Section 2: Health Behaviours and Risk Factors

A range of factors can affect a person’s health and wellbeing. Some of these, including smoking, hazardous drinking and obesity, can increase the risk of poor health. Others, such as eating a diet high in vegetables and fruit and being physically active, can have a positive effect on health.

This section focuses on selected health behaviours and risk factors that have a major influence on our health – namely, smoking, vegetable and fruit intake, physical activity and obesity.
Key findings

- **Smoking rates continue to decrease – but not for everyone**
  > Fewer than one in five adults were current smokers (ie they smoke at least monthly), with most smoking daily.
  > The daily smoking rate has fallen since 2006/07 (from 18% to 17%), particularly among youth aged 15–17 years (from 14% to 6%).
  > However, smoking rates for Māori have not changed since 2006/07 and remain high, with 41% of Māori adults still current smokers.

- **Obesity levels keep increasing, with about 1 million adults now obese**
  > Almost three in ten adults were obese in 2011/12. The obesity rate has steadily increased since 1997.
  > There were higher obesity rates among Māori (44%) and Pacific (62%) adults, although there has been no change in these rates since 2006/07.

- **Younger men are more likely to have unhealthy behaviours**
  > Men younger than 35 years were generally more likely to smoke and were less likely to eat the recommended amount of vegetables and fruit.

- **Neighbourhood deprivation is strongly related to health behaviours and risk factors**
  > All health behaviours and risk factors were strongly influenced by neighbourhood deprivation. In particular, people living in the most deprived areas had higher rates of smoking and obesity than those in the least deprived areas. The influence of neighbourhood deprivation was reflected in the higher rates of some of the health behaviours in the Māori and Pacific populations.

<table>
<thead>
<tr>
<th>Indicator</th>
<th>Percent</th>
<th>Estimated number</th>
<th>Time trends since 2006/07</th>
</tr>
</thead>
<tbody>
<tr>
<td>Current smoking</td>
<td>18</td>
<td>650,000</td>
<td>≈ No change</td>
</tr>
<tr>
<td>Daily smoking</td>
<td>17</td>
<td>583,000</td>
<td>▼ Decrease</td>
</tr>
<tr>
<td>Vegetable intake (3+/day)</td>
<td>68</td>
<td>2,417,000</td>
<td>▲ Increase</td>
</tr>
<tr>
<td>Fruit intake (2+/day)</td>
<td>59</td>
<td>2,068,000</td>
<td>≈ No change</td>
</tr>
<tr>
<td>Physically active</td>
<td>54</td>
<td>1,905,000</td>
<td>≈ No change</td>
</tr>
<tr>
<td>Obesity</td>
<td>28</td>
<td>1,004,000</td>
<td>▲ Increase</td>
</tr>
</tbody>
</table>

Results on hazardous drinking will be published by mid 2013.
2.1 Tobacco smoking
The daily smoking rate continues to fall, as it has done since 1996/97.

Smoking harms nearly every organ and system in the body. It is the main cause of lung cancer and respiratory conditions such as emphysema and chronic bronchitis. Smoking is also a major cause of heart disease, stroke and other cancers.

Current smoking means smoking at least monthly and having ever smoked more than 100 cigarettes. To compare changes in the smoking rate over time, this report focuses on daily smoking as data on this behaviour are available from 1996/97 onwards.

One in five people smokes, with similar rates for men and women
In 2011/12 fewer than one in five (18%) adults were current smokers, which is about 650,000 people. Most current smokers smoked daily (17% of all adults).

The rate of current smoking was 19% for men and 18% for women. There was no difference in the rates for men and women after adjusting for age.

The daily smoking rate continues to decrease
The daily smoking rate decreased from 2006/07 to 2011/12 for adults, continuing the downward trend from previous years. In 1996/97, 25% of adults smoked daily, compared with 18% in 2006/07 and 17% in 2011/12.

The decrease in the daily smoking rate since 2006/07 was significant for men but not for women (Figure 5).

