

# Physical activity

## Introduction

Physical activity refers to all movement produced by skeletal muscles that increases energy expenditure, whether it is incidental, occupational or recreational. Physical activity is protective against health conditions such as heart disease, type 2 diabetes and certain cancers (colon, post-menopausal breast, and endometrial) (World Cancer Research Fund and American Institute for Cancer Research 2007; World Health Organization 2003a). Physical activity also helps to lower blood pressure, as well as minimising weight gain, overweight and obesity, which are risk factors for heart disease and type 2 diabetes (US Department of Health and Human Services 1996).

In New Zealand the Ministry of Health recommends that adults do at least 30 minutes of moderate-intensity physical activity (equivalent to brisk walking) on most, if not all, days of the week. It is also recommended that, where possible, vigorous exercise is added for extra fitness and health benefits.

### What were the survey questions?

In the 2006/07 New Zealand Health Survey adult physical activity was measured by asking participants how many days in the previous seven days they had done brisk walking, moderate activity and vigorous activity, and how many hours and minutes they had done per day for each of those activities. Examples of moderate and vigorous activity were given to participants.

These questions are known as the New Zealand Physical Activity Questionnaire Short Form (NZPAQ-SF).

The following definitions have been used in this report:

- regularly physically active – at least 30 minutes of physical activity per day on five or more days of the last week
- sedentary – less than 30 minutes of physical activity in the last week.

Physical activity in the above definition was calculated as: brisk walking + moderate + (vigorous x 2); that is, one minute of vigorous activity was equated with two minutes of moderate intensity activity.

