



**Australian Social Trends
2007**

**Article: Overweight and
obesity**

EMBARGO: 11.30 AM (CANBERRA TIME) TUES 7 AUG 2007

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ABS catalogue no. 4102.0

ISSN 1321-1781

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SYMBOLS AND USAGES

billion	1,000 million
kg	kilogram
m	metre
n.a.	not available
n.e.c	not elsewhere classified
n.p.	not published
n.y.a.	not yet available
no.	number
'000	thousand
'000m	thousand million
\$	dollar
\$m	million dollars
\$b	billion dollars
\$US	American dollar
%	per cent
*	estimate has a relative standard error of 25% to 50% and should be used with caution
**	estimate has a relative standard error of greater than 50% and is considered too unreliable for general use
. .	not applicable
—	nil or rounded to zero (including null cells)

Where figures have been rounded, discrepancies may occur between the sums of the component items and totals.

Overweight and obesity

In 2005, 7.4 million people aged 18 years and over (54% of the adult population) were classified as overweight or obese.

Overweight and obesity have become world-wide concerns, reaching epidemic proportions.¹ Obesity is caused by an energy imbalance where energy intake exceeds energy expended over time.² This imbalance has been linked to lifestyle factors such as increased consumption of foods with high levels of sugar and saturated fats, as well as a reduction in physical activity.

Overweight and obesity pose a major risk to long term health by increasing the risk of chronic illnesses such as diabetes, cardiovascular disease and some cancers.¹ It has been estimated that obesity and its associated illnesses cost Australian society and governments a total of \$21 billion in 2005.³ In July 2006, the Australian Government implemented a five year, \$500 million program, the Australian Better Health Initiative, aimed at reducing the impacts of chronic disease which includes a focus on promoting healthy weight.⁴

This article discusses adults who were classified as overweight or obese according to their Body Mass Index (BMI), based on self-reported height and weight.

Overweight and obesity trends

In 2004–05, more than half (54%) of all adults, or 7.4 million people aged 18 years and over were either overweight or obese, an increase from 45% (5.4 million adults) in 1995. Using age standardised data, the rate of overweight adults has increased from 33% in

Data sources and definitions

Data in this article are mainly drawn from the 1995, 2001 and 2004–05 National Health Surveys (NHS), and refer to adults aged 18 years and over.

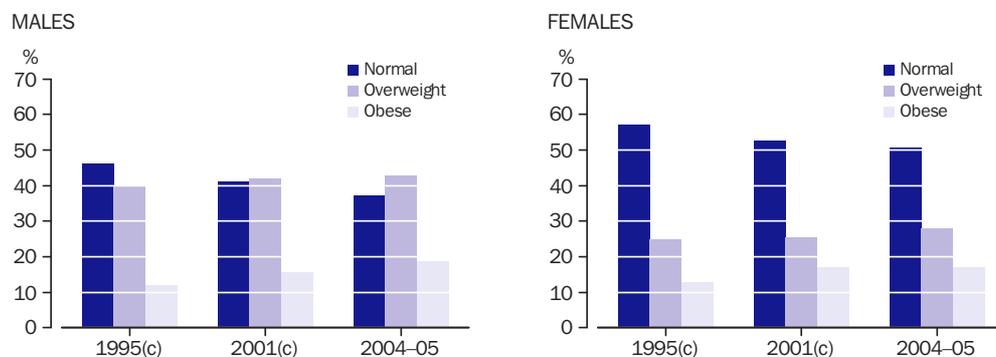
In the NHS, overweight and obesity are assessed using body mass index (BMI), calculated from self-reported height and weight information, using the formula weight (kg) divided by the square of height (m). To produce a measure of the prevalence of overweight or obesity in adults, BMI values were grouped according to the following categories: *Underweight* (BMI less than 18.5), *Normal* (BMI 18.5 to less than 25.0), *Overweight* (BMI 25.0 to less than 30.0) and *Obese* (BMI 30.0 and greater). BMI rates calculated in this article include persons whose BMI was underweight, but excludes persons whose BMI was not stated or not known.

While BMI is a useful tool for assessing changes in body mass at the population level, it may be less appropriate for certain individuals. For example, it does not account for those with high body mass due to muscle rather than fat.

Self-reported height and weight may also differ from measured height and weight. In 1995, a comparison of these two methods suggested that when self-reporting, people tend to overstate their height and understate their weight. For further details, see *How Australians Measure Up, 1995* (ABS cat. no. 4359.0).⁵

To account for any variations in age structure of the population over time as well as between certain sub-populations, rates and proportions are age standardised to the 2004–05 total NHS population where applicable.

