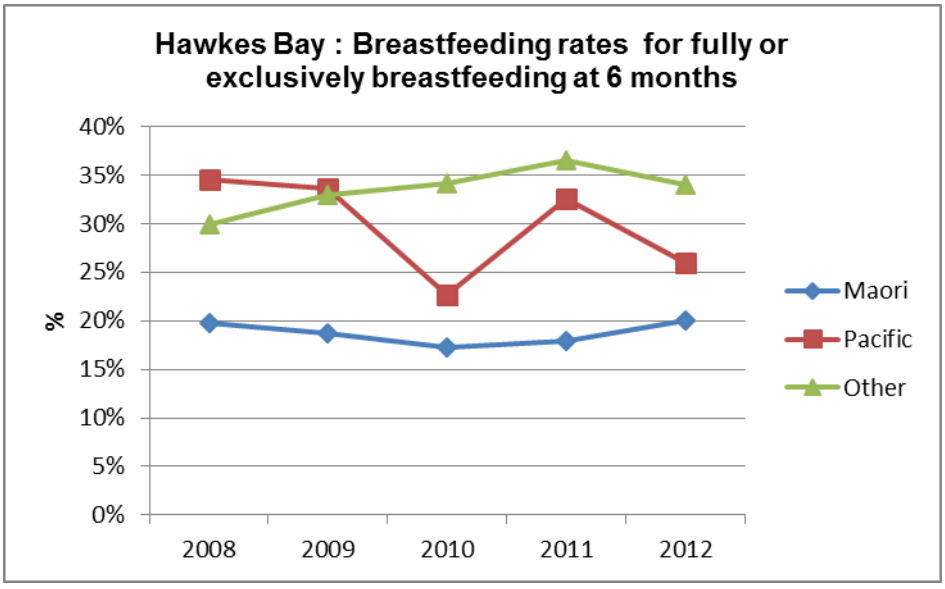
Graph 56 – Breastfeeding rates for fully or exclusively breastfeeding at 3 months by ethnicity (2008-2012)



Source: NZ Plunket

By 6 months only 26% of infants are exclusively or fully breastfed – with only 14% Māori infants. The national target is 36%.

Graph 57 – Breastfeeding rates for fully or exclusively breastfeeding at 6 months by ethnicity (2008-2012)



Source: NZ Plunket

Table 46 – Percentage of fully or exclusively breastfeeding at 6 weeks by ethnicity

% Fully or exclusively breastfeeding at 6 weeks, 2013	**HB**	**NZ**	**Ratio**	**Comment**
	72	66	1.1	No significance tests available
	HB Māori	**HB Non-Māori**	**Ratio**	**Comment**
	67	74	0.9	No significance tests available
	HB Pacific	HB Other	**Ratio**	**Comment**
	75	74	1.0	No significance tests available

Table 47 – Percentage of fully or exclusively breastfeeding at 3 months by ethnicity

% Fully or exclusively breastfeeding at 3 months	**HB**	**NZ**	**Ratio**	**Comment**
	53	55	1.0	No significance tests available
	HB Māori	**HB Non-Māori**	**Ratio**	**Comment**
	40	57	0.7	No significance tests available
	HB Pacific	HB Other	**Ratio**	**Comment**
	47	57	0.8	No significance tests available

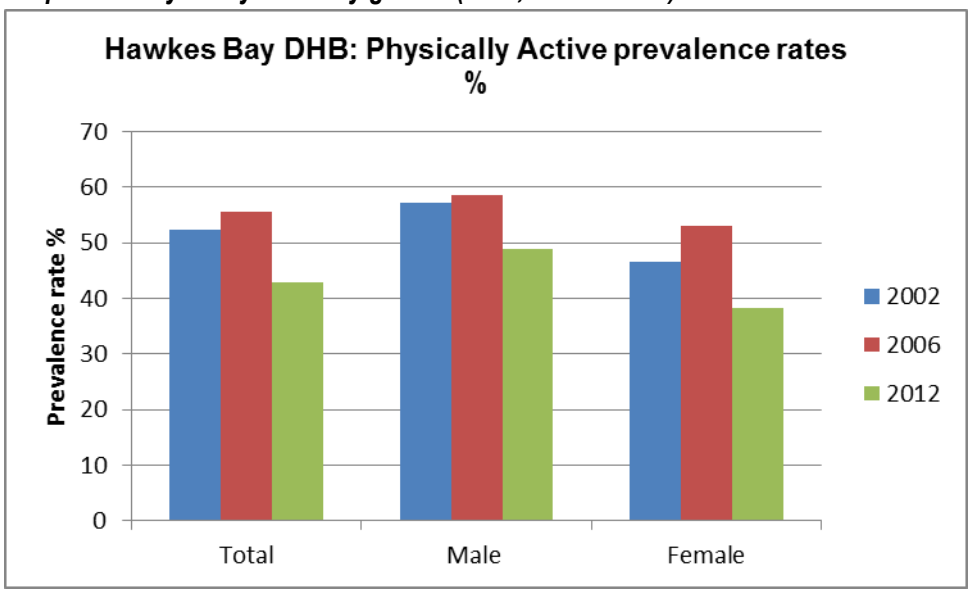
Table 48 – Percentage of fully or exclusively breastfeeding at 6 months by ethnicity

% Fully or exclusively breastfeeding at 6 months	**HB**	**NZ**	**Ratio**	**Comment**
	28	25	1.1	No significance tests available
	HB Māori	**HB Other**	**Ratio**	**Comment**
	24	29	0.8	No significance tests available
	HB Pacific	HB Other	**Ratio**	**Comment**
	36	29	1.2	No significance tests available

18. Physical Activity

The recommended guidelines for physical activity are at least 30 minutes of exercise on 5 or more days in the past week. 42.9% of the HB population met these guidelines, a decline of 12.8% since 2006. This figure is significantly lower than the NZ average of 53% with both men (49%) and women (38%) in HB lower than the NZ averages (NZ men 56.6%, NZ women 49.6%). Māori males and Māori females in HB are similar to NZ Māori males and females, non-Māori males and females in HB are less likely to meet the recommended guidelines than non-Māori males and females in NZ. Māori engagement in physical activity in Hawke's Bay is higher than that of non-Māori (47% compared to 42%, not significant).

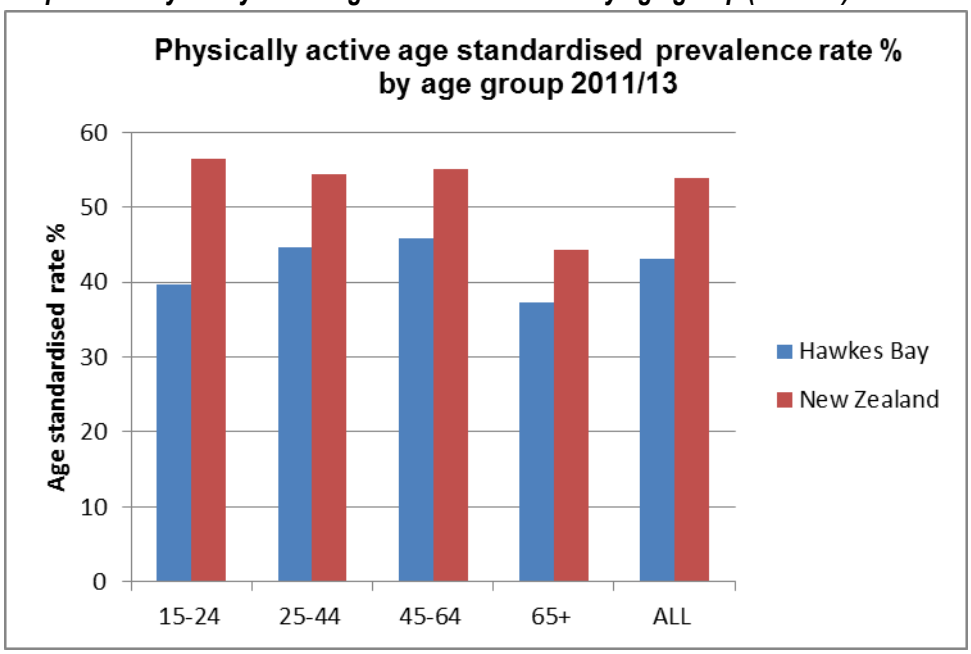
Graph 58 – Physically active by gender (2002, 2006 & 2012)



Source: Ministry of Health National Health Survey

When analysed by age group HB men and women are less active at all age groups than their NZ average counterpart. – the only age group getting close to the NZ average are 45-64 year old men with 55% meeting the recommendations . Only 38% of women aged 15-24 yrs and 42% of men met the recommended levels of physical activity compared to 50% NZ women and 63% NZ men.

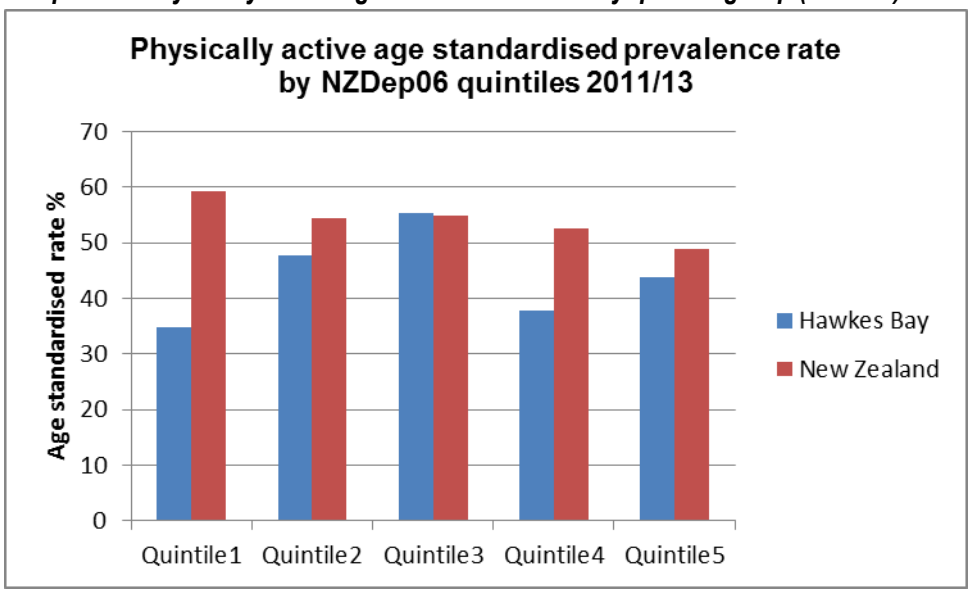
Graph 59 – Physically active age standardised rate by age group (2011/13)



Source: Ministry of Health National Health Survey

Physical activity levels by quintile do fall off nationally; however the peak activity is seen in quintile 3 in HB - the biggest gap in activity between HB and NZ rates are seen in quintile 1 with only 35% meeting the recommendations in HB compared to 59.4% in NZ.

Graph 60 – Physically active age standardised rate by quintile group (2011/13)



Source: Ministry of Health National Health Survey

Table 49 – Percentage of recommended physical activity, ASR, 2012

% recommended physical activity, ASR, 2012	**HB**	**NZ**	**RR**	**Comment**
	43	54	0.8	HB significantly lower than NZ
	HB Māori	**HB Non-Māori**	**RR**	**Comment**
	45	42	1.1	No significant disparity
	Q5	Q1	**RR**	**Comment**
	44	35	1.3	No significant disparity

19. Alcohol

Alcohol leads to a range of public health problems and the long term effects of excessive alcohol consumption are a major cause of avoidable hospital admissions. Alcohol related harm also includes a range of social and behavioural effects. The consumption of more than two standard drinks per day increases the risk of health problems in many organ systems, including the central nervous system, gastrointestinal system, and cardiovascular system, as well as affecting fetal development and increasing the risk of several cancers. Alcohol also contributes to death and injury due to vehicle collisions, drowning, suicide, assault and domestic violence.

The NZ Health survey asks questions relating to alcohol consumption and reports on the prevalence of hazardous drinking. Hazardous drinking refers to an established drinking pattern that carries a risk of harming physical or mental health, or having harmful social effects to the drinker or others. It is defined as a score of 8 or more on the 10-question Alcohol Use Disorders Identification Test (AUDIT

24.1% of the adult population in Hawke's Bay has hazardous alcohol consumption. This is higher than the New Zealand average (15.3%). Hazardous drinking rates have remained relatively unchanged in HB since 2002 compared to a national decrease (which dropped from 17.5% in 2002 to 15.3% in 12/13).

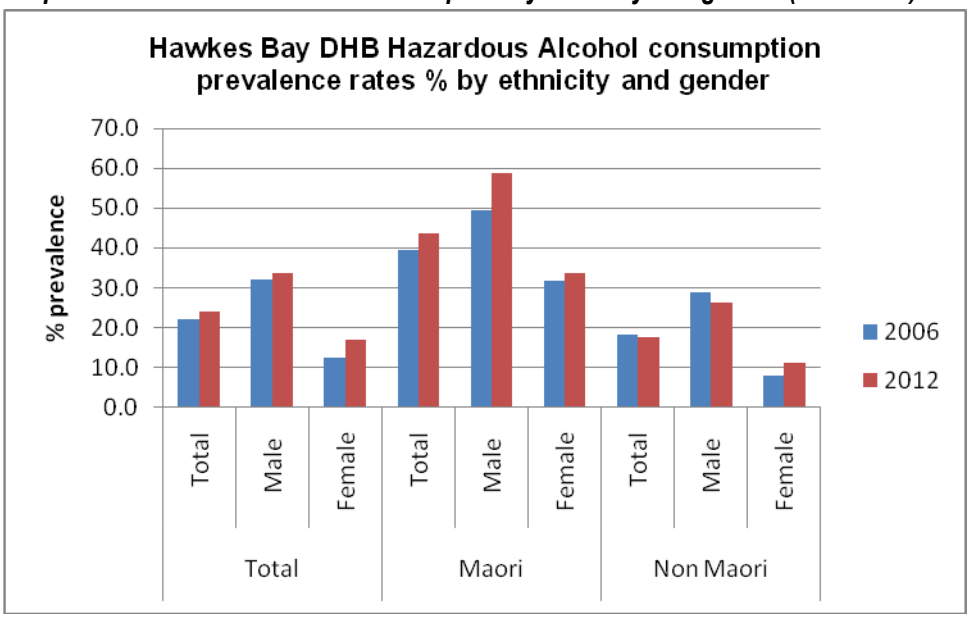
Men have higher hazardous drinking rates than women (33.6% men, 17% women) and these rates are higher than NZ average for both men (22%) and women (8.9%).

Māori have higher hazardous drinking rates than non-Māori (58.9% Māori men, 26.3% non-Māori men, 33.7% Māori females, 11.1% non-Māori females).

For both men and women, Māori and non-Māori the rates of hazardous drinking are 1.5 times higher in Hawke's Bay than the New Zealand averages, even when the age and sex of the population is taken into account. The HB population as a whole is drinking more hazardously than NZ and this is not explained by our younger population or our higher proportion of Māori.

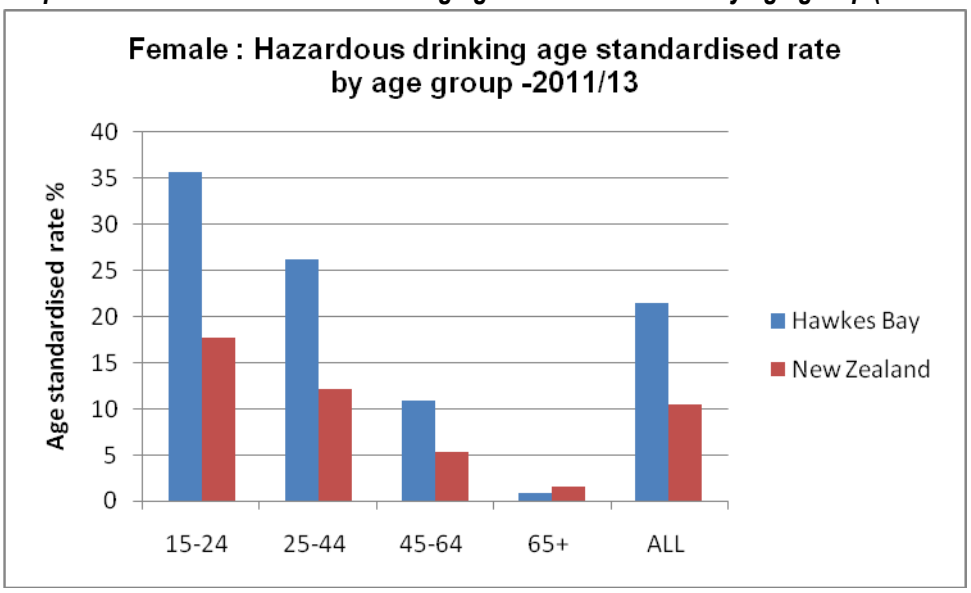
The rates of hazardous drinking decreases with age with peak rates seen amongst 15-24 year olds – 46% of 15-24 year olds in HB have hazardous drinking compared to 25% in NZ. When split by gender 62% of 15-24 year old men in HB have a hazardous drinking pattern compared to 34% in NZ and 36% of HB women aged 15-24 years compared to 18% in NZ – a doubling of rate for both genders.

Graph 61 – Hazardous alcohol consumption by ethnicity and gender (2006/2012)



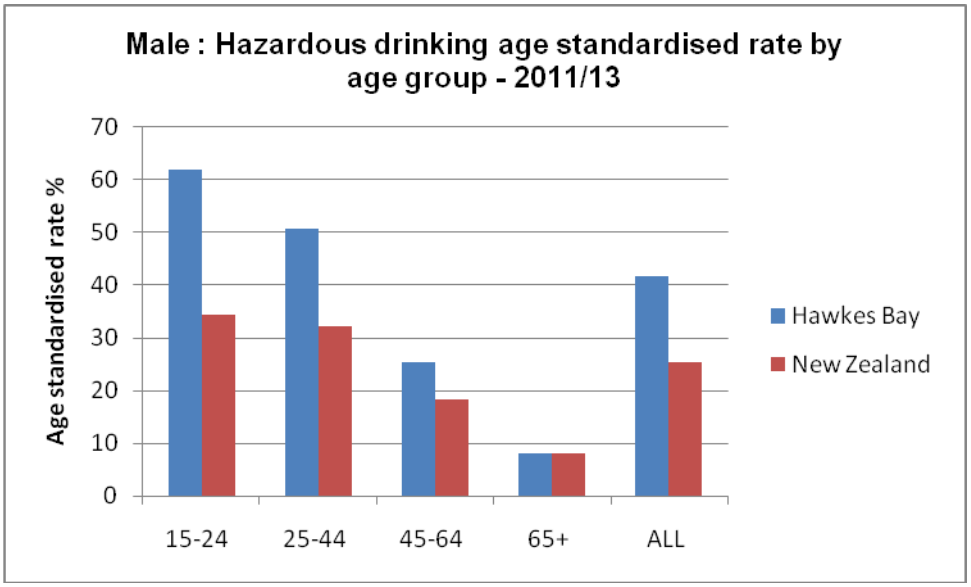
Source: Ministry of Health National Health Survey

Graph 62 – Female: hazardous drinking age standardised rate by age group (2011/2013)



Source: Ministry of Health National Health Survey

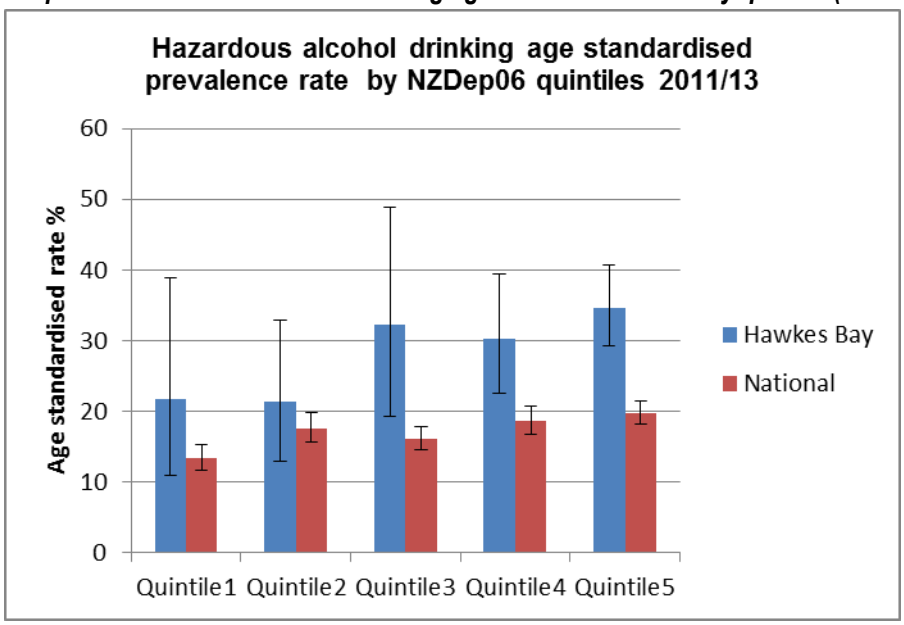
Graph 63 – Male: hazardous drinking age standardised rate by age group (2011/2013)



Source: Ministry of Health National Health Survey

Hazardous drinking also generally increases with increasing levels of deprivation – of note in Hawke's Bay is that rates of hazardous drinking are significantly higher than the New Zealand rates for quintiles 3, 4 and 5.