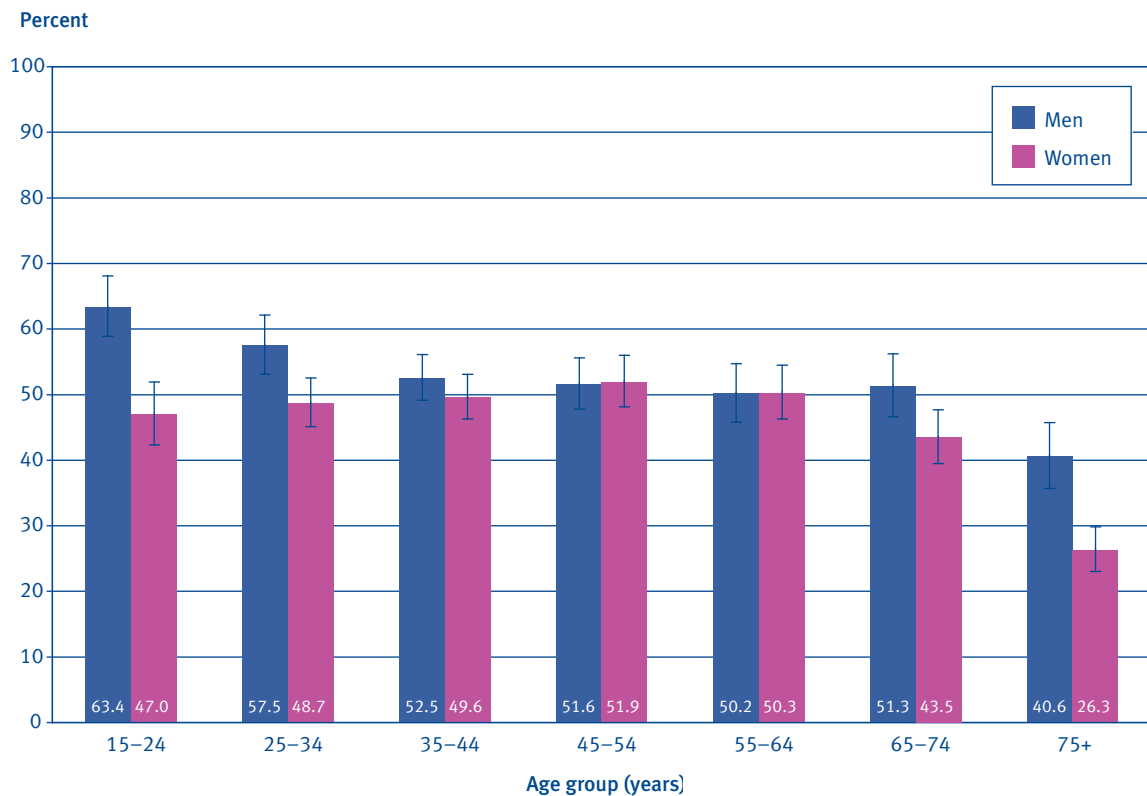
## Regular physical activity for adults

Half of all adults (50.5%, 49.2–51.9) met the definition of being regularly physically active. Men (55.1%, 53.4–56.9) were significantly more likely than women (47.9%, 46.0–49.8) to do at least 30 minutes of physical activity a day on five or more days of the week, adjusted for age.

## Regular physical activity for adults, by age group and gender

The prevalence of regular physical activity declined in the over 65 year age group for women and in the over 75 year group for men. The greatest difference between men and women occurred in the 15–24 year age group, where men were nearly 1.5 times as likely as women to do at least 30 minutes of physical activity a day on five or more days of the week. Men aged 75 years and over were also much more likely to report regular physical activity than women of the same age (Figure 2.50).

Figure 2.50: Regular physical activity for adults, by age group and gender (unadjusted prevalence)

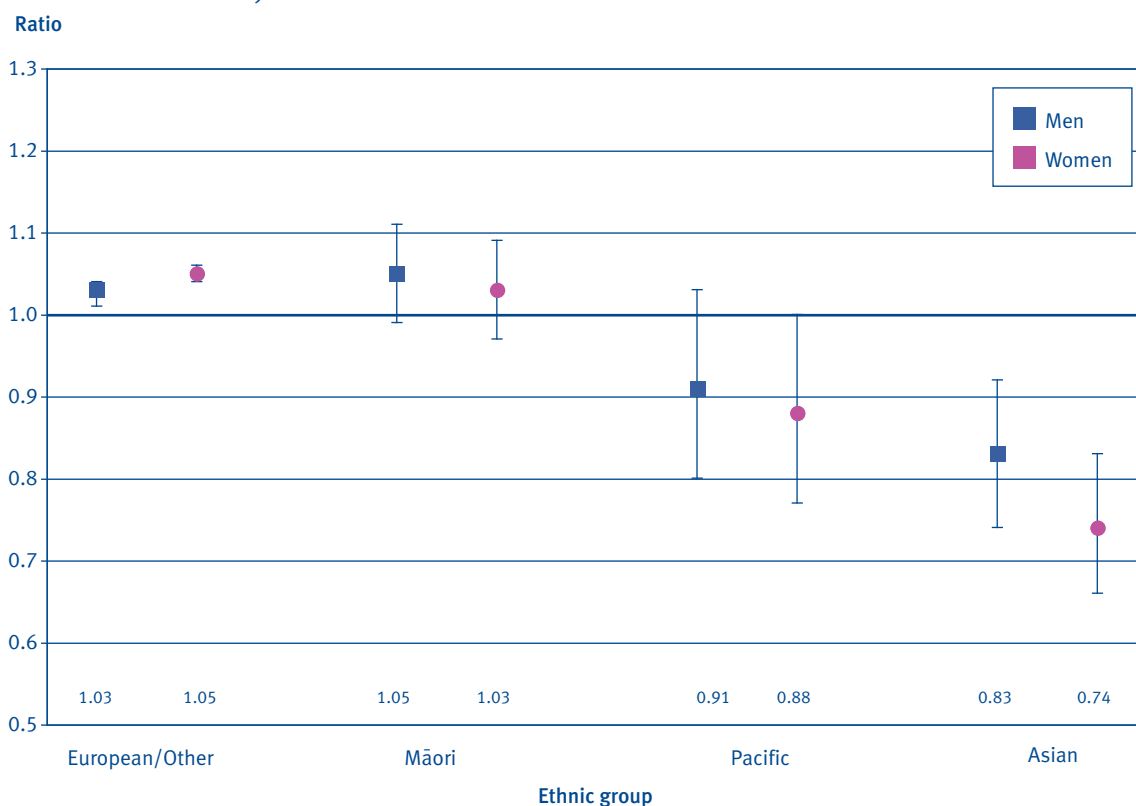


Source: 2006/07 New Zealand Health Survey

## Regular physical activity for adults, by ethnic group

After adjusting for age, Asian men and women were less likely to meet the recommendation of 30 minutes of physical activity on five or more days of the week compared to men and women in the total population (Figure 2.51). European/Other men and women had a slightly increased prevalence of regular physical activity compared to men and women in the total population (Figure 2.51).

