



Australian Government

Australian Institute of
Health and Welfare

Obesity and workplace absenteeism among older Australians

Bulletin 31

Summary

- Obese employees responding to the 2001 National Health Survey were 17% more likely than non-obese employees to have been absent from work on at least one day during the previous two weeks because of personal illness or injury.
- For people who were absent for personal illness or injury, the average absence was longer for obese employees (3.8 days) than non-obese employees (3.0 days).
- Obesity was associated with over 4 million days lost from the workplace in 2001.
- Obese employees were 28% more likely to have consulted with a general practitioner in the previous two weeks than non-obese employees.
- Obese employees were twice as likely to rate their health as poor or fair compared with non-obese employees.
- Obese people were 8% more likely to be 'not in the labour force' than non-obese people.
- Older employees (aged 55–64) were less likely to be absent from work for their own illness or injury than their younger counterparts but were away for longer when they were absent, regardless of whether or not they were obese.
- Older Australians who were obese were 20% less likely to be employed full-time than their non-obese counterparts.
- This evidence suggests that obesity may be influencing absenteeism and preventing workers from staying in the workforce should they wish to do so, possibly through its association with chronic diseases and injury.

Introduction

The high prevalence of obesity (almost 20%) among Australian adults and the strong association between obesity and an increased risk of ill health, functional limitation and disability are well documented (AIHW 2003a).

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Obesity can place undue strain on the heart, joints and spine, and increase the risk of high blood pressure, diabetes, respiratory diseases, osteoarthritis and other conditions.

Because obesity rates are highest among people aged 45–64 (AIHW 2003b, 2004), it follows that obesity may be influencing aspects of productivity and workforce participation among mature age workers. Obesity may, for example, be associated with employee absenteeism or propensity to be in the workforce. Absenteeism is a potential indicator of productivity, which is an important factor when assessing the economic implications of an ageing Australia (Productivity Commission 2004). Workforce participation is particularly relevant in view of Australia's ageing population and the current debate about enabling mature age workers, who wish to do so, to remain in the workforce by promoting healthy ageing (PMSEIC 2003). Mature age workers (defined as 45–64 years) comprise almost a third of the labour force (ABS 2004) and many (28%) leave the workforce because of ill health or injury (ABS 1998b; Jose et al. 2004).

Few studies have examined the relationship between obesity and employee absenteeism. A United States (US) study has found that obese employees tend to be absent from work due to illness substantially more than their non-obese counterparts (Tucker & Friedman 1998). Burton and colleagues (1998) reported that a greater BMI was associated with other health risk factors, short-term disability and illness absence. In a smaller study, Pronk and colleagues (2004) found that severe obesity (but not obesity) was related to a higher number of work loss days. Finkelstein and colleagues (2005) recently reported a significant association between absenteeism and successive BMI grades for women, and greater absenteeism among grade-2 and grade-3 obese men. An association between excess body weight and lost workdays has also been reported in the US Air Force (Robbins et al. 2002). There have been no published studies of the association between obesity and employee absenteeism using Australian data.

This bulletin examines the relationship, as far as Australia's 2001 National Health Survey (NHS) allows, between obesity and absenteeism from work in almost 10,000 employed men and women who participated in that survey. It also assesses whether the results are consistent with the likelihood of having consulted a health professional and with self-assessed health status. The relationship between obesity and labour force status is also examined.

Methods

The data

The 2001 NHS, conducted by the Australian Bureau of Statistics (ABS) was designed to obtain national information on the health status of Australians, use of health services and facilities, health-related aspects of people's lifestyle, and demographic and socioeconomic characteristics. It collected self-reported data on height, weight, health status, absenteeism and other indicators of workforce participation. Other health surveys in Australia that examine obesity do not cover absenteeism or workforce participation to the same degree, and surveys that focus on workforce indicators do not collect physical measurements.