Graph 64 –Hazardous alcohol drinking age standardised rate by quintile (2011/2013)



Source: Ministry of Health National Health Survey

Alcohol is a problem for the whole community in Hawke's Bay. Whilst the disparity in hazardous drinking is widening for Māori males compared to non- Māori males both groups are drinking more hazardously. Similarly the reduction in disparity between Māori females and non-Māori females is due to a bigger increase in hazardous drinking by non-Māori females.

Table 50 – Percentage of hazardous drinking by gender and quintile, ASR (2012)

% Hazardous drinking , ASR 2012	**HB**	**NZ**	**RR Adjusted**	**Comment**
	29	17	1.7	HB significantly higher than NZ
	HB Males	NZ Males	**RR Adjusted**	**Comment**
	42	24	1.7	Significant disparity
	HB Females	NZ Females	**RR Adjusted**	**Comment**
	21.5	10.4	2.1	Significant disparity
	HB Māori	**HB Non Māori**	**RR Adjusted**	**Comment**
	43.2	23.3	1.9	Significant disparity
	Q5	**Q1**	**RR Adjusted**	**Comment**
	34.7	21.8	1.6	Not Significant

Table 51 - Trend analysis, percentage of hazardous drinking by gender and quintile 2006-2012

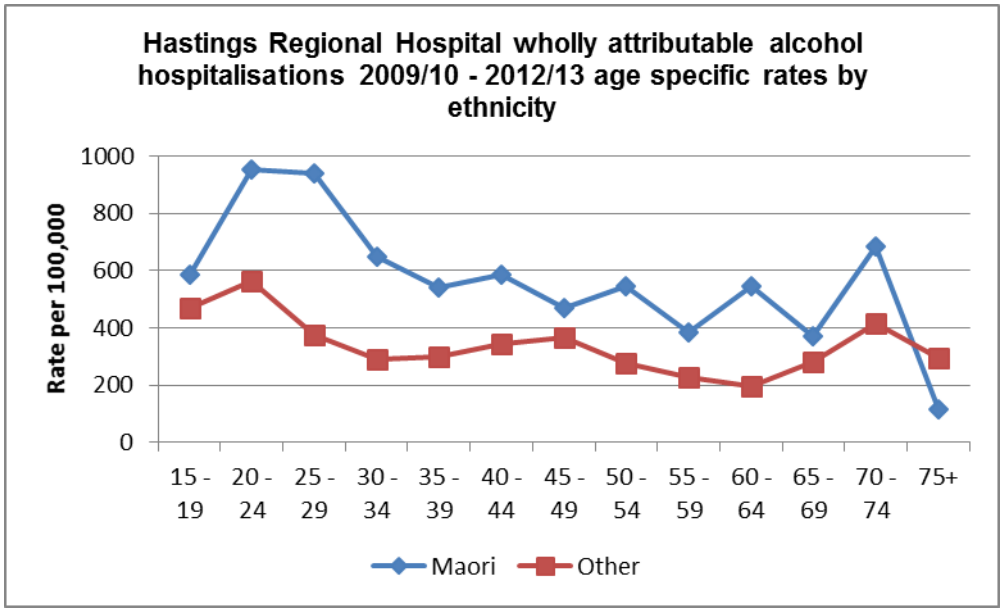
	2006	2012	Absolute change	Relative change
Non Māori	21.8	23.3	+1.5 (worse)	+6.9%
Māori	36.8	43.2	+6.4 (worse)	+17.4%
Non Māori Males	29.3	34.9	+5.6 (worse)	+19.1%
Māori males	48.6	58.5	+9.9 (worse)	+20.4%
NonMāori females	11.8	15.9	+4.1 (worse)	+34.7%
Māori females	29.6	33.1	+3.5 (worse)	+11.8%
Quintile 1	N/A	21.8	N/A	N/A
Quintile 5	N/A	34.7	N/A	N/A
Gap (Non-Māori - Māori)	-15.0	-19.9	+4.9 (widening)	+32.7%
Gap (males)	-19.3	-23.6	+4.3 (gap widening)	+22.3%
Gap (females)	-17.8	-17.2	-0.6 (gap closing)	-3.4%
Gap (Q1-Q5)	N/A	-12.9	N/A	N/A

Hospital admissions due to alcohol

Another measure of alcohol related harm is hospital admissions which are wholly attributable to alcohol. Unfortunately no New Zealand data or time trends are available at this point for comparison.

Analysis by age and ethnicity shows that Māori rates of admission are higher than non-Māori rates.

Graph 65 – Wholly attributable alcohol hospitalisations 2009/10-2012/13, age specific rates by ethnicity



Source: HBDHB Data Warehouse

For both Māori and Other the highest rates of admissions are amongst those under 25 yrs (Other) and under 30s (Māori). Māori have higher rates of admission at all ages apart from the 75+ age group.

Table 52 – Admissions wholly attributable to alcohol by ethnicity (2009/2010 - 2012/13)

Admissions wholly attributable to alcohol, rates per 100,000(09/10-12/13)	**HB**	**NZ**	**RR Adjusted**	**Comment**
	317	N/A	N/A	
	HB Māori	**HB non-Māori**	**RR Adjusted**	**Comment**
	461	265	1.5	Significant disparities

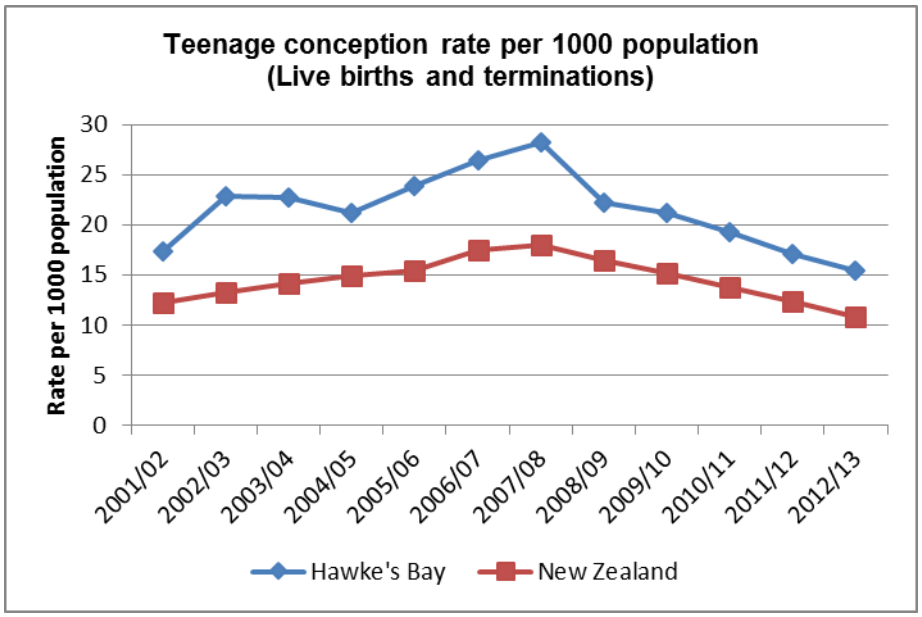
20. Sexual Activity

Teenage births

Most teenage pregnancies under 18 years are unplanned and around 40% end in abortion. As well as being an avoidable experience for the young woman, abortions are also an avoidable cost to the health service. While for some young women having a child when young can be a positive experience for many more teenagers bringing up a baby can be difficult and often results in poor outcomes for both the teenage parent and the child, in terms of the baby's health, the mothers emotional health and wellbeing and the likelihood of both the parent and child living in long term poverty. Teenage mothers are less likely to finish their education, are more likely to bring up their child alone and in poverty and have a higher risk of poor mental health than older mothers. Research shows that infant mortality rates for babies born to teenage mothers are around 60% higher than for babies born to older mothers.

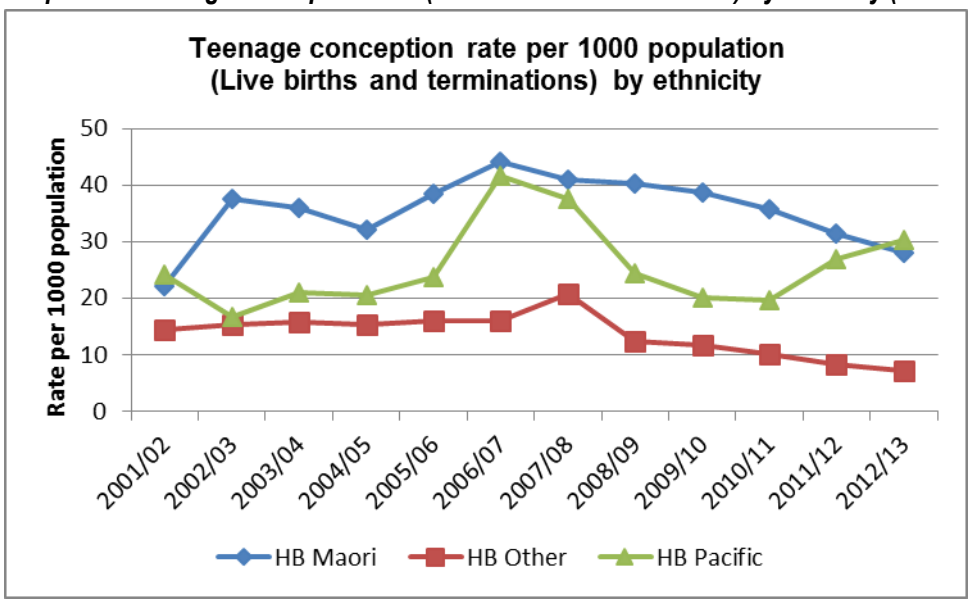
In 2012/13 there were 58 births to girls aged 13-17 years and 29 terminations giving a total number of conceptions of 87. This equates to a conception rate of 15.4 per 1000 girls in this age group. In Hawke's Bay the conception rate for 13-17 year olds has been declining since 07/08 when there were 28 conceptions per 1000 13-17 year olds. Hawke's Bay has generally higher conception rates in this age group than the New Zealand average and this is statistically significant. The gap however between NZ and HB has been reducing since 07/08.

Graph 66 – Teenage conception rate (live birth and terminations) (2001-2013)



Source: Ministry of Health NMDS

Graph 67 – Teenage conception rate (live birth and terminations) by ethnicity (2001-2013)



Source: Ministry of Health NMDS

There are higher rates of conceptions for Māori and Pacific teenagers, although actual numbers of pacific conceptions are very low. Māori conception rates have been declining since 2006/07 but still remain 3 times higher than non-Māori and 4 times higher than non-Māori Non-Pacific teenagers.

Due to small numbers analysis by deprivation has been done for births and terminations under 20 years. This shows a very strong relationship with deprivation with rates of births in quintile 5 20 times the rate in quintile 1. There is a less strong relationship with terminations of pregnancy and the likelihood of a pregnancy being terminated decreases with increasing deprivation.

Table 53 – Under 20 year old births (2012/13)

NZ Deprivation Index Quintile							
	Number	Pop	Rate	Rate Ratio	LCL		UCL
Quintile 1	2	1,340	1.49	1.00	0.11	-	3.61
Quintile 2	17	2,083	8.16	5.47	3.18	-	8.76
Quintile 3	7	1330	5.26	3.53	1.41	-	7.27
Quintile 4	54	2,395	22.55	15.11	11.35	-	19.71
Quintile 5	101	3,460	29.19	19.56	15.93	-	23.76

Table 54 – Under 20 year old terminations (2012/13)

NZ Deprivation Index Quintile							
	Number	Pop	Rate	Rate Ratio	LCL		UCL
Quintile 1	5	1340	3.73	1.00	0.32	-	2.33
Quintile 2	17	2082.5	8.16	2.19	1.27	-	3.50
Quintile 3	11	1330	8.27	2.22	1.10	-	3.97
Quintile 4	24	2395	10.02	2.69	1.72	-	4.00
Quintile 5	33	3,460	9.54	2.56	1.76	-	3.59

Table 55 - Three year annualised conception rates amongst under 18 year olds Hawke's Bay and New Zealand (2010/11- 2012/13)

Teenage pregnancy rates per 1000, 2010-2012/13	**HB**	**NZ**	**RR Adjusted**	**Comment**
	17.2	12.3	1.4	HB rates are higher than NZ
	HB Māori	**HB non-Māori**	**RR Adjusted**	**Comment**
	31.7	9.7	3.3	Significant disparity
Under 20 pregnancy rates per 1000, 2012	**Q5**	**Q1**	**RR Adjusted**	**Comment**
	19.4	2.6	7.4	Significant disparity

Table 56 - Trend analysis, teenage conceptions rates per 1000 13-17 year olds, 2006/7 – 2012/13

	2006/7	2012/13	Absolute change	Relative change
Non Māori females	16.0	7.0	-9.0 (improving)	-56.2%
Māori females	44.2	27.9	-16.3 (improving)	-36.9%
Quintile 1 (under 20 years)	n/a	2.6	n/a	-
Quintile 5 (under 20 years)	n/a	19.4	n/a	-
Gap (non Māori – Māori)	-28.2	-20.9	-7.3 (gap closing)	25.9%
Gap (Q1-Q5)	N/A	-16.8	N/A	N/A

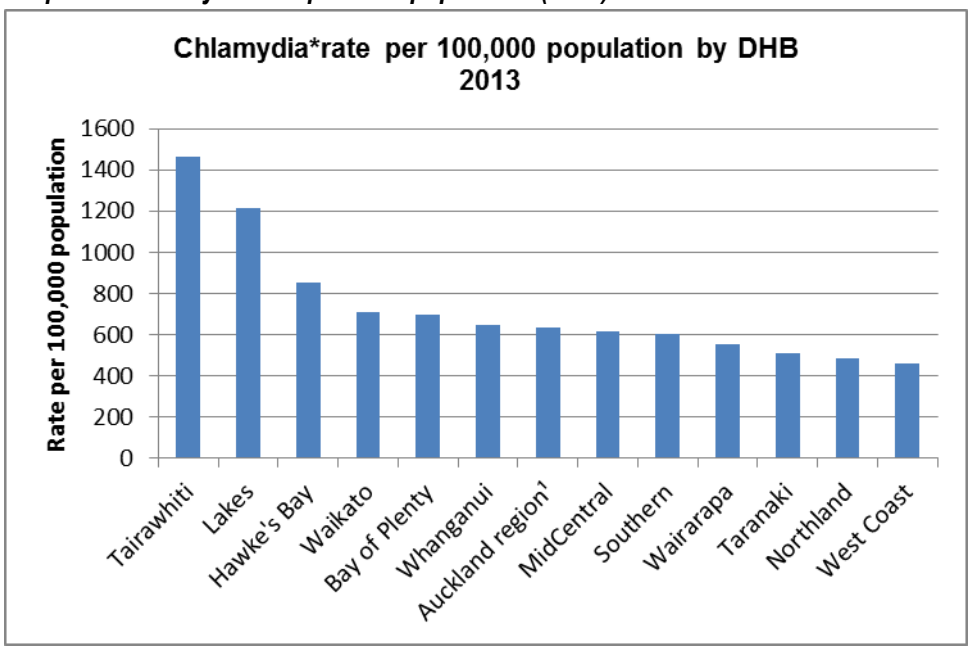
Chlamydia rates

In New Zealand, sexually transmitted infections (STIs) are not notifiable. Therefore, surveillance efforts are based on the voluntary provision of data from several different sources (sexual health clinics (SHCs), family planning clinics (FPCs), student and youth health clinics (SYHCs) and laboratories). Population and disease coverage varies with the data source.

Chlamydia is the most commonly diagnosed and reported sexually transmitted infection. It is asymptomatic in approximately 25% of male cases and in 70% of female cases. However infection even if asymptomatic can lead to pelvic inflammatory disease, ectopic pregnancies and infertility. Most infections (approx. 70%) occur in the 15-24 year age group.

Hawke's Bay has one of the higher rates of reported Chlamydia rates with the highest rates reported from Tairawhiti followed by Lakes DHB. No ethnic specific or deprivation level data is available.

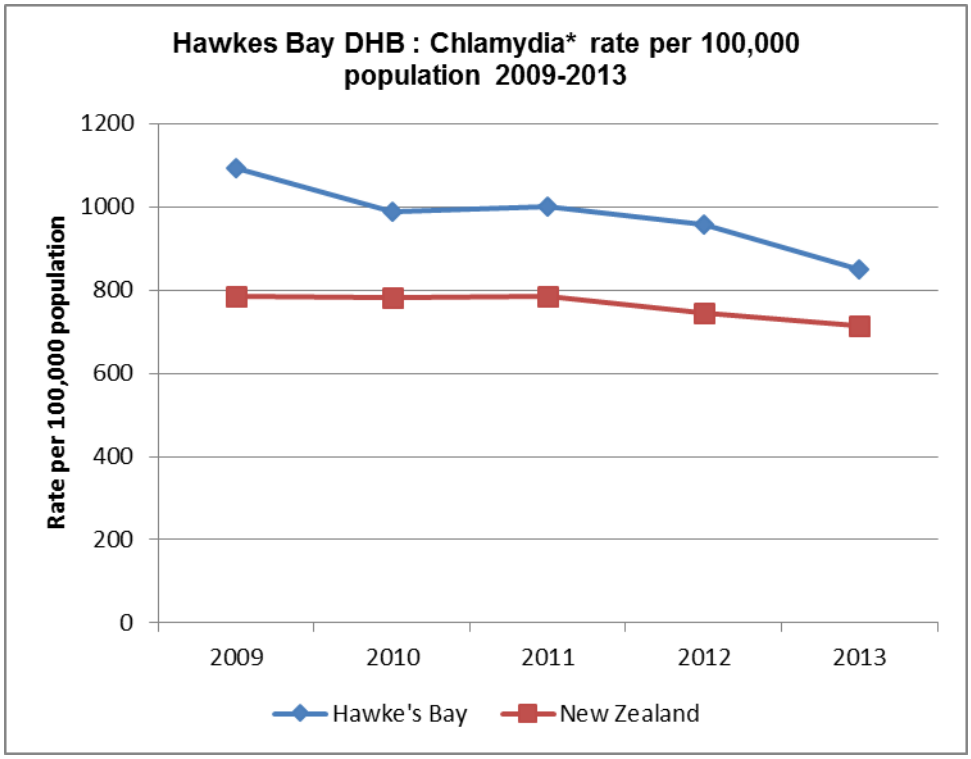
Graph 68– Chlamydia rate per DHB population (2013)



**Laboratory confirmed chlamydia cases*
Source: Institute of Environmental Science & Research Ltd

Rates have been declining since 2009.

Graph 69 – Chlamydia rate per population (2009-2013)



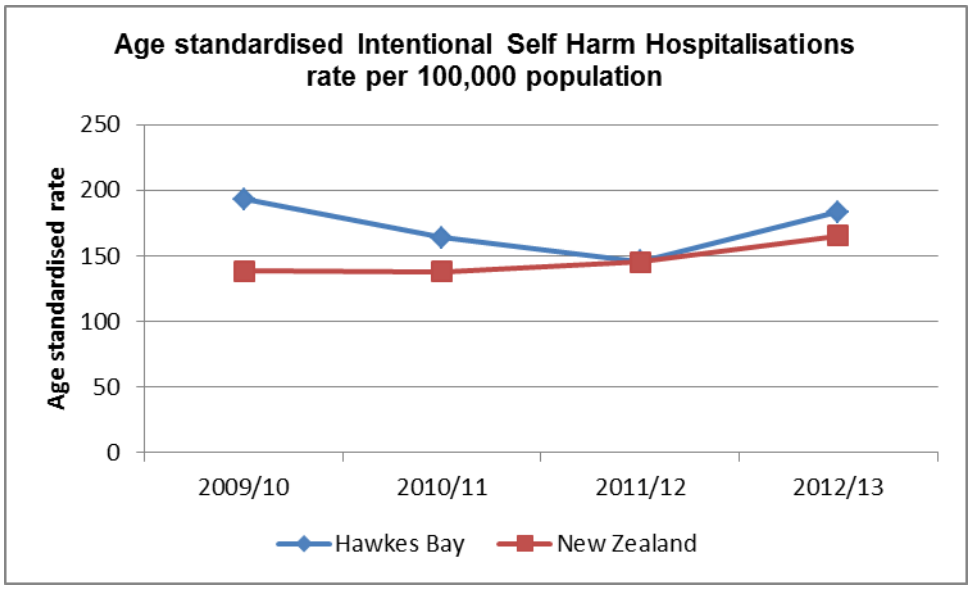
**Laboratory confirmed chlamydia cases*
Source: Institute of Environmental Science & Research Ltd

21. Intentional Self-harm

Intentional self-harm is an expression of personal distress but there are many varied reasons why a person might wish to harm themselves. There is often a significant risk of future suicide following an episode of self-harm. Hospital admissions for intentional self-harm are a very small proportion of presentations to emergency departments for self-harm but at present there is no collated data on self-harm presentations to emergency departments.