Figure 2.51: Regular physical activity 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 1.0 (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.

## Regular physical activity for adults, by neighbourhood deprivation

There were no significant differences in the prevalence of regular physical activity for adults by neighbourhood deprivation.

## Regular physical activity for adults, by DHB area

Adults living in the South Island (excluding Canterbury) and Bay of Plenty / Taranaki / MidCentral DHB areas were more likely to meet the recommendation of 30 minutes of physical activity a day on five or more days of the week compared to the national rate. Adults living in Auckland DHB area and Wairarapa / Hutt Valley / Capital and Coast DHB areas were significantly less likely to be regularly physically active (Table 2.20).

Table 2.20: Regular physical activity for adults, by DHB area (unadjusted)

DHB area	Prevalence (95% CI)	Number of adults
Northland / Tairāwhiti / Hawke's Bay / Lakes / Whanganui	52.4 (49.7–55.0)	196700
Waitemata	46.7 (42.4–51.0)	176900
Auckland	40.3 (35.6–45.0) –	130000
Counties Manukau	53.0 (49.1–56.9)	170700
Waikato	52.4 (49.0–55.8)	135800
Bay of Plenty / Taranaki / MidCentral	54.9 (51.5–58.3) +	193000
Wairarapa / Hutt Valley / Capital and Coast	46.0 (42.3–49.7) –	159400
Canterbury	49.9 (45.6–54.2)	185100
Nelson Marlborough / West Coast / South Canterbury / Otago / Southland	58.3 (54.8–61.8) +	228900
<b>New Zealand total</b>	<b>50.5 (49.2–51.9)</b>	<b>1576500</b>

Source: 2006/07 New Zealand Health Survey

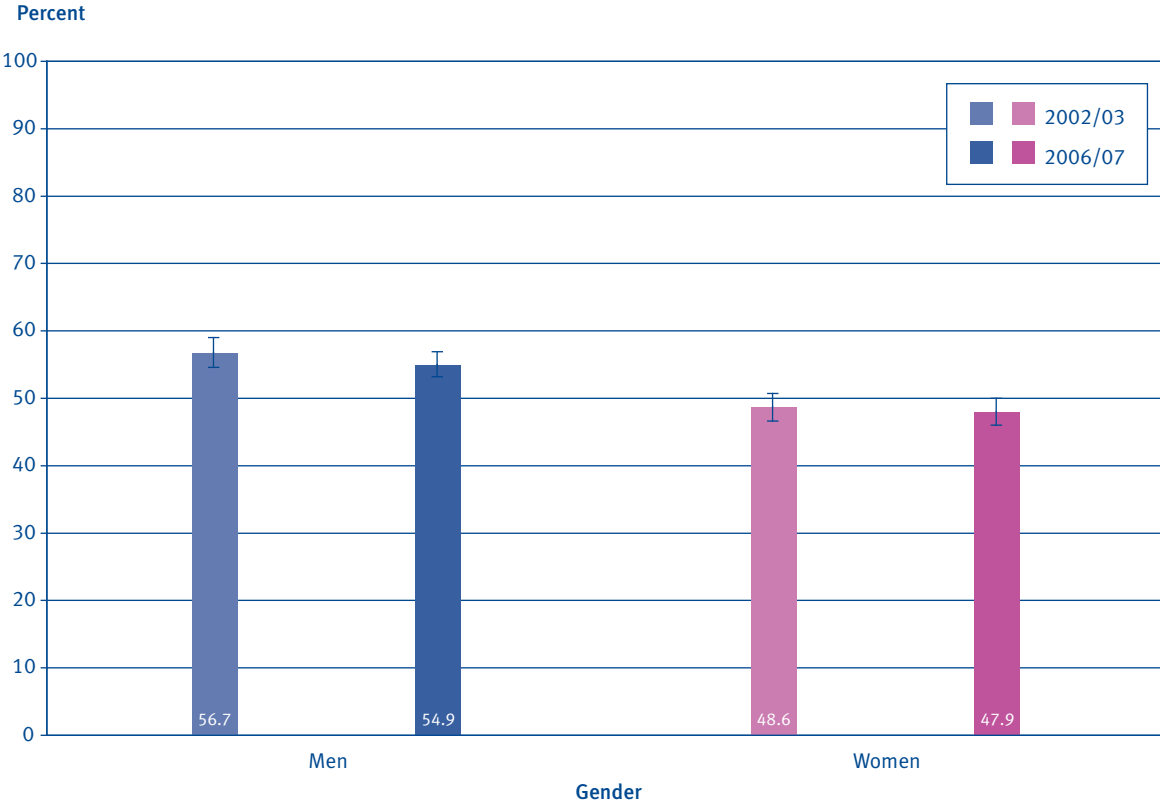
Notes: Estimates indicated with a + are significantly higher than the national rate, and estimates indicated with a – are significantly lower than the national rate. Data are based on direct survey estimates and could be confounded by different population characteristics in each DHB. Due to small sample 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 regular physical activity for adults