Figure 5: Daily smoking, by sex, 1996/97–2011/12

Note: Rates are age-standardised to the WHO world population.
Source: New Zealand Health Surveys (1996/97, 2002/03, 2006/07, 2011/12) (15 years and over)

Similarly, the rate of current smoking dropped from 20% in 2006/07 to 18% in 2011/12, although this decrease was not significant after standardising for age.
Smoking is most common among adults aged 18–34 years

Younger adults were more likely to be current smokers, particularly women aged 18–24 years and men aged 25–34 years. Smoking rates were lower among those aged 15–17 years and in the older age groups (Figure 6).

**Figure 6: Current smoking, by age group and sex**

![Chart showing current smoking by age group and sex](image)

Source: 2011/12 New Zealand Health Survey (15 years and over)

The youth smoking rate has fallen

Since 2006/07 the rate of daily smoking among those aged 15–17 years has dropped from 14% to 6% (Figure 7). There was also a decrease in the 45–54 year age group over this time.

**Figure 7: Daily smoking, by age group, 2006/07 and 2011/12**

![Chart showing daily smoking by age group](image)

Source: New Zealand Health Surveys (2006/07, 2011/12) (15 years and over)

The trends in current smoking since 2006/07 were similar to the trends in daily smoking for all age groups.

Higher smoking rates persist among Māori adults

Māori had much higher rates of current smoking than other people, with two in five Māori adults smoking (41%). Adjusting for age, Māori men were 2.1 times as likely to be current smokers as non-Māori men, and Māori women were 2.9 times as likely as non-Māori women (Table 6).
Pacific adults also had higher smoking rates, with one in four (26%) smoking. Pacific adults were 1.3 times as likely to be current smokers as non-Pacific adults, adjusting for age and sex. Asian women were less likely to smoke than other women.

**Table 6: Current smoking, by ethnic group and sex**

<table>
<thead>
<tr>
<th>Percent (%)</th>
<th>Total</th>
<th>Men</th>
<th>Women</th>
<th>Estimated number¹</th>
</tr>
</thead>
<tbody>
<tr>
<td>Total NZ</td>
<td>18</td>
<td>19</td>
<td>18</td>
<td>650,000</td>
</tr>
<tr>
<td>Māori</td>
<td>41</td>
<td>38</td>
<td>44</td>
<td>182,000</td>
</tr>
<tr>
<td>Pacific</td>
<td>26</td>
<td>28</td>
<td>25</td>
<td>54,000</td>
</tr>
<tr>
<td>Asian</td>
<td>10</td>
<td>18</td>
<td>3</td>
<td>37,000</td>
</tr>
<tr>
<td>European/Other</td>
<td>17</td>
<td>17</td>
<td>16</td>
<td>464,000</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Adjusted rate ratios (comparing each ethnic group with people not in that ethnic group)²</th>
<th>Māori</th>
<th>Pacific</th>
<th>Asian</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>2.4*</td>
<td>1.3*</td>
<td>0.4*</td>
</tr>
<tr>
<td></td>
<td>2.1*</td>
<td>1.3*</td>
<td>0.8</td>
</tr>
<tr>
<td></td>
<td>2.9*</td>
<td>1.3*</td>
<td>0.1*</td>
</tr>
</tbody>
</table>

* Significant at the 5% level (for adjusted rate ratios).

Notes: Total response measure of ethnicity. Adults may be counted in more than one ethnic group.
1 Due to total response ethnicity, summed numbers across ethnic groups may add to more than the total.
2 Adjusted rate ratios compare people, men or women in each ethnic group with people, men or women not in that ethnic group. Adjusted rate ratios adjust for age and, for the total column, sex.

Source: 2011/12 New Zealand Health Survey (15 years and over)

While the daily smoking rate dropped for Māori men and women between 2002/03 and 2006/07, there has been little change in the smoking rates (either daily or current smoking) since then (Figure 8).

**Figure 8: Daily smoking among Māori men and women, 1996/97–2011/12**

Note: Rates are age-standardised to the WHO world population.
Source: New Zealand Health Surveys (1996/97, 2002/03, 2006/07, 2011/12) (15 years and over)

There have been almost no significant changes in the rate of daily smoking or current smoking since 2006/07 for Pacific or Asian adults. The exception was a drop in the current smoking rate for Asian women, after standardising for age.
Smoking is more common in more deprived neighbourhoods

There was a strong relationship between smoking and neighbourhood deprivation. Current smoking was much more common among people living in the most deprived areas (28%) than among people in the least deprived areas (11%) (Figure 9).