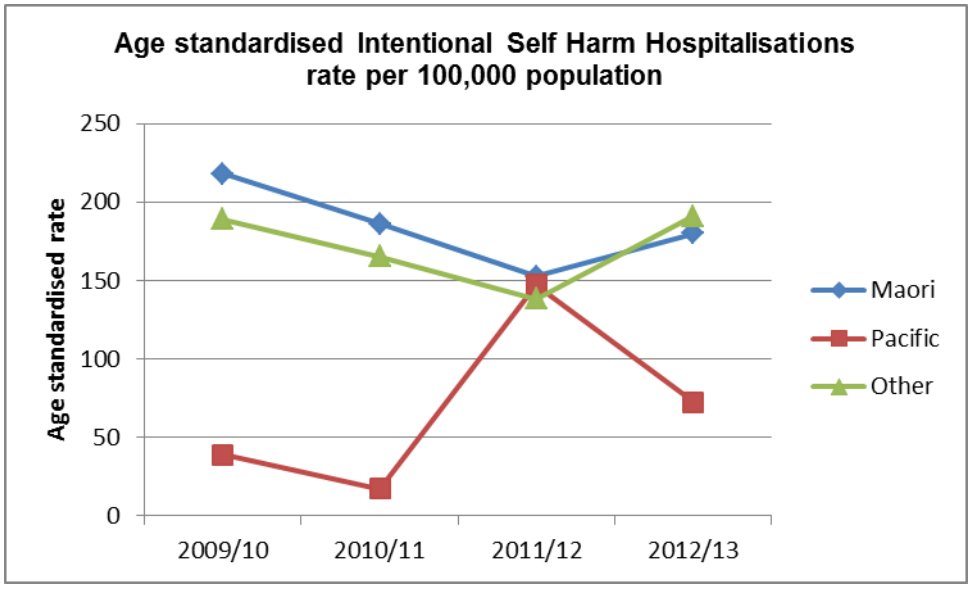
The rates of hospital admission for self-harm have been gradually increasing across New Zealand but with a mixed trend in Hawke's Bay. In 2012/13 there were 183 admissions per 100,000 in Hawke's Bay compared to 165 per 100,000 across New Zealand – this difference is not significant. There are no significant variations by ethnicity although numbers for Pacific people fluctuate.

Graph 70 – Self-harm hospitalisations, 2009/10 -2012/3, Hawke's Bay and New Zealand



Source: Ministry of Health NMDS

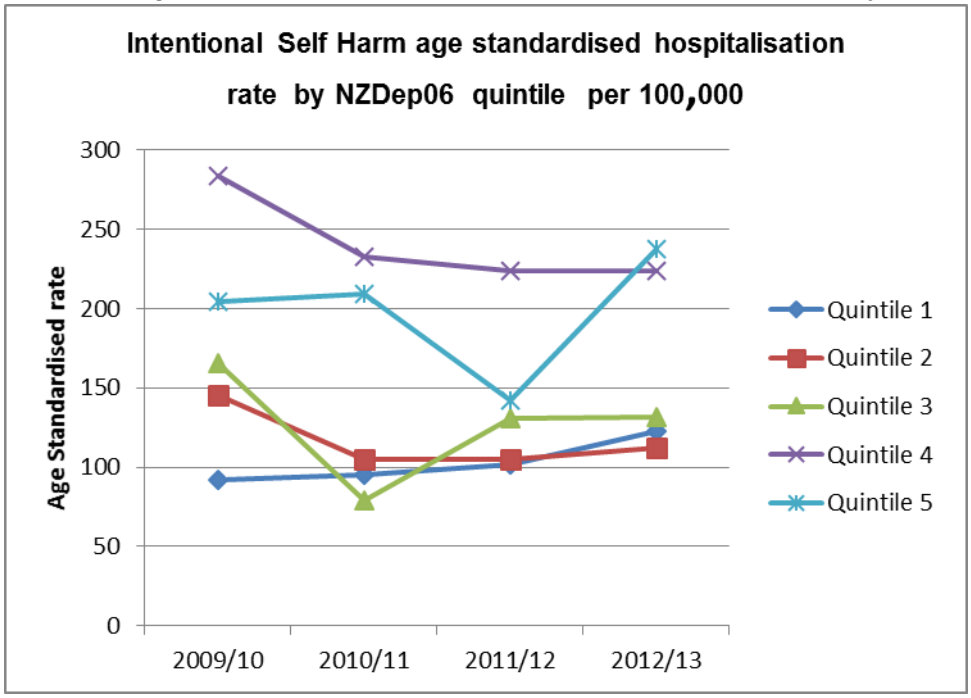
Graph 71 – Self-harm hospitalisations, 2009/10 -2012/, Hawke's Bay, by ethnicity



Source: Ministry of Health NMDS

Admission rates are higher amongst people living in the more deprived areas of Hawke's Bay and this disparity has increased in the past 4 years.

Graph 72 – Age standardised rate for intentional self-harm hospitalisation by quintile (2009-2013)



Source: Ministry of Health NMDS

Table 57 - Intentional Self harm hospitalisations, rates per 100,000, 2012/13

Intentional Self harm hospitalisations, rates per 100,000, 2012/13	**HB**	**NZ**	**RR Adjusted**	**Comment**
	183	165	1.1	HB rates are similar to New Zealand
	HB Māori	**HB Other**	**RR Adjusted**	**Comment**
	180	191	0.9	No significant disparity
	Q5	**Q1**	**RR Adjusted**	**Comment**
	238	123	1.9	Significant disparity

Table 58 - Trend analysis, intentional Self harm hospitalisations, rates per 100,000, 2009/10-2012/13

	2009/10	**2012/13**	**Absolute change**	**Relative change**
Other	189	191	+2 (worse)	+1%
Māori	218	180	-38 (Improving)	-17%
Quintile 1	92	123	+31 (worse)	+33.7%
Quintile 5	204	238	+34 (worse)	+16.7%
Gap (Other – Māori	-29	+11	+40 (gap closed)	+138%
Gap (Q1-Q5)	-112	-115	+3 (gap widened)	+2.7%

Chapter 3 - Healthcare – access and quality

The measures in this section look at access to healthcare and quality of healthcare received

22. Unmet need in primary care

Barriers to accessing health care can occur for a number of reasons. For example, a person may be unable to get an appointment soon enough, may not have enough money to pay for an appointment at a medical centre or may not have the transport to get there. Questions about unmet need in primary care were included in the NZ Health survey and have been analysed for Hawke's Bay.

Most adults were able to access primary care when they needed to. However 34.7% adults in Hawke's Bay compared to 28% in New Zealand had experienced unmet need in primary care in the past 12 months. After adjusting for age and sex differences, Hawke's Bay adults were 1.5 times as likely to have had an unmet need for primary care as New Zealand adults – and this is significantly higher.

The most common reasons (nationally) for this unmet need were being unable to get an appointment within 24 hours (16% of adults), unmet need for GP services due to cost (14%) and unmet need for after-hours services due to cost (7%) (Lack of transport was a less common reason for unmet need for primary health care).

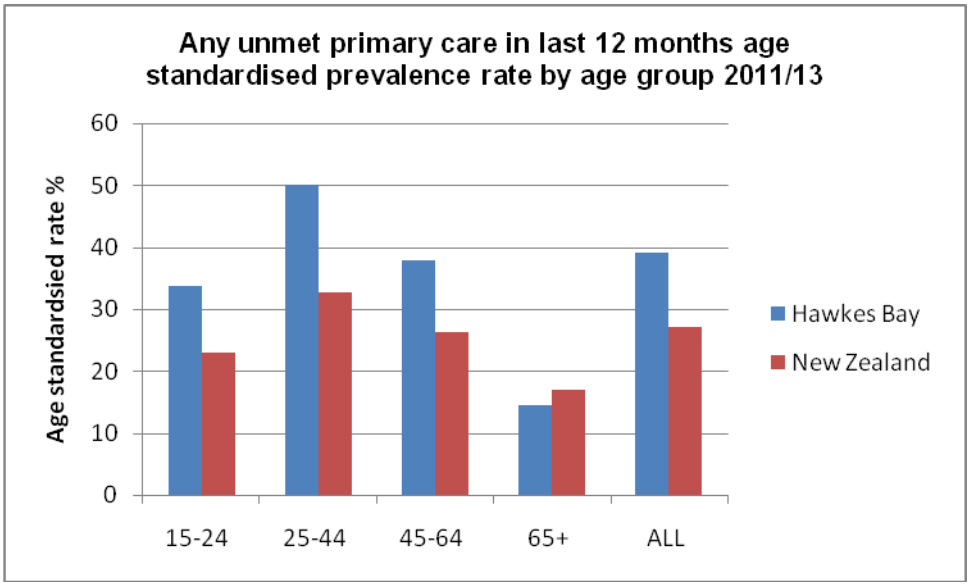
Māori adults were more likely to have experienced unmet need in the past year - 44% Māori in Hawke's Bay compared to 32.7 European/ other. After adjusting for age and sex differences, HB Māori adults were 1.4 times as likely to have had an unmet need for primary care as HB non-Māori adults but this is not statistically significant in Hawke's Bay.

Across New Zealand adults living in the most deprived areas have higher rates of unmet need in the past year (34%) than those living in the least deprived areas (22%). After adjusting for age, sex and ethnic differences, adults in HB living the most deprived areas were 1.5 times more likely to have had an unmet need for primary care than those living in the least deprived areas.

Across New Zealand for adults and children living in the most deprived areas cost was reported as the being the main contributor to unmet need. Children living in the most deprived areas were seven times as likely as children living in the least deprived areas to have an unfilled prescription due to cost in the past year.

The proportions of adults experiencing unmet need varies by age with the highest proportions reported amongst 25-44 year olds.

Graph 73 – Any unmet primary care in last 12 months age standardised prevalence ate by age group 2011/13



Source: Ministry of Health New Zealand Health Survey

Table 59 - Any unmet primary care in last 12 months age standardised prevalence ate by age group 2011/13

Unmet need for primary care (%), ASR	**HB**	**NZ**	**RR**	**Comment**
	41.2	27.8	1.5	HB is significantly higher than NZ
	HB Māori	**HB Non Māori**	**RR**	**Comment**
	53.2	38.6	1.4	No significant disparity
	Q5	**Q1**	**RR**	**Comment**
	46.9	30.8	1.5	Significant disparity

23. Dental Health

Over half of adults in New Zealand with natural teeth (55%) reported never visiting a dental health care worker or only visiting for toothache. After adjusting for age differences, this was a significant increase compared with 2006/07. 65% of adults in HB reported never visiting a dental health worker or only visiting for toothache – this is a statistically higher percentage after adjusting for age differences.

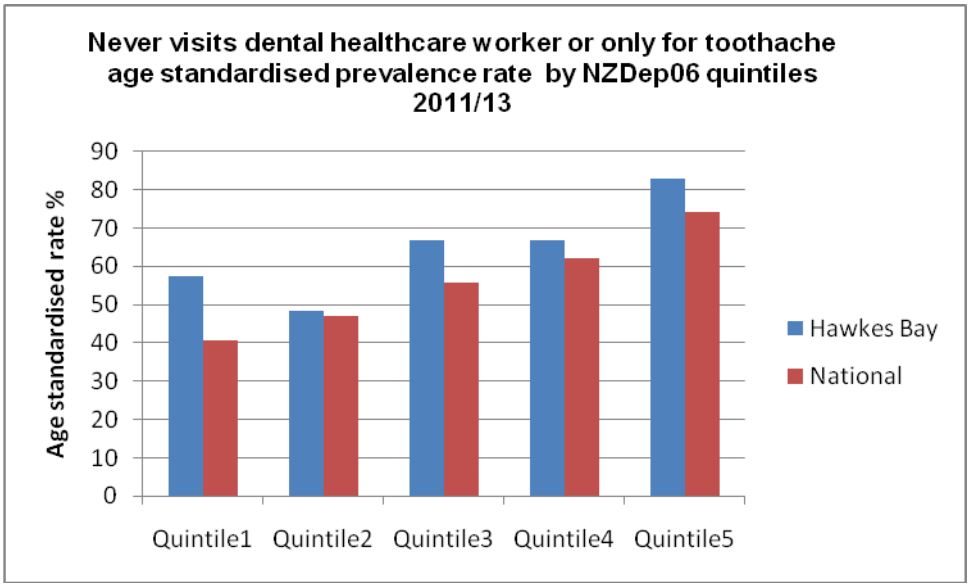
Three out of four Māori (76%) and Pacific (78%) adults in New Zealand reported never visiting a dental health care worker, or only visiting for toothache. 84% of Māori and 59% of non-Māori in Hawke's Bay reported never visiting a dental health worker or only visiting for toothache – these are both statistically higher % than NZ figures after adjusting for age differences. In Hawke's Bay Māori are 1.4 times more likely than non-Māori to never visit a dental health worker.

Three out of four adults living in the most deprived areas across NZ (74%) reported never visiting a dental health care worker, or only visiting for toothache – whereas in Hawke's Bay 83% of adults living in quintile 5 reported never visiting a dental health care worker, or only visiting for toothache –

this is statistically higher than the New Zealand figure after adjusting for age differences. In Hawke's Bay adults living in the most deprived areas were 1.4 times as likely to never visit a dental health care worker or only visit for toothache as adults in the least deprived areas.

There is an apparent closing of disparities between Māori and non-Māori in Hawke's Bay between 2006 and 2012. This is mainly due to a greater increase amongst non-Māori in Hawke's bay who never visit a dental health care worker. There is an increase in disparity between Hawke's Bay and New Zealand for this indicator between 2006 and 2012.

Graph 74 – Never visits dental healthcare worker or only for toothache by NZDep06 quintiles 2011/13



Source: Ministry of Health New Zealand Health Survey

Table 60 - % Never visits dental healthcare worker or only for toothache, 2011/13

% Never visits a dental health care worker or only visits for toothache, ASR	**HB**	**NZ**	**RR**	**Comment**
	67.9	55.4	1.2	HB is significantly higher than NZ
	HB Māori	**HB Non Māori**	**RR**	**Comment**
	85.5	62.9	1.4	Significant disparities
	Q5	**Q1**	**RR**	**Comment**
	83.1	57.5	1.4	Significant disparities

Table 61 - Trend analysis, % never visits a dental health care worker or only visits for toothache, ASR

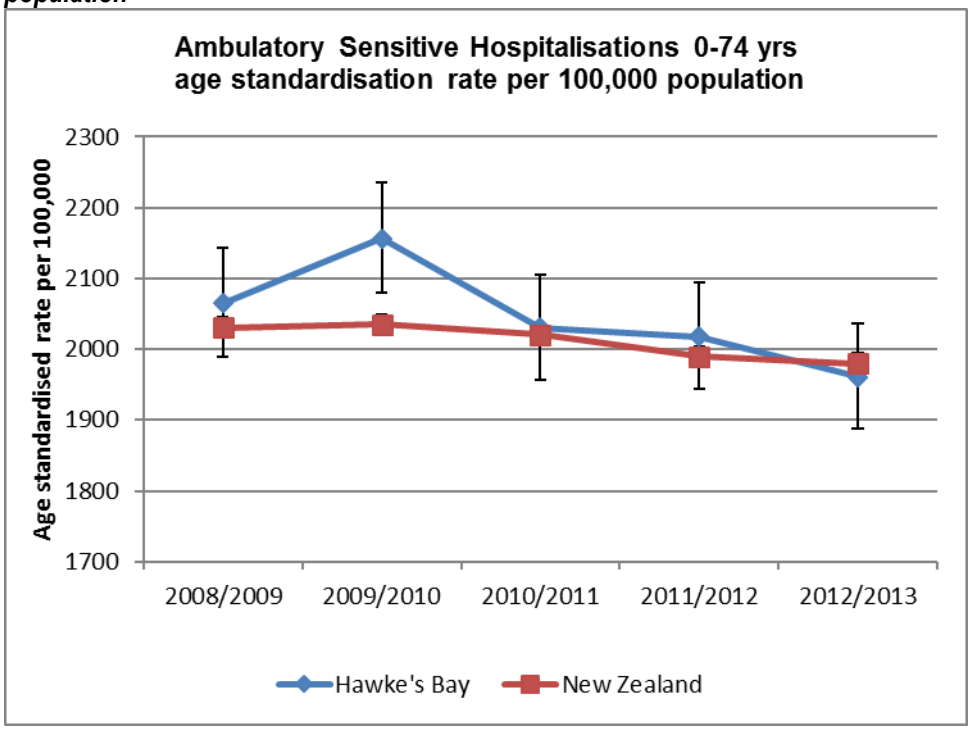
	2006	**2011**	**Absolute change**	**Relative change**
Non Māori	49.3	62.9	+13.6 (worse)	+27.6%
Māori	77.3	85.5	+8.2 (worse)	+10.6%
New Zealand	49.7	55.4	+5.7 (worse)	+11.5%
Hawke's Bay	53.9	67.9	+14 (worse)	+26%
Gap (Non-Māori – Māori)	-28	-22.6	-5.4 (gap closing)	19.3%
Gap (NZ-HB)	-4.2	-12.5	+ 8.3 (gap widening)	197%

24. Ambulatory Sensitive Hospitalisations

Ambulatory sensitive hospitalisations (ASH) are mostly acute admissions that are considered potentially reducible through preventive interventions or treatments deliverable in a primary care setting. They are often used 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. However other aspects of the health care system, such as hospital supply, emergency care and community care provision can have an effect on ASH rates.

ASH accounts for around a fifth of all acute and arranged medical and surgical discharges in 2011–12 across New Zealand. In Hawke's Bay the age standardised ASH rate for 0-74 year olds was 19.6 per 1000, a decrease since 2008/9 and similar to the overall New Zealand rate of 19.8 per 1000.

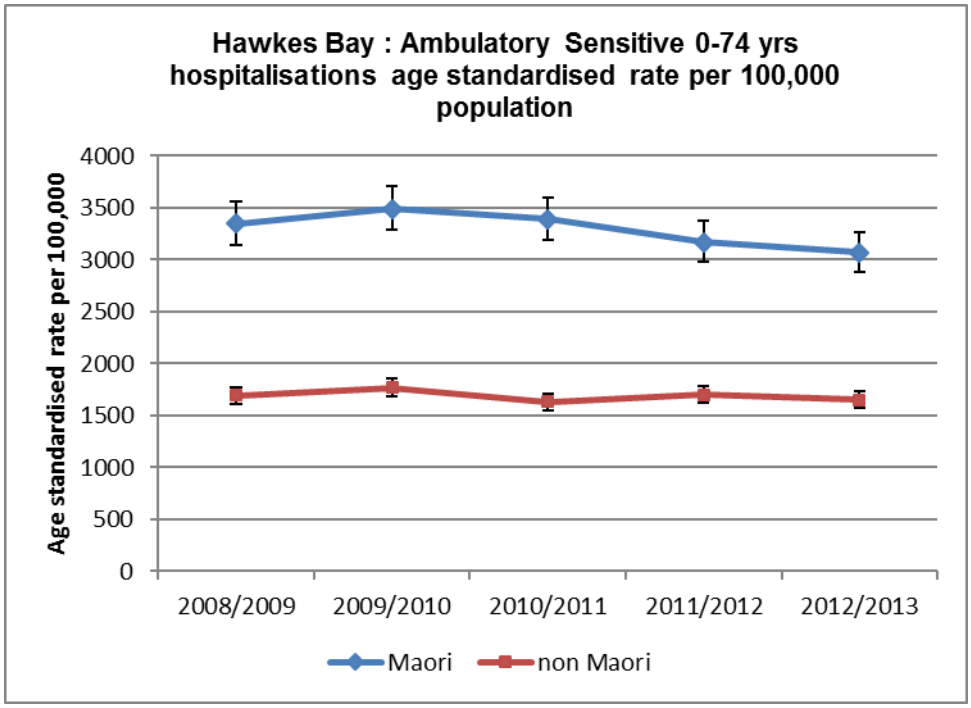
Graph 75 – Ambulatory Sensitive Hospitalisations 0-74yrs age standardisation rate per 100,000 population



Source: Ministry of Health

There are significant differences in ASH rates by ethnicity with Māori ASH rates 1.9 times that of non-Māori rates. This difference is statistically significant and whilst Māori rates have reduced from 33.5 per 1000 to 30.7 per 1000 this has only resulted in a slight closing of the gap between Māori and non-Māori.