For both men and women, there was no significant difference in the prevalence of regular physical activity between 2002/03 and 2006/07, adjusted for age (Figure 2.52).

For Māori men and women, there was also no difference between 2002/03 and 2006/07 in the prevalence of regular physical activity (graph not shown).

Figure 2.52: Regular physical activity for adults, by gender, 2002/03 and 2006/07 (age standardised prevalence)



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

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

### Sedentary behaviour for adults

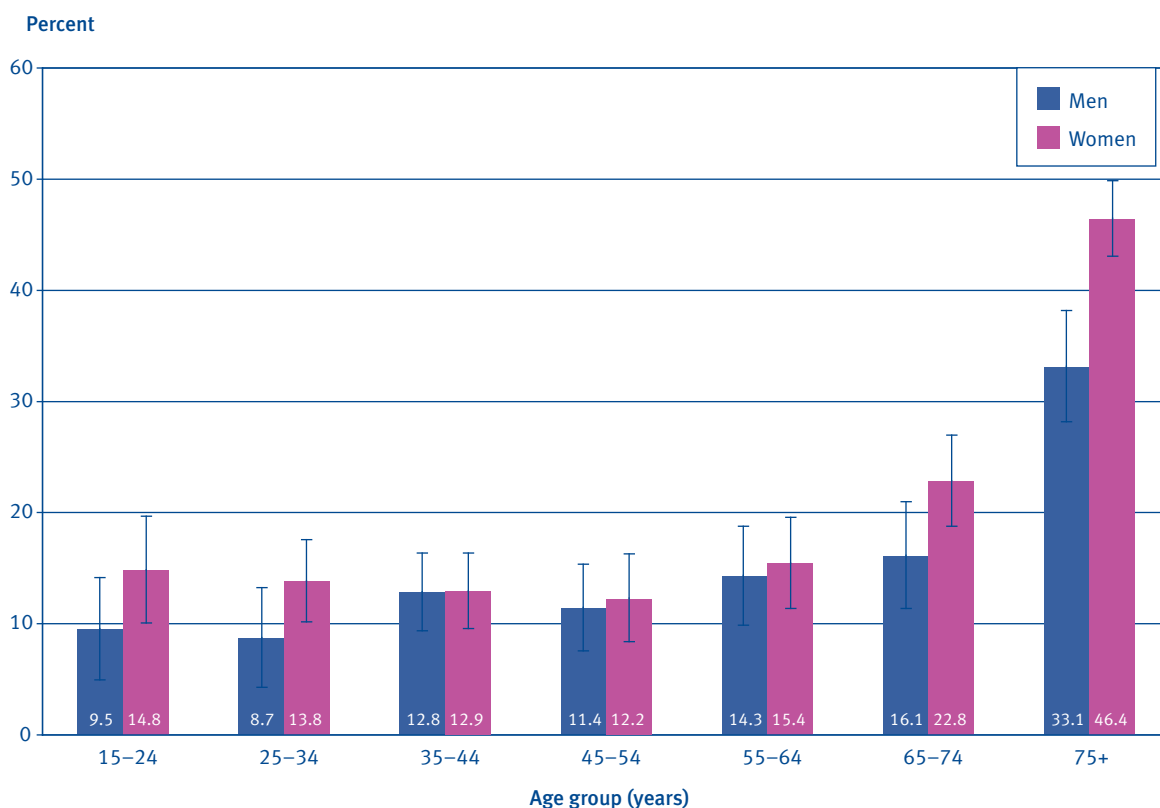
Overall, one in seven adults (15.0%, 14.2–15.9) were sedentary, reporting less than 30 minutes of physical activity per week. When adjusted for age, women (15.7%, 14.5–16.9) were more likely than men (12.2%, 11.2–13.2) to be sedentary.

