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OVERWEIGHT AND OBESITY IN ADULTS IN AUSTRALIA: A SNAPSHOT AUSTRALIA

EMBARGO: 11.30AM (CANBERRA TIME) FRI 27 MAY 2011

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INQUIRIES

For further information about these and related statistics, contact the National Information and Referral Service on 1300 135 070.

NOTES

ABOUT THIS PUBLICATION This publication presents overweight and obesity data from the Australian Bureau of Statistics 2007-08 *National Health Survey* (NHS) and 1995 *National Nutrition Survey* (NNS).

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Brian Pink
Australian Statistician

INTRODUCTION

The increase in overweight and obesity rates in recent decades is a major public health concern in many countries including Australia. Before 1980, obesity rates were generally well below 10%, but have doubled or tripled in many countries since then. In no less than 13 countries in the Organisation for Economic Co-operation and Development (OECD), 50% or more of the adult population is now classified as being either overweight or obese, with Australia's obesity rate the fifth highest, behind only the United States, Mexico, New Zealand and the United Kingdom¹. Sedentary lifestyles which have come about due to increasing affluence and the modernisation of society, and changes to diets containing more energy-dense foods are believed to be the main causes in the rise in overweight and obesity rates.

While gains in weight had been largely beneficial to population health and longevity over the past century, many people have crossed the line where further weight gain becomes detrimental. Life expectancy may decrease due to the increasing number of overweight and obese people who experience health problems, such as cardiovascular disease, high blood pressure and Type 2 diabetes.

Overweight and obesity are prominent health risks that can affect a person's ability to work or participate in family and community activities and have serious implications for the health sector in terms of cost and burden on services. In 2008, it was estimated that the overall cost of obesity to Australian society and governments was \$58.2 billion², which included:

- a burden of disease cost of \$49.9 billion; that is, the cost of disability, loss of well-being and premature death resulting from obesity and its impacts; and
- direct financial costs of \$8.3 billion, including productivity costs due to short and long-term employment impacts (\$3.6 billion), health system costs (\$2 billion) and carer costs (\$1.9 billion).

1 The Organisation for Economic Co-operation and Development. Health at a glance 2009 - OECD indicators. The Organisation for Economic Co-operation and Development, 2009. Available from http://www.oecd.org/document/11/0,3343,en_2649_33929_16502667_1_1_1_37407,00.html

2 Access Economics. The growing cost of obesity in 2008: three years on. Canberra: Diabetes Australia, 2008. Available from: <http://www.accesseconomics.com.au/publicationsreports/showreport.php?id=172>

DATA SOURCES AND DEFINITIONS

This article discusses overweight and obesity of adults in Australia in 2007-08, examining a range of factors which may influence a person's weight, and some of the health consequences associated with excess weight. The article uses measured height and weight data from the 1995 Australian Bureau of Statistics (ABS) National Nutrition Survey (NNS) and the 2007-08 ABS National Health Survey (NHS) to calculate Body Mass Index (BMI) and classify people as underweight, normal weight, overweight and obese. While BMI does not distinguish between weight due to muscle (which is denser and heavier than body fat) and weight due to fat in individuals³, it provides a good population-level measure of overweight and obesity. Measured height and weight data provides a more accurate picture of the nation's overweight and obesity rates compared with self-reported height and weight data, as people tend to over-report their height and under-report their weight when asked to provide an estimate⁴.

BMI

In this article, overweight and obesity are calculated using BMI, a simple index of weight for height that is commonly used in classifying people as overweight and obese. It is defined as the weight in kilograms divided by the square of the height in metres (kg/m²). To produce a measure of the prevalence of underweight, normal weight, overweight or obesity in adults, BMI values are grouped according to the table below, which allows categories to be reported against both the World Health Organisation (WHO) and, in Australia, the National Health and Medical Research Council guidelines.

Body Mass Index, Adult

Underweight:	Less than 18.5
Normal range:	18.5 to less than 25.0
Overweight:	25.0 to less than 30.0
Obese:	30.0 and greater

Equivalised household income

Equivalised household income is the total income at the household level adjusted using an equivalence scale to enable analysis of the relative incomes of households of different size and composition. This can be viewed as an indicator of the economic resources available to a standardised household.

3 WHO (World Health Organisation) 2000. Obesity: preventing and managing the global epidemic. Report of a WHO consultation. Technical report series 894. Geneva: WHO

4 ABS (Australian Bureau of Statistics) 1998. How Australians measure up. ABS Cat. No. 4359.0. Canberra ABS

Age standardisation

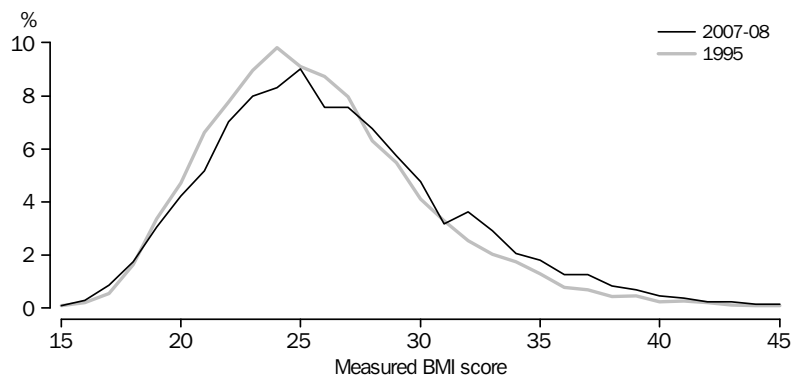
Age standardisation is a way of allowing comparisons between two or more populations with different age structures, in order to remove age as a factor when examining correlations between other variables. For example, the age distribution of people with diabetes is heavily skewed towards the higher age groups (that is, older people are more likely to have diabetes than younger people). When looking at the labour force status of people with and without diabetes, it can be seen that more people with diabetes are not in the labour force, however, this could be due to the fact that there are more older people with diabetes and less older people in the work force. Age standardising removes age from the picture so it can be seen whether there is a correlation between diabetes and labour force status independent of age. This is achieved by applying a single population structure to each of the populations being compared.

In this article, the Australian 2001 estimated resident population is used as the reference population.

CHANGES OVER TIME

Over the last two decades in Australia, there has been a steady shift towards the higher end of the Body Mass Index, driven mainly by weight gain rather than changes in height (Graph 3.1).