**Figure 9: Current smoking, by neighbourhood deprivation**

![Bar chart showing the relationship between smoking and deprivation](image)

Source: 2011/12 New Zealand Health Survey (15 years and over)

The relationship between smoking and deprivation remained strong after adjusting for differences in age, sex and ethnic group. People in the most deprived areas were 2.5 times as likely to be current smokers as people in the least deprived areas, after adjustment.

Most smokers smoke 6 to 20 cigarettes each day

Among current smokers, the majority (63%) smoked 6–20 cigarettes each day (Figure 10). A further 9% smoked 21 or more cigarettes each day. There has been no significant change in these rates since 2006/07.

**Figure 10: Number of cigarettes smoked per day, among current smokers**

![Bar chart showing the distribution of cigarettes smoked per day](image)

Source: 2011/12 New Zealand Health Survey (15 years and over)
New Zealand smoking rate is the 10th lowest in OECD

New Zealand had the 10th lowest daily smoking rate among the 34 member countries of the Organisation for Economic Co-operation and Development (OECD) in 2009 (OECD 2011). Based on the data from the earlier 2006/07 survey, the New Zealand daily smoking rate (18%) was lower than the OECD average (22%) but higher than the Australian rate (17%).

Where can you go for more information?

You can find the data for current smoking and daily smoking in Appendix 3 and in the online data tables. Data for the following indicators are also available in the online data tables:

- number of cigarettes smoked each day (among current smokers).

What were the survey questions?

The 2011/12 New Zealand Health Survey asked people aged 15 years and over:

- Have you ever smoked cigarettes or tobacco at all, even just a few puffs? Please include pipes and cigars.
- Have you ever smoked a total of more than 100 cigarettes in your whole life?
- How often do you now smoke? You don’t smoke now; at least once a day; at least once a week; at least once a month; less often than once a month.
- On average, how many cigarettes do you smoke a day? Less than 1 per day; 1–5 per day; 6–10 per day; 11–15 per day; 16–20 per day; 21–25 per day; 26–30 per day; 31 or more a day.

Current smoking was defined as smoking at least monthly, weekly or daily, and having smoked more than 100 cigarettes in the person’s lifetime. The 100-cigarette threshold limits the indicator to only people with established tobacco use. This indicator was available from the 2006/07 and 2011/12 New Zealand Health Surveys.

Daily smoking was defined as smoking every day, and having smoked more than 100 cigarettes in the person’s lifetime. This indicator was available from the 1996/97, 2002/03, 2006/07 and 2011/12 New Zealand Health Surveys.
2.2 Vegetable and fruit intake

Compared with their intake in 2006/07, more men are eating the recommended amount of vegetables and fruit each day, but fewer women are eating the recommended amount of fruit.

Vegetables and fruit are an important part of a healthy diet. Eating enough vegetables and fruit can help protect against major diseases like heart disease, stroke, high blood pressure and some cancers.

The Ministry of Health recommends that adults eat at least three servings of vegetables and at least two servings of fruit each day.

**Women are more likely than men to eat the recommended amount of vegetables and fruit**

Seven in ten adults (68%) reported eating at least three servings of vegetables each day. Women were more likely (72%) to eat the daily recommended amount of vegetables than men (64%).

People were less likely to meet the fruit guidelines than the vegetable guidelines. Six in ten adults (59%) ate at least two servings of fruit each day. As with vegetables, more women met the recommended fruit guidelines (64%) than men (53%).

**Compared with 2006/07, more men are meeting the guidelines for vegetables and fruit, but fewer women are meeting fruit guidelines**

The percentage of adults who eat at least three servings of vegetables each day increased from 64% in 2006/07 to 68% in 2011/12 (Figure 11).

This increase was significant for men but not women.

![Figure 11: Ate recommended number of servings of vegetables (3+ per day), by sex, 1997–2011/12](image)

Note: Rates are age-standardised to the WHO world population.