## Sedentary behaviour for adults, by age group

The proportion of men that were sedentary was relatively stable until old age, when sedentary behaviour increased to one in three men over the age of 75 years (Figure 2.53).

The proportion of women who were sedentary was relatively stable until the age of 65 years, when sedentary behaviour increased sharply such that nearly half of women over the age of 75 years were sedentary (Figure 2.53).

Figure 2.53: Sedentary behaviour for adults, by age group and gender (unadjusted prevalence)



Source: 2006/07 New Zealand Health Survey

## Sedentary behaviour for adults, by ethnic group

Table 2.21 presents the number and proportion of sedentary adults in New Zealand's main ethnic population groups.

Table 2.21: Sedentary behaviour for adults, by ethnic group (unadjusted)

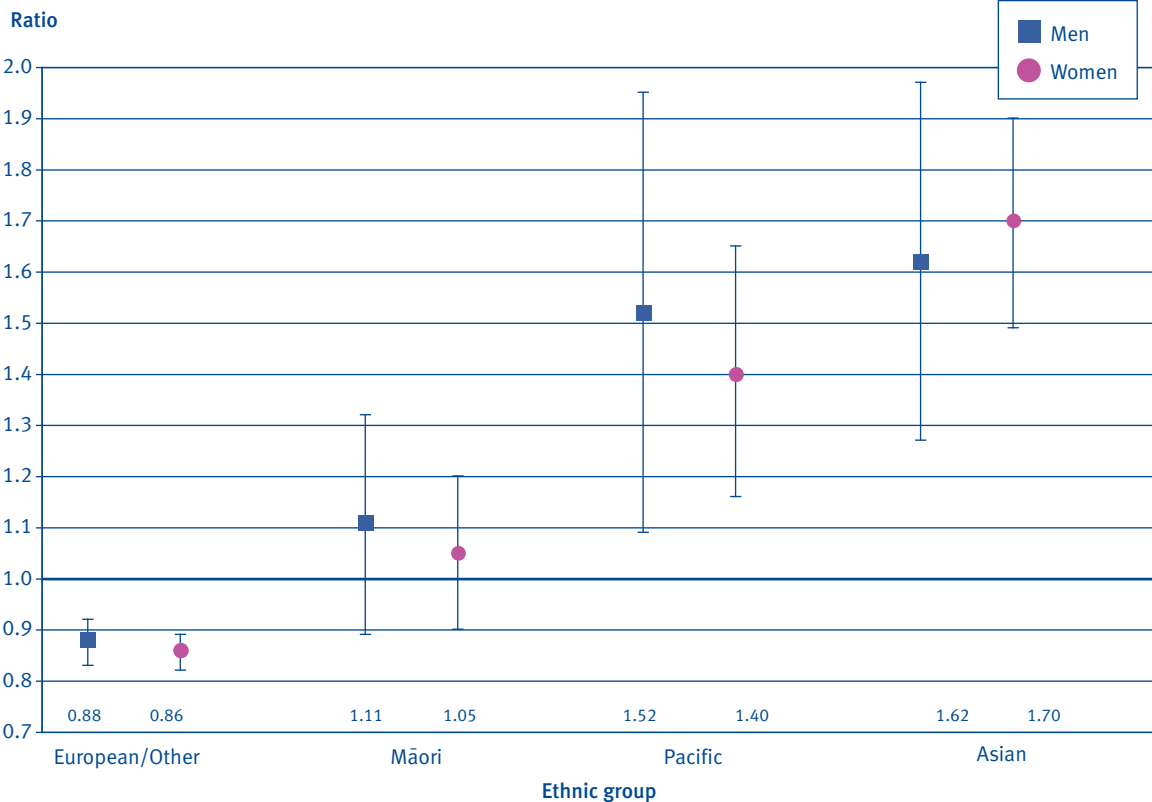
Ethnic group	Prevalence (95% CI)	Number of adults
European/ Other	13.8 (12.8–14.7)	351900
Māori	14.0 (12.4–15.7)	49900
Pacific	19.4 (16.6–22.2)	31900
Asian	23.0 (20.4–25.5)	64000