Graph 76 – Hawke's Bay: Ambulatory sensitive 0-74 years hospitalisations age standardised rate per 100,000 population



Source: Ministry of Health

There are some conditions with significant differences in admission rates by ethnicity – a narrowing of the gap for these conditions would be a major contribution towards closing the overall gap between Māori and non-Māori ASH rates.

Table 62 – ASH condition 0-74 years per 1000 (age standardised)

ASH Condition 0-74 years	ASH rates per 1000 (age standardised)		
	Māori	Non-Māori	Relative rate
Rheumatic Heart disease	0.2	0.03	6.9
Dermatitis and Eczema	0.81	0.22	3.7
Cervical cancer	0.14	0.04	3.7
Peptic ulcer	0.45	0.15	3.0
Dental Conditions	**4.28**	**1.47**	**2.9**
Asthma	**2.38**	**0.88**	**2.7**
Congestive heart failure	**2.07**	**0.86**	**2.4**
Cellulitis	**4.37**	**1.93**	**2.3**
Respiratory infections	**2.8**	**1.43**	**2.0**
Upper respiratory and ENT infections	1.57	0.87	1.8

Higher relative rates of ASH for rheumatic heart disease and cervical cancer may reflect a higher prevalence of these conditions amongst Māori – but both are preventable conditions. Higher relative rates for dental conditions, asthma, congestive heart failure and cellulitis may reflect a lack of access at earlier stages of the conditions or issues with case management.

Table 63 - Ambulatory sensitive hospitalisations 0-74 years, ASR, per 1000

Ambulatory sensitive hospitalisations 0-74 years, ASR, per 1000	**HB**	**NZ**	**RR**	**Comment**
	19.6	19.8	1.0	HB similar to NZ
	HB Māori	**HB Non Māori**	**RR**	**Comment**
	30.7	16.5	1.9	Significant disparity

Table 64 - Trend analysis, Ambulatory sensitive hospitalisations 0-74 years, ASR, per 1000

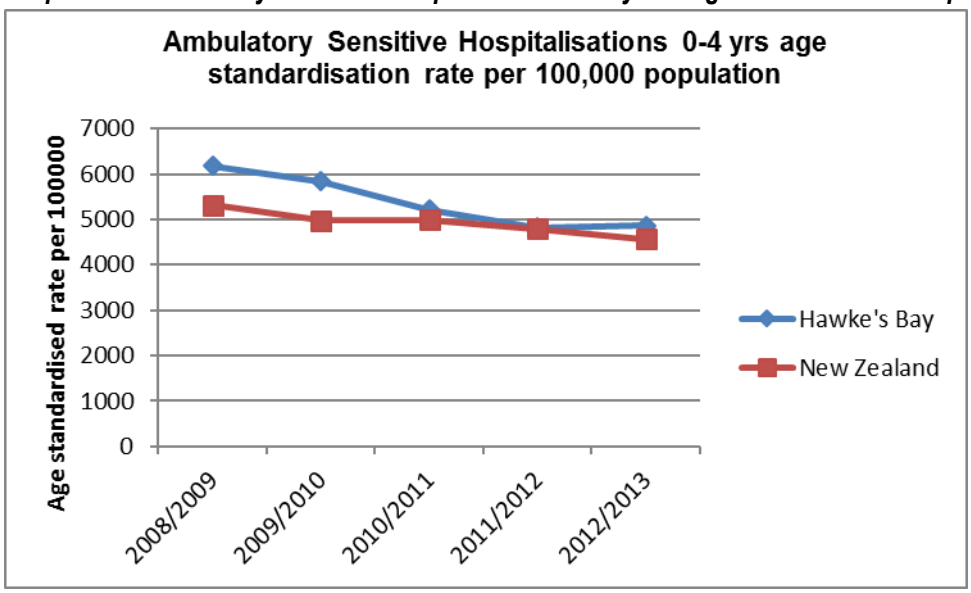
	2008/09	2012/13	Absolute change	Relative change
Non Māori	16.9	16.5	-0.4 (improving)	-2.5%
Māori	33.5	30.7	-2.8 (improving)	-8.4%
Gap Non-Māori – Māori	-16.6	-14.2	-2.37 (gap closing)	14.3%

Analysis by age groups

0-4 year olds

There has been a decline in ASH rates for 0-4 year olds in Hawke's Bay since 2008/09 with rates now similar to New Zealand. In 2012/13 the ASH rate in Hawke's Bay was 48.7 per 1000 compared to the New Zealand rate of 45.6 per 1000.

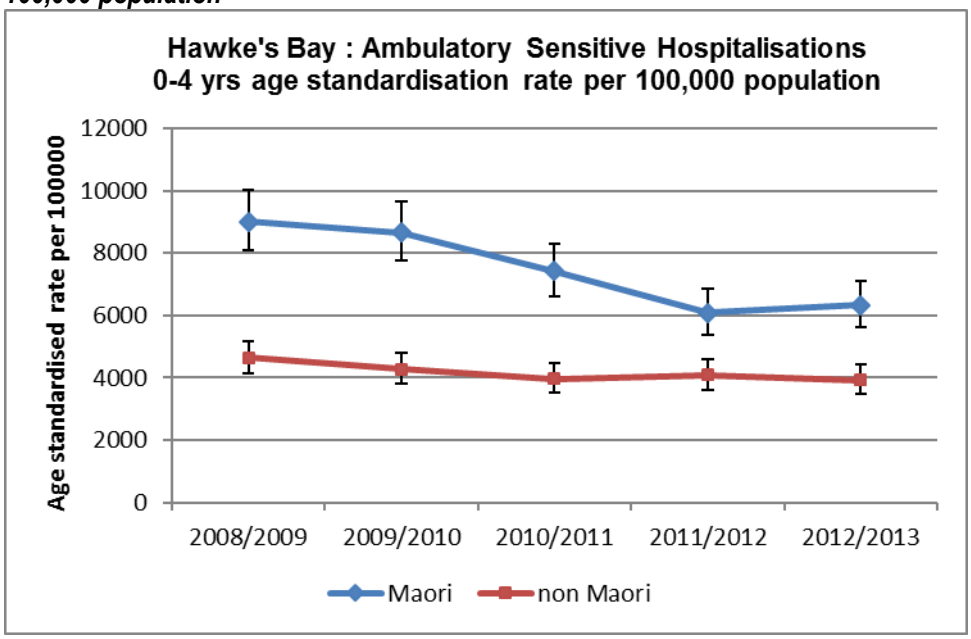
Graph 77 – Ambulatory Sensitive Hospitalisations 0-4 years age standardised rate per 100,000 population



Source: Ministry of Health

There are also disparities in ASH rates by ethnicity amongst 0-4 years with Māori rates 1.6 times that of non-Māori rates. However this disparity has decreased as ASH rates have declined faster for Māori. If current trends continue the gap between Māori and non- Māori would be closed by 2019.

Graph 78 – Hawke's Bay - Ambulatory Sensitive Hospitalisations 0-4 years age standardised rate per 100,000 population



Source: Ministry of Health

Table 65 –Ambulatory sensitive hospitalisations 0-4 years, ASR, per 1000

Ambulatory sensitive hospitalisations 0-4 years, ASR, per 1000	**HB**	**NZ**	**RR**	**Comment**
	48.7	45.6	1.1	HB similar to NZ
	HB Māori	**HB Non Māori**	**RR**	**Comment**
	63.3	39.3	1.6	Significant disparity

Table 66 – Trend analysis, Ambulatory sensitive hospitalisations 0-4 years, ASR, per 1000

	2008/09	2012/13	Absolute change	Relative change
Non Māori	46.4	39.3	-7.1 (Improving)	-15.3%
Māori	90.1	63.3	-26.8 (Improving)	-29.7%
Gap Non-Māori – Māori	-43.7	-24.0	19.7 (gap closing)	45%

Looking at the top conditions accounting for ASH admissions and in particular at the differences in rates of admission by condition for Māori and non-Māori there are some conditions with significant differences in admission rates by ethnicity – a narrowing of the gap for these conditions would be a major contribution towards closing the overall gap between Māori and non-Māori ASH rates amongst 0-4 year olds.

Table 67 – ASH Conditions 0-4 years old (ASH rates per 1000 {age standardised})

ASH Condition 0-4 year olds	ASH rates per 1000 (age standardised)		
	Māori	Non-Māori	Relative rate
Dental conditions	14.7	3.4	4.3
Gastroenteritis / dehydration	13.1	11.4	1.2 (not significant)
Asthma	9.6	5.6	1.7
Upper respiratory and ENT infections	9.6	8.6	1.1 (NS)
Cellulitis	5.05	2.1	2.4
Respiratory infections –pneumonia	4.8	2.1	2.3
Dermatitis and Eczema	4.6	1.2	3.9

Dental conditions account a large number of ASH admission in this age group and rates for Māori are 4.3 times those of non-Māori. This reflects a higher prevalence of severe dental caries in this age group, of which some may have been preventable through better access to oral health services and use of preventative treatment.

Admissions for dermatitis, asthma and cellulitis are likely to be linked to delays in accessing early intervention at a primary care level – and this may be a mixture of both issues with access and health literacy.

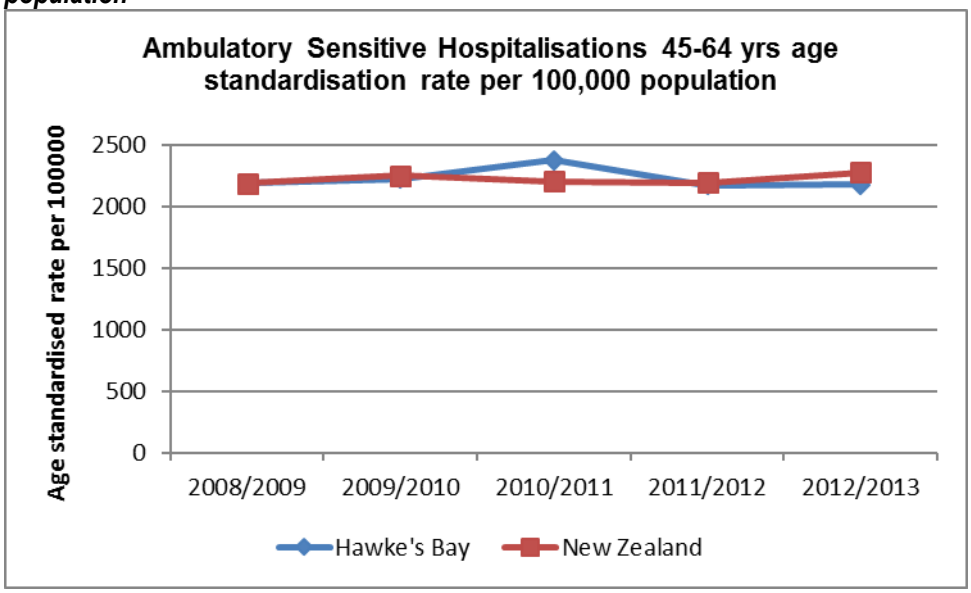
Higher rates of admission for respiratory and ENT infections are probably reflective of higher prevalence of these conditions amongst Māori, linked to environmental factors such as housing and exposure to tobacco smoke.

Rates of admission are high for gastroenteritis / dehydration rates of ASH but in Hawke's Bay Māori rates are similar to that of non-Māori. This may be in part due to a local pilot programme targeted at high needs general practices offering rotavirus vaccine.

45-64 years

By contrast there has been little change in rates for 45-64 year olds and HB rates are similar to NZ with rates of 21.8 per 1000 compared to 22.8 per 1000 for NZ.

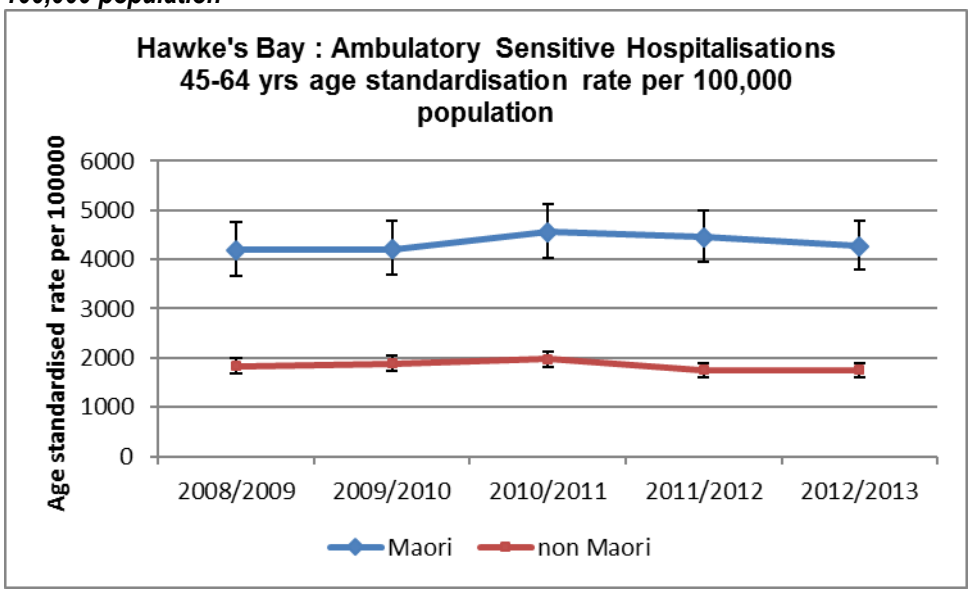
Graph 79 – Ambulatory Sensitive Hospitalisations 45-64 years age standardised rate per 100,000 population



Source: Ministry of Health

Rates of ASH for Māori are higher than non-Māori with little change over this period – the age standardised Māori rate in 12/13 was 42.7 per 1000 compared with 17.5 per 1000 for non-Māori , a relative rate of 2.4. The disparity between Māori and non-Māori has widened slightly.

Graph 80 – Hawke's Bay: Ambulatory Sensitive Hospitalisations 45-64 years age standardised rate per 100,000 population



Source: Ministry of Health

Table 68 – Ambulatory sensitive hospitalisations 45-64 years, ASR, per 1000

Ambulatory sensitive hospitalisations 45-64 years, ASR, per 1000	**HB**	**NZ**	**RR**	**Comment**
	21.8	22.8	1.0	HB similar to NZ
	HB Māori	**HB Non Māori**	**RR**	**Comment**
	42.7	17.5	2.4	Significant disparity

Table 69 - Trend analysis, Ambulatory sensitive hospitalisations 45-64 years, ASR, per 1000

	2008/09	**2012/13**	**Absolute change**	**Relative change**
Non Māori	18.4	17.5	-0.9 (improving)	-4.9%
Māori	41.9	42.7	+0.8 (worse)	+1.9%
Gap (Non-Māori – Māori)	-23.5	-25.2	-1.7 (gap widening)	+7.2%

The conditions with the largest rate ratios (statistically significant) are summarized below:

Table 70 - ASH Condition 45-64 year olds, 2012/13

ASH Condition 45-64 year olds, 2012/13	**ASH rates per 1000 (age standardised)**		
	Māori	**Non-Māori**	**Relative rate**
Angina and chest pain	6.6	1.5	1.9
Cellulitis	6.0	1.9	3.2
Respiratory infections –pneumonia	5.8	1.6	3.6
Congestive heart failure	5.3	1.2	4.3
Diabetes	4.5	1.5	3.1
Myocardial infarction	2.5	2.4	1.0 (NS)
Asthma	1.5	0.27	5.4

Heart disease, skin infections, respiratory infections and diabetes all feature highly as causes of the disparity in ASH rates for this age group. Much more needs to be done to improve access and treatment for Māori with these conditions.

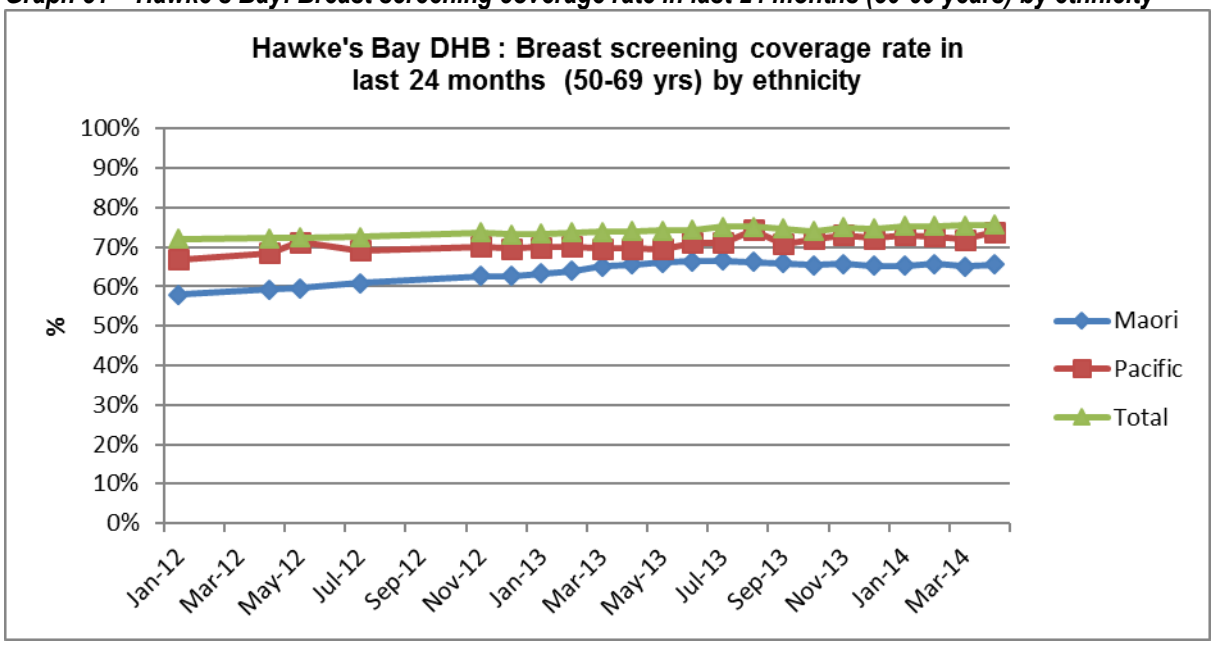
25. Cancer Screening Rates

Cancer is a major cause of death, accounting for around a quarter of deaths. There are two national cancer screening programmes in New Zealand at the moment – the breast and cervical cancer screening programmes. Attainment of targets for screening coverage is a measure of both access and quality.

Breast screening

Breast screening supports the early detection of cancer thereby saving lives. Targets have been set in New Zealand of 70% coverage across all ethnic groups. As of May 2014 targets have been achieved in Hawke's Bay for all eligible women, Pacific women and for Other women but not yet reached for Māori women - There has been little improvement on closing the gap over the past year with a slight widening of the gap - with a persistent 5% points way from target coverage.

Graph 81 – Hawke's Bay: Breast screening coverage rate in last 24 months (50-69 years) by ethnicity



Source: Breastscreening Aotearoa

Table 71 – BSA 2 year coverage as at 31 May 2014

BSA 2 year coverage as at 31 May 2014	**HB**	**NZ**	**RR**	**Comment**
	75.6	72.2	1.05	Statistical test of significance not able to be done
	HB Māori	**HB Other**	**RR**	**Comment**
	65.6	77.3	0.85	Statistical test of significance not able to be done
	HB Pacific	**HB Other**	**RR**	**Comment**
	72.9	77.3	0.94	Statistical test of significance not able to be done

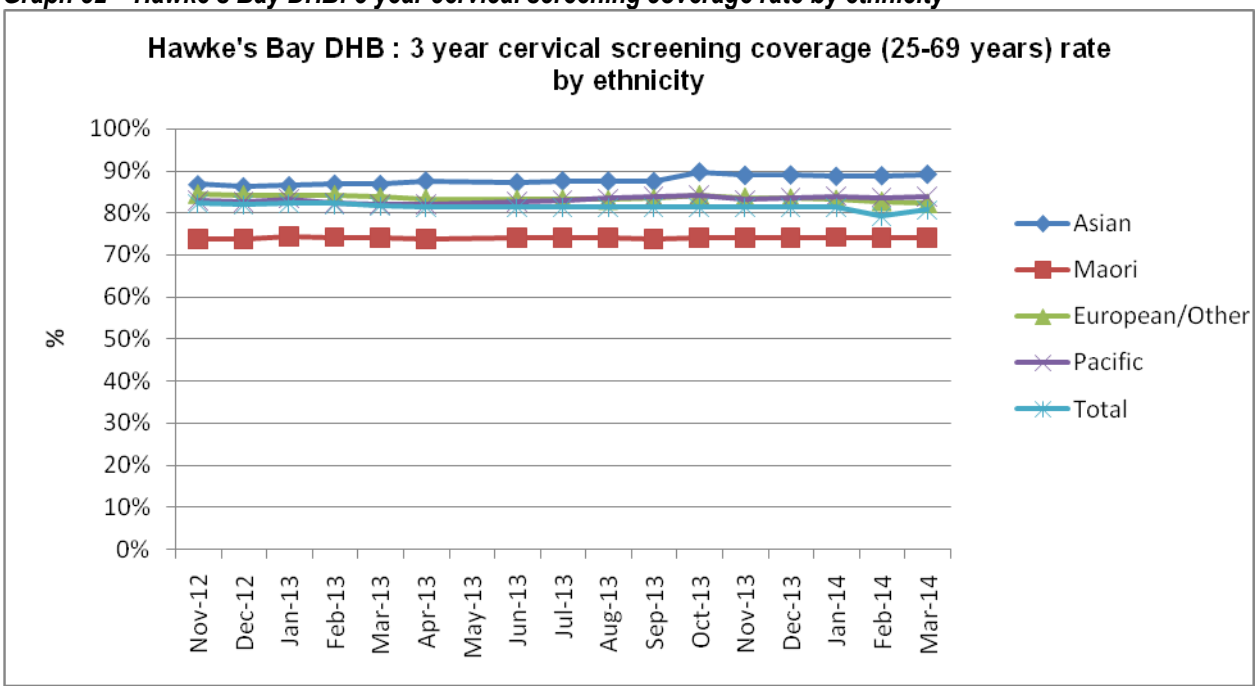
Table 72 - Trend analysis, BSA 2 year coverage 2012-2014

	July 2013	May 2014	Absolute change	Relative change
Other	76.8	77.3	+0.5 (improving)	+0.7%
Māori	66.5	65.6	-0.9 (worse)	-1.4%
Pacific	71.1	72.9	+1.8 (improving)	+2.5%
Gap Other – Māori	-10.3	-11.7	+1.4 (gap widening)	13.6%
Gap Other – Pacific	-5.7	-4.4	-1.3 (gap closing)	22.8%

Cervical screening

The target of 80% coverage has been achieved for all ethnic groups apart from Māori – there has been only very slight increase in Māori coverage since Nov 12. The gap between Pacific and Other women has closed and is closing between Māori and Other.