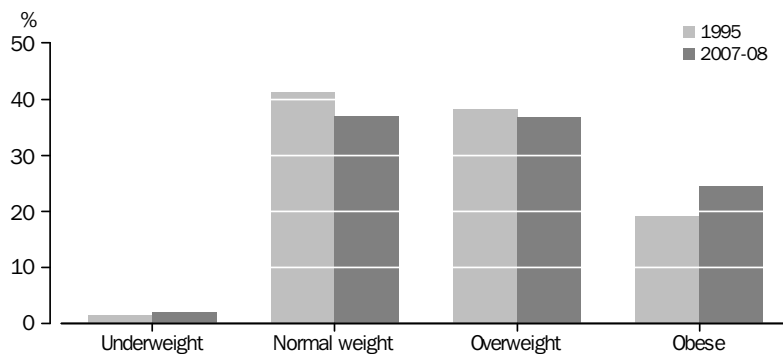
3.1 Measured Body Mass Index(a), Adults



(a) Excludes persons for whom measured height or weight was not available.
Source: National Nutrition Survey 1995 and National Health Survey 2007-08

After adjusting for age, around 61% of adults aged 18 years and over were either overweight or obese in 2007-08, up four percentage points from 57% in 1995. Proportionally, fewer adults were normal weight or overweight in 2007-08 than in 1995, but the greatest increase was in the obese category with the proportion of obese adults rising from 19% to 24%. That is, the population is gaining weight faster with more adults in the obese category of BMI. In this period, the proportion of normal weight adults decreased from 41% to 37%, while the proportion of overweight adults decreased from 38% to 37%. In 2007-08, there were just as many people overweight as there were people of normal weight (Graph 3.2).

3.2 Measured Body Mass Index(a), Adults(b)

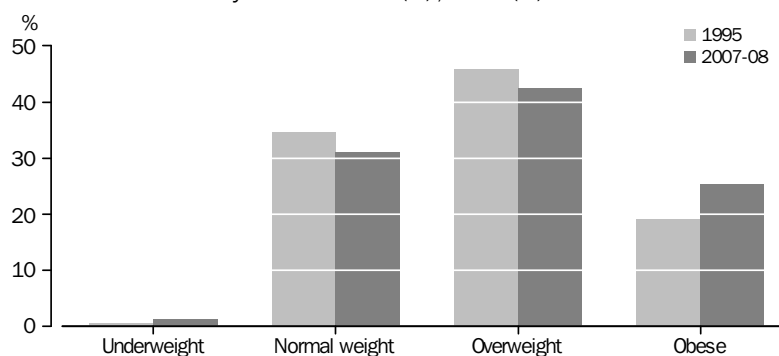


(a) Excludes persons for whom measured height or weight was not available.
(b) Age standardised to the 2001 estimated resident population.
Source: National Nutrition Survey 1995 and National Health Survey 2007-08

CHANGES OVER TIME
continued

Men were gaining weight at a greater rate than women over this time, with the proportion of obese men rising from 19% to 25%, compared with a rise from 19% to 23% for women (Graphs 3.3 and 3.4).

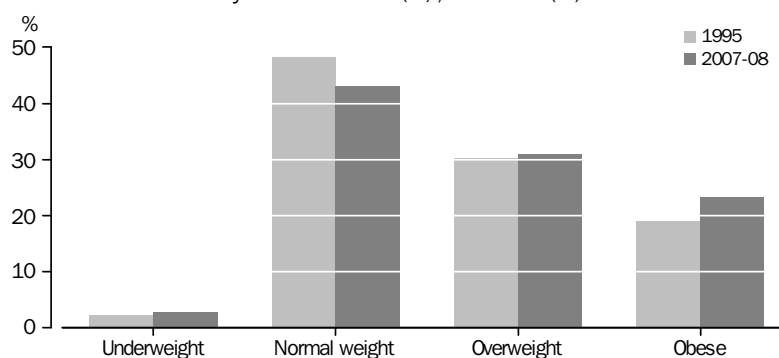
3.3 Measured Body Mass Index(a), Men(b)



(a) Excludes persons for whom measured height or weight was not available.
(b) Age standardised to the 2001 estimated resident population.

Source: National Nutrition Survey 1995 and National Health Survey 2007-08

3.4 Measured Body Mass Index(a), Women(b)



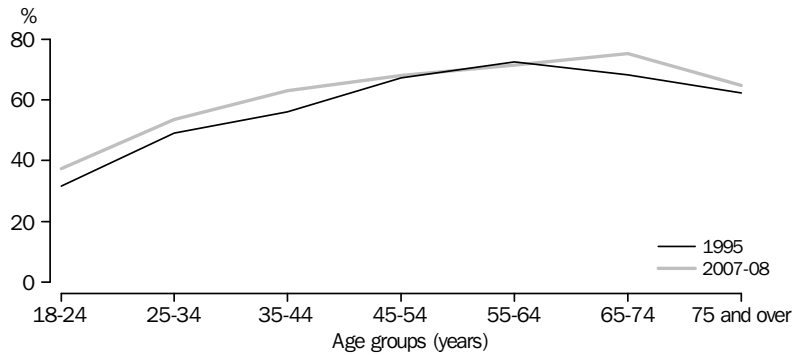
(a) Excludes persons for whom measured height or weight was not available.
(b) Age standardised to the 2001 estimated resident population.

Source: National Nutrition Survey 1995 and National Health Survey 2007-08

CHANGES OVER TIME
continued

In general, the prevalence of overweight and obesity increases with age (Graph 3.5). In 2007-08, around 37% of young adults aged 18-24 years were overweight or obese compared with 75% of people aged 65-74 years.

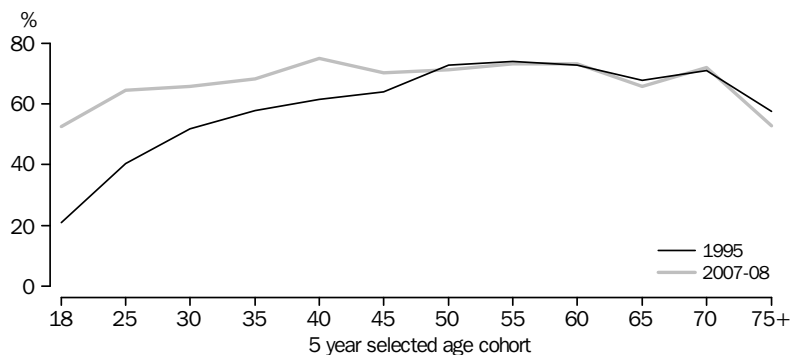
3.5 Proportion of people overweight or obese(a)(b), by Age



(a) Measured Body Mass Index.
(b) Excludes persons for whom measured height or weight was not available.
Source: National Nutrition Survey 1995 and National Health Survey 2007-08

The weight gain as people age can be seen by analysing age 'cohorts'. For example, if people aged 18 years in 1995 and people aged 30-31 years in 2007-08 are treated as representative of the same group of people (having aged 12-13 years), the shift into the overweight and obese BMI categories is evident. In 1995, 21% of 18 year olds were overweight or obese. By 2007-08, over 50% of this cohort (now aged 30 or 31 years) were overweight or obese (Graph 3.6). With Australia's ageing population, the increasing number of older and overweight or obese Australians has implications for future health care resources and the national health budget.