Source: 2006/07 New Zealand Health Survey

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

After adjusting for age, Asian and Pacific men and women were significantly more likely to be sedentary compared to men and women in the total population (Figure 2.54).

Figure 2.54: Sedentary behaviour for adults, by ethnic group and gender (age standardised rate ratio)



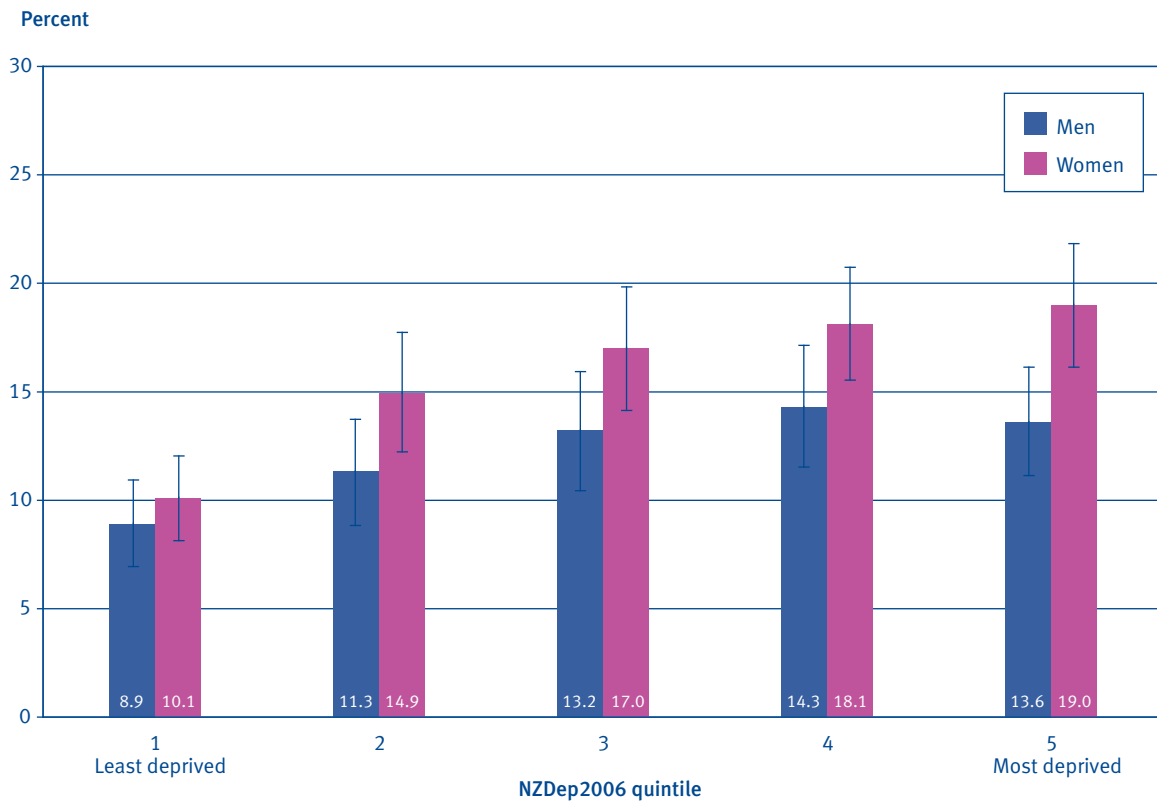
Source: 2006/07 New Zealand Health Survey

Notes: Age standardised to the WHO world population. Reference group, with a rate ratio of 1.0 (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.