Graph 82 – Hawke's Bay DHB: 3 year cervical screening coverage rate by ethnicity



Source: National Cervical Screening Programme

Table 73 – NCSP 3 yr coverage as at 31 March 2014

NCSP 3 yr coverage as at 31 March 2014	**HB**	**NZ**	**RR**	**Comment**
	80.7	77.0	1.0	Statistical test of significance not able to be done
	HB Māori	**HB Other**	**RR**	**Comment**
	74.2	82.3	0.9	Statistical test of significance not able to be done
	HB Pacific	**HB Other**	**RR**	**Comment**
	83.9	82.3	1.0	Statistical test of significance not able to be done

Table 74 – Trend analysis, NCSP 3 yr coverage, 2013-2014

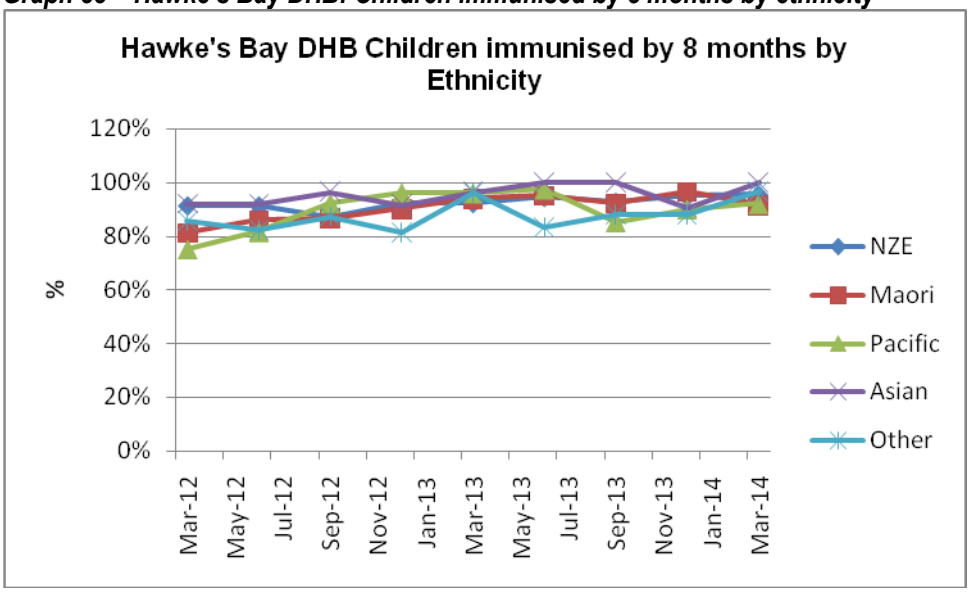
	March 2013	**March 2014**	**Absolute change**	**Relative change**
Other	83.7	82.3	-1.4 (worse)	-1.7%
Māori	74.1	74.2	+0.1 (improving)	+0.1%
Pacific	81.9	83.9	+2.0 (improving)	+2.4%
Gap Other – Māori	9.6	8.1	-1.5 (gap closing)	-15.6%
Gap Other – Pacific	1.8	-1.6	-3.4 (gap closed	-188%

26. Immunisation rates

There have been steady improvements in immunisation rates at both 8 months and at 2 years. The current target for 8 months reflects the importance of on time vaccinations and achievement of coverage rates at this time is measure of both access to primary care, access to other immunisation providers and quality of overall service provision. Whilst the immunisation event in itself is important being up to date at 8 months means that the infant has been in contact with a registered nurse or medical practitioner at least 3 times over that time – ideally at 6 weeks, 3 months and at 5 months. The requirement to stay for 20 minutes after the vaccination event enables many other health promoting conversations to be had with the care givers.

The most recent figures for 8 month immunisation coverage in Hawke's Bay (to March end 2014) shows a total of 93.7 % children fully immunised (95.5% European, 91.6% Māori and 92% Pacific). The target is currently 90%.

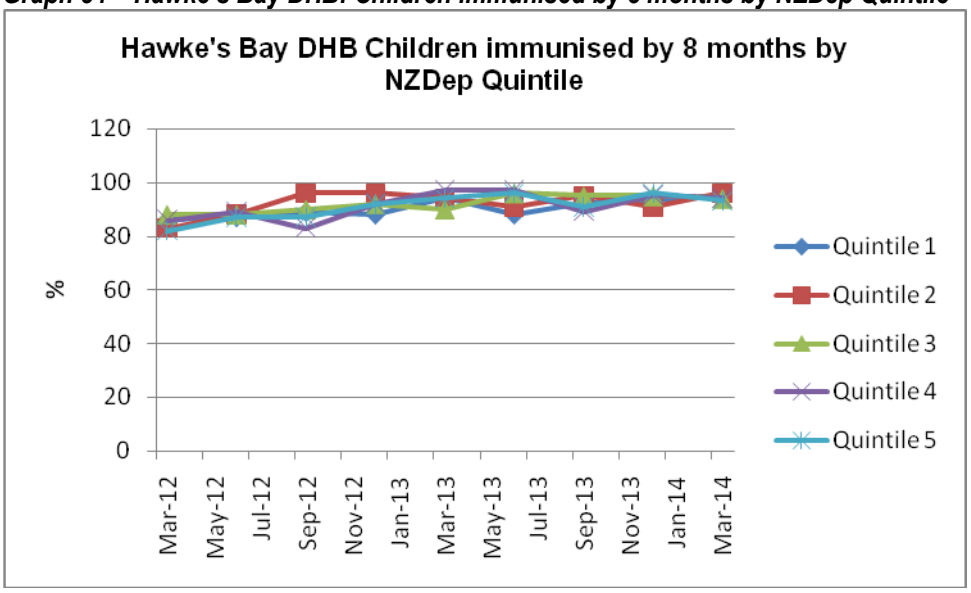
Graph 83 – Hawke's Bay DHB: Children immunised by 8 months by ethnicity



Source: National Immunisation Register

There has also been steady progress across all the quintile areas with all quintile areas reaching over 93% coverage.

Graph 84 – Hawke's Bay DHB: Children immunised by 8 months by NZDep Quintile



Source: National Immunisation Register

Table 75 – Fully immunised by 8 months of age March 2014

Fully immunised by 8 months of age March 2014	**HB**	**NZ**	**RR**	**Comment**
	93.7	91.4	1.0	HB similar to NZ
	HB Māori	**HB European**	**RR**	**Comment**
	91.6	95.5	0.96	No significant disparity
	HB Pacific	**HB European**	**RR**	**Comment**
	92.0	95.5	0.96	No significant disparity
	Q5	**Q1**	**RR**	**Comment**
	93	94	0.99	No significant disparity

At 2 years the disparity between Māori and Pacific immunisation rates has been reversed with higher rates than for European children.

Table 76 – Trend analysis, fully immunised at 2 years of age 2009-2014

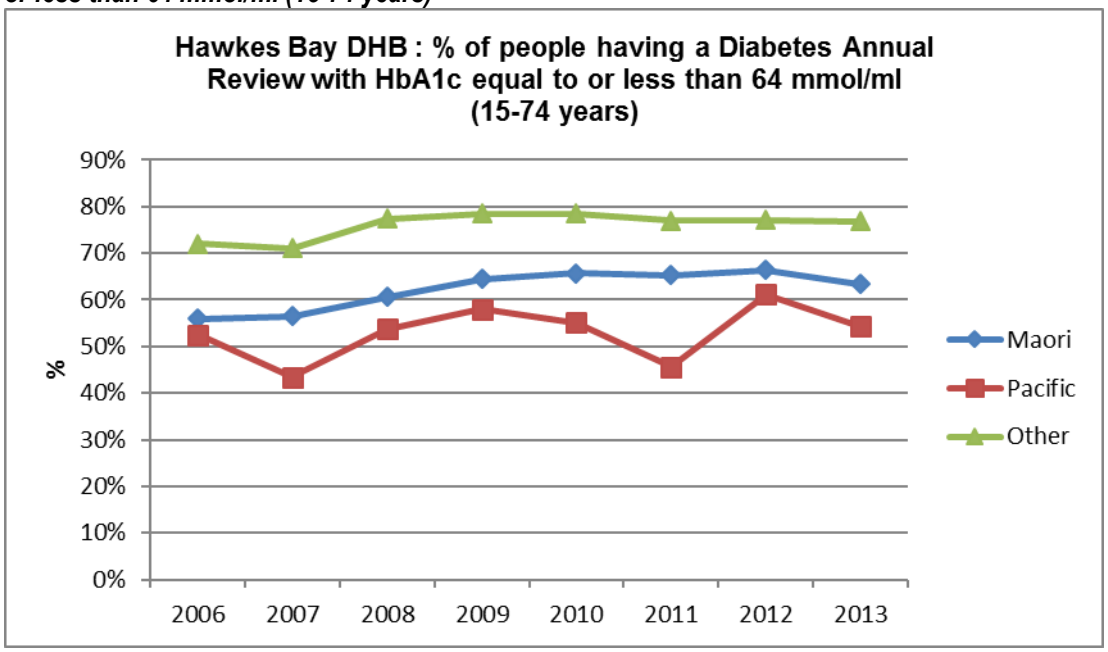
	Dec 09	March 2014	Absolute change	Relative change
Other	90	88.9	-1.1 (worse)	-1.2%
Māori	91	95.6	+4.6 (improving)	+5%
Pacific	83	95.8	+12.8 (improving)	+15.4%
Gap Other – Māori	-1	-6.7	-5.7(gap reversed)	570%
Gap Other – Pacific	+7	-6.9	-13.9 (gap reversed)	79%

27. Diabetic Management

An annual review of all patients with diabetes is recommended good practice in primary care. It provides an opportunity to assess aspects such as long term blood glucose control, cholesterol levels and blood pressure, height and weight. Data collected from this annual review on the level of HBa1C is used as an indicator of diabetes control – with good diabetes control achieved with a HbA1C level equal or less than 64 mmol / l. Only the age group 15-74 years is included.

Data on HBa1C has been analysed annually from 2006 by ethnicity for Hawke's Bay. There are persistent difference is the % attaining good diabetic control by ethnicity but the % of Māori with good control has increased by 7.5% since 2006 and the % of Other by 4.8%, compared to only a 1.7% increase for Pacific people. There has therefore been a slight reduction in disparity for Māori but a widening of disparity for Pacific people.

Graph 85 – Hawke's Bay DHB Percentage of people have a Diabetes Annual Review with HbA1c equal to or less than 64 mmol/ml (15-74 years)



Source: HBDHB Data Warehouse

Table 77 – % people attending annual reviews who had HBa1c less than 64 mmol / ml, 2013

% people attending annual reviews who had HBa1c less than 64 mmol / ml , 2013	**HB**	**NZ**	**RR**	**Comment**
	71	N/A	-	-
	HB Māori	**HB Other**	**RR**	**Comment**
	63.4	76.8	0.83	Significant disparity
	HB Pacific	**HB European**	**RR**	**Comment**
	54.2	76.8	0.71	Significant disparity

Table 78 – Trend analysis, % Diabetic annual reviews with HBa1c less than64 mmol / ml 2006-13

	2006	2013	Absolute change	Relative change
Other	72	77	+5 (Improving)	+6.9%
Māori	56	63	+7 (Improving)	+12.5%
Pacific	53	54	+1 (Improving)	+1.9%
Gap Other – Māori	16	14	-2 (gap closing)	-12.5%
Gap Other – Pacific	19	23	+4 (gap widening)	+21.1%

Chapter 4 - Social and Economic Factors

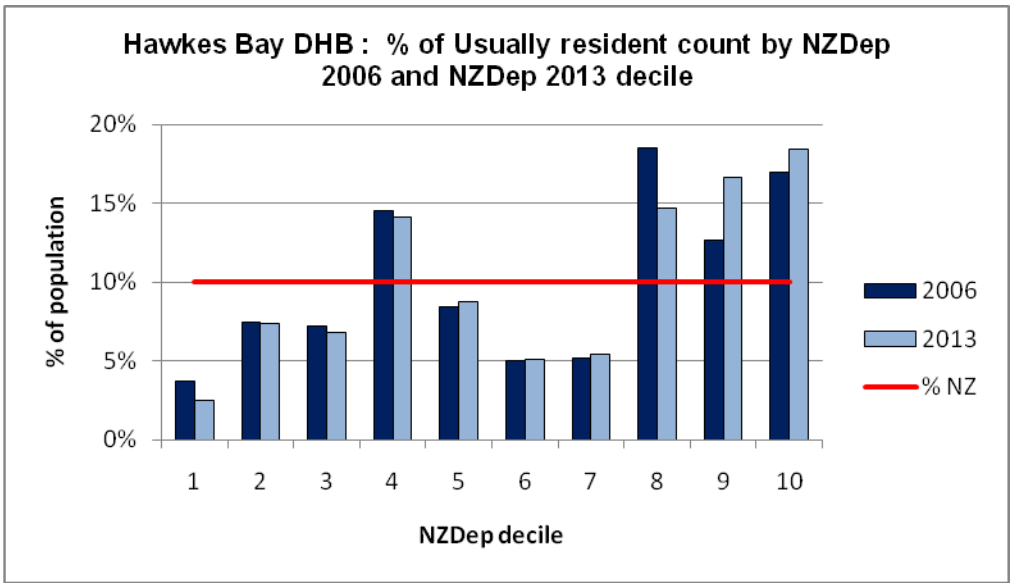
This section looks at some social and economic factors which can influence health and where possible looks at the distribution of those across the community. Measures of deprivation, income, education, employment and community safety have been used.

28. Deprivation Decile

The NZDep2013 is an updated version of the NZ index of socioeconomic deprivation and combines nine variables from the 2013 census reflecting eight dimensions of deprivation (income, employment, qualifications, home ownership, support, living space, transport and communication access). It provides a deprivation score (1-10) for defined geographical units in New Zealand whereby New Zealand is divided into tenths - a value of 10 indicates that the area is in the most deprived 10 % of areas in New Zealand according to the NZdep2013 scores, a value of 1 indicates that the area is in the least deprived 10% of areas. This index is a measure of relative socioeconomic deprivation (relative to NZ) not absolute socioeconomic deprivation. The measure also applies to the geographical area and may not be completely accurate for all the people who live in that area. However it is a useful way of assessing socioeconomic deprivation in different communities. .

Initial analysis of the Hawke's Bay population shows that 35% of our population live in the most deprived areas (NZDep decile scores 9 and 10) compared to the NZ baseline of 20%. This is an increase from 29.7% in 2006. This increase is largely due to census area units previously indexed as an 8 in the 2006 index now being indexed as 9 or 10. In 2006 there were 17 census area units indexed as quintile 5 (9 were decile 10, 8 were decile 9). In 2013 there are 21 census area units indexed as Quintile 5 (10 are decile 10, 11 are decile 9). See appendix for a map of the census area unit quintiles in Hawke's Bay.

Graph 86– Hawke's Bay DHB: Percentage of usually resident count by NZDep 2006 and NZDep 2013 decile



Source: Statistics NZ

The census area units which have changed are shown below.

Table 79 – Census area unit

Census Area Unit / TLA	Change
Whakaki, Wairoa District	Decile 8 to Decile 9
Nuhaka, Wairoa District	Decile 9 to Decile 10
Marewa, Napier City	Decile 9 to Decile 10
Tamatea North, Napier City	Decile 8 to Decile 9
Takapau, Central Hawke's Bay	Decile 8 to Decile 9
St Leonards, Hastings District	Decile 8 to Decile 9
Porangahau, Central Hawke's Bay	Decile 9 to Decile 8
Mahia, Wairoa District	Decile 10 to Decile 9

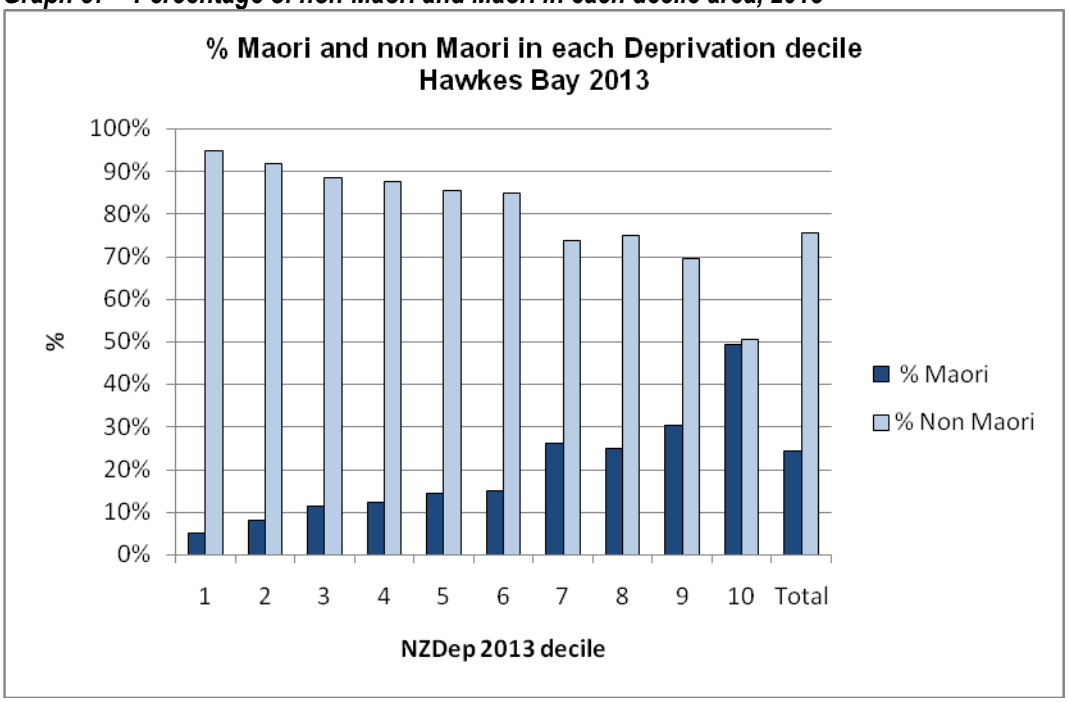
More than half of the Hawke's Bay Māori population (57%) and approximately 70% of the Pacific communities live in NZDep deciles 9 and 10 in Hawke's Bay.

