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# DIABETES

## Key Findings

There has been good progress to targets on all DHB District Strategic Plan [DSP] key indicators of performance for diabetes, and in the case of retinal screening exceeded the 2007 target before time.

- The Ministry of Health estimates the number of people with diabetes in the Wairarapa in 2004 as 1263.
- The prevalence of self-reported diabetes is higher in the Maori than in the non-Maori population.
- Wairarapa total population hospitalisation rate for diabetes is significantly higher than the New Zealand rate.
- The Wairarapa total population standardised death rate for diabetes is generally higher than the New Zealand rate but not significantly higher.
- Wairarapa people who live in the more deprived areas [NZDep2001 quintiles 4 & 5] are more likely to be hospitalised for diabetes than people in less deprived areas.
- A greater proportion of people living in NZDep2001 areas 4 & 5 are hospitalised or die of diabetes.
- Progress on managing diabetes as measured by case detection, case management and eye screening measures all show improvement over the periods measured.

## Strategic context

Reducing the incidence and impact of diabetes is one of the four key Wairarapa DHB priority areas. It is also one of the 13 highest priorities of the New Zealand Health Strategy.

Diabetes, which is characterised by raised blood glucose, is a cause of cardiovascular disease, blindness, kidney disease, and vascular insufficiency of the legs, sometimes leading to amputation of lower limbs.

Most diabetics (85–90 percent) have type 2 diabetes. Type 2 diabetes usually develops during adulthood, and is frequently associated with obesity.

Diabetes is:

- A leading cause of premature mortality, particularly among Maori and Pacific peoples.
- The leading cause of end stage renal failure and blindness.
- A leading cause of amputation and foot ulcer.
- A major cause of heart attack and stroke.
- A major cause of stillbirth, congenital malformation and poor obstetric outcome.

As well as the health and disability consequences of diabetes for individuals, in most countries, diabetes is responsible for at least 5-15% of direct health costs. The Health Funding Authority estimated that hospital admissions for individuals with diabetes were associated with approximately \$168 million dollars in 1998/1999. A Price Waterhouse Cooper Report commissioned by Diabetes New Zealand in 2002 suggested that current costs were between \$200-300m, but were set to increase 3.8 fold to over \$1 billion each year by 2021.

Modelling indicates that almost a third of the total increase in diabetes is explained by epidemiological (notably the increase in obesity) rather than demographic forces. In other words much of the increase is being driven by potentially modifiable changes rather than demographic factors (such as population ageing). Obesity has been identified as the key risk for diabetes incidence, particularly type 2 diabetes where most of the potential prevention of new cases could occur. Improvement in the detection and management of people with diabetes (both types) also presents opportunities to improve health and decrease disability.

The Wairarapa DHB District Strategic Plan [DSP] key indicators of performance for diabetes are shown in the table below. There has been good progress to targets on all indicators and in the case of retinal screening exceeded the 2007 target before time.

Key Indicator description	DSP	HSR	Target June 2007	Target June 2012
Diabetes case detection	32.1%	59.6%	60%	80%
Diabetes case management	28.6%	23%	25%	20%
Retinal Screening of people with diabetes	66%	83%	80%	95%

## Prevalence

The self reported prevalence of diabetes is increasing. In 2002/03, 4.3% of New Zealand adults aged over 15 years reported that they had been told by a doctor that they had diabetes. In comparison, the 1996/97 New Zealand Health Survey found that 3.7% of New Zealand adults over 15 years had been told by a doctor that they had diabetes.

In 2002/03 4.7% and 3.8% of NZ adult males and females respectively had been told by a doctor that they had diabetes (other than during pregnancy).

The prevalence of self-reported diabetes is higher in the Maori than in the non-Maori population.

The results of the New Zealand Health Survey 2002/03 for the Wairarapa, shown in the table below, indicate that the Wairarapa has a similar overall prevalence of self reported diabetes than that in NZ as a whole. The survey reports that more males than females report that a doctor told them they had diabetes and that the prevalence of self reported diabetes in Maori in the Wairarapa is higher than that of non-Maori.

**Table 1: Prevalence of self-reported diabetes, by sex and ethnicity, 15+ years, percent, 2002/03<sup>\*</sup>**

	Maori		Non Maori		Total Population	
	Wairarapa	NZ	Wairarapa	NZ	Wairarapa	NZ
<b>Male</b>	8.5%	7.3%	4.7%	4.4%	5.1%	4.7%
<b>Female</b>	4.1%	5.2%	3.8%	3.6%	3.8%	3.8%
<b>Total</b>	6.1%	6.2%	4.2%	4.0%	4.4%	4.3%

Source: NZ Health Survey 2002/03. Age-standardised to WHO standard population

The Ministry of Health estimated the number of people with diabetes in the Wairarapa in 2004 as 1263.<sup>†</sup>

	Estimated number of people with diabetes 2004	% Estimated total with diabetes 2004
<b>Maori</b>	249	20%
<b>Pacific Island</b>	25	2%
<b>All Others</b>	989	78%
<b>All Ethnicities*</b>	1263	100%

\*"All Ethnicities" also includes people who did not state their ethnicity

The prevalence of diabetes increases with level of deprivation, with those living in the most deprived NZDep2001 quintile having a higher prevalence of those living in the least deprived quintile.

