

Diabetes

Introduction

Diabetes is a metabolic condition which results in raised blood glucose. It is an important cause of morbidity and mortality in New Zealand. The presence of diabetes can lead to cardiovascular disease, blindness, kidney disease and vascular insufficiency. These vascular problems may lead to nerve damage in the feet, or amputation of the lower leg (Powers 2005).

Diabetes is characterised by raised blood glucose due to insulin deficiency, insulin resistance, or both. There are two main types of diabetes.

Type 1 diabetes is less common and usually develops in childhood. It is caused by the destruction of insulin-producing cells, resulting in insulin deficiency. Daily insulin injections are usually required to sustain life.

Type 2 diabetes is more common and usually develops in adulthood. The condition is associated with insulin resistance, leading to a relative insulin deficit. Type 2 diabetes may not have any symptoms and may not be diagnosed in some people who have the condition. Treatment includes changes to diet, tablets and/or insulin injections. Modifiable risk factors for Type 2 diabetes are being overweight or obese and physical inactivity.

What were the survey questions?

In the 2006/07 New Zealand Health Survey adults were asked if they had ever been told by a doctor that they have diabetes (other than during pregnancy). If so, they were asked their age at diagnosis, what treatment they were currently taking and whether they had received a free Get Checked health check in the previous 12 months.

Parents of child participants in the survey were asked if they had ever been told by a doctor that their child had any of the health conditions listed on a show card, of which diabetes was one prompted response.

Prevalence of diagnosed diabetes for children and adults

The prevalence of diabetes in children was 0.2% (0.1–0.4), which means that approximately 1700 children had been diagnosed with diabetes by a doctor (most probably type 1). Due to small numbers, the data presented in the rest of this section are for adults only.

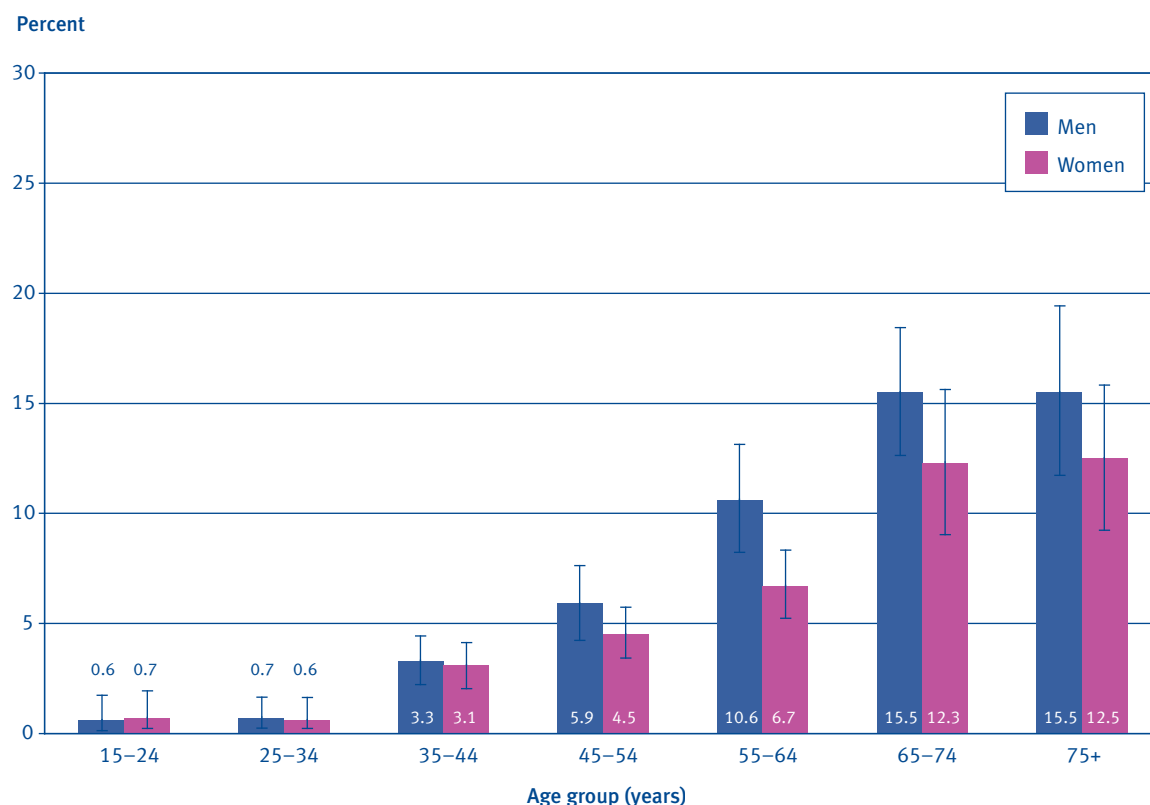
One in 20 adults (5.0%, 4.6–5.5) had doctor-diagnosed diabetes (excluding diabetes during pregnancy). This equates to 157,100 adults. Men (4.7%, 4.2–5.2) were slightly more likely than women (3.7%, 3.3–4.1) to be diagnosed with diabetes when standardised for age (p-value < 0.05).