Adults in normal, overweight and obese BMI(a) categories(b)



- (a) Based on self-reported height and weight.
 (b) Total includes persons whose BMI was underweight.
 (c) Age standardised to 2004–05 total NHS population.

Source: ABS 1995, 2001 and 2004–05 National Health Surveys.

1995 to 36% in 2004–05, while the rate of obesity in adults has increased from 13% to 18% over the same period. Each of the National Health Surveys conducted since 1995 has reported a higher rate of overweight and obesity for males than for females.

Obesity in adults

Rates of overweight and obesity vary depending on age and sex. Between 1995 and 2004–05, rates of obesity increased for both men and women across all age groups. For men, the largest increase in the obesity rate occurred in the 35–44 age group which almost doubled from 12% in 1995 to 23% in 2004–05. For women, the increase in the obesity rate was more uniform across age groups.

Although the National Health Surveys collect data at one point in time, it is possible to observe changes over time in the obesity rate for a cohort of people born in the same ten year period. In this approach, for example, survey respondents aged 25–34 years in 1995 and those aged 35–44 years in 2004–05, while not the same respondents, are seen as representing the same group of people as they age ten years. Among the male cohorts, the greatest increase in the rate of obesity occurred for the group aged 25–34 in 1995 (12% in that year compared to 23% ten years on, in 2004–05).

For females, the greatest increase in the obesity rate occurred for the cohort aged 35–44 years in 1995, with 12% classified as obese compared to 20% of the 45–54 year olds representing the same group of people in 2004–05.

There were smaller increases in older women, with 18% of those aged 55–64 years classified as obese in 1995, compared to 22% of 65–74 year olds representing the same cohort in 2004–05. For men, rates over the ten year period were similar, with 16% of

Gaining weight

Between 1995 and 2004–05, the average weight (kg) of both male and female adults increased across all age groups. During this period, the average weight of an adult female increased from 65kg to 68kg, and for males it increased from 80kg to 84kg.

Men appear to be getting heavier at an earlier age. In 1995, the average weight for males peaked in the 45–54 years age group (82kg). By 2004–05 average weight was greatest in the 35–44 years group (87kg) which was 6kg more than for this age group in 1995. For women, the increases in average weight were similar across all age groups.

males aged 55–64 classified as obese in 1995, and 17% of 65–74 year olds classified as obese ten years later.

Socioeconomic characteristics

The NHS can provide insight into associations between certain sociodemographic characteristics and excess weight. As some of these populations have differing age structures, the proportions presented in this section are age standardised to remove the confounding influence of age.

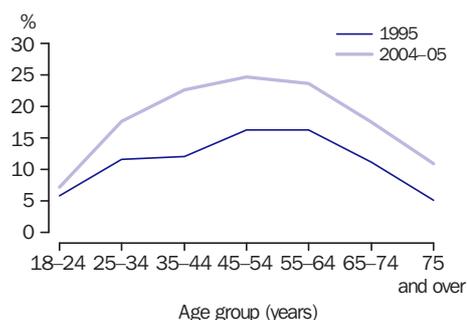
...born overseas

Most people born overseas are in good health on arrival in Australia due to the rigorous health checks they undergo to be eligible for migration. This 'healthy migrant effect' generally wanes as their length of time in Australia increases, and time since migration is an important factor in excess weight in migrants.⁶

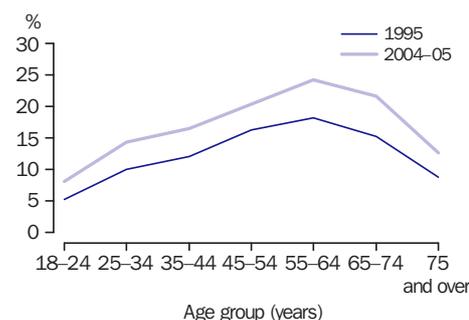
In 2004–05, the overall adult obesity rate was 18%. People born overseas who arrived before 1996 had a slightly lower age standardised rate of obesity (15%), while the rate was even lower (11%) for more recent arrivals (between 1996 and 2005).

Obese adults by age

MALES



FEMALES



Source: ABS 1995 and 2004–05 National Health Surveys.