After a steady increase from 1997 to 2006/07, there was no overall change in the percentage of adults eating at least two servings of fruit each day from 2006/07 to 2011/12. However, there were different trends for men and women (Figure 12).
For men, the percentage meeting the daily fruit intake had increased since 2006/07, after standardising for age. However, fewer women were meeting the recommended daily fruit intake in 2011/12 than in 2006/07.

**Figure 12: Ate recommended number of servings of fruit (2+ per day), by sex, 1997–2011/12**

Note: Rates are age-standardised to the WHO world population.

**Older age groups are more likely than younger groups to eat the recommended amount of vegetables and fruit**

For vegetables, the percentage of men and women eating the recommended daily amount generally increased with age (Figure 13).

Women aged 55 years and older were more likely to meet the recommended daily intake of vegetables, and of fruit, than younger men and women.

For men, there were no major trends by age in meeting the daily recommended fruit guidelines. Less than 60% of men in all age groups ate at least two servings of fruit each day.

**Figure 13: Ate recommended daily intake of vegetables (A) and fruit (B), by age group and sex**

_A Vegetables (3+ servings per day)_

_B Fruit (2+ servings per day)_

Source: 2011/12 New Zealand Health Survey (15 years and over)
Vegetable and fruit intake varies by ethnic group

Pacific and Asian adults were less likely than other people to eat the recommended amount of vegetables in 2011/12 (Table 7). Māori men had a similar vegetable intake to non-Māori men.

Table 7: Ate recommended daily intake of vegetables (3+ per day), by ethnic group and sex

<table>
<thead>
<tr>
<th>Percent (%)</th>
<th>Total NZ</th>
<th>Men</th>
<th>Women</th>
<th>Estimated number&lt;sup&gt;1&lt;/sup&gt;</th>
</tr>
</thead>
<tbody>
<tr>
<td>Māori</td>
<td>64</td>
<td>61</td>
<td>67</td>
<td>285,000</td>
</tr>
<tr>
<td>Pacific</td>
<td>46</td>
<td>44</td>
<td>47</td>
<td>93,000</td>
</tr>
<tr>
<td>Asian</td>
<td>54</td>
<td>53</td>
<td>55</td>
<td>202,000</td>
</tr>
<tr>
<td>European/Other</td>
<td>72</td>
<td>67</td>
<td>76</td>
<td>2,004,000</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Adjusted rate ratios (comparing each ethnic group with people not in that ethnic group)&lt;sup&gt;2&lt;/sup&gt;</th>
<th>Māori</th>
<th>Pacific</th>
<th>Asian</th>
</tr>
</thead>
<tbody>
<tr>
<td>Māori</td>
<td>1.0</td>
<td>0.7*</td>
<td>0.8*</td>
</tr>
<tr>
<td>Pacific</td>
<td>0.7*</td>
<td>0.7*</td>
<td>0.8*</td>
</tr>
<tr>
<td>Asian</td>
<td>0.8*</td>
<td>0.8*</td>
<td>0.8*</td>
</tr>
</tbody>
</table>

<sup>* Significant at the 5% level (for adjusted rate ratios).</sup>

Notes: Total response measure of ethnicity. Adults may be counted in more than one ethnic group.
1 Due to total response ethnicity, summed numbers across ethnic groups may add to more than the total.
2 Adjusted rate ratios compare people, men or women in each ethnic group with people, men or women not in that ethnic group. Adjusted rate ratios adjust for age and, for the total column, sex.
Source: 2011/12 New Zealand Health Survey (15 years and over)

For fruit, Māori adults were less likely to eat at least two servings each day than non-Māori adults (Table 8). There were no significant differences for Pacific and Asian adults.