Sample design

The 2001 NHS comprised a sample of private dwellings such as houses, flats and townhouses across Australia. Non-private dwellings such as nursing homes, hostels and hospitals were not included in the survey. The survey collected information from approximately 26,900 respondents across all age groups between February to November 2001. Almost 15,900 were aged between 15 and 64, and over 11,000 of these were employed.

How the data were defined

Body Mass Index

Body mass index (BMI) is the most common way of estimating the prevalence of obesity. BMI is a derived variable calculated from a person's weight (kg) divided by their height squared (m²). In the 2001 NHS both weight and height data were collected by self-report, not measurement.

A BMI of 18.5 to less than 25 is defined as normal (that is, healthy) weight, and obesity is defined as a BMI of 30 or more (WHO 2000). A BMI that is greater or equal to 25 but less than 30 is defined as overweight but not obese.

The category 'non-obese' includes the categories of normal weight and overweight but not obese. Data for underweight individuals were generally excluded from the analyses as their numbers were relatively small and they experience significant health consequences not considered in this bulletin.

Age

Unless otherwise stated, the analysis was restricted to employed persons aged 15–64 years, and grouped as 15–24, 25–34, 35–44, 45–54 and 55–64 years. Mature age workers are taken as employed people aged 45–64 years.

Absenteeism

Employed persons aged 15–64 years were asked if they had any days away from work (for at least half the day) in the two weeks before interview for their own illness or injury and/or as a carer. The number of days away in the two weeks was asked of employees who had been away.

Labour force status

Survey participants aged 15 years or older were classified to be either employed full-time, employed part-time, unemployed or not in the labour force. Broadly, full-time means usually working 35 hours a week or more, and part-time means usually working less than 35 hours a week (but can mean as little as one hour per week).

Consultations with health professionals

Survey participants were asked whether they had consulted a general practitioner (GP), a specialist or other health professional in the two weeks before interview other than as part of a hospital or day clinic visit/episode.

Self-assessed health

Survey participants rated their health as excellent, very good, good, fair or poor.

Sex

Results were analysed for persons, and for men and women separately. Sex was treated as a potential confounding factor in some analyses.

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How the data were analysed

Of the 11,000 survey respondents aged 15–64 who were employed either full-time or part-time, data for about 1,100 were excluded from the analysis either because height and/or weight were missing or the person was classified as underweight.

The relationship between obesity and absenteeism was examined by calculating the proportion of absenteeism among obese employees compared with the proportion of absenteeism among non-obese employees (the relative risk of absenteeism). Non-obese employees (normal or overweight but not obese) were used as the reference group. A relative risk of 1.50 would indicate that obese employees were 50% more likely to have been absent from work than the reference group.

Relative risks are shown as summary statistics adjusted for age and sex but were also calculated for each age group and for men and women separately. The relative risks in tables 1–4 are summary statistics adjusted for age and sex. The relationships between obesity and (a) consultations with health professionals, and (b) self-assessed health status, among employees were also examined to see if the results were consistent with those for absenteeism. The relationship between obesity and labour force status itself was also examined.

The data are presented graphically for obese and non-obese employees aged 15–64 by 10-year age groups, and specific comment is made about older Australians aged 55–64 years. Although not shown graphically, comment is also made when results differed between males and females.

Results

Absenteeism due to own illness and/or as a carer

Proportion of people absent

Of the 9,881 employees in the analysis, 1,430 (14.4%, weighted estimate) were away from work on at least one day in the two weeks before interview, 1,101 (11.2%) for their own illness or injury and/or 377 (3.7%) as a carer. Of these employees, 1,527 (15.7%) were obese and 8,354 (84.3%) were non-obese (normal or overweight but not obese).

On average, obese employees were 17% more likely to have been absent for their own illness or injury than non-obese employees, after adjusting for age and sex (Table 1). There was no difference between obese and non-obese workers in absenteeism as a carer. Overall, obese employees were 17% more likely to have been absent from work than non-obese employees.

Similar relationships existed when the data were confined to full-time employees by excluding data for part-time employees.