## Sedentary behaviour for adults, by neighbourhood deprivation

Women living in NZDep2006 quintile 5 areas were twice as likely to be sedentary as women living in NZDep2006 quintile 1 areas, when adjusted for age. This pattern by NZDep2006 quintile was not as strong in men (Figure 2.55).

Figure 2.55: Sedentary behaviour for adults, by NZDep2006 quintile and gender (age standardised prevalence)



Source: 2006/07 New Zealand Health Survey

## Sedentary behaviour for adults, by DHB area

Adults living in Auckland DHB area had a significantly higher prevalence of sedentary behaviour than the national rate. Northland / Tairāwhiti / Hawke's Bay / Lakes / Whanganui DHB areas had a significantly lower proportion of their population that was sedentary (Table 2.22).

Table 2.22: Sedentary behaviour for adults, by DHB area (unadjusted)

DHB area	Prevalence (95% CI)	Number of adults
Northland / Tairāwhiti / Hawke's Bay / Lakes / Whanganui	12.5 (11.0–14.0) –	46900
Waitemata	15.4 (12.5–18.3)	58400
Auckland	18.2 (15.2–21.3) +	58800
Counties Manukau	16.0 (13.1–18.9)	51600
Waikato	17.3 (14.8–19.9)	45000
Bay of Plenty / Taranaki / MidCentral	14.8 (12.7–16.9)	52200
Wairarapa / Hutt Valley / Capital and Coast	13.4 (11.3–15.4)	46400
Canterbury	13.7 (11.0–16.4)	50900
Nelson Marlborough / West Coast / South Canterbury / Otago / Southland	14.8 (12.3–17.4)	58200
<b>New Zealand total</b>	<b>15.0 (14.2–15.9)</b>	<b>468400</b>

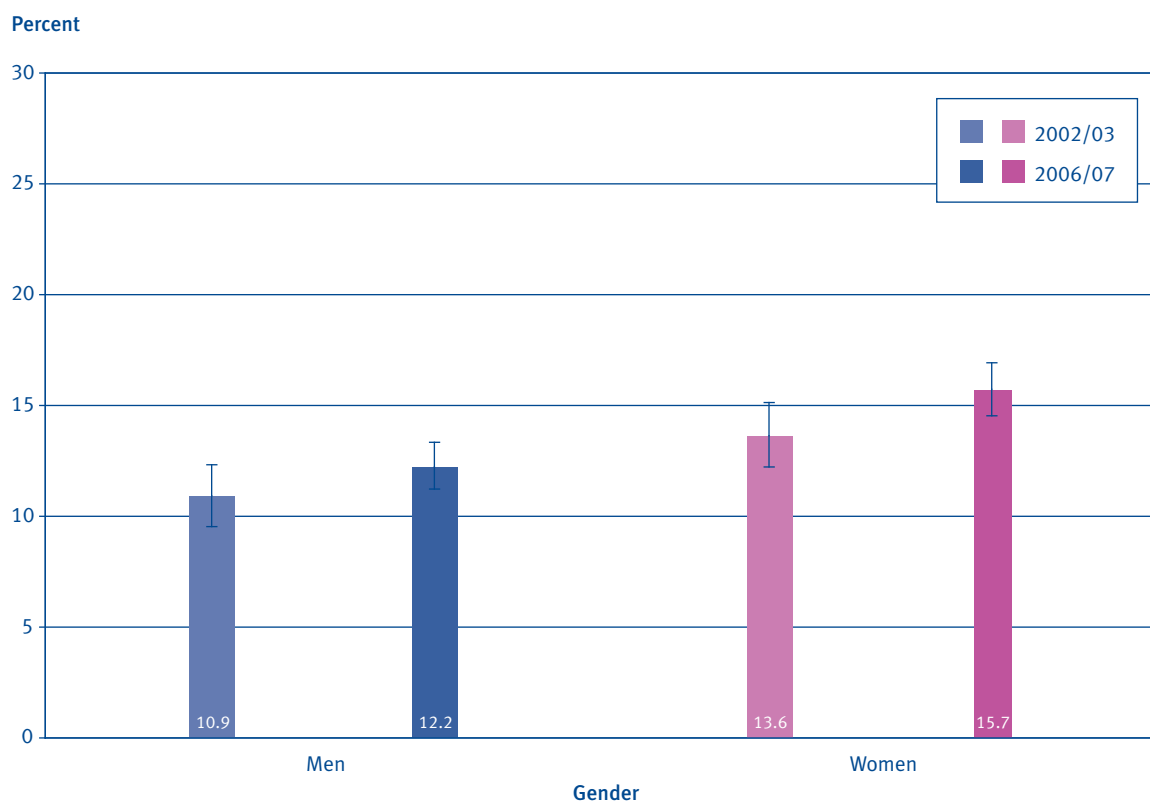
Source: 2006/07 New Zealand Health Survey