3.6 Proportion of people overweight or obese(a)(b), by selected age cohort



(a) Measured Body Mass Index.
(b) Excludes persons for whom measured height or weight was not available.
Source: National Nutrition Survey 1995 and National Health Survey 2007-08

DEMOGRAPHIC AND SOCIO-ECONOMIC CHARACTERISTICS

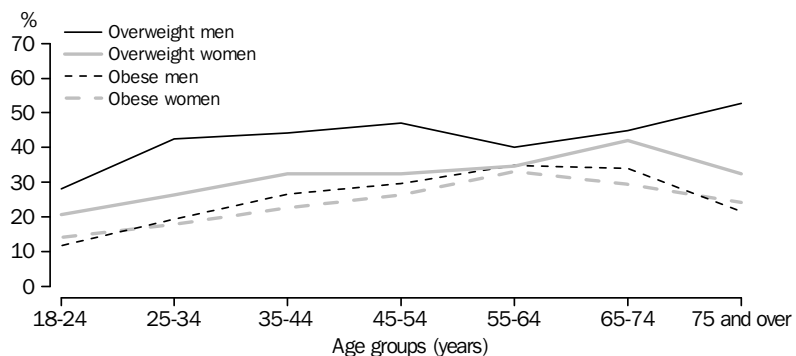
While genetics may increase the susceptibility of certain individuals towards gaining weight, overweight and obesity can also be attributed to a number of environmental factors. These include a shift towards increased intake of foods high in fat and sugars, decreased physical activity due to social modernisation and changes in transportation, and the increasingly sedentary nature of many forms of work and activities such as watching television, movies and computer use⁵.

In this section, rates of overweight and obesity are examined in relation to factors such as age, sex, geography, socio-economic and work conditions. While certain factors may be associated with overweight and obesity, many are inter-related such as labour force status, household income and level of disadvantage.

AGE AND SEX

In 2007-08, a higher proportion of men were overweight or obese than women (68% and 55% respectively). While men and women had fairly similar rates of obesity across all age groups, far more men (42%) than women (31%) were overweight. This result may be influenced by the fact men generally have more muscle mass than women (Graph 4.1).

4.1 Proportion of people overweight or obese(a)(b), by Sex



(a) Measured Body Mass Index.
 (b) Excludes persons for whom measured height or weight was not available.
 Source: National Health Survey 2007-08

Rates of overweight and obesity were highest for both men and women aged 65-74 years, at 79% and 71%, respectively. Only one in five men (21%) and 29% of women in this age group were underweight or normal weight.

While overweight and obesity is most prevalent in middle to late adulthood, Australia's escalating obesity epidemic is evident in the large numbers of younger people that are now overweight or obese. For example, almost half of adults under the age of 35 were overweight or obese. Eating a healthy diet and physical activity are important not only for

5 WHO (World Health Organisation) 2006. World Health Organisation Fact Sheet 311

AGE AND SEX *continued*

preventing weight gain, but also for weight loss and subsequent weight management, and these behaviours were absent in many younger people. Only 4% of adults under the age of 35 met recommended daily fruit and vegetable consumption guidelines and over two-thirds (69%) were sedentary or exercised at low levels.

GEOGRAPHICAL CHARACTERISTICS

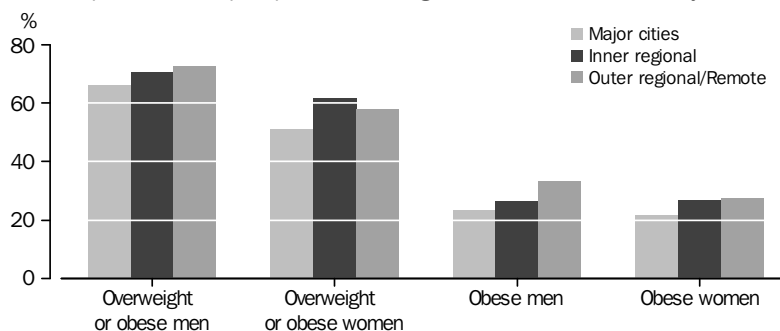
States and Territories

Rates of overweight and obesity did not differ markedly by state or territory in 2007-08. After adjusting for age, the range between states and territories was four percentage points, with Western Australia having the highest prevalence of overweight and obesity (63%) and the ACT having the lowest (59%).

Remoteness

After adjusting for age, Australian adults living outside major cities were more likely to be overweight or obese than those living in major cities. In particular, the obesity rate was significantly higher in outer regional and remote parts of Australia (31%) than in major cities (23%). This was the case for both men and women (Graph 4.2).

4.2 Proportion of people overweight or obese(a)(b), by Remoteness(c)



(a) Measured Body Mass Index.
 (b) Excludes persons for whom measured height or weight was not available.
 (c) Age standardised to the 2001 estimated resident population.

Source: National Health Survey 2007-08

The greater incidence of overweight and obesity in regional and remote Australia may be due in part to the availability and cost of certain foods, such as fruit and vegetables. Many basic healthy foods are more costly in some rural areas than in metropolitan areas of Australia⁶, due to transportation and storage costs, which may influence people's food choices. On the other hand, adults living in outer regional and remote parts of Australia may have more opportunities to grow their own fruit and vegetables or access locally grown produce, and they were no less likely to meet the recommended daily fruit and vegetable guidelines.

A higher proportion of adults in outer regional and remote parts of Australia (43%) did no exercise, however, compared with those who lived in major cities (36%). The availability and accessibility to sporting and public transport facilities may encourage more people to participate in recreational physical activity and these facilities are less readily available in rural areas⁷.