Type 2 diabetes accounts for the majority of diabetes in New Zealand. Nine out of every ten adults with diabetes (90.9%, 88.2–93.7) were diagnosed when they were aged 25 years or older, and almost all of these people will have type 2 diabetes.

Prevalence of diagnosed diabetes, by age group

In both men and women the prevalence of diabetes increased as age increased (Figure 3.11). One in seven adults aged 65 years and over had been diagnosed with diabetes. Men aged 55–64 years were significantly more likely than women in the same age group to have diagnosed diabetes.

Figure 3.11: Diagnosed diabetes for adults, by age group and gender (unadjusted prevalence)



Source: 2006/07 New Zealand Health Survey

Prevalence of diagnosed diabetes, by ethnic group

Table 3.9 gives an indication of the burden of diabetes in New Zealand's main ethnic population groups.

Table 3.9: Diagnosed diabetes for adults, by ethnic group (unadjusted)

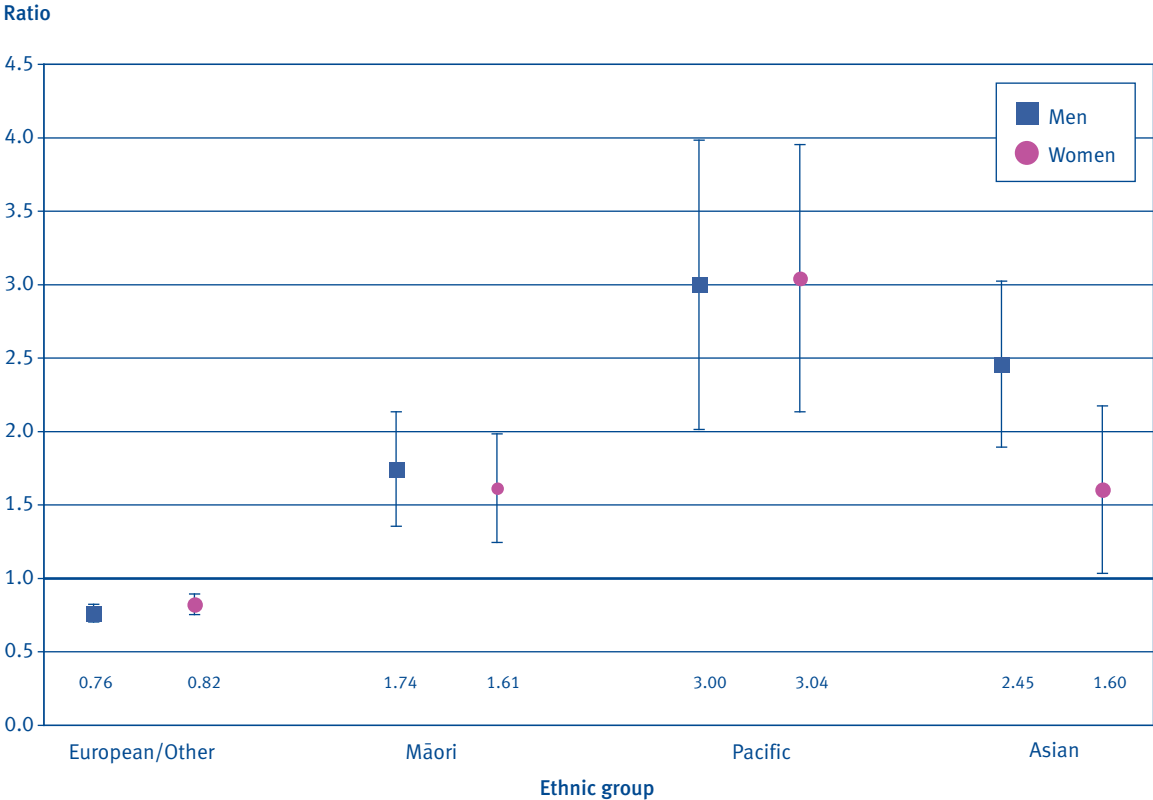
Ethnic group	Prevalence (95% CI)	Number of adults
European/ Other	4.3 (3.8–4.8)	109200
Māori	5.8 (4.9–6.7)	20800
Pacific	10.0 (8.1–11.8)	16400
Asian	6.5 (5.4–7.7)	18100