Rates of absenteeism for personal illness were greater among younger workers for both obese and non-obese employees (Figure 1). This was because of higher absenteeism rates among younger women, particularly those aged 15–24 for whom the rate of absenteeism for personal illness was 19%. Absenteeism rates for personal illness for men were similar across the age range 15–64 at about 10%.

There was no significant difference in absenteeism rate between obese employees aged 55–64 and their non-obese counterparts.

Table 1: Absenteeism for obese and non-obese employees

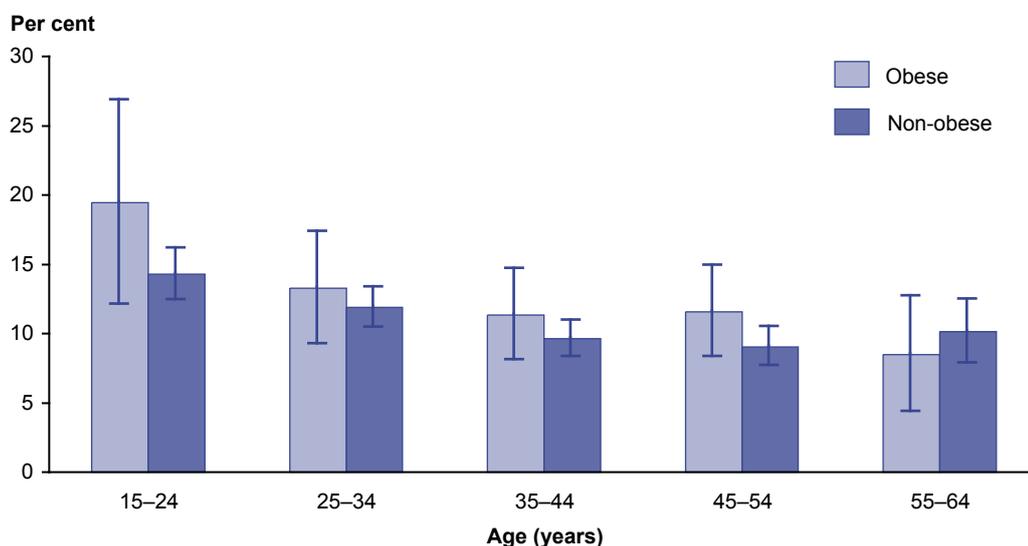
	Obese		Non-obese		Relative risk	
	n	%	n	%	RR	95% CI
Own illness/injury and/or carer	246	15.9	1,184	14.1	1.17	1.04–1.33
Own illness/ injury	190	12.2	911	11.0	1.17	1.01–1.36
As a carer	60	3.9	317	3.7	1.05	0.81–1.38
Not away from work	1,281	84.1	7,170	85.9	0.97	0.95–1.00
Total employees	1,527	100.0	8,354	100.0	–	–

Notes

1. n = Sample size; RR = Relative risk; CI = Confidence interval.
2. Percentages, relative risks and confidence intervals are based on weighted estimates.
3. Relative risk estimates are controlled for age and sex.
4. Includes full-time and part-time employees.
5. Four obese people and 44 non-obese people were absent for own illness/injury and as a carer.

Source: AIHW analysis of the 2001 National Health Survey.

Figure 1: Proportion of employees who were absent from work for their personal illness or injury



Note: Absent on at least one day in the 2 weeks before interview.