6 Harrison M, Coyne T, Lee A, Leonard D, Lawson S, Groos A, et al. The increasing cost of the basic foods required to promote health in Queensland. Medical Journal of Australia, 2007 186: 9-14. Available from http://www.mja.com.au/public/issues/186_01_010107/har10516_fm.html

7 National Rural Health Alliance, January 2011, Fact Sheet 26: Physical Activity in Rural Australia

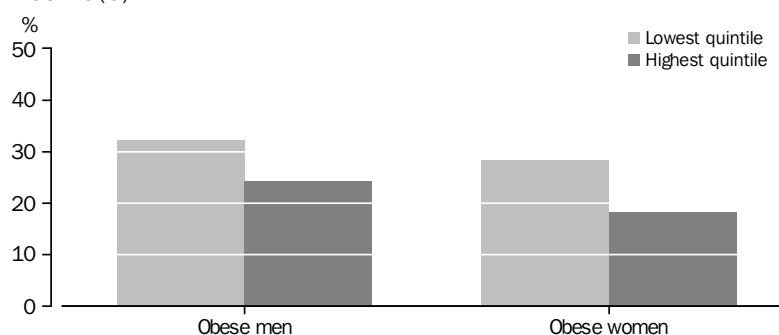
HOUSEHOLD INCOME AND
DISADVANTAGE

According to the 2003-04 ABS Household Expenditure Survey (HES), households with the lowest incomes spend a higher proportion of their income on food and non-alcoholic beverages than households with the highest incomes, after accounting for households of different size and composition⁸. Studies have shown that energy-dense foods composed of refined grains and added sugars or fats may represent the lowest cost option to consumers compared with diets based on lean meats, fish, fresh vegetables and fruit. For this reason, people in lower-income households may be more inclined to consume energy dense foods than healthier food options⁹, which may result in higher rates of overweight and obesity.

Data from the 2007-08 NHS shows that slightly more adults in households with the lowest incomes (8%) ate the recommended daily serves of fruit and vegetables than those in households with the highest incomes (6%), but they were less likely to exercise. Almost four out of five adults in households with the lowest incomes were sedentary or exercised at low levels (79%) compared with 61% of adults in households with the highest incomes. Furthermore, over half of adults in the lowest income households did no exercise at all in the week prior to the survey, compared with around a quarter of adults in households with the highest incomes.

Rates of obesity were higher in households with lower incomes than in households with higher incomes.

4.3 Proportion of people obese(a)(b), by Equivalised household income(c)



(a) Measured Body Mass Index.

(b) Excludes persons for whom measured height or weight was not available.

(c) Excludes persons for whom equivalised household income was not stated or not known.

Source: National Health Survey 2007-08

The Socio-economic Indexes for Areas (SEIFA) Index of Disadvantage summarises various attributes such as income, unemployment and educational attainment of an area in which people reside. Apart from socio-economic differences between areas in terms of income, employment and education, some areas also offer greater opportunities for physical activity and greater access to healthy food options¹⁰.

⁸ ABS (Australian Bureau of Statistics) 2006. Household Expenditure Survey, Australia: Summary of Results, 2003-04. ABS Cat. No. 6530.0. Canberra ABS

⁹ Drewnowski A and Specter S. Poverty and obesity: the role of energy density and energy costs. *American Journal of Clinical Nutrition*, 2004; 79: 6-16. Available from <http://www.ajcn.org/content/79/1/6.full.pdf+html>

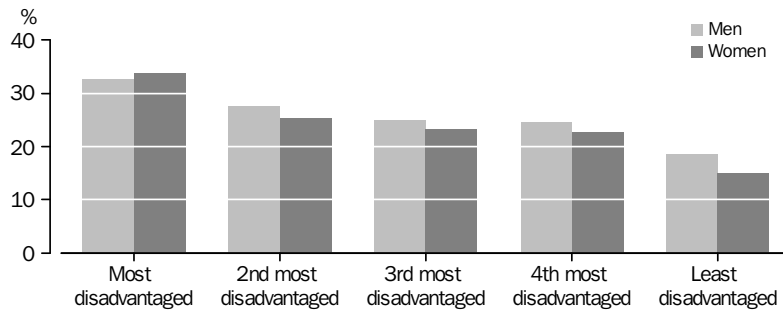
¹⁰ King T, Kavanagh AM, Jolley D, Turrell D and Crawford D, 2006, 'Weight and place: a multilevel cross sectional survey of area-level disadvantage and overweight/obesity in Australia', *International Journal of Obesity* 30, p 281-287. Available from <http://www.nature.com/ijo/journal/v30/n2/pdf/0803176a.pdf>

HOUSEHOLD INCOME AND DISADVANTAGE

continued

After adjusting for age, adults living in areas with the highest levels of disadvantage had the highest prevalence of overweight and obesity (66%), while those living in areas of least disadvantage had the lowest prevalence (55%). In particular, the obesity rates for both men and women living in areas of most disadvantage were significantly higher than the corresponding rates for those living in areas of least disadvantage (Graph 4.4).

4.4 Proportion of people obese (a)(b), by Index of disadvantage (c)(d)



- (a) Measured Body Mass Index.
- (b) Excludes persons for whom measured height or weight was not available.
- (c) Excludes persons for whom the index of disadvantage was not available.
- (d) Age standardised to the 2001 estimated resident population.

Source: National Health Survey 2007-08

EDUCATION

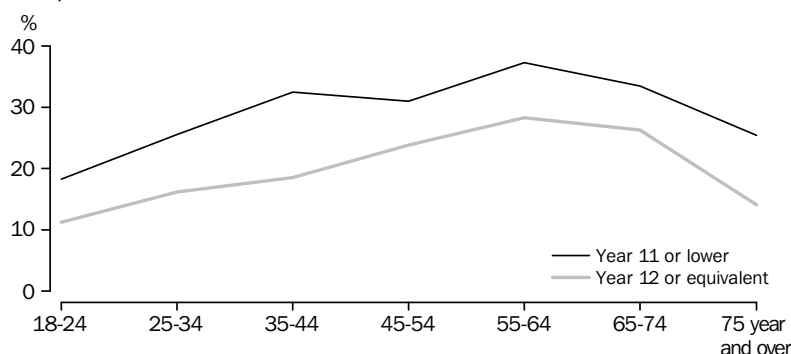
Several international studies have highlighted a relationship between education and the prevalence of overweight and obesity, especially in women¹¹. People with better education may be more informed of the health consequences of their lifestyles, leading to healthier eating and exercising more often.

In Australia, there is a relationship between education and the prevalence of overweight and obesity. Adults who had completed Year 11 or lower were more likely to be overweight or obese (69%) than those who completed Year 12 or equivalent (54%). This pattern was evident across most age groups (Graph 4.5). People who had completed Year 11 or lower were also more likely to be sedentary or exercise at low levels than those who completed Year 12 or equivalent.

11 Franco Sassi, Obesity and the Economics of Prevention: Fit not fat. The Organisation for Economic Co-operation and Development, 2010.