## Morbidity and Mortality

Detailed diabetes hospitalisation and mortality data is available in the Fact Sheets listed in Appendix 2. They present national and Wairarapa information including trends over time, rates by ethnicity, age-sex distribution, deprivation status, and numbers in each of Wairarapa districts.

Wairarapa hospitalisation (shown in the figure below) is significantly higher than New Zealand overall, this is also the case for Maori, Pacific people and Other ethnic groups individually, although the numbers for Pacific people are small and not statistically significant.

Mortality rates for diabetes are also higher; though the numbers are small because most diabetes associated mortality is due to its complications and will therefore be captured under the complication category (e.g. cardiovascular disease) rather than shown in these figures. This is also true for hospitalisations however diabetic management itself presents considerable clinical challenges so the numbers coded to diabetes are much higher. Hospital and mortality data generally significantly under-record known diabetes and diabetes is often undiagnosed.

## Hospitalisation

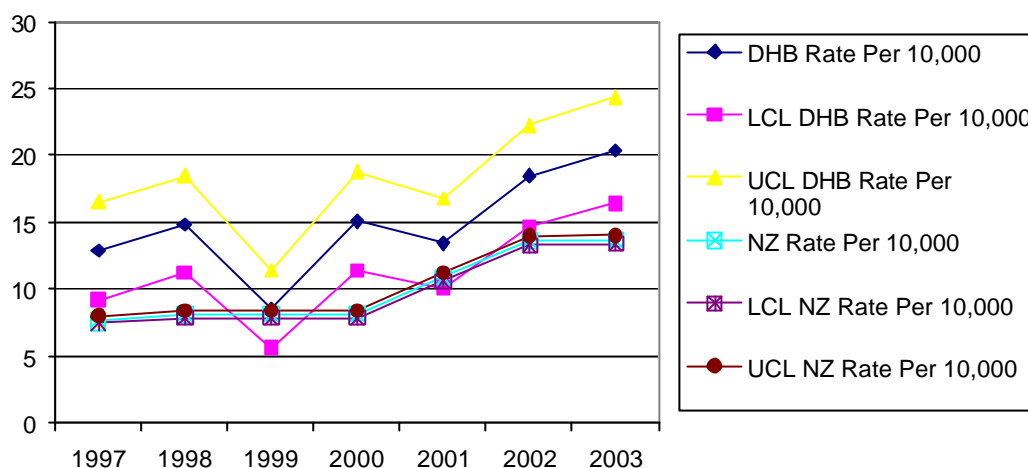
The Wairarapa total population standardised hospitalisation rate for diabetes is significantly higher than the New Zealand rate. The rate of increase is also higher than the national rate for the period 1997 to 2003.

\* Self reported means that those surveyed responded positively when asked had they been told by a doctor that they had diabetes.

† [Ministry of Health](#), Diabetes Model, Dec 2004

The Wairarapa Maori population standardised hospitalisation rate for diabetes is generally higher than the comparable New Zealand rate but not significantly higher. The rate of increase is less than the national rate for the period 1997 to 2003.