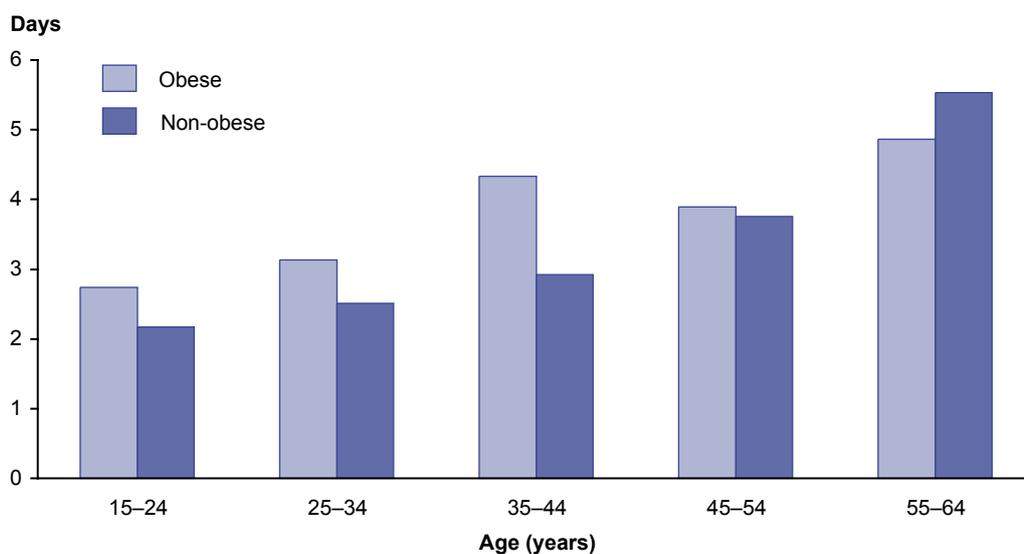
Source: AIHW analysis of the 2001 National Health Survey.

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Days away from work

For people who were absent for personal illness or injury, the average absence was longer for obese employees (3.8 days) than non-obese employees (3.0 days). This difference was more marked in the younger age groups and was reversed in the age group 55–64 years (Figure 2).

Figure 2: Average duration of absence from work for personal illness or injury



Note: Absent on at least one day in the 2 weeks before interview.

Source: AIHW analysis of the 2001 National Health Survey.

The average duration of absence increased with age from 2.2 days (15–24 years) to 5.4 days (55–64 years), with a similar pattern for obese and non-obese employees (Figure 2).

Absences due to personal illness or injury accounted for around 3.1 million days lost from work in the two weeks before interview (ABS 2002). Of these, obese employees were estimated to have been absent for personal illness for approximately 585,700 days in the two weeks before interview, compared with 2,267,200 days for non-obese employees (Table 2).

The impact of obesity on productivity can be estimated for the Australian population by applying the average number of days absent for non-obese employees (0.33 days, Table 2) to the obese employed population. This shows that there would have been around 163,600 fewer days of absenteeism for personal illness or injury in the two weeks before interview, which equates to just over 4.25 million days per year.

Table 2: Total employees and days absent from work for personal illness or injury, by BMI

Body Mass Index	Number of employees	Number of absent employees	Number of days absent	Average number of days absent per employee	Average number of days absent per absent employee
Underweight	273,100	38,300	119,200	0.44	3.11
Non-obese	6,887,400	755,300	2,267,200	0.33	3.00
Normal	4,081,000	461,400	1,263,500	0.31	2.74
Overweight but not obese	2,806,500	293,900	1,003,700	0.36	3.42
Obese	1,282,400	156,000	585,700	0.46	3.75
Not stated	585,100	63,100	151,500	0.26	2.40
Total	9,028,100	1,012,800	3,123,700	0.35	3.08

Notes

1. Weighted estimates.
2. Absent on at least one day in the 2 weeks before interview.

Source: AIHW analysis of the 2001 National Health Survey.

Consultations with health professionals

On average, obese employees were 28% more likely to have consulted a GP in the two weeks before interview than non-obese employees, after adjusting for age and sex (Table 3). This differential was particularly marked for women aged 25–34 (41%), 35–44 (46%) and 45–54 (74%). There were no significant differences for consultations with a specialist; however, obese employees were more likely to have consulted with ‘other health professionals’.