EDUCATION *continued*

4.5 Proportion of people obese(a)(b), by Highest year of school completed



(a) Measured Body Mass Index.

(b) Excludes persons for whom measured height or weight was not available.

Source: National Health Survey 2007-08

Similarly, adults who had qualifications such as a Certificate I-IV and those with no non-school qualification were more likely to be overweight or obese (66% and 63% respectively) than adults with a degree, diploma or higher qualification (55%). People who had a degree, diploma or higher qualification were more likely to eat the recommended daily amounts of fruit and vegetable and less likely to be sedentary or exercise at low levels than people with other or no non-school qualifications.

EMPLOYMENT
CHARACTERISTICS*Labour force status*

Adults who were employed or not in the labour force were more likely to be overweight or obese (both 60%) than those who were unemployed (44%). However, more than a third of adults who were unemployed were aged 18-24 years and the prevalence of overweight and obesity is higher in older adults.

Of employed people aged 18 to 64 years, those who worked full-time were more likely to be overweight or obese (63%) than those who worked part-time (51%), which may indicate a relationship between the hours people work and their likelihood of being overweight or obese.

Physical activity at work

In many workplaces, people often sit for long periods during the day. Recent Australian research has shown the importance of avoiding prolonged uninterrupted periods of sitting time, as it may undo the benefits of regular moderate-vigorous physical activity¹². Activities as minimal as standing rather than sitting and increasing the number of breaks have been shown to result in substantial increases in total daily energy expenditure and resistance to fat gain¹³.

In 2007-08, a higher proportion of men aged 18 to 64 years who spent most of their time sitting in their jobs were overweight or obese (72%), compared with men who mostly stood (59%), walked (65%) and undertook heavy labour or physically demanding work (64%). The story was different for women, however. Almost two-thirds of women who were mostly undertaking heavy labour or physically demanding work were overweight or

12 Healy G, Wijndaele K, Dunstan D, Shaw J, Salmon J, Zimmet P, et al. Objectively measured sedentary time, physical activity, and metabolic risk: the Australian Diabetes, Obesity and Lifestyle Study (AusDiab). *Diabetes Care*, 2008; 31:369-71. Available from <http://care.diabetesjournals.org/content/31/2/369.full.pdf+html>

13 Healy G, Dunstan D, Salmon J, Cerin E, Shaw J, Zimmet P, et al. Breaks in sedentary time: beneficial associations with metabolic risk. *Diabetes Care*, 2008; 31:666-6. Available from <http://care.diabetesjournals.org/content/31/4/661.full.pdf+html>

*Physical activity at work
continued*

obese, while rates did not differ between women who mostly walked, sat or stood in their jobs which were all around 50%.

Hours worked

As well as contributing to longer sitting times, long working hours may affect people's weight by limiting the time they have available for activities such as exercise and preparing healthy meals. For instance, people may substitute a healthy home-cooked meal with takeaway or pre-prepared processed foods that are generally high in fat and sugars because it is late and they are tired when they arrive home from work.

There was a relationship between the amount of time spent at work and the likelihood of men being overweight or obese. In general, as the hours usually worked each week increased, so too did the prevalence of overweight and obesity in men. In 2007-08, 55% of men aged 18-64 years who worked 15 hours or less in a week were overweight or obese compared with 75% of men who worked 49 hours or more. Men who worked 15 hours or less per week were less likely to be sedentary or exercise at low levels than those who worked 49 hours or more. For women, there was no relationship between the amount of time spent at work and the likelihood of being overweight or obese.

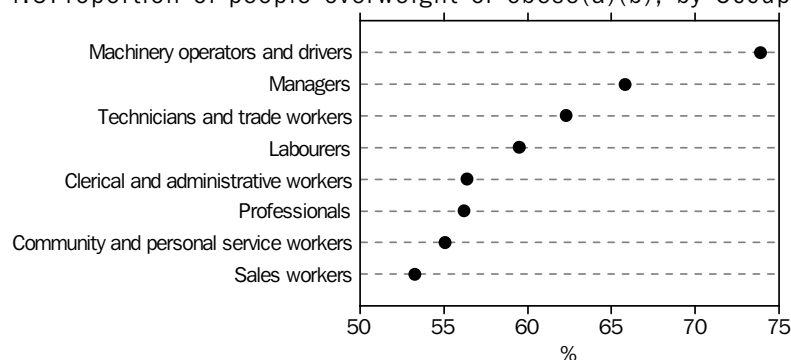
Occupation

Employed people may spend a large proportion of their day in the workplace, and work-related factors, such as their job, position or the type of work they do may be associated with weight gain.

Of employed people aged 18-64 years, the prevalence of overweight and obesity was highest for those who worked as machinery operators and drivers (74%). These jobs typically involve many hours of sitting and, as discussed above, the sedentary nature of the work may undo the benefits of any regular physical activity.

In contrast, people that worked as sales workers were the least likely to be overweight or obese (53%) (Graph 4.6). People in these jobs were more likely to be mostly standing and walking during the day.

4.6 Proportion of people overweight or obese(a)(b), by Occupation



(a) Measured Body Mass Index.
(b) Excludes persons for whom measured height or weight was not available.

Source: National Health Survey 2007-08

EXCESS WEIGHT AND RISK FACTORS

Certain lifestyle behaviours can increase the risk of a number of health conditions, but unlike factors such as age and sex, individuals can take action to alter these behaviours. For instance, healthy diet and regular exercise can prevent the onset of obesity, diabetes and cardiovascular disease. Conversely, smoking and excessive alcohol consumption are risk factors for obesity.

In the 2007-08 NHS, people were asked to report whether or not they smoked, their usual alcohol, fruit and vegetable consumption, the amount of exercise they do, and the fat content of the milk they usually drink. As data was self-reported, people may have provided responses that were perceived to be more socially desirable, such as understating the amount of alcohol they consumed.

NUTRITION

Food is an essential item that provides nutritional support for the body to produce energy and stimulate growth. A healthy diet can boost the immune system and prevent obesity. However, consuming foods that are high in fat and sugars on a regular basis may lead to serious health problems. The National Health and Medical Research Council (NHMRC) recommends that adults consume at least two serves of fruit and five serves of vegetables per day¹⁴.

After adjusting for age, only 6% of Australian adults consumed the recommended daily amount of both fruit and vegetables. Obese people were just as likely to eat sufficient fruit and vegetables as people who were underweight, normal weight or overweight (6% for each).

Overweight and obese people were more likely to consume skim milk (both 18%) than people who were underweight (6%) or normal weight (14%). This may indicate that people in these weight ranges are taking measures to reduce their fat intake.