Table 80 – Hawke's Bay DHB Population 2013

NZDep 2013	Non Māori		Māori		Total	
Decile	Number	%	Number	%	Number	%
1	3633	3.1%	198	0.6%	3831	2.5%
2	10239	8.8%	873	2.5%	11112	7.4%
3	9141	7.9%	1128	3.3%	10269	6.8%
4	18789	16.1%	2556	7.4%	21345	14.1%
5	11403	9.8%	1827	5.3%	13230	8.8%
6	6654	5.7%	1125	3.2%	7779	5.1%
7	6228	5.3%	2004	5.8%	8232	5.4%
8	16947	14.6%	5268	15.2%	22215	14.7%
9	17979	15.4%	7203	20.8%	25182	16.7%
10	15420	13.2%	12474	36.0%	27894	18.5%
Total	**116433**	100.0%	**34656**	100.0%	**151089**	100.0%

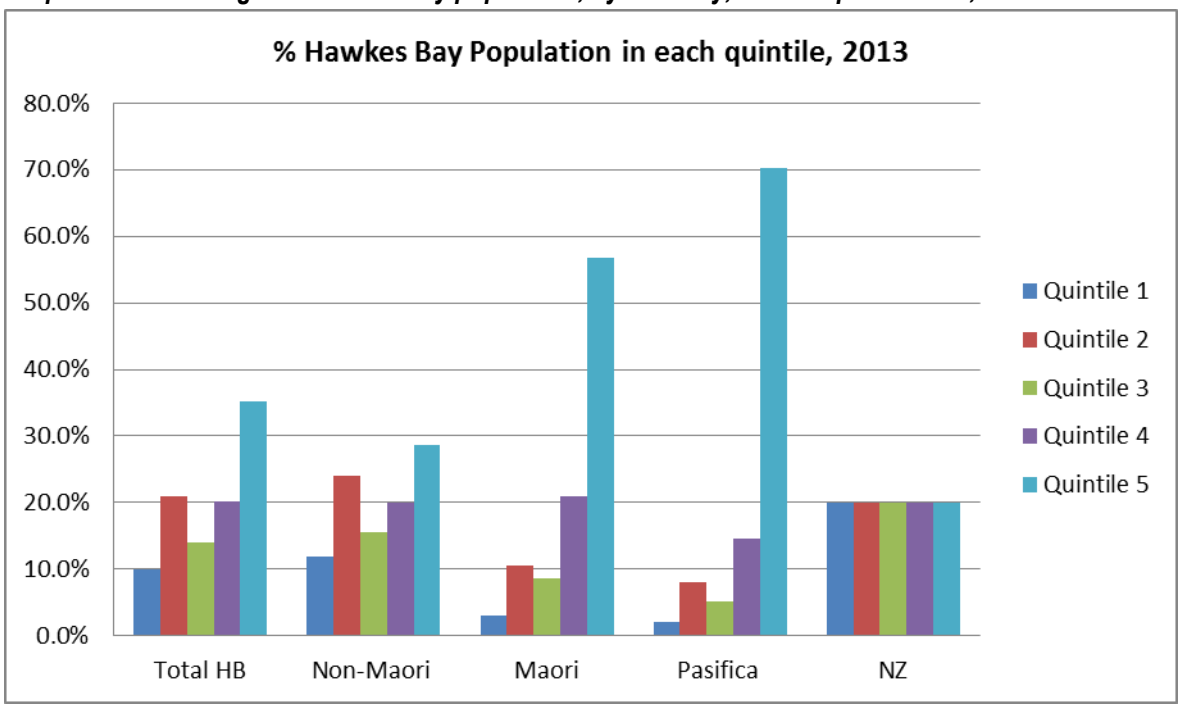
The distribution of Māori and Pacific people is heavily skewed towards the more deprived decile area but there are still significant numbers of non-Māori and non-Pacific people living in those decile areas also.

Graph 87 – Percentage of non-Māori and Māori in each decile area, 2013



Source: Statistics NZ

Graph 88 – Percentage of Hawke's Bay population, by ethnicity, in each quintile area, 2013



45% of children aged less than 5 years live in quintile 5 areas and 42% of children less than 15 years live in quintile 5 areas. 40% of 15-24 year olds live in quintile 5. By contrast 28% of people over 65 years live in quintile 5 areas with a generally more equal spread across the quintile areas.

Table 81 – % Population living in Quintile 5, 2013

% Population living in Quintile 5, 2013	**HB**	**NZ**	**RR**	**Comment**
	35.1	20	1.75	HB significantly higher than NZ
	Māori	**Non-Māori**	**RR**	**Comment**
	56.8	28.7	2.0	Significant disparity

The % of the Hawke's Bay population living in Quintile 5 has increased for both Māori and Non-Māori but because the growth is larger for Māori there is a widening in the disparity between Māori and non-Māori living in quintile 5.

Table 82 – Trend analysis, % Population living in Quintile 5

	2006	**2013**	**Absolute change**	**Relative change**
non-Māori	23.6	28.7	+5.1 (worse)	+21.6%
Māori	50.3	56.8	+6.3 (worse)	+12.5%
Gap (Non-Māori – Māori)	-26.7	-28.1	+1.4 (widening)	+5.2%

29. Children living in poverty

Growing up in poverty damages children's health and well-being, adversely affecting their future health and life chances as adults. Ensuring a good environment in childhood, especially early childhood is important. A considerable body of evidence links adverse childhood circumstances to poor child health outcomes and future adult ill health. Adverse health outcomes include low birth weight, infant mortality, poor dental health, poorer mental health and cognitive development and hospital admissions from a variety of causes. Research also suggests that exposure to low family income during childhood and early adolescence may also increase the risk of leaving school without qualifications, economic inactivity, early parenthood and contact with the justice system. The pathways linking low family income to long term outcomes are complex, and in part may be influenced by other socioeconomic factors.

In New Zealand, the Ministry of Social Development uses a range of income based measures to monitor child poverty. All are based on a family's disposable income (i.e. market income, less tax, plus social assistance) adjusted for family size and composition. An income poverty threshold commonly used is a household equivalent disposable income of less than 60% of the median, after adjusting for housing costs.

The NZ Child poverty monitor publishes results of poverty analysis for NZ as a whole. No Hawke's Bay specific analysis is available at present. (http://www.childpoverty.co.nz/flow-infographics/income-poverty).

27% of NZ children are living in poverty with 1 in 3 Māori children, 1 in 3 Pasifica children and 1 in 6 European children living in poverty - 63% of the households are beneficiary households with 37% having adults in paid employment. Of the families of children living in poverty 47% are 2 parent families and 53% are sole parent families. Poverty is therefore not just something that affects beneficiary households or single parent families.

30. Children Living In Households Receiving Benefits

Data on the number of children living in households receiving a working age main benefit has been obtained from the Ministry of Social Development. This shows higher percentages in Hawke's Bay compared to New Zealand - 32% of 0-4 year olds and 27% of 0-14 year olds in Hawke's Bay compared to 27% of 0-4 year olds and 21% of 0-14 year olds in New Zealand.

There are clear disparities by ethnicity.

Table 83 – % children living in households receiving a working age main benefit, by ethnicity, 2013.

Ethnicity	HB 0-4 years	NZ 0-4 years	HB 0-14 yrs	NZ 0-14 years
Māori	48.7%	40.7%	41.9%	35.9%
Pacific	24.3%	21.3%	20.5%	20.6%
Other	19.1%	14.3%	16.3%	13.5%
Total	31.9%	22.7%	26.7%	20.5%

Source: Ministry of Social Development

Compared to 2009 in Hawke's Bay there has been a widening in the gap between Māori and non-Māori /non-Pacific and a slight widening between Pacific and non- Māori /non-Pacific.

Table 84 – % Children 0-4 yrs living in households receiving working age benefits, 2013

% Children 0-4 yrs living in households receiving working age benefits, 2013	**HB**	**NZ**	**RR**	**Comment**
	31.9	22.7	1.4	HB significantly higher than NZ
	Māori	**Other**	**RR**	**Comment**
	48.7	19.1	2.5	Significant disparity
	Pacific	**Other**	**RR**	**Comment**
	24.3	19.1	1.3	Significant disparity

Table 85 – Trend analysis, % Children 0-4 yrs living in households receiving working age benefits, 2009-2013

	2009	**2013**	**Absolute change**	**Relative change**
Other	19.7	19.1	-0.6 (improving)	-3%
Māori	44.1	48.7	+4.6 (worse)	+10.4%
Pacific	24.4	24.3	-0.1 (improving)	0.4%
Gap Other – Māori	-24.4	-29.6	+5.2 (widening)	21.3%
Gap Other –Pacific	-4.7	-5.2	+0.5 (widening)	10.6%

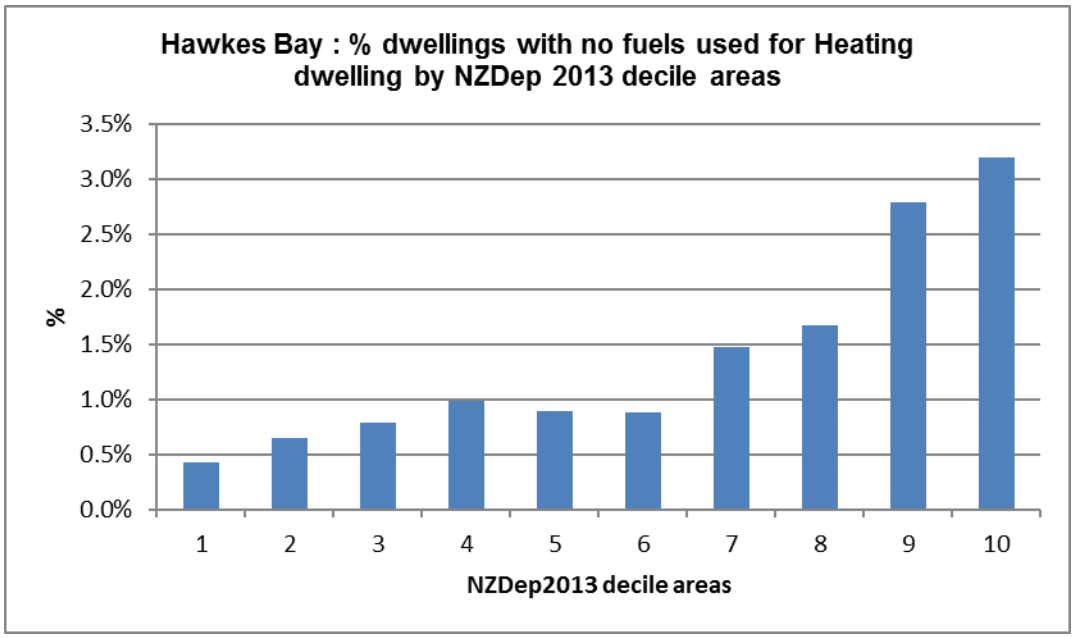
31. Fuel Poverty

Low income, poor energy efficiency and energy prices can all be drivers of fuel poverty – whereby families are unable to heat their homes adequately. Only 1.7% of dwellings in HB use no fuel for heating - ranging from 0.4% in decile 1 areas to 3.2% in decile 10 areas. This is similar to the New Zealand figure of 1.5%. In Hawke's Bay there were 933 dwellings who used no fuel – 531 of whom are in quintile 5 areas

The World Health Organisation recommends indoor temperatures be maintained between 20°C and 22°C. During colder months many New Zealand homes do not maintain temperatures in this range due to both inadequate insulation and heating. Inadequate heating is in turn associated with increased of illness including asthma and respiratory infection. When indoor air temperatures are below 16°C the body needs to expend energy to maintain core temperature and children and elderly persons are at risk of hypothermia. Despite an improvement in the insulation of New Zealand homes resulting from subsidisation of insulation retrofitting many homes are still not achieving optimum temperatures because of inadequate heating.

Hawke's Bay is subject to a wide range of temperatures in winter and all homes can be expected to require heating to maintain optimum temperatures.

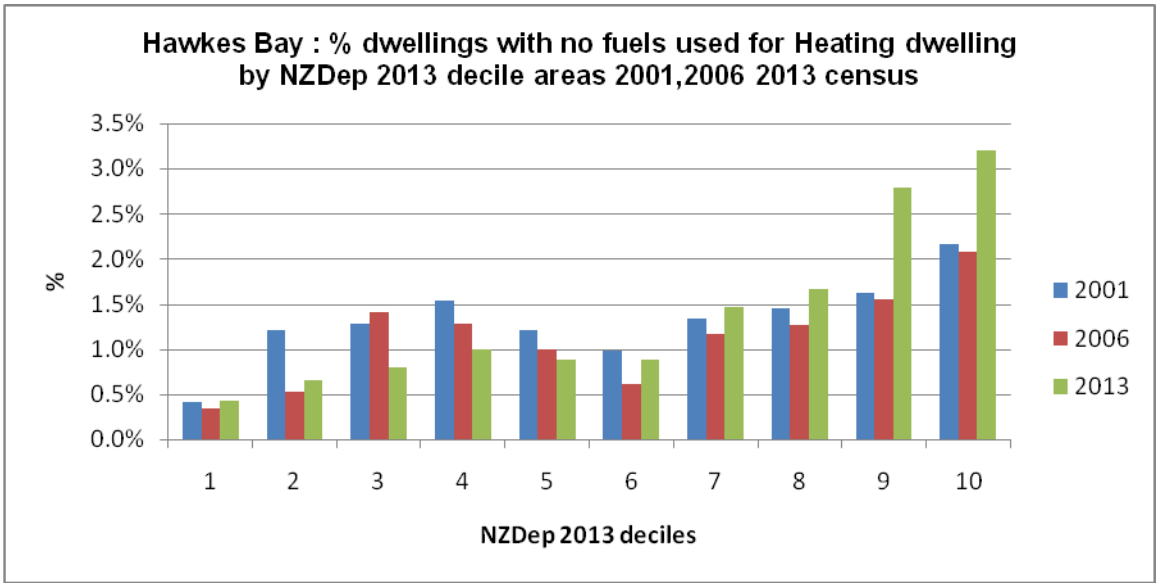
Graph 89 – Hawke's Bay: percentage dwellings with no fuels used for heating dwelling by NZDep 2013 decile areas



Source: Statistics NZ

When compared with previous censuses the proportion of dwellings with no fuels used to heat the dwelling has increased in the lower decile areas, particularly between 2006 and 2013 in decile 9 and 10. This means there has been a widening of the gap between those living in decile 1 areas and decile 10 areas.

Graph 90 – Hawke's Bay: percentage dwellings with no fuels used for heating dwelling by NZDep 2013 decile areas 201, 2006, 2013 census



Source: Statistics NZ

Table 86 - % dwellings with no fuels used to heat dwellings

% dwellings with no fuels used to heat dwelling dwellings, 2013	**HB**	**NZ**	**Ratio**	**Comment**
	1.7	1.5	1.2	HB similar to NZ
	Decile 10	**Decile 1**	**Ratio**	**Comment**
	3.2	0.4	8	Significant disparity

Table 87 - % dwellings with no fuels used to heat dwelling

	2006	**2013**	**Absolute change**	**Relative change**
Decile 1	0.34	0.42	+0.08 (worse)	23.5%
Decile 10	2.08	3.20	+1.1 (worse)	53.8%
Gap Decile 1- Decile 10	-1.74	-2.78	+1.0 (widening)	59.8%

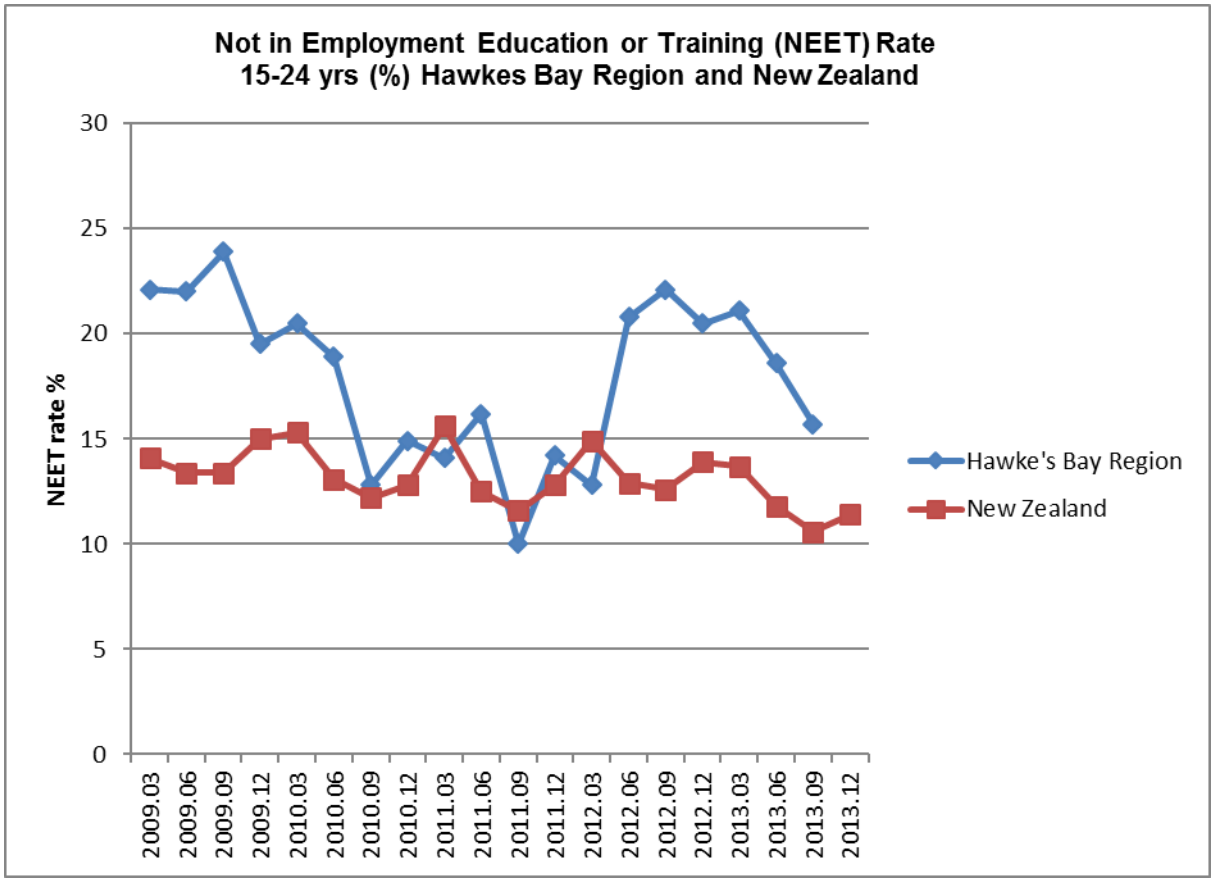
32. Young people not in education, employment or training (NEET)

Young people not in employment, education, or training (NEET) are young people aged 15–24 years who are unemployed (part of the labour force) and not engaged in education or training, and those not in the labour force and not engaged in education or training for many reasons. The data is sourced from the Household Labour force survey 2014.

Young people who are not in education, employment or training are at greater risk of a range of negative outcomes including poorer health, depression, or early parenthood.

There has been a fluctuation in the proportion of NEET in Hawke's Bay since 2009. The latest figure of 15.8% in Hawke's Bay is currently higher than the New Zealand average (11.4%) but has been similar to the NZ average in the past. Rates of NEET in Hawke's Bay reached a peak in September 2012 when there were 22.1% of young people NEET.

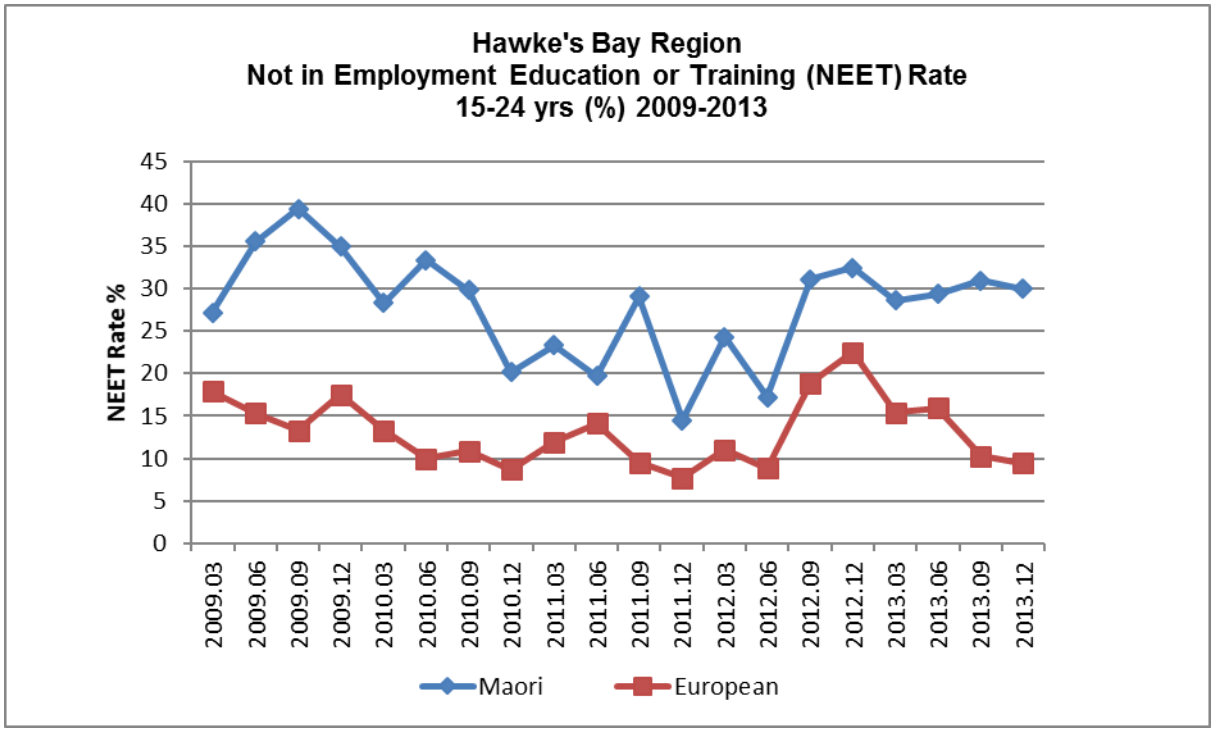
Graph 91– Not in employment education or training (NEET) rate 15-24 years (%) Hawke's Bay region and NZ



Source: Household Labour Force Survey – Statistics NZ

There is however a dramatic difference within Hawke's Bay in the % NEET between Māori and European with consistently higher rates in Māori young people - twice and at times three times higher. Since 2012 there has been a reduction in NEET amongst European young people with little change for Māori leading to a widening gap in this area. The most recent figures show that 30% of young Māori are not in education, employment or training compared to 9.4% European young people.