Table 3: Consultations with health professionals, by obese and non-obese employees

	Obese		Non-obese		Relative risk	
	n	%	n	%	RR	95% CI
General practitioner	350	22.9	1,455	17.6	1.28	1.16–1.42
Specialist	87	5.4	411	4.9	1.03	0.82–1.30
Other health professional	242	15.8	1,195	14.0	1.14	1.01–1.30
No consultations	1,010	66.6	5,886	70.6	0.95	0.91–0.98
Total employees	1,527	100.0	8,354	100.0	–	–

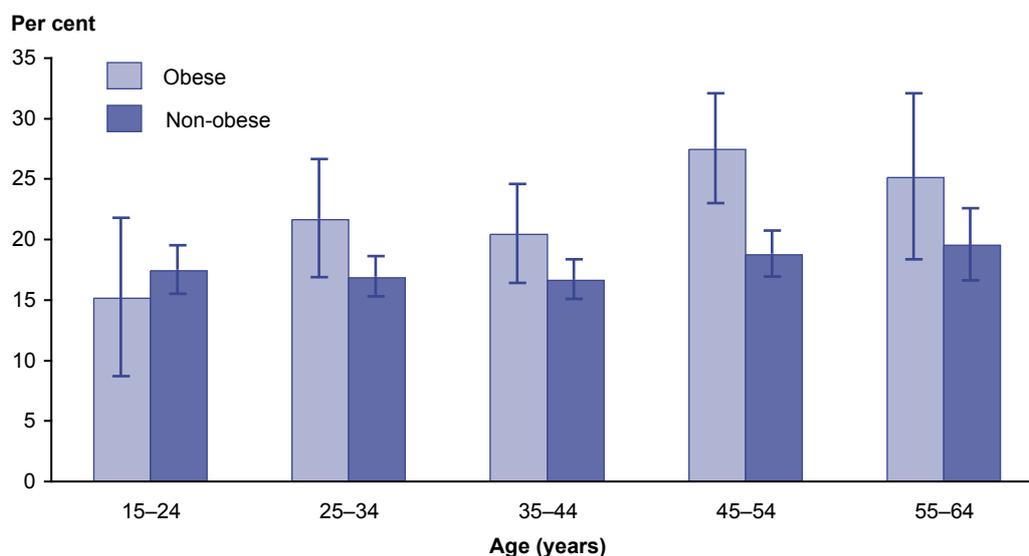
Notes

1. n = Sample size; RR = Relative risk; CI = Confidence interval.
2. Percentages, relative risks and confidence intervals are based on weighted estimates.
3. Relative risk estimates are controlled for age and sex.
4. Numbers do not add because some respondents consulted more than one type of health professional.
5. As a small number of respondents were unsure whether they had consulted an ‘other health professional’, estimates for other health professional are based on 1,525 obese and 8,344 non-obese employees; similarly, estimates for no consultations are based on 1,527 obese and 8,344 non-obese employees.

Source: AIHW analysis of the 2001 National Health Survey.

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Figure 3: Proportion of employees who consulted a general practitioner



Note: Consultation in the 2 weeks before interview.

Source: AIHW analysis of the 2001 National Health Survey.

Rates of GP consultations were greatest among obese employees aged 45 or older (Figure 3). There were no significant differences in consultation rates with a GP or a specialist between obese and non-obese employees aged 55–64.

About 50% of obese employees who were absent had consulted a GP—the same consultation rate as for non-obese employees who were absent (Table 4). Obese employees who were not absent were more likely to have consulted a GP than non-obese employees who were not absent (Table 4). This pattern was also true for those aged 55–64.

Table 4: Percentage of employees who consulted a general practitioner, by obese and non-obese employees, by absenteeism status

	Absent			Not absent			Total		
	N	n	%	N	n	%	N	n	%
Obese	190	93	51.4	1,337	257	18.9	1,527	350	22.8
Non-obese	911	451	50.6	7,443	1,004	13.5	8,354	1,455	17.6
Total	1,101	544	50.7	8,780	1,261	14.3	9,881	1,805	18.4

Note: Percentages are based on weighted estimates.

Source: AIHW analysis of the 2001 National Health Survey.

Self-assessed health status

Obese employees were twice as likely to rate their health as poor or fair compared with non-obese employees (Table 5). The difference was apparent across the age groups (Figure 4) and for men and for women. Conversely, obese employees were less likely to rate their health as excellent or very good (Table 5).