**Figure 1: Diabetes hospitalisations, total ethnicity, age standardised per 10,000 population, Wairarapa and NZ**



**Table 2: Diabetes hospitalisations, Maori and non-Maori.**

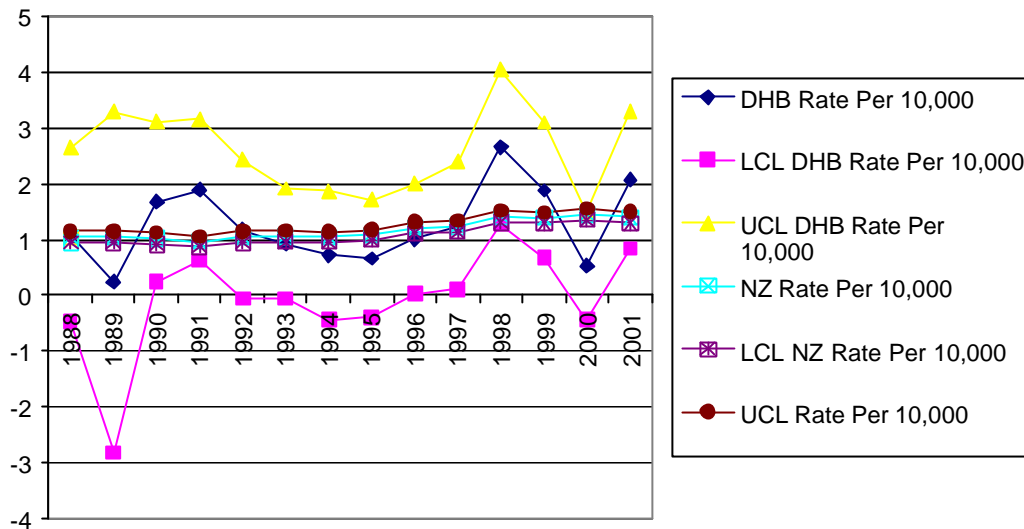
Year	Non-Maori Rate per 10,000		Maori Rate per 10,000		Total Rate per 10,000	
	Wairarapa	NZ	Wairarapa	NZ	Wairarapa	NZ
1997	11.48	6.42	26.22	19.65	12.86	7.69
1998	12.09	6.5	33.9	23.52	14.85	8.09
1999	8.54	6.88	11.78	22.06	8.49	8.12
2000	14.6	6.91	25.55	21.59	15.05	8.13
2001	13.14	9.18	29.16	25.68	13.43	10.89
2002	17.89	11.62	27.37	30.76	18.45	13.62
2003	19.56	11.35	38.89	32.8	20.39	13.69

## Mortality

The Wairarapa total population standardised death rate for diabetes is generally higher than the New Zealand rate but not significantly higher. The rate of increase is greater than the national rate for the period 1988 to 2001.

The Wairarapa Maori population standardised death rate for diabetes is generally lower than the New Zealand rate but not significantly lower. The rate of increase is greater than the national rate for the period 1988 to 2001.

**Figure 2: Diabetes deaths Wairarapa and New Zealand 1988-2001**



**Table 3: Diabetes deaths, Wairarapa and New Zealand, 1988 – 2001**

Year	DHB Rate Per 10,000			NZ Rate Per 10,000		
	Maori	Other	Pacific People	Maori	Other	Pacific People
1988	0	1.09	0	1.04	1.05	0.62
1989	0	0.24	0	1.04	1.05	1
1990	0	1.5	0.17	0.91	1.02	0.87
1991	0.44	1.45	0	0.86	0.96	0.95
1992	0.26	0.91	0	1.05	1.05	0.76
1993	0	0.93	0	1.06	1.06	0.71
1994	0.25	0.48	0	1.05	1.05	0.89
1995	0	0.66	0	1.09	1.09	0.93
1996	0.3	0.71	0	1.21	1.21	1.2
1997	0	1.25	0	1.24	1.24	1.24
1998	0.32	2.32	0	1.41	1.41	1.41
1999	0.54	1.34	0	1.38	1.39	1.35
2000	0.21	0.32	0	1.45	1.45	1.45
2001	0.48	1.44	0.16	1.39	1.4	1.39

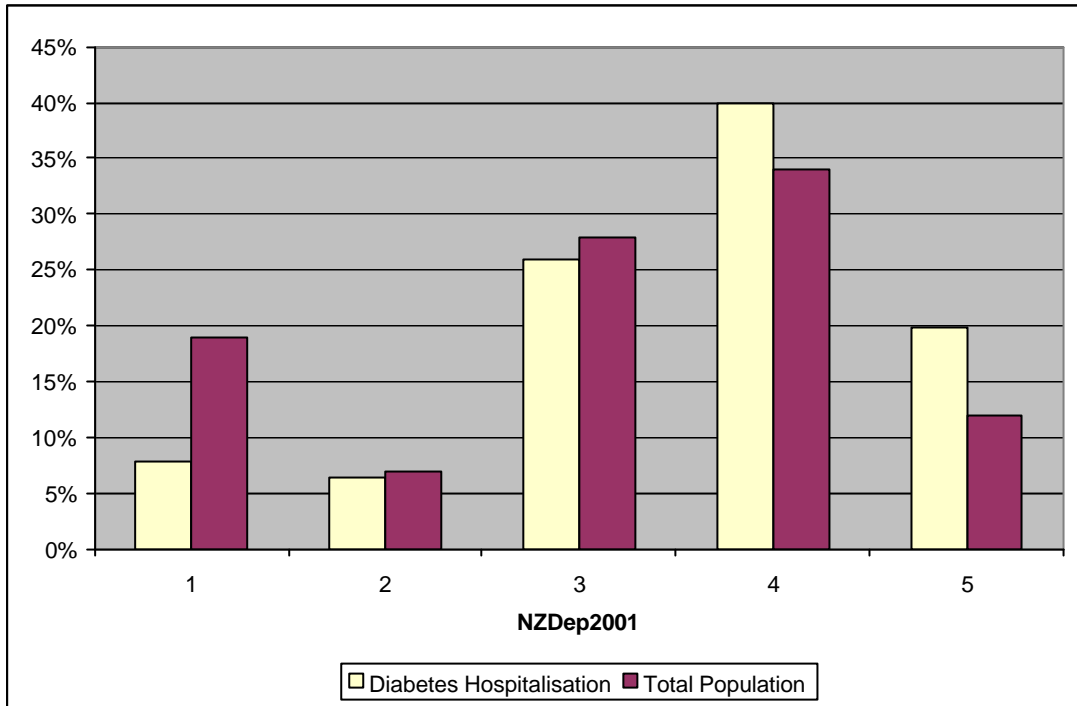
Source: Ministry of Health, Health Needs Assessment CD Version 7.