PHYSICAL ACTIVITY

One of the main causes of overweight and obesity is an energy imbalance between calories consumed and calories expended over time¹⁵. Physical activity, such as exercise, increases the body's normal energy expenditure. However, the total amount of energy exhausted depends on the type of physical activity and the individual performing it¹⁶. For adults, the National Physical Activity Guidelines recommend at least 30 minutes of moderate-intensity physical activity on most, preferably all, days of the week¹⁷.

14 National Health and Medical Research Council. Food for health - Dietary Guidelines for Australians. Available from <http://www.nhmrc.gov.au/publications/synopses/dietsyn.htm>

15 WHO (World Health Organisation) 2006. World Health Organisation Fact Sheet 311

16 WHO (World Health Organisation) 2000. Obesity: preventing and managing the global epidemic. Report of a WHO consultation. Technical report series 894. Geneva: WHO

17 Department of Health and Ageing 2005. National Physical Activity Guidelines for Adults. Available from <http://www.health.gov.au/internet/main/publishing.nsf/content/phd-physical-activity-adults-pdf-cnt.htm>

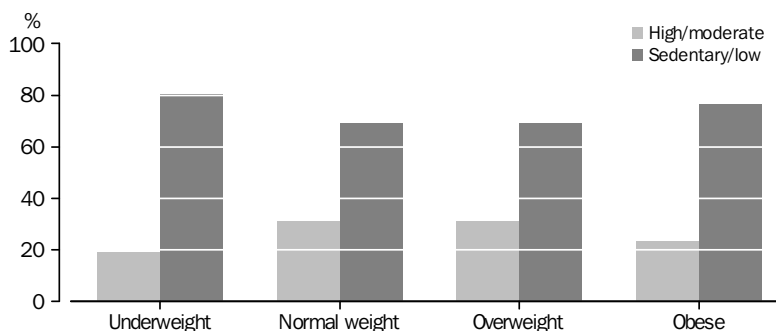
PHYSICAL ACTIVITY
continued

In the 2007-08 NHS, adults were asked questions about all exercise undertaken for fitness, recreation or sport in the week prior to the survey. They were then grouped into exercise levels (sedentary, low, moderate or high) based on a score derived from the frequency, duration and intensity of their physical activity in the previous week.

After adjusting for age, obese adults were less likely than normal weight and overweight adults to:

- exercise at high or moderate levels for fitness, recreation or sport;
- exercise 3 or more days; and
- meet the recommended guidelines for exercise.

5.1 Measured Body Mass Index(a)(b), by Level of exercise(c)



(a) Age standardised to the 2001 estimated resident population.
 (b) Excludes persons for whom measured height or weight was not available.
 (c) Level of exercise undertaken for fitness, recreation or sport in the last week.

Source: National Health Survey 2007-08

Obese adults were also more likely than normal weight and overweight adults to:

- be sedentary or exercise at low levels for fitness, recreation or sport;
- exercise 2 or less days; and
- do no exercise.

While physical activity in the last week may be a good indication of the amount of energy expended by individuals, it should be interpreted with caution as the effects of physical activity on body weight happen over time. Hence, any recent changes to a person's exercise routine may not be reflected in their body weight. In addition, overall physical activity such as that undertaken for work needs to be taken into consideration.

SMOKER STATUS

Smoking causes a marked increase in a person's metabolic rate and tends to reduce their food intake compared with that of non-smokers¹⁸. Several studies have reported that people tend to gain weight after they have quit smoking¹⁹.

In 2007-08, adult men who were ex-smokers were more likely to be overweight or obese (76%) than current smokers (60%) or those who had never smoked (65%) (Graph 5.2). In particular, men who had quit smoking were more likely to be obese (32%) than those who still smoked (24%) and those who had never smoked (21%). On the other hand,

18 Chioloro, A., Faeh, D., Paccaud, F., and Cornu, J. 2008, American Journal of clinical nutrition: Consequences of smoking for body weight, body fat distribution, and insulin resistance Am J Clin Nutr 2008;87:801-9. Available from <http://www.ajcn.org/content/87/4/801.full.pdf+html>

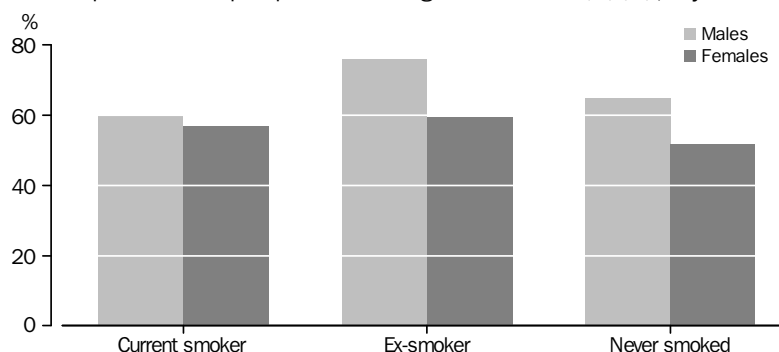
19 Lahti-Koski, M et al. 2002, 'Associations of body mass index and obesity with physical activity, food choices, alcohol intake, and smoking in the 1982-1997 FINRISK Studies', American Journal of Clinical Nutrition; no 75, pp. 909-17. Available from <http://www.ajcn.org/content/75/5/809.full.pdf+html>

SMOKER STATUS

continued

there was no significant difference in the prevalence of obesity for women who were ex-smokers, current smokers or had never smoked.

5.2 Proportion of people overweight or obese(a)(b), by Smoker status



(a) Measured Body Mass Index.
 (b) Excludes persons for whom measured height or weight was not available.
 Source: National Health Survey 2007-08

ALCOHOL CONSUMPTION

In the 2007-08 NHS, information was collected about a person's alcohol consumption in the week prior to the survey. This was used to calculate levels of long term risk from alcohol consumption. The 2001 NHMRC guidelines for reducing health risks in the longer term from alcohol limit consumption to four standard drinks a day for men and two standard drinks a day for women²⁰.

People who drank at risky or high risk levels had similar rates of overweight and obesity as those who drank at low risk levels.

There was a relationship, however, between whether a person had ever consumed alcohol and the likelihood of being obese. This followed different patterns for men and women, which may be due in part to gender-specific differences in the consumption and metabolism of alcohol.