Table 5: Self-assessed health status, by obese and non-obese employees

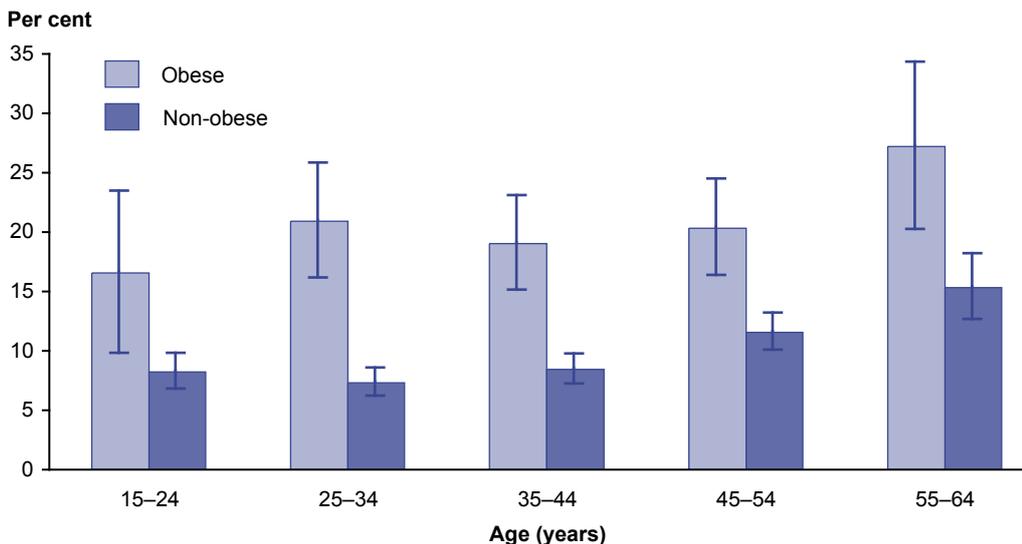
	Obese		Non-obese		Relative risk	
	n	%	n	%	RR	95% CI
Fair/poor	318	20.6	799	9.4	2.10	1.87–2.37
Good	590	37.9	2,356	28.2	1.32	1.23–1.42
Excellent/very good	619	41.5	5,199	62.4	0.67	0.63–0.72
Total employees	1,527	100.0	8,354	100.0	–	–

Notes

1. n = Sample size; RR = Relative risk; CI = Confidence interval.
2. Percentages, relative risks and confidence intervals are based on weighted estimates.
3. Relative risk estimates are controlled for age and sex.

Source: AIHW analysis of the 2001 National Health Survey.

Figure 4: Proportion of employees who rate their health as fair or poor



Source: AIHW analysis of the 2001 National Health Survey.

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Obese employees who were absent were more likely to rate their health as fair or poor than non-obese employees who were absent (Table 6). Similarly, obese employees who were not absent were more likely to rate their health as fair or poor than non-obese employees who were not absent. In the 55–64 age group, the comparison between obese and non-obese employees was statistically significant only for those who were not absent.

Table 6: Percentage of employees who rate their health as fair or poor, by obese and non-obese employees, by absenteeism status

	Absent			Not absent			Total		
	N	n	%	N	n	%	N	n	%
Obese	190	56	30.5	1,337	262	19.3	1,527	318	20.6
Non-obese	911	208	22.4	7,443	591	7.8	8,354	799	9.4
Total	1,101	264	23.8	8,780	853	9.6	9,881	1,117	11.2

Note: Percentages are based on weighted estimates.

Source: AIHW analysis of the 2001 National Health Survey.

Labour force status

The proportions of obese and non-obese people who were employed full-time, employed part-time, unemployed or not in the labour force are given in Table 7. Obese people were 8% more likely to be 'not in the labour force' (Table 7). Labour force patterns differed across the age groups and between obese and non-obese people within each age group (Figure 5). For example, obese people aged 55–64 were 20% less likely to be employed full-time than their non-obese counterparts.