### Deprivation

Wairarapa diabetes hospitalisations indicate a strong association with socioeconomic deprivation. Figure 3 shows that people who live in the more deprived areas are more likely to be hospitalised for diabetes than people in less deprived areas.

This pattern is also true for diabetes mortality.

**Figure 3: Diabetes hospitalisations and total population deprivation profile**



## Measuring progress

Three main measures are used by the Ministry and the DHB to measure progress.

### Case detection

Case detection measures the known number of people with diabetes who have an annual check versus the expected number. The number of people with diabetes having an annual check has risen by just over 10% during 2004 and the proportion of Maori and Pacific Island people being checked is increasing.

**Table 4: Case detection: Annual diabetes checks by ethnicity, 2002 – 2004**

	2002		2003		2004	
	Diabetes checks	% of expected checks	Diabetes checks	% of expected checks	Diabetes checks	% of expected checks
<b>Maori</b>	48	12%	90	13%	104	14%
<b>PI</b>	4	1%	13	2%	16	2%
<b>Other</b>	356	87%	579	85%	633	84%
<b>TOTALS</b>	408	100%	682	100%	753	100%

Source: Wairarapa Locality Diabetes Team Annual Report 2004

### Case management

Case management is the percentage of people with poor diabetes control, as measured by the percentage of people on a primary care register with an HBA1c greater than

8%. There has been a decrease in the number of people with poorly controlled diabetes between 2003 and 2004.

**Table 5: Case management: Poorly controlled diabetes by ethnicity, 2003 & 2004**

	2003		2004	
	Number checked	% with HBA1c>8.0	Diabetes checks	% with HBA1c>8.0
<b>Maori</b>	90	45.5%	104	26.9%
<b>PI</b>	13	30.8%	16	43.8%
<b>Other</b>	579	26.9%	633	21.3%
<b>TOTALS</b>	682	29.5%	753	22.6%

Source: Wairarapa Locality Diabetes Team Annual Report 2004

### Eye screening

Eye screening is the percentage of people with diabetes who have had their eyes screened in the last two years. The Wellington Independent Practitioners Association is contracted to provide retinal screening for people with diabetes in the Wairarapa.

In 2004 83% of people receiving checks had eye screening in the last two years. This is well on the way to the target of 90%.

### Conclusion

Diabetes is a significant and increasing cause of poor health and disability in the Wairarapa, particularly in Maori, and people living NZDep2001 quintile 4 and 5 areas.

Wairarapa DHB has made diabetes one of its high priorities and effort has gone into strategies to prevent diabetes and improve diabetes management.

A Locality Diabetes Team (LDT) has been established to facilitate involvement of diabetes health care providers and consumers in monitoring diabetes and advising the DHB on strategies. The Team has worked on improving the numbers of people detected with diabetes accessing annual checks and decreasing the number of people with poorly controlled diabetes.

The recommendations of the (LDT) looking forward are:

- “Facilitate a Diabetes Hui for the Wairarapa to review progress in diabetes, identify local needs and consider future directions.
- Ensure that the objectives that are included in the 2005 District Annual Plan and PHO Maori Health Plan under “Chronic Illness” are applied to reducing the incidence and impact of Diabetes:
- Work with the PHO and other Sectors (e.g. Education) to address chronic illness risk factors and increase uptake of screening programmes.
- Implement at least two chronic illness pathways for people in the Wairarapa with Diabetes, Respiratory Disease, Cancer, Cardio Vascular Disease (CVD) or stroke.

- Review Funding and Provision of palliative care for people with any chronic illness and develop an integrated approach.
- Clarify the Diabetes management pathway and points of referral for Paediatric Diabetes
- Promote Care Plus for all eligible people with diabetes and ensure that for people with diabetes, there is a clearly identified diabetes section in the plan, with clear targets and progress measures.
- Acknowledge the role of the community pharmacist in the effective team management of diabetes. Include pharmacist representation in the LDT.
- Focus workforce development on carer education.
- Ensure IT projects for service development and site change include provision for shared information between the primary and secondary health sectors.”