...education

Adults with a degree, diploma or higher qualifications were less likely to be obese than those with other or no post-school qualifications. In 2004–05, around one-fifth (21%) of those without a non-school qualification, and 19% of those with other non-school qualifications (i.e. trade certificate), were classified as obese. By comparison, 13% of those with a degree/diploma or higher qualification were classified as obese.

...income

While equal proportions (53%) of people in low income and high income households were overweight or obese in 2004–05, those in low income households were more likely to be obese. Around one-fifth (21%) of adults in low income households were obese compared with 15% of adults in high income households.

...disadvantage

The Socio-Economic Indexes for Areas (SEIFA) Index of Disadvantage summarises various attributes (such as income and unemployment) of an area in which a

Overweight and obesity in NSW children

The 2004 NSW Schools Physical Activity and Nutrition Survey (SPANS) provides insight into overweight and obesity in children aged 5 to 16 years in NSW. Almost 5,500 school-aged children from ages 5 to 16 years were surveyed and measured for height and weight. BMI in childhood changes substantially with age, thus children were defined as healthy, overweight or obese using age and gender-appropriate categories recommended by the International Obesity Taskforce.⁷

Overall, 25% of boys and 23% of girls were either overweight or obese. For boys, the rate of overweight and obesity was related to age, reaching a peak in 11–12 year olds (22% of this group classified as overweight and 9% classified as obese) before declining again. For girls, the highest rates of overweight and obesity was in 9–10 year olds, with 22% of this age group classified as overweight and 8% classified as obese.⁷ See the *NSW Schools Physical Activity and Nutrition Survey (SPANS) 2004: Full Report* for further information.

population lives. In 2004–05, adults living in areas of greatest relative disadvantage had a higher age standardised rate of obesity (22%) compared to adults living in areas with the lowest relative disadvantage (13%).

Age standardised socioeconomic characteristics(a) of adults and BMI(b) — 2004–05

	Units	Normal	Overweight	Obese	Total(c)
Born overseas					
Arrived before 1996	%	48.0	33.9	15.1	100.0
Arrived 1996–2005	%	51.5	32.6	10.6	100.0
Highest non-school qualification					
Degree/diploma or higher qualification	%	49.2	34.9	13.0	100.0
Other qualification	%	41.7	37.0	19.4	100.0
No non-school qualification	%	41.1	35.6	20.5	100.0
Household income(d)					
Low income	%	43.1	32.4	20.8	100.0
Middle income	%	43.8	35.8	17.4	100.0
High income	%	45.5	37.8	14.9	100.0
Index of disadvantage(e)					
First quintile	%	40.0	34.5	22.4	100.0
Fifth quintile	%	49.6	34.8	12.9	100.0
All persons aged 18 years and over	%	43.9	35.5	18.0	100.0
All persons aged 18 years and over	'000	6 037.0	4 888.0	2 478.0	13 760.6

(a) Sub-populations age standardised to 2004–05 total NHS population.

(b) Based on self-reported height and weight.

(c) Includes persons whose BMI was underweight.

(d) Gross weekly equivalised household income. Low income households are in the lowest quintile, middle income in the third quintile and high income in the highest quintile of household income.

(e) The first quintile contains areas with the greatest relative disadvantage and the fifth quintile those areas with the lowest relative disadvantage.

Source: ABS 2004–05 National Health Survey.

Aside from socioeconomic differences between areas in terms of education, income and employment, some areas may also offer greater opportunities for physical activity and greater access to healthy food options.⁸

...remoteness areas

In 2004–05 the rate of obesity in Outer Regional/remote/very remote areas was 23%, while in Major Cities and Inner Regional areas the rates were 17% and 19% respectively. The rate of overweight was similar across the remoteness areas (36% in Outer Regional/remote/very remote areas of Australia, compared to 35% in Major Cities).

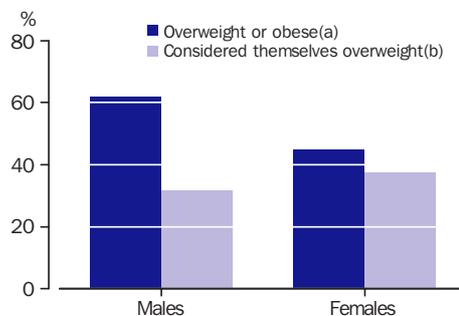
Perceptions of own weight

For many people, particularly men and older women, self perception of 'acceptable weight' differs from the standard BMI definitions.

This may have implications for the management of healthy body weight in adults.⁹ In 2004–05, more than half of adults (63% of males and 59% of females) considered themselves to be of acceptable weight. The proportion of males (32%) and females (38%) who considered themselves to be overweight was considerably lower than those who were classified as overweight/obese according to their BMI (62% and 45% respectively).