Source: 2006/07 New Zealand Health Survey

Note: Total response standard output for ethnic groups has been used.

After adjusting for age, Pacific men and women had three times the prevalence of diagnosed diabetes than men and women in the total population (Figure 3.12). Asian men and women, and Māori men and women were also more likely to have been diagnosed with diabetes.

Figure 3.12: Diagnosed diabetes for adults, by ethnic group and gender (age standardised rate ratio)



Source: 2006/07 New Zealand Health Survey

Notes: Age standardised to the WHO world population. Reference group, with a rate ratio of 1.00 (indicated by the bold line), is the total male or female population aged 15 years and over. Total response standard output for ethnic groups has been used.

Prevalence of diagnosed diabetes, by neighbourhood deprivation

Diabetes was associated with higher neighbourhood deprivation. Adults living in the most deprived neighbourhoods (6.2%, 5.2–7.3 in NZDep2006 quintile 5) were more than twice as likely to be diagnosed with diabetes than adults in the least deprived neighbourhoods (2.7%, 1.9–3.6 in NZDep2006 quintile 1), adjusted for age.

Prevalence of diagnosed diabetes, by DHB area

There was little difference by DHB area in the prevalence of diabetes, except in Counties Manukau DHB, where adults were significantly more likely to be diagnosed with diabetes compared to the total adult population (Table 3.10).

Table 3.10: Diagnosed diabetes for adults, by DHB area (unadjusted)

DHB area	Prevalence (95% CI)	Number of adults
Northland / Tairāwhiti / Hawke's Bay / Lakes / Whanganui	4.5 (3.4–5.7)	17000
Waitemata	4.0 (2.8–5.2)	15200
Auckland	4.9 (3.4–6.3)	15600
Counties Manukau	8.2 (6.4–9.9) +	26400
Waikato	5.6 (4.2–7.0)	14400
Bay of Plenty / Taranaki / MidCentral	4.8 (3.5–6.1)	16900
Wairarapa / Hutt Valley / Capital and Coast	5.1 (3.6–6.7)	17700
Canterbury	4.4 (2.7–6.1)	16500
Nelson Marlborough / West Coast / South Canterbury / Otago / Southland	4.4 (3.0–5.8)	17400
New Zealand total	5.0 (4.6–5.5)	157100