Graph 92 – Hawke's Bay region - not in employment education or training (NEET) rate 15-24 years (%) 2009-2013



Source: Household Labour Force Survey – Statistics NZ

Table 88 – % young people 15-24 not in education, training or employment 2013

% young people 15-24 not in education, training or employment 2013	**HB**	**NZ**	**RR**	**Comment**
	15.8	11.4	1.4	Statistical test of significance not able to be done
	Māori	**European**	**RR**	**Comment**
	30	9.4	3.2	Significant disparity

***Table 89 – Trend analysis*, % young people 15-24 not in education, training or employment, 2013**

	2009	**2013**	**Absolute change**	**Relative change**
European	17.9	9.4	-8.5 (improving)	-47.5%
Māori	27.2	30	+2.8 (worse)	+10.3%
Gap European - Māori	-9.3	-20.6	+ 11.3 (widening)	+121.5%

33. Unemployment

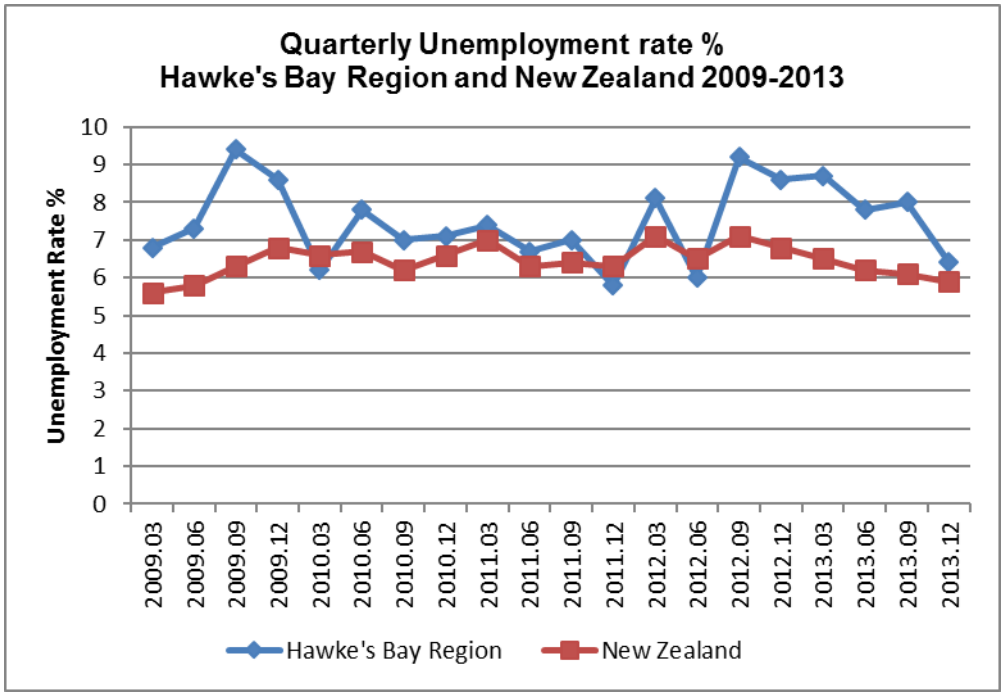
There is good evidence to show that work is generally god for physical and mental health and well-being and being unemployed does tend to be associated with poorer physical and mental health.

The Household Labour Force Survey (HLFS) is a nationwide survey and is the official measure of employment. Being unemployed is defined as all people in the working-age population who during the reference week were without a paid job, available for work, and had either actively sought work

in the past four weeks ending with the reference week, or had a new job to start within the next four weeks.

Unemployment rates in Hawke's Bay have fluctuated over the period March 2009 to December 2013 but with very little change in overall unemployment rates - at 6.4% Hawke's Bay rates are just higher than the New Zealand average of 5.9%.

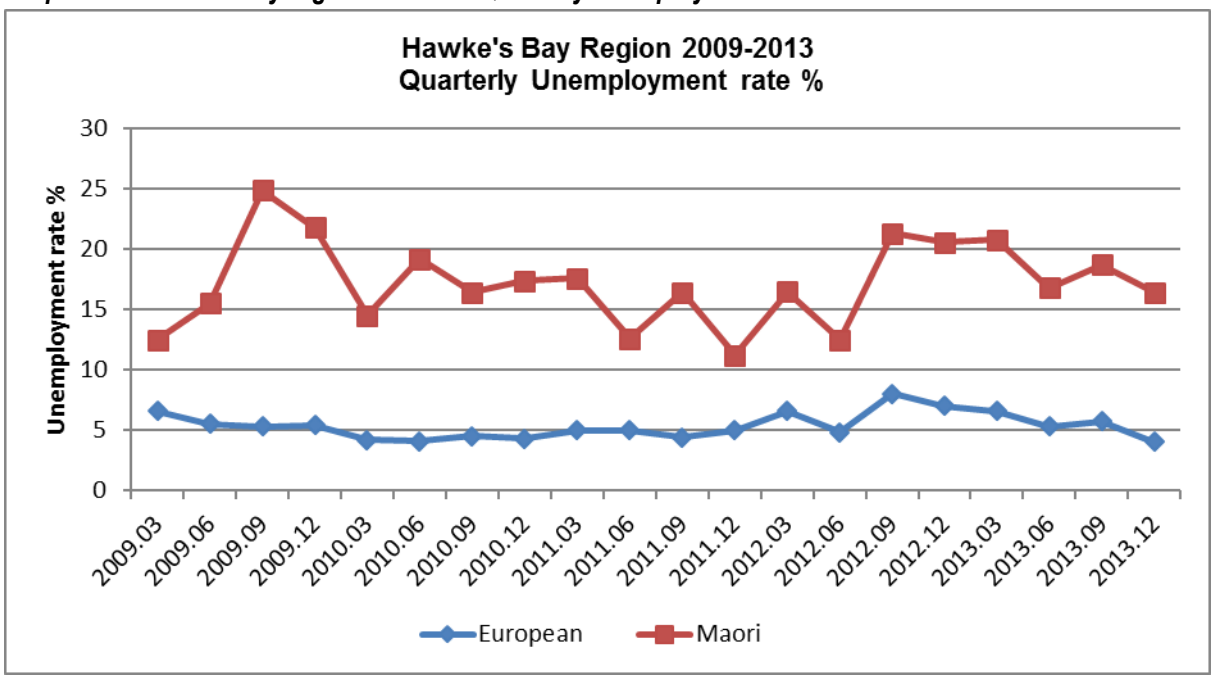
Graph 93– Quarterly unemployment rate % - Hawke's Bay region and NZ 2009-2013



Source: Household Labour Force Survey – Statistics NZ

There are persistent differences in unemployment between Māori and European with Māori having approximately four-times higher rates of unemployment. The gap in unemployment rates between European and Māori has closed during the 12 months from December 2012 to December 2013.

Graph 94 – Hawke's Bay region 2009-13 - Quarterly unemployment rate %



Source: Household Labour Force Survey – Statistics NZ

Table 90 - % Quarterly unemployment rate, Hawke's Bay region as at December 2013

Quarterly unemployment rate, December 2013	HB	NZ	RR	Comment
	6.4	5.9	1.1	Statistical test of significance not able to be done
	Māori	**European**	**RR**	**Comment**
	16.4	4.0	4.1	Significant disparity

Table 91 – Trend analysis for quarterly unemployment rate December 2012 quarter to December 2013

	December 2012	December 2013	Absolute change	Relative change
European	7.0	4.0	-3.0 (improving)	-42.9%
Māori	20.6	16.4	-4.2 (improving)	-20.4
Gap European - Māori	-13.6	-12.4	-1.2 (gap closing)	8.8%

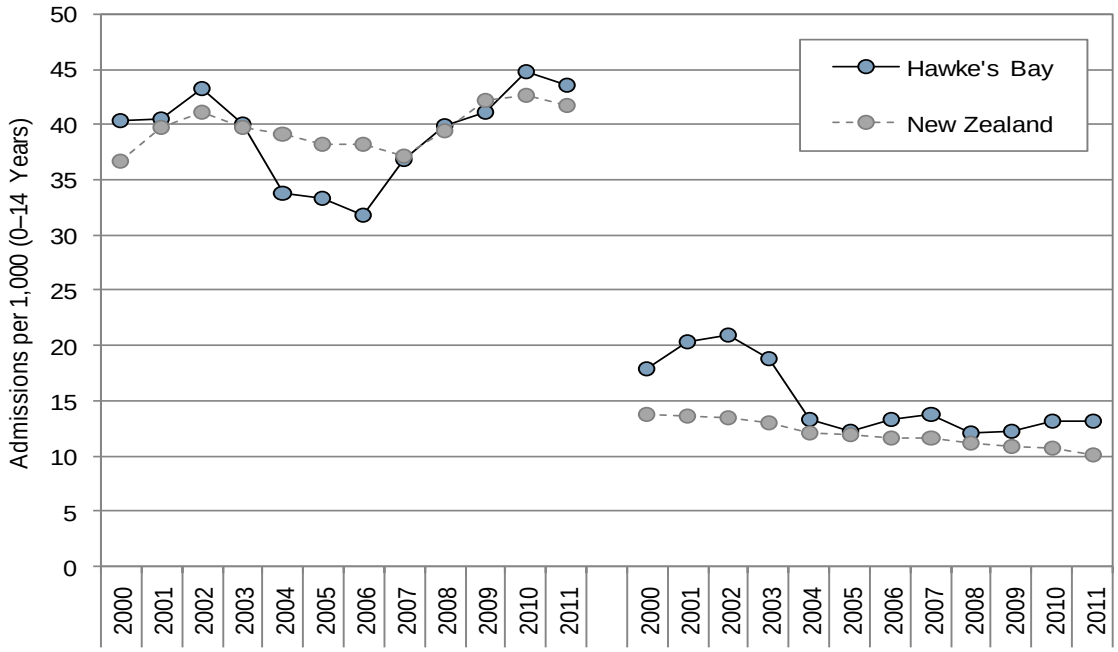
34. Disease linked with socioeconomic conditions

There are many childhood diseases that are known to be sensitive to socioeconomic conditions with much higher rates or worse outcomes seen in those children living in the most socioeconomically deprived areas. Most of these conditions are infectious and respiratory diseases and are directly linked to cold damp houses and overcrowding. The NZ Child and Youth Epidemiology service produces regular reports on child health across New Zealand and also at a DHB level and their graphs are reproduced below.

In Hawke's Bay for the period 2007-2011 the largest single cause of admission for conditions with a social gradient was acute bronchiolitis followed by asthma and gastroenteritis. The rates of admissions for all conditions with a social gradient in Hawke's Bay are similar to New Zealand and have shown a similar pattern of a decline in rates after 2002 with an upswing in rates during 07-10. There is a marked disparity in admission rate by ethnicity with Pacific children having 3.5 times the admission rates and Māori children twice the admission rate of European children. Pacific numbers are small and do fluctuate.

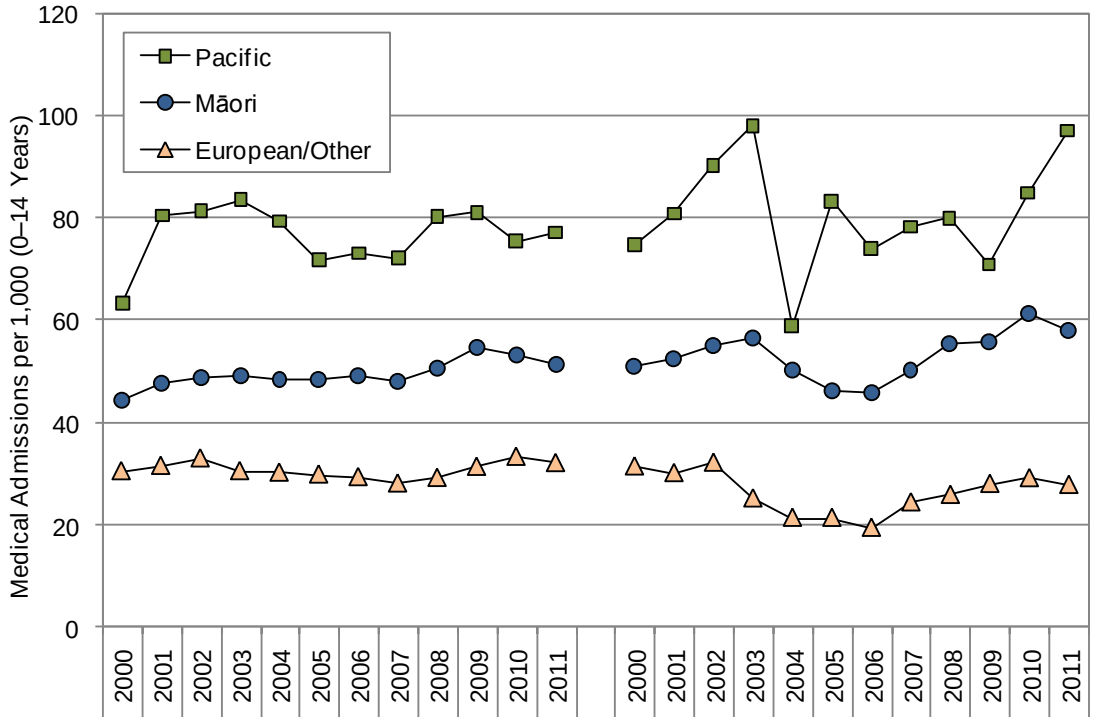
Admission rates for medical conditions with a social gradient have increased since 2006 for all ethnic groups but this increase has been greater for Pacific children. There is a widening of health inequity for both Pacific and Māori children.

Graph 95 – Hospital admissions for conditions and injuries with a social gradient, per 100, 0-14 years old, Hawke's Bay vs New Zealand, 2000-2011



Source: New Zealand Child & Youth Epidemiology Service

Graph 96 - Hospital admissions for medical conditions with a social gradient, per 1000, 0-14 years old, by ethnicity, Hawke's Bay vs New Zealand, 2000-2011



Source: New Zealand Child & Youth Epidemiology Service

Table 92 – Hospital admissions for medical conditions with a social gradient, per 1000, 0-14 years old, 2011

Hospital admissions for medical conditions with a social gradient, per 1000, 0-14 years old, 2011	**HB**	**NZ**	**Ratio**	**Comment**
	43.4	41.8	1.0	HB similar to NZ
	Māori	**European/Other**	**Ratio**	**Comment**
	57.8	27.8	2.1	Significant disparity
	Pacific	**European / Other**	**Ratio**	**Comment**
	97.1	27.8	3.5	Smaller numbers and fluctuations

Table 93 – Trend analysis, Hospital admissions for medical conditions with a social gradient, per 1000, 0-14 years old, 2006 - 2011

	2006	**2011**	**Absolute change**	**Relative change**
European	19.5	27.8	+8.3 (worse)	+42.6%
Māori	45.6	57.8	+12.2 (worse)	+26.8%
Pacific	74.0	97.1	+23.1 (worse)	+31%
Gap European - Māori	-26.1	-30	+3.9 (Gap widening)	+14.9%
Gap European – Pacific	-54.5	-69.3	+14.8 (Gap widening)	+27.2%

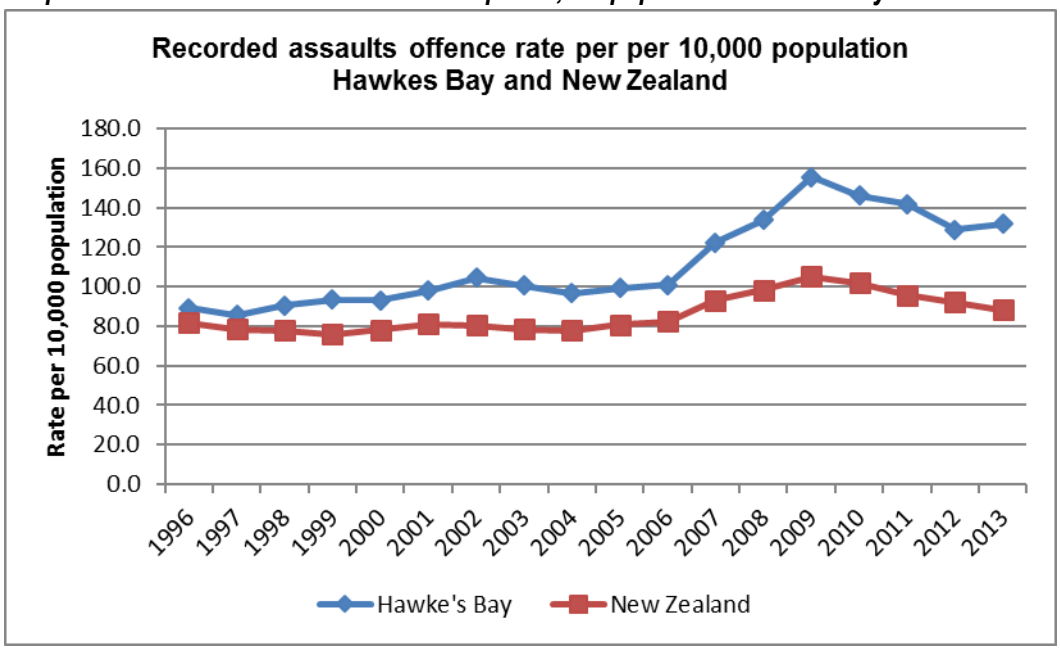
35. Prevalence of violent crime

The links between crime and health are complex. Violent crime may result in temporary or permanent disability and in some cases death. Some victims of crime may suffer psychological distress and subsequent mental health problems. Crime and fear of crime can also alter people's lifestyles and impact on their physical and psychological health. There is also concern about homicide and suicide by people with mental illness. Collectively these consequences represent a burden on healthcare services.

NZ Police data has been analysed to try to ascertain the prevalence of violent crime in Hawke's Bay. The data only includes violent offences which are reported to the police and is susceptible to changes in police crime reporting procedures. Total assaults plus assaults resulting in injury are presented for the population as a whole – data has not been provided by ethnicity or by decile of residence.

The following graphs show the rates of assault offences in HB and NZ. There was a dramatic increase in assaults between 2006 and 2009– this may be due to changes in recording or may be a genuine reflection of increasing assaults rates in our community. Hawke's Bay rates are higher than the NZ average.

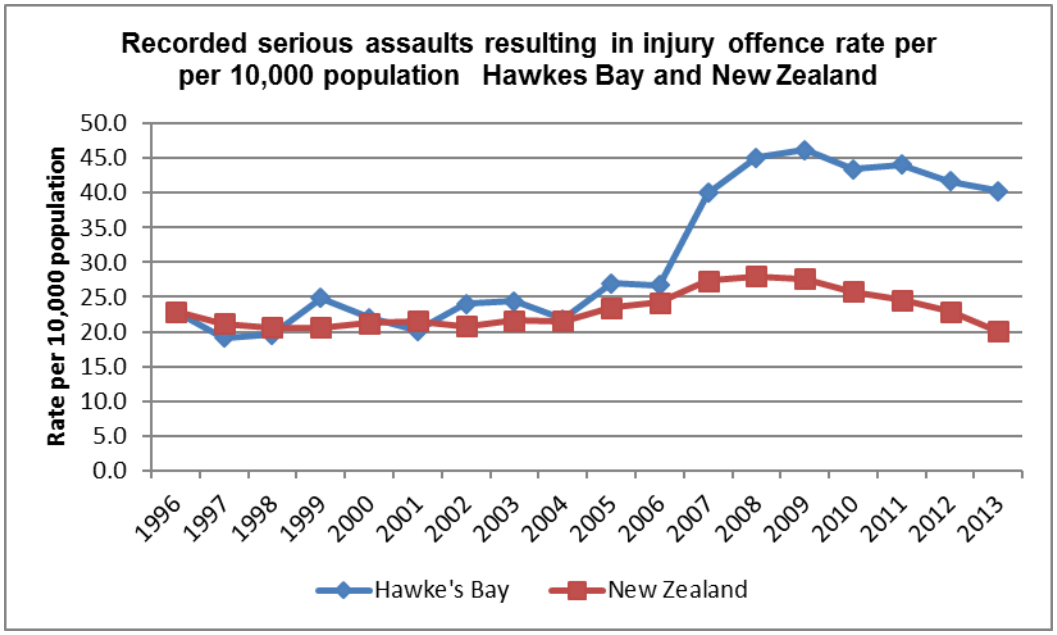
Graph 97 – Recorded assault offence rate per 10,000 population Hawke's Bay and NZ



Source: NZ Police

Serious assaults resulting in injury are a subset of recorded assaults. This shows a similar pattern to recorded results with Hawke's Bay rates higher than New Zealand, a dramatic increase between 2006 and 2009 and a gradual decline since then.