Between 1995 and 2004–05, after adjusting for differences in the age structure of the population, the proportion of people in the overweight and obese BMI categories who considered themselves to be of acceptable weight increased. In 2004–05, almost half (47%) of males and around one-fifth (21%) of females who were overweight or obese considered themselves to be of acceptable

Perceptions of weight — 2004–05



- (a) Based on self-reported height and weight.
- (b) Denominator includes persons who considered themselves underweight and persons who considered themselves of acceptable weight.

Source: ABS 2004–05 National Health Survey.

Overweight and obesity among Aboriginal and Torres Strait Islander adults

As with the NHS, height and weight measurements were collected in the 2004–05 National Aboriginal and Torres Strait Islander Health Survey (NATSIHS).

After adjusting for non-response, just over one-third (35%) of Indigenous people aged 18 years and over were recorded as being in the normal or healthy weight range in 2004–05 based on BMI measures, with a further 29% in the overweight category and 31% classified as obese. The proportion of Indigenous adults in non-remote areas who were overweight or obese in 1995 was 51% increasing to 60% in 2004–05.

When differences between the age structures of the Indigenous and non-Indigenous populations are taken into account, Indigenous adults were 1.2 times more likely to be overweight or obese than non-Indigenous adults. The disparity between Indigenous and non-Indigenous rates of overweight and obesity was greater for females than for males.¹²

weight. This compares with age standardised rates of around one-third (35%) for males and 12% for females in 1995.

Health risk behaviours and relative prevalence of long term conditions

Being overweight (i.e. BMI of 25 or more) is a modifiable risk behaviour for a number of long term health conditions, including a number of National Health Priority Area (NHPA) conditions, such as diabetes, arthritis and some cancers.¹⁰ It is also associated with a range of other NHPA risk factors, such as high blood pressure and high blood cholesterol.

In the following analysis, we include data on two modifiable risk behaviours: physical inactivity and overweight and obesity. In 2004–05, 9.4 million adults (68%) had at least one of these two risk factors. Around 2.5 million adults (18%) were both physically inactive as well as either overweight or obese.

As the number of risk factors a person has for a particular condition increases, so does the risk of developing that condition.¹¹ Again, while it is not possible to infer causality using the NHS, adults who had at least one of these two risk factors were, on average, more likely to have certain conditions than those without either of these risk factors. These conditions include high blood pressure, Type II diabetes and high cholesterol. Adults who were classified as overweight or obese and physically inactive were almost three times as likely (2.9 times) to have Type II diabetes, almost twice as likely to have high blood pressure (1.9 times) and 1.5 times more likely

Overweight and obesity and physical inactivity: association with selected conditions(a) — 2004–05

Risk behaviour		Prevalence(b)		Relative prevalence of selected conditions					
Overweight or obese?(c)	Physically inactive?(d)	'000	%	Ischaemic heart disease	Type 2 diabetes	Arthritis	Malignant cancer	High blood pressure	High cholesterol
No	No	4 351.1	31.6	1.0	1.0	1.0	1.0	1.0	1.0
Yes	No	4 855.8	35.3	1.3	2.1	1.2	1.0	1.9	1.7
No	Yes	2 043.4	14.8	1.2	1.2	1.1	0.9	1.1	1.0
Yes	Yes	2 506.5	18.2	1.5	2.9	1.3	1.2	1.9	1.3
Total persons aged 18 years and over		13 760.6(f)	100.0						

(a) Measures the likelihood of having a particular condition given the presence of certain risk factor(s), compared with the likelihood of having the condition among the population who did not have either of these risk factors.

(b) Sub-populations age standardised to 2004–05 total NHS population.

(c) Based on self-reported height and weight.

(d) Physically inactive includes those who did very low levels of leisure time exercise.

(e) Aged 18 years and over.

(f) Total includes those for which exercise levels were not stated or not known.

Source: ABS 2004–05 National Health Survey.

to have Ischaemic heart disease than those without either of these risk factors.

The relationship between health risk factors and long term conditions is further reflected in how people tend to rate their overall health. In 2004–05, half (50%) of adults who were either overweight or obese also rated their health as excellent or very good, while 19% considered their health to be fair or poor. This compares to 63% of adults in the normal BMI category who considered themselves to be in excellent or very good health, and 12% who considered their overall health to be fair or poor.

Endnotes

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