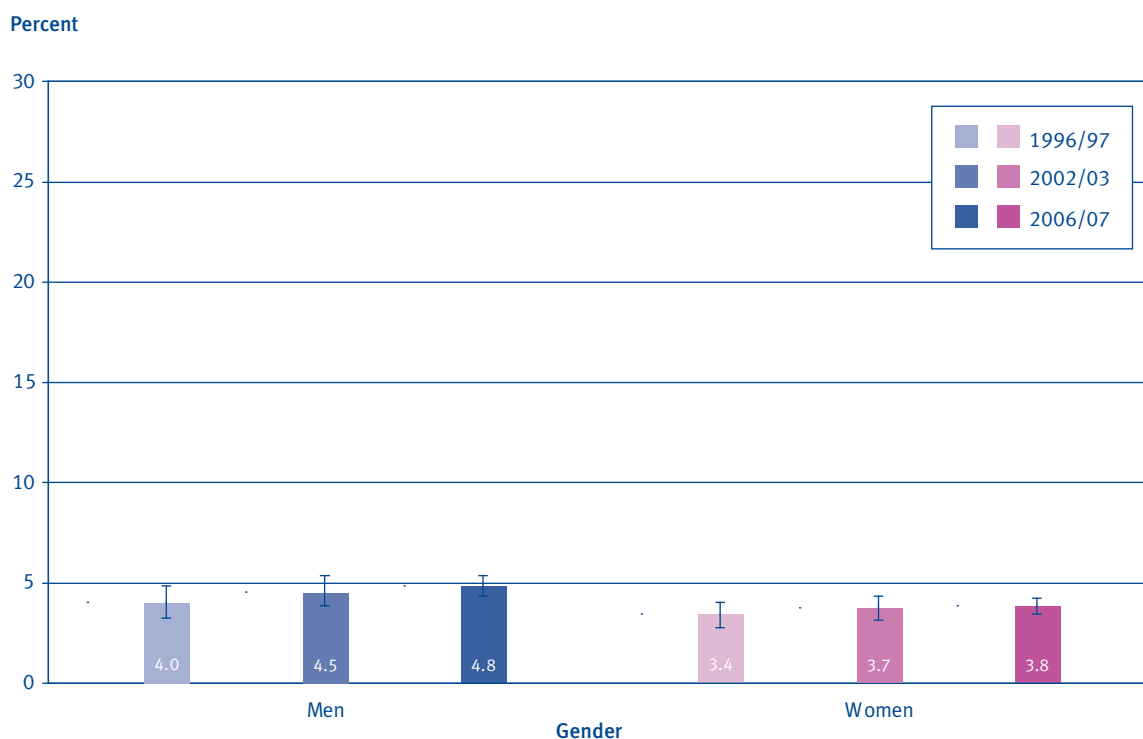
Source: 2006/07 New Zealand Health Survey

Notes: Estimates indicated with a + are significantly higher than the national rate, and estimates indicated with a – are significantly lower than the national rate. Data are based on direct survey estimates and could be confounded by different population characteristics in each DHB. Due to small sample size, some DHB areas have been combined. Survey population is the estimated resident population living in permanent private dwellings at 31 June 2007.

Time trends in diagnosed diabetes prevalence

Between 1996/97 and 2006/07 there was a small but not significant increase in the proportion of adults who had been diagnosed with diabetes (from 3.7% to 4.3%, p-value = 0.05), after adjusting for age. When looking at men and women separately, there have been no significant changes between 1996/97 and 2006/07 (Figure 3.13).