Men who drank at low risk (25%) and risky or high risk levels (28%) were more likely to be obese than men who had never had an alcoholic drink (19%). On the other hand, women who drank at low risk (21%) and risky or high risk levels (18%) were less likely to be obese than women who had never consumed alcohol (27%). Studies show that male drinkers tend to add alcohol to their dietary intake, while female drinkers substitute alcohol for other foods without increasing total energy intake; and metabolic studies showed that energy expenditure after drinking alcohol was higher for men than for women²¹.

20 National Health and Medical Research Council guidelines. Available from http://www.nhmrc.gov.au/_files_nhmrc/file/publications/synopses/ds10-alcoholqa.pdf

21 Wang, L., Lee, I-M., Manson, J., Buring, J. and Sesso, H., Alcohol Consumption, Weight Gain, and Risk of Becoming Overweight in Middle-aged and Older Women, Archives of Internal Medicine, 2010;170(5):453-461. Available from <http://www.ncbi.nlm.nih.gov/pmc/articles/PMC2837522/pdf/nihms157983.pdf>

HEALTH STATUS

People who are overweight, and particularly those who are obese, have higher rates of premature death and chronic illness than people of normal weight, both overall and from a range of specific conditions²². Some of these conditions include cardiovascular disease, high blood pressure, Type 2 diabetes, sleep apnoea, osteoarthritis, psychological problems and reproductive problems for women.

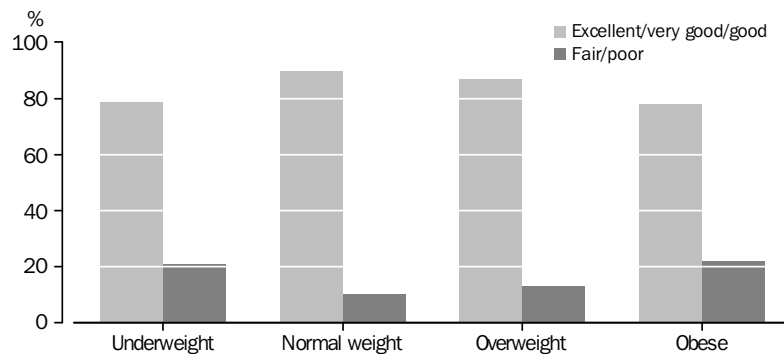
In this section, a number of long-term health conditions are examined to see whether they are more prevalent among people who were overweight or obese in Australia.

SELF-ASSESSED HEALTH

A person's perception of their own health is a useful measure of their current health status. In the 2007-08 NHS, people were asked to provide a general assessment of their own health selecting from a five-point scale (excellent, very good, good, fair and poor).

After adjusting for age, obese people were less likely to perceive their health as excellent, very good or good (78%) compared with normal weight and overweight people (90% and 87% respectively). Consequently, more obese people rated their health as fair or poor than people in these other weight ranges (Graph 6.1).

6.1 Measured Body Mass Index(a)(b), by Self-assessed health



(a) Age standardised to the 2001 estimated resident population.
 (b) Excludes persons for whom measured height or weight was not available.
 Source: National Health Survey 2007-08

LONG-TERM HEALTH CONDITIONS

A number of long-term health conditions (one which lasted or was expected to last for six months or more) were more prevalent in obese adults than adults in other weight ranges. Obese people were more likely to have some type of long-term health condition (89%) than those who were overweight (87%) and normal weight (86%).

22 WHO (World Health Organisation) 2000. Obesity: preventing and managing the global epidemic. Report of a WHO consultation. Technical report series 894. Geneva: WHO

Heart, stroke and vascular disease

Heart, stroke and vascular disease comprise a subgroup of diseases of the circulatory system. Excessive weight poses a major risk for diseases of the circulatory system, with the risk increasing the longer a person remains overweight or obese. Other risk factors which impact on heart disease include tobacco smoking, insufficient physical activity and poor nutrition, which, when combined with excess weight, increase the risks further.

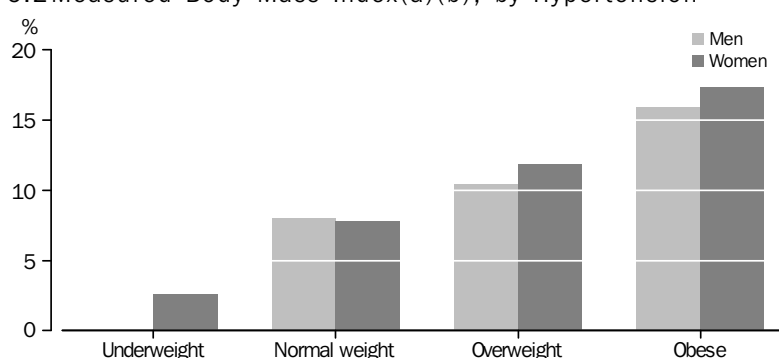
A greater proportion of obese men had a heart, stroke or vascular disease (9%) compared with those in the underweight/normal weight (6%) and overweight (7%) ranges. For women, those who were underweight had the lowest rate of heart, stroke or vascular disease (2%), with the proportion rising consistently with each increasing weight range to 9% for obese women.

Hypertension

Hypertension or high blood pressure is a major risk factor for coronary heart disease, stroke, heart failure and chronic kidney disease. Along with obesity, other major causes of hypertension include diets which are high in salt, excessive alcohol consumption and insufficient physical activity.

For both men and women, those who were obese had a greater likelihood of having hypertension than people in all other weight ranges. Obese people were around 1.5 times more likely to have hypertension than overweight people and around two times more likely than normal weight people (Graph 6.2).

6.2 Measured Body Mass Index(a)(b), by Hypertension



(a) Age standardised to the 2001 estimated resident population.

(b) Excludes persons for whom measured height or weight was not available.

Source: National Health Survey 2007-08

High blood cholesterol

High blood cholesterol is also a major risk factor for coronary heart disease and stroke by causing blood vessels that supply the heart and other parts of the body to become clogged. For most people, saturated fat in their diet is the main reason for elevated blood cholesterol levels. Physical activity and a healthy diet play an important role in maintaining a healthy blood cholesterol level.

One in ten men who were obese had high blood cholesterol levels (10%), almost double that of normal weight men with high blood cholesterol levels (6%). Similarly, around twice as many obese women had high blood cholesterol levels (9%) compared with women of normal weight (4%).

Osteoarthritis

Osteoarthritis is a degenerative condition caused mainly by accumulated wear of the cartilage that cushions the ends of bones where they meet to form a joint. As the cartilage degenerates, the normal functioning of the joint becomes disrupted which causes pain, stiffness and limited activity. The condition mainly affects the hands, spine and weight-bearing joints such as the hips, knees and ankles. Excess body weight is one of the risk factors for osteoarthritis.