Table 8: Ate recommended daily intake of fruit (2+ per day), by ethnic group and sex

<table>
<thead>
<tr>
<th>Percent (%)</th>
<th>Total NZ</th>
<th>Men</th>
<th>Women</th>
<th>Estimated number&lt;sup&gt;1&lt;/sup&gt;</th>
</tr>
</thead>
<tbody>
<tr>
<td>Māori</td>
<td>49</td>
<td>47</td>
<td>52</td>
<td>219,000</td>
</tr>
<tr>
<td>Pacific</td>
<td>54</td>
<td>50</td>
<td>58</td>
<td>111,000</td>
</tr>
<tr>
<td>Asian</td>
<td>56</td>
<td>52</td>
<td>59</td>
<td>209,000</td>
</tr>
<tr>
<td>European/Other</td>
<td>60</td>
<td>53</td>
<td>67</td>
<td>1,674,000</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Adjusted rate ratios (comparing each ethnic group with people not in that ethnic group)&lt;sup&gt;2&lt;/sup&gt;</th>
<th>Māori</th>
<th>Pacific</th>
<th>Asian</th>
</tr>
</thead>
<tbody>
<tr>
<td>Māori</td>
<td>0.8*</td>
<td>0.9*</td>
<td>0.8*</td>
</tr>
<tr>
<td>Pacific</td>
<td>0.9</td>
<td>1.0</td>
<td>0.9</td>
</tr>
<tr>
<td>Asian</td>
<td>1.0</td>
<td>1.0</td>
<td>0.9</td>
</tr>
</tbody>
</table>

<sup>* Significant at the 5% level (for adjusted rate ratios).</sup>

Notes: Total response measure of ethnicity. Adults may be counted in more than one ethnic group.
1 Due to total response ethnicity, summed numbers across ethnic groups may add to more than the total.
2 Adjusted rate ratios compare people, men or women in each ethnic group with people, men or women not in that ethnic group. Adjusted rate ratios adjust for age and, for the total column, sex.
Source: 2011/12 New Zealand Health Survey (15 years and over)
More Māori and Asian men are eating 3+ servings of vegetables than in 2006/07

The percentage of Māori men and Asian men meeting the vegetable intake guidelines increased from 2006/07 to 2011/12. These trends were similar to those for men in the total population.

There were no significant changes in the percentages of Māori women, Asian women and Pacific men and women meeting the vegetable guidelines from 2006/07 to 2011/12.

Fewer Māori and Pacific women are eating 2+ servings of fruit each day than in 2006/07

In 2011/12 fewer Māori and Pacific women ate the recommended amount of fruit than in 2006/07, in contrast to the increasing trend from 1997 to 2006/07. These trends were similar to those among women in the total population.

There were no changes in fruit intake for Asian women, or for men of Māori, Pacific or Asian ethnicity, from 2006/07.

People living in more deprived areas are less likely to eat the recommended amount of vegetables and fruit

There was a clear relationship between higher levels of neighbourhood deprivation and lower vegetable and fruit intake.

People in the most deprived areas were less likely to eat the recommended three or more servings of vegetables each day (59%) than people in the least deprived areas (73%) (Figure 14).

Figure 14: Ate recommended daily intake of vegetables (3+ per day), by neighbourhood deprivation and sex

![Figure 14](image-url)

Source: 2011/12 New Zealand Health Survey (15 years and over)

Similarly, people living in the most deprived areas were less likely to eat the recommended two or more servings of fruit each day (50%) than people in the least deprived areas (65%) (Figure 15).
People living in the least deprived areas were 1.1 times as likely to eat the recommended amount of vegetables, and 1.3 times as likely to eat the recommended amount of fruit, as people in the most deprived areas, adjusting for age, sex and ethnic group.

**Where can you go for more information?**

You can find the data for the above indicators in Appendix 3 and in the online data tables. Data for the following indicator are also available in the online data tables:

> meets the recommended three or more servings of vegetables and two or more servings of fruit each day.

**What were the survey questions?**

The 2011/12 New Zealand Health Survey asked people aged 15 years and over:

> On average, how many servings of fruit do you eat per day? Please include all fresh, frozen, canned and stewed fruit. Do not include fruit juice or dried fruit. A serving = 1 medium piece or 2 small pieces of fruit or 1/2 cup of stewed fruit. For example, 1 apple and 2 small apricots = 2 servings.

> On average, how many servings of vegetables do you eat per day? Please include all fresh, frozen and canned vegetables. Do not include vegetable juices. A serving = 1 medium potato/kumara or 1/2 cup cooked vegetables or 1 cup of salad vegetables. For example, 2 medium potatoes + 1/2 cup of peas = 3 servings.
2.3 Physical activity

Just over half of all adults are physically active.