Figure 3.13: Diagnosed diabetes for adults, by gender, 1996/97, 2002/03 and 2006/07 (age standardised prevalence)

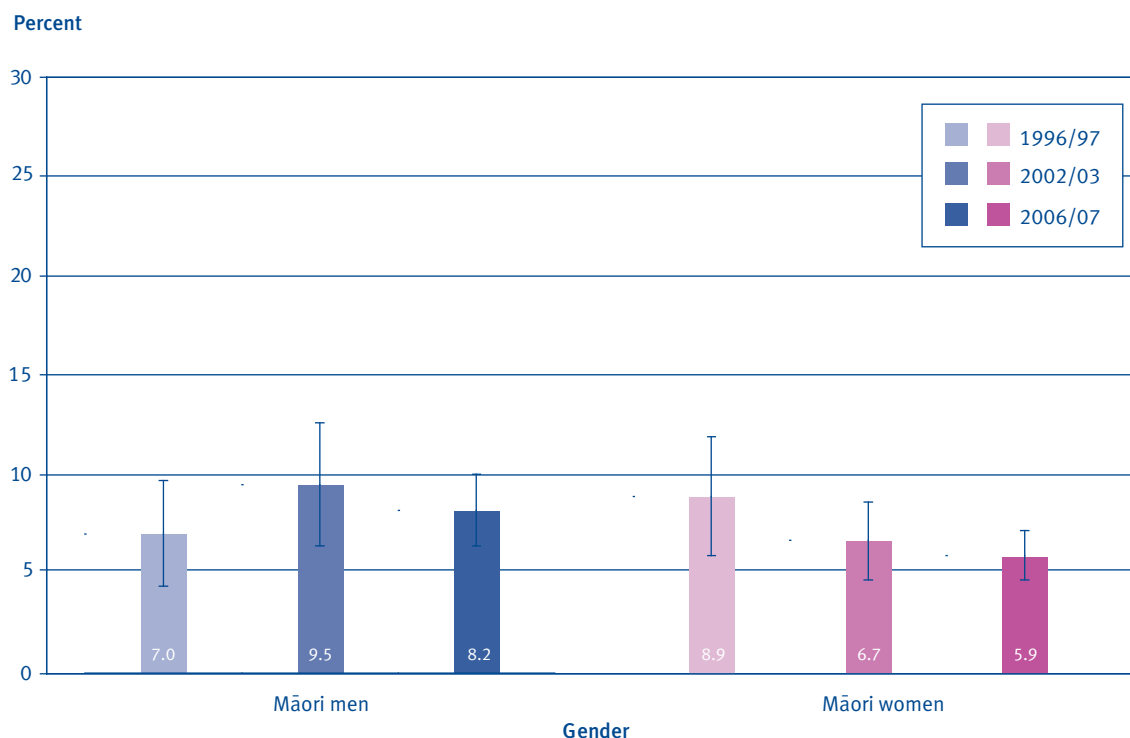


Source: 1996/97, 2002/03 and 2006/07 New Zealand Health Surveys

Note: Data from previous years have been reanalysed to allow for comparability.

For Māori there may have been a decline in the proportion of women who had been diagnosed with diabetes between 1996/97 and 2006/07 (age-adjusted), although this change is not significant (p-value = 0.07) (Figure 3.14). There was no significant change for Māori men in the prevalence of diagnosed diabetes between 1996/97 and 2006/07.

Figure 3.14: Diagnosed diabetes for Māori adults, by gender, 1996/97, 2002/03 and 2006/07 (age standardised prevalence)



Source: 1996/97, 2002/03 and 2006/07 New Zealand Health Surveys

Note: Data from previous years have been reanalysed to allow for comparability.

Diabetes care

All New Zealanders with diabetes are eligible for one free health check with their general practitioner or practice nurse every year, called Get Checked. Seven out of ten adults diagnosed with diabetes had a Get Checked visit in the previous 12 months (68.3%, 63.8–72.8). There were no significant differences by gender, age group or ethnic group in the use of free health checks for diabetes.

One in five adults with diabetes used daily insulin injections (19.4%, 16.4–22.4), either with or without oral medications. A further one in two adults with diabetes reported taking only oral medication (tablets or pills) to treat their diabetes (52.4%, 48.3–56.5). One in six adults with diabetes (16.4%, 13.2–19.6) used only diet and exercise as treatment for their diabetes (no insulin or oral medication), and one in nine adults with diabetes (11.6%, 8.7–14.5) reported not using any treatment.