Graph 98 – Recorded serious assault resulting in injury offence rate per 10,000 population Hawke's Bay and NZ



Source: NZ Police

Table 94 - Recorded offence rates per 10,000, 2013

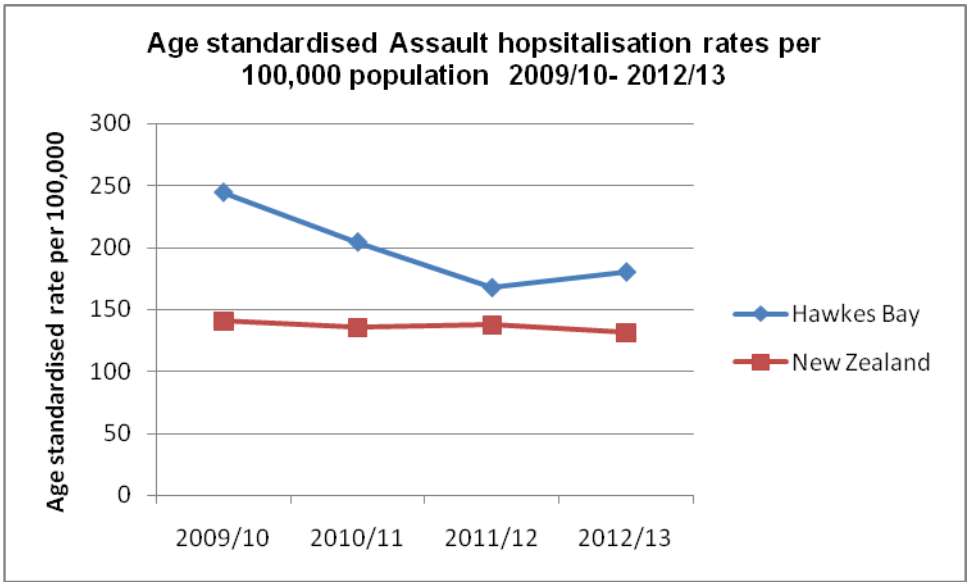
	HB	NZ	RR	Comment
Recorded assault rate per 10,000, 2013	131.9	88.2	1.5	HB significantly higher than NZ
Recorded serious assaults resulting in injury, 2013	40.3	20	2.0	HB significantly higher than NZ

Source: NZ Police

Admissions to hospital as a result of assaults

During 2012/13 there were 228 admissions to hospital as a result of an assault. Generally the number and rates of admissions due to assaults has been falling since 2009/10 but Hawke's Bay rates of admission are consistently higher than NZ rates (statistically significant difference).

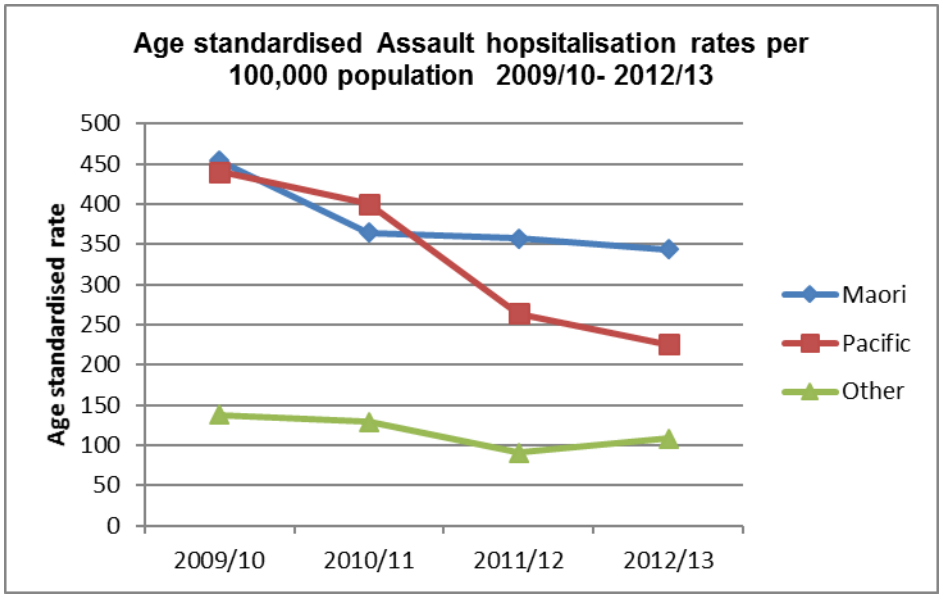
Graph 99 – Age standardised assault hospitalisation rates per 100,000 population 2009/10 – 2012/13 Hawke's Bay and NZ



Source: Ministry of Health NMDS

Rates of admission vary by ethnicity with higher rates seen for Māori and Pacific people. These rates have been decreasing with a narrowing of the gap between Māori and Other, and Pacific and Other. Māori rates of admission are about 3 times that of Other and Pacific rates are twice those of Other.

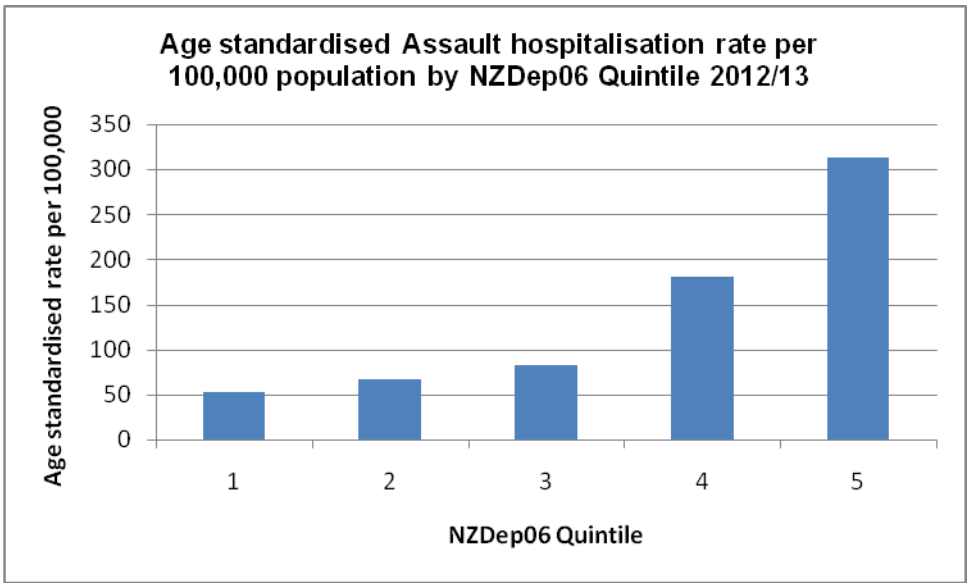
Graph 100 – Age standardised assault hospitalisation rates per 100,000 population 2009/10 – 2012/13 by ethnicity



Source: Ministry of Health NMDS

There is a very sharp increase in admissions due to assault by quintile with admissions rate in quintile 5 nearly six times that of quintile 1. Whilst recognising some of the issues comparing hospitalisation data this pattern is likely to reflect a much greater prevalence of assaults with increasing deprivation.

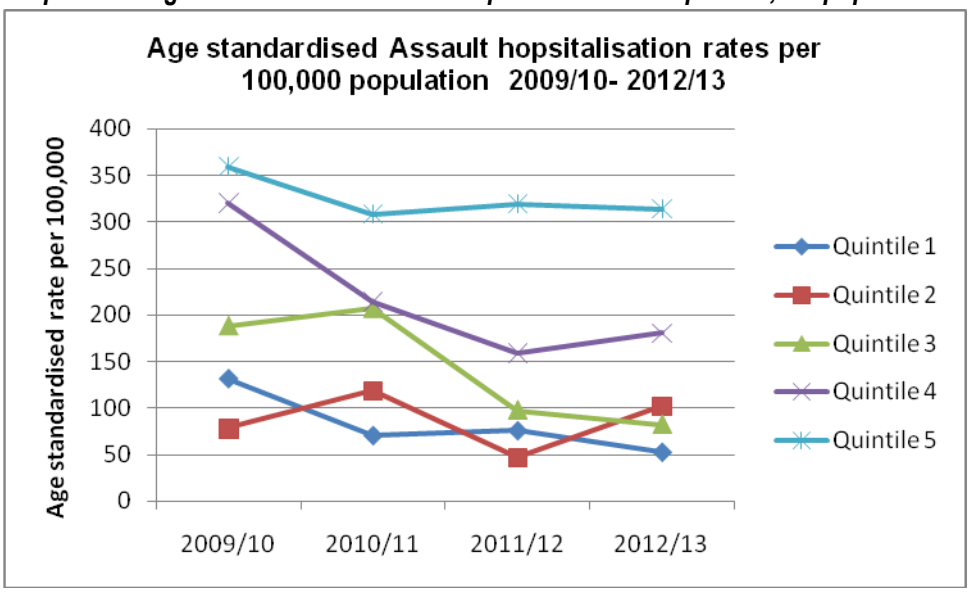
Graph 101 – Age standardised assault hospitalisation rates per 100,000 population by NZDep06 Quintile 2012/13



Source: Ministry of Health NMDS

There has been a reduction in assault hospitalisations since 2009/10 in quintile areas 1-4 but minimal change in quintile 5 with a resulting widening in gap between assault hospitalisation rates in quintile 1 and quintile 5.

Graph 102 – Age standardised assault hospitalisation rates per 100,000 population 2009/10 – 2012/13



Source: Ministry of Health NMDS

Table 95 – Assault hospitalisation rates, ASR, 2012/13

Assault hospitalisation rates, ASR, 2012/13	**HB**	**NZ**	**RR**	**Comment**
	181	131	1.4	HB rates higher than NZ
	HB Māori	Other	**RR**	**Comment**
	344	108	3.2	Significant disparity
	Pacifica	Other	**RR**	**Comment**
	226	108	2.1	No significant disparity
	Q5	**Q1**	**RR**	**Comment**
	313	53	5.9	Significant disparity

Table 96 – Trend analysis, Assault hospitalisation rates per 100,000 09/10-12/13

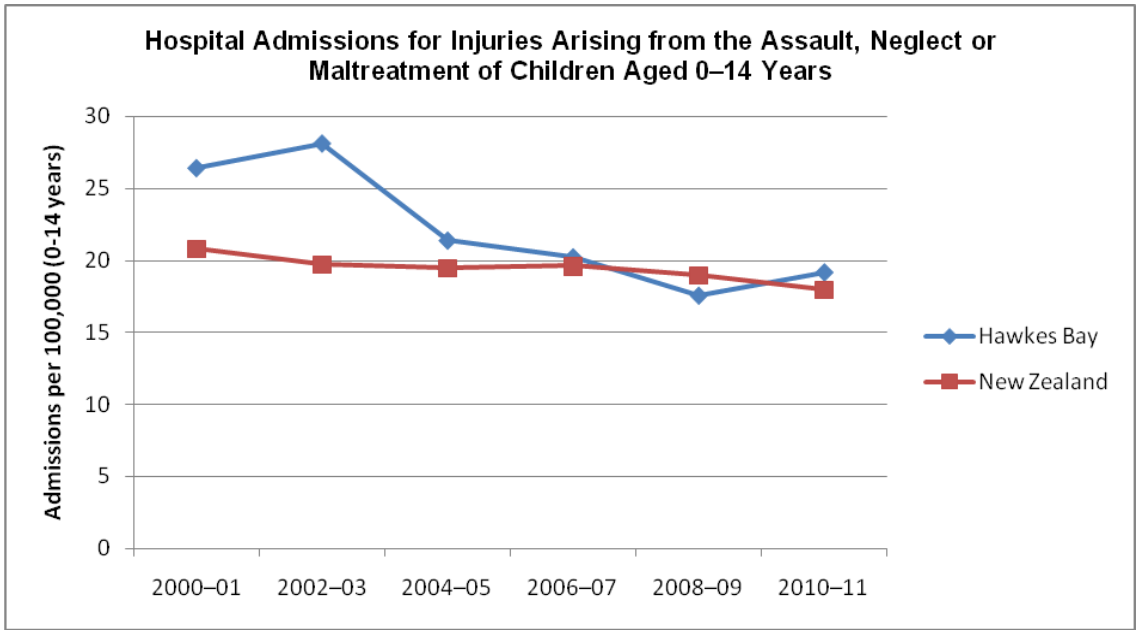
	2009/10	**2012/13**	**Absolute change**	**Relative change**
Non-Māori	156	114	-4.2 (improving)	-2.7%
Māori	454	344	-110 (improving)	-24.2%
Quintile 1	132	53	-7.9 (improving)	-6%
Quintile 5	359	313	-4.6 (improving)	-1.3%
Gap (Non-Māori - Māori)	-298	-230	+68(closing)	22.8%
Gap (Q1-Q5)	-227	-260	-33 (widening)	14.5%

Hospital admissions and mortality arising from assault, neglect or maltreatment

The NZ Child and Youth Epidemiology service in its report "The Determinants of Health for Children and young people in Hawke's Bay 2013 "analysed hospital admissions due to assault, neglect or maltreatment. This shows that admission rates have been generally falling since 2000 and Hawke's Bay rates are similar to the NZ average with on average about 6 admissions per year.

No analysis is available locally on rates by ethnicity or deprivation.

Graph 103– Hospital admissions for injuries arising from assault, neglect or maltreatment of children 0-14 years



Source: New Zealand Child & Epidemiology Service

Table 97 – Assault, neglect or maltreatment hospitalisation, rates per 100,000, 0-14 year olds, 2007-2011.

	HB	NZ	RR	Comment
Hospitalisation for injuries arising from assault, neglect or maltreatment, rates per 100,000, 0-14 yr olds, 2007-11	19.3	18.8	1.03	Hawke's Bay similar to New Zealand

Appendix 1: Summary of findings

Group	Indicator	Ratio HB : NZ	Ratio Maori Other	Ratio Quintile 5: Quintile 1	Equity Trend analysis					
					Maori	Non-Maori	Gap (M-O)	Q5	Q1	Gap (Q5-Q1)
Health Outcomes	Life expectancy at birth	0.99*	0.9*	n/a	Improving	Improving	Closing	n/a		
	Infant mortality	1.5	n/a	n/a						
	All-cause mortality < 75 years	1.1	2.3*	n/a	Improving	Improving	Closing (23.3%)			
	Potential years life lost	1.2*	2.3*	4.5*	Improving	Worse (2.8%)	Closing (22.8%)	Worse (3%)	Improving	Widening (27.9%)
	Avoidable mortality	1.1	2.6*	3.2*	Improved	Improved	Closing (30.9%)	Improving	Improving	Closing (10.5%)
	Amenable mortality	1.1	1.8*	2.8*	Improved	Worse (1.7%)	Closing (61.5%)	Improving	Improving	Closing (34.1%)
	Deaths due to Ischaemic heart disease	1.0	4.0*	n/a	Improved	Improved	Closing (33.5%)	n/a	n/a	n/a
	Deaths due to cancer	1.1	2.0*	n/a	n/a					
	Deaths due to lung cancers	1.0	6.1*	n/a	Worse	Improved	Widened	n/a	n/a	n/a
	Deaths due to breast cancer	1.4	1.1	n/a						
	Deaths due to colorectal cancer	0.98	0.63	n/a						
	Deaths from diabetes	1.5	4.2*	n/a	Improving	worse	Closing (64%)			
	Deaths from suicide	1.5	1.5	n/a						
	Deaths from road injury	1.5	2.9	n/a						
	Self-rated health	0.96*	0.9	0.9						
	Common Mental health conditions	1.3*	0.6*	1.1						
Health Behaviours	Tobacco use - adults	1.2*	2.4*	3.2*	Improving	Improving	Closing	n/a	n/a	n/a
	Tobacco use – year 10	1.6*	2.6*	n/a	Improving	Improving	Closing			
	Smoking in pregnant women	n/a	4.0*	3.7*	Improving	Improving	Closing	Improving	Worse (5.6%)	Closing
	Obesity - adults	1.1	2.0*	1.6	Worse	Worse	Closing			
	Obesity 4 year olds	n/a	2.5	3.3	Improving	Improving	Closing			
	Fruit consumption	1.0	0.8	1.1						
	Vegetable consumption	1.0	0.9	1.0						
	Breast feeding at 6 weeks	1.1	0.9	n/a						
	Breast feeding at 3 months	1.0	0.7	n/a						
	Breast feeding at 6 months	1.1	0.8	n/a						
	Physical activity	0.8*	1.1	1.3						
	Hazardous alcohol use	1.7*	1.9*	1.6	Worse	Worse	Widening			
	Hospital admissions due to alcohol	n/a	1.5*	n/a						
	Teenage pregnancy rate	1.4*	3.3*	7.4*	Improving	Improving	Closing			
	Intentional self-harm	1.1	0.9	1.9*	Improving	Worse (1%)	Closed	Worse	Worse	Widened
Access and quality of Health care	Unmet need in primary care	1.5*	1.4	1.5*						
	Dental health access	1.2*	1.4*	1.4*	Worse	Worse	Closing	n/a		
	Ambulatory sensitive admissions 0-74	1.0	1.9*	n/a	Improving	Improving	Closing (14.3%)			
	Ambulatory sensitive admissions 0-4	1.1	1.6*	n/a	Improving	Improving	Closing (45%)			
	Ambulatory sensitive admissions 45-64	1.0	2.4*	n/a	Improving	Worse (1.9%)	Widening			

	Breast Screening (July 13-May 14)	1.05	0.85	n/a	Worse (1.4%)	Improving (0.7%)	widening			
	Cervical screening (Mar 13-Mar 14)	1.0	0.9	n/a	Improving	Worse (1.7%)	Closing			
	Immunisation 8 month olds	1.0	0.96	0.99						
	Diabetic HBA1C management	n/a	0.8*	n/a	Improving	Improving	Closing (12.5%)			

Social and Economic factors	% Population living in Quintile 5	1.75*	2.0*	n/a	Worse	Worse	Widening			
	% Children living in households receiving working age benefits	1.4*	2.5*		Worse	Improving	Widening			
	% fuel poverty	1.1	n/a	8*	n/a	n/a	n/a	worse	worse	widening
	% young people NEET	1.4	3.2*	n/a	Worse	Improved	Widening			
	% Quarterly unemployment	1.1	4.1*	n/a	Improved	Improved	Closing			
	Hospital admissions for medical conditions with a social gradient, 0-14 year olds	1.0	2.1*	n/a	Worse (26.8%)	Worse (42.6%)	Widening (14.9%)			
	Recorded serious assaults resulting in injury	2.0*	n/a	n/a						
	Hospitalisations from assault	1.4*	3.2*	5.9*	Improved	Improved	Closing	Improving	Improving	Widened
	Hospitalisations 0-14 yr olds, assault, neglect or maltreatment	1.03	n/a	n/a						

Decile 10 instead of quintile 5 and decile 1 instead of quintile 1

Health Equity Summary - Pacific people in Hawke's Bay

Group	Indicator	Ratio Pacific: Other	Equity Trend analysis		
			Pacific	Other	Gap (P-O)
Health Outcomes	Potential years life lost	1.8*	Improving (16.6%)	Worse (+2.8%)	Closing (33.2%)
Health Behaviours	Tobacco use - adults				
	Tobacco use – year 10	Males 1.6* Females 1.6 *			
	Smoking in pregnant women	0.9			
	Obesity - adults	n/a			
	Obesity 4 year olds	5.8	Improving (6%)	Improving (33.3%)	Widening (2.7%)
Access and quality of health care	Breast Screening (July 13-May 14)	0.94	Improving (2.5%)	Improving (0.7%)	Closing (22.8%)
	Cervical screening (Mar 13-Mar 14)	1.0	Improving (2.4%)	Worse (1.7%)	Closed
	Immunisation 2 year olds	1.08	Improving (15.4%)	Worse (1.2%)	Closed
	Diabetic HBA1C management	0.71*	Improving (1.9%)	Improving (6.9%)	Widening (21.1%)
Social and economic factors	% Children living in households receiving working age benefits	1.3	Improving (0.4%)	Improving (3%)	Widening (10.6%)
	Hospital admissions for medical conditions with a social gradient, 0-14 year olds	3.5	n/a		

Appendix 2: Map of quintile areas in Hawke's Bay