People who are less likely to be physically active include women, older adults, Pacific and Asian adults and people living in more deprived areas.

Physical activity has a range of health benefits, including preventing and managing long-term conditions like heart disease, cancer, osteoporosis, diabetes, obesity, high blood pressure and depression.

The Ministry of Health recommends that adults do at least 30 minutes of moderate-intensity physical activity (such as brisk walking or equivalent vigorous activity) at least five days a week. Doing more than this amount of daily activity (or at a higher intensity) can give additional health benefits and help people lose weight.

In this report, being physically active is defined as meeting the above recommendations.

Just over half of all adults are physically active

About 54% of adults were physically active in 2011/12. Men were more likely to meet the physical activity recommendations (57%) than women (51%).

Since 2002/03 there has been no change in the percentage of people who are physically active.

Older adults are less likely to be physically active

The percentage of men who were physically active was similar across age groups from 15–74 years, at about 55–65%.

Older adults aged 75 years and over were less likely to meet physical activity recommendations, for both men (38%) and women (28%) (Figure 16).

Figure 16: Physically active, by age group and sex

Source: 2011/12 New Zealand Health Survey (15 years and over)
Pacific and Asian adults are less likely to be physically active

Pacific women were less likely to meet the recommendations for physical activity (40%) than women in the total population (Table 9).

Fewer than half of Asian men and women (39%) met the physical activity recommendations. The percentage of Asian men meeting the physical activity guidelines has decreased since 2006/07, after standardising for age.

Māori adults had similar levels of being physically active as other adults.

Table 9: Physically active, by ethnic group and sex

<table>
<thead>
<tr>
<th>Percent (%)</th>
<th>Total NZ</th>
<th>Men</th>
<th>Women</th>
<th>Estimated number</th>
</tr>
</thead>
<tbody>
<tr>
<td>Total NZ</td>
<td>54</td>
<td>57</td>
<td>51</td>
<td>1,905,000</td>
</tr>
<tr>
<td>Māori</td>
<td>57</td>
<td>61</td>
<td>54</td>
<td>254,000</td>
</tr>
<tr>
<td>Pacific</td>
<td>46</td>
<td>53</td>
<td>40</td>
<td>95,000</td>
</tr>
<tr>
<td>Asian</td>
<td>39</td>
<td>39</td>
<td>39</td>
<td>147,000</td>
</tr>
<tr>
<td>European/Other</td>
<td>56</td>
<td>59</td>
<td>52</td>
<td>1,555,000</td>
</tr>
</tbody>
</table>

Adjusted rate ratios (comparing each ethnic group with people not in that ethnic group)

<table>
<thead>
<tr>
<th></th>
<th>Total NZ</th>
<th>Men</th>
<th>Women</th>
<th>Estimated number</th>
</tr>
</thead>
<tbody>
<tr>
<td>Māori</td>
<td>1.0</td>
<td>1.0</td>
<td>1.0</td>
<td></td>
</tr>
<tr>
<td>Pacific</td>
<td>0.8*</td>
<td>0.9</td>
<td>0.8*</td>
<td></td>
</tr>
<tr>
<td>Asian</td>
<td>0.7*</td>
<td>0.6*</td>
<td>0.7*</td>
<td></td>
</tr>
</tbody>
</table>

*Significant at the 5% level (for adjusted rate ratios).

Notes: Total response measure of ethnicity. Adults may be counted in more than one ethnic group.

1 Due to total response ethnicity, summed numbers across ethnic groups may add to more than the total.

2 Adjusted rate ratios compare people, men or women in each ethnic group with people, men or women not in that ethnic group. Adjusted rate ratios adjust for age and, for the total column, sex.

Source: 2011/12 New Zealand Health Survey (15 years and over)

People living in more deprived areas are less likely to be physically active

Fewer people were physically active in the most deprived areas (47%) than in the least deprived areas (59%). This pattern was the same for both men and women (Figure 17).

Figure 17: Physically active, by neighbourhood deprivation and sex

Source: 2011/12 New Zealand Health Survey (15 years and over)
People in the least deprived areas were 1.2 times as likely to be physically active as those in the most deprived areas, after adjusting for sex, age and ethnic differences.