Table 7: Labour force status for obese and non-obese people

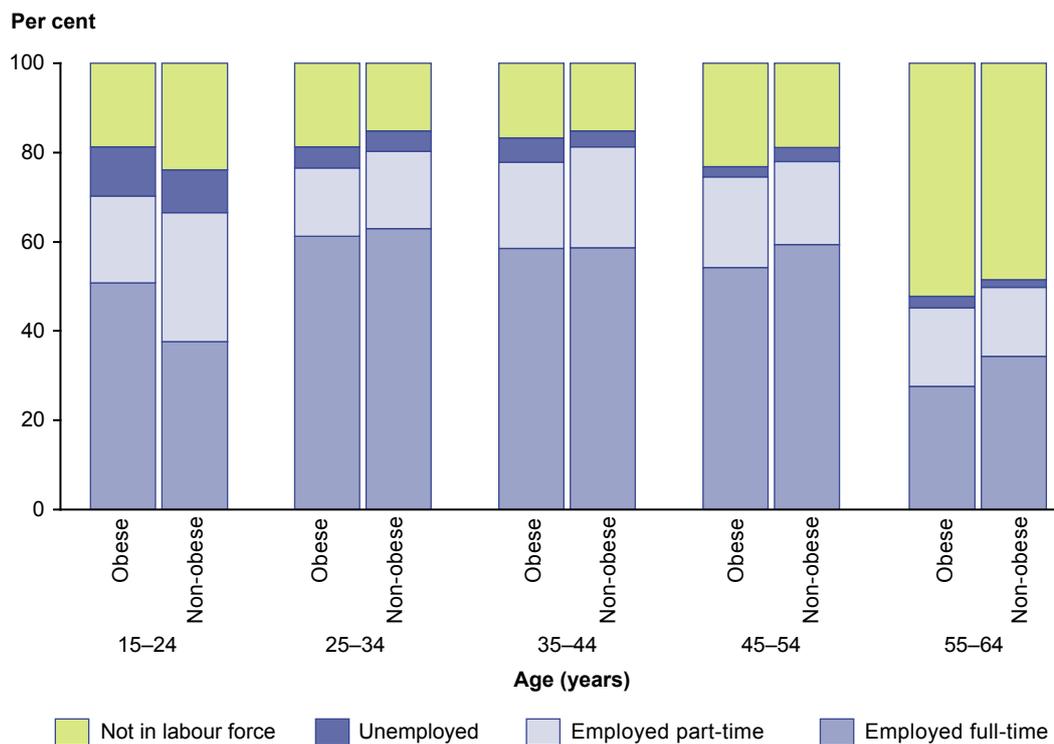
	Obese		Non-obese		Relative risk	
	n	%	n	%	RR	95% CI
Full-time	1,099	51.2	5,853	52.3	0.98	0.41–1.02
Part-time	428	18.6	2,501	20.8	0.93	0.85–1.02
Unemployed	97	4.3	519	4.7	1.15	0.93–1.42
Not in labour force	647	25.9	2,732	22.2	1.08	1.01–1.17
Total persons	2,271	100.0	11,605	100.0	–	–

Notes:

1. n = Sample size; RR = Relative risk; CI = Confidence interval.
2. Percentages, relative risks and confidence intervals are based on weighted estimates.
3. Relative risk estimates are controlled for age and sex.

Source: AIHW analysis of the 2001 National Health Survey.

Figure 5: Proportion of persons who were employed full-time, employed part-time, unemployed and not in the labour force



Source: AIHW analysis of the 2001 National Health Survey.

Discussion

This analysis of almost 10,000 randomly selected Australian workers indicates that obese workers are more likely to be absent from work for a personal illness or injury than non-obese workers and for a longer time when they are absent. Consistent with this, obese workers are more likely to see a GP and to rate their health as only poor or fair.

These results are broadly consistent with the hypothesis that some absenteeism may be initiated by poor employee health that is related to obesity. Certainly obesity has been associated with chronic diseases and their complications and it might therefore be expected that obesity would be associated with greater employee absenteeism. However, since these data