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 sedentary behaviour for adults

From 2002/03 to 2006/07 there was a significant increase in the proportion of women who were sedentary ( $p$ -value  $< 0.05$ ), adjusted for age (Figure 2.56). For Māori adults there were no statistically significant difference between the two surveys (Figure 2.57).

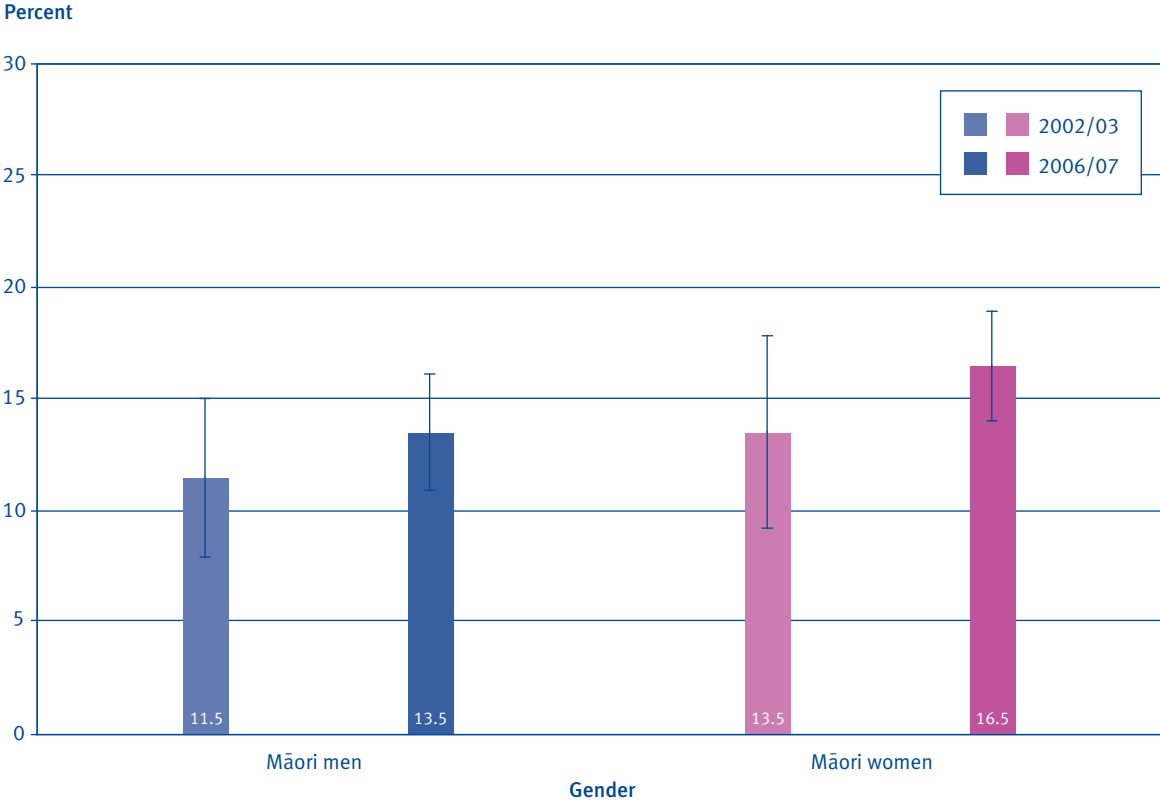
Figure 2.56: Sedentary behaviour for adults, by gender, 2002/03 and 2006/07 (age standardised prevalence)



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

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

Figure 2.57: Sedentary behaviour for Māori adults, by gender, 2002/03 and 2006/07 (age standardised prevalence)



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

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