**One in eight adults did less than 30 minutes of exercise in the past seven days**

About 12% of adults reported that they did little or no physical activity in the past seven days (less than 30 minutes of exercise in total over the past week). This is about 440,000 adults.

Older adults aged 75 years and over were much more likely to have done little or no physical activity in the past seven days (34%) than adults aged 15–24 years (9%). Women were more likely than men to have done little or no exercise in the past seven days, after standardising for age.

People of Māori, Pacific and Asian ethnicity were more likely to have done little or no physical activity in the past seven days than people of non-Māori, non-Pacific and non-Asian ethnicity respectively, accounting for differences in age and sex.

Doing little or no physical activity was related to neighbourhood deprivation. People living in the most deprived areas were 2.1 times as likely to have done little or no physical activity as people in the least deprived areas, after adjusting for age, sex and ethnic group.

**Where can you go for more information?**

You can find the data for the indicator ‘physically active’ in Appendix 3 and in the online data tables. Data for the following indicator are also available in the online data tables:

> Little or no physical activity (less than 30 minutes in total) in the past seven days.

**What were the survey questions?**

The 2011/12 New Zealand Health Survey asked people aged 15 years and over how many days in the last 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 respondents. These questions are together known as the New Zealand Physical Activity Questionnaire Short Form, and were also included in the 2002/03 and 2006/07 surveys.

Physical activity was calculated as time spent brisk walking + time spent doing moderate exercise + (2 x time spent doing vigorous activity); that is, one minute of vigorous activity was equated with two minutes of moderate-intensity activity.

This report uses the following definition:

> **physically active** – at least 30 minutes of moderate-intensity (or equivalent) physical activity per day on five or more days of the last week.
2.4 Obesity

Obesity rates have increased since 2006/07. About one million adults are now obese.

A healthy body size is important for good health and wellbeing. Being obese increases a person’s risk of developing heart disease, type 2 diabetes and some types of cancer. Eating a healthy diet and getting regular physical activity can help maintain a healthy body size.

**Obesity** is defined as a body mass index (BMI) of 30 or more (calculated by dividing a person’s weight in kilograms by the square of their height in metres). Survey interviewers measured respondents’ height and weight, from which BMI could be calculated.

**Obesity affects almost three in ten adults in New Zealand**

In 2011/12 almost three in ten adults (28%) were obese – about one million New Zealand adults. The obesity rate was similar for men (28%) and women (29%).

A further 35% of adults were overweight (but not obese) (Figure 18). This means that two in three adults (64%) were either obese or overweight. One in three adults had a normal weight.

![Figure 18: Body size of adults](image)

Notes: Based on BMI (body mass index) using measured height and weight. Due to rounding, individual figures may not sum to 100%.

Source: 2011/12 New Zealand Health Survey (15 years and over)

**Obesity rate continues to climb**

In the past 15 years, the obesity rate has increased substantially. In 1997, 19% of adults were obese; this increased to 26% of adults in 2006/07 and 28% of adults in 2011/12.

The increase in the obesity rate has been similar for men and women over this period (Figure 19).
All age groups are affected by obesity

About one in three adults aged 35–74 years were obese. For women, the highest rate was among those aged 65–74 years (38%) (Figure 20).

The proportion of people who were obese increased substantially between the age groups of 10–14 years (11%) and 15–24 years (20%).

Obesity rate among young adults has increased since 2006/07

Obesity has become more common among young adults since 2006/07. The obesity rate in those aged 15–24 years increased from 14% in 2006/07 to 20% in 2011/12 (Figure 21).

There were no other significant changes by age group from 2006/07 to 2011/12.
Māori and Pacific obesity rates remain high but unchanged since 2006/07

Two in five Māori adults (44%) were obese (Table 10). Adjusting for age and sex, Māori were almost twice as likely to be obese as non-Māori adults.

The obesity rate was also high among Pacific adults (62%). Pacific adults were 2.5 times as likely to be obese as non-Pacific adults, after adjusting for age and sex differences.

One in four (26%) people of European/Other ethnicity was obese, while Asian adults had a lower rate of obesity (16%) than other people.

The obesity rates for Māori and Pacific have not increased since 2006/07. However, the obesity rate has increased for Asian adults from 11% in 2006/07 to 16% in 2011/12.