The prevalence of osteoarthritis in 2007-08 was significantly higher for obese men and women (10% and 14% respectively) compared with underweight/normal weight (6% and 11%) and overweight (8% and 12%) men and women.

Type 2 diabetes

Type 2 diabetes or non-insulin dependent diabetes mellitus is a chronic condition in which the body may not produce enough or cannot effectively use insulin, a hormone that regulates blood sugar. People with Type 2 diabetes have a greater risk of coronary heart disease, stroke, limb amputation, kidney failure and blindness. Strategies for managing Type 2 diabetes include changing diet, exercising more regularly, taking glucose-lowering drugs, insulin injections or a combination of these.

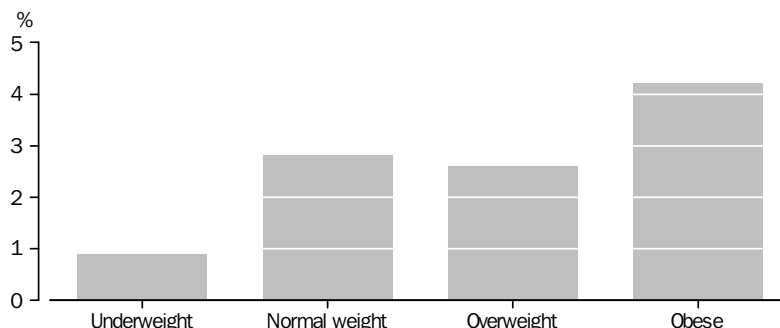
Obese men were more than twice as likely to have Type 2 diabetes (9%) than normal weight and overweight men (both 4%). Correspondingly, obese women were twice as likely to have Type 2 diabetes (6%) than overweight women (3%) and three times more likely as underweight/normal weight women to have Type 2 diabetes (2%).

Psychological distress

In the 2007-08 NHS, adults aged 18 years and over were asked a series of questions about negative emotional states, known as the Kessler 10 scale (K10) questionnaire, to measure psychological distress experienced in the four weeks prior to the survey. Based on their responses they were then grouped into four categories ranging from low, moderate, high and very high levels of psychological distress. A very high level of psychological distress may indicate a need for professional help.

After adjusting for age, a higher proportion of obese people had very high distress levels compared with people in any other weight range (Graph 6.3).

6.3 Measured Body Mass Index(a)(b), by Very high distress levels(c)



(a) Age standardised to the 2001 estimated resident population.
 (b) Excludes persons for whom measured height or weight was not available.
 (c) Persons who have a Kessler 10 score.

Source: National Health Survey 2007-08

Psychological distress
continued

Obese women were more likely to have very high or high distress levels (17%) than normal weight and overweight women (13% and 12% respectively). Obese women were also more likely to have very high or high distress levels than obese men (9%).

USE OF HEALTH SERVICES

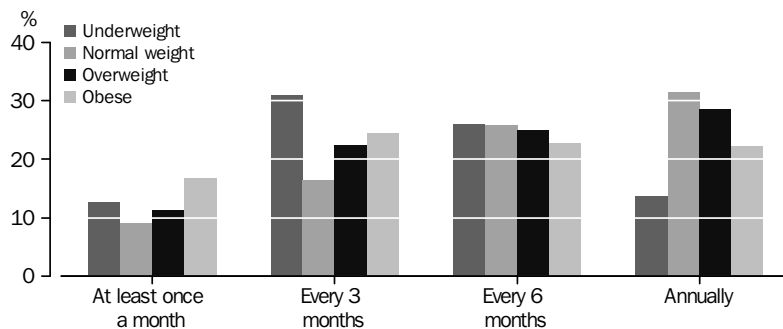
Overweight and obesity place a burden on the health care system because of associated physical and psychological health problems. In the 2007-08 NHS, people were asked whether they saw a general practitioner (GP), and if so, how frequently. They were also asked if they had discussed any of the following lifestyle issues with their GP or any other health professional in the past 12 months:

- reducing or quitting smoking;
- drinking alcohol in moderation;
- reaching a healthy weight;
- increasing physical activity; and
- eating healthy food or improving their diet.

After adjusting for age, obese adults were more likely to have had a health check-up with a GP (70%) than normal weight and overweight adults (64% and 63% respectively). Obese women were more likely to have a health check-up (77%) than obese men (64%), keeping in mind that more women than men see a GP in general²³.

Of the adults who had a health check-up, proportionally more obese adults saw a GP at least once a month (17%) than normal weight and overweight adults (9% and 11% respectively) (Graph 7.1).

7.1 Measured Body Mass Index(a)(b), by Frequency of GP check-ups(c)



(a) Age standardised to the 2001 estimated resident population.
 (b) Excludes persons for whom measured height or weight was not available.
 (c) Persons who had a health check-up with a GP.

Source: National Health Survey 2007-08

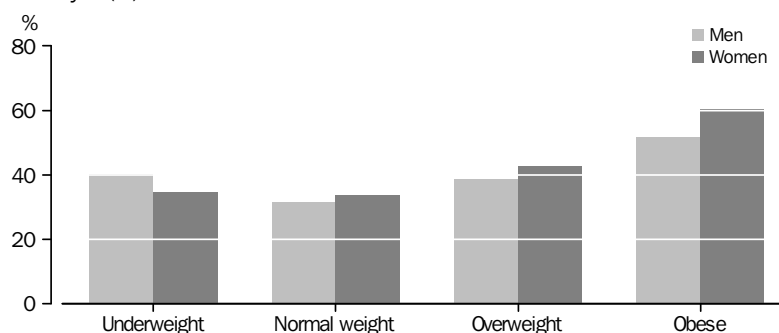
Although obese people had a greater likelihood of seeing a GP for a health check-up than people in the normal weight and overweight ranges, they were no more likely to consult other types of health professionals.

23 ABS (Australian Bureau of Statistics) 2010. Health Services: Patient Experiences in Australia, 2009. ABS Cat No. 4839.0.55.001 Canberra ABS

USE OF HEALTH
SERVICES *continued*

Obese men and women were more likely to discuss healthy lifestyle issues with a health professional in the last 12 months than people in the normal weight and overweight ranges. Obese women were also more likely to discuss healthy lifestyle issues with a health professional than underweight women (Graph 7.2).

7.2 Measured Body Mass Index(a)(b), by Discussed healthy lifestyle(c)



(a) Age standardised to the 2001 estimated resident population.

(b) Excludes persons for whom measured height or weight was not available.

(c) Discussed healthy lifestyle with a health professional in the last 12 months.

Source: National Health Survey 2007-08

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