Table 10: Obesity, by ethnic group and sex

<table>
<thead>
<tr>
<th>Percent (%)</th>
<th>Total</th>
<th>Men</th>
<th>Women</th>
<th>Estimated number¹</th>
</tr>
</thead>
<tbody>
<tr>
<td>Total NZ</td>
<td>28</td>
<td>28</td>
<td>29</td>
<td>1,004,000</td>
</tr>
<tr>
<td>Māori</td>
<td>44</td>
<td>44</td>
<td>45</td>
<td>197,000</td>
</tr>
<tr>
<td>Pacific</td>
<td>62</td>
<td>59</td>
<td>64</td>
<td>127,000</td>
</tr>
<tr>
<td>Asian</td>
<td>16</td>
<td>16</td>
<td>16</td>
<td>59,000</td>
</tr>
<tr>
<td>European/Other</td>
<td>26</td>
<td>26</td>
<td>26</td>
<td>724,000</td>
</tr>
</tbody>
</table>

Adjusted rate ratios (comparing each ethnic group with people not in that ethnic group)²

| Māori       | 1.8*  | 1.8*  | 1.8*  |
| Pacific     | 2.5*  | 2.4*  | 2.6*  |
| Asian       | 0.5*  | 0.6*  | 0.5*  |

*Significant at the 5% level (for adjusted rate ratios).

Notes: Total response measure of ethnicity. Adults may be counted in more than one ethnic group.

1 Due to total response ethnicity, summed numbers across ethnic groups may add to more than the total.

2 Adjusted rate ratios compare people, men or women in each ethnic group with people, men or women not in that ethnic group. Adjusted rate ratios adjust for age and, for the total column, sex.

Source: 2011/12 New Zealand Health Survey (15 years and over)
**Obesity is more common in areas of high deprivation**

There was a clear association between neighbourhood deprivation and obesity in adults. The obesity rate was much higher among people living in the most deprived areas (40%) than among people living in the least deprived areas (23%) (Figure 22).

**Figure 22: Obesity, by neighbourhood deprivation and sex**

The relationship between obesity and deprivation remained strong after adjusting for age, sex and ethnic group. People living in the most deprived areas were 1.6 times as likely to be obese as those in the least deprived areas, after adjustment.

**New Zealand obesity rates are among the highest in the OECD**

New Zealand adults had the third-highest obesity rate in the OECD in 2009, when comparing with countries that also measured height and weight to estimate obesity.

The New Zealand obesity rate (26% in 2006/07) was lower than the United States (34% in 2008) and Mexico (30% in 2006). However, New Zealand had a higher rate than Australia (25%) and the OECD average of 17% (OECD 2011).

**Increase in average BMI**

The BMI of the average New Zealand adult has increased over the past 15 years, from 26.1 in 1997 to 27.7 in 2011/12.

**Where can you go for more information?**

You can find the data for the above indicator in Appendix 3 and in the online data tables. Data for the following indicators are also available in the online data tables:

- overweight
- normal weight
- underweight
- overweight or obese
- mean BMI.
How did we measure obesity?

Obesity is measured using the body mass index. BMI is calculated by dividing weight in kilograms by the square of height in metres (kg/m²). In the New Zealand Health Survey, BMI was calculated for survey respondents using measured height and weight.

For adults aged 18 years and over, **obesity** is defined as a BMI of 30 or over, **overweight** is a BMI of 25.0–29.9, **normal range** is a BMI of 18.5–24.9 and **underweight** is a BMI of less than 18.5. These categories are based on the World Health Organization's BMI cut-off points for adults aged 18 years and over (WHO 2007).

For survey respondents aged 2–17 years, the age- and sex-specific BMI cut-off points developed by the International Obesity Taskforce (IOTF) were used to classify underweight, normal range, overweight and obesity (Cole et al 2000; Cole et al 2007). These BMI cut-offs were designed to coincide with the adult cut-offs at 18 years.

These BMI cut-off points identify populations at increased risk of health conditions associated with excess body fat. For all populations, the risk of these health conditions begins at a BMI in the normal range (below 25) and increases with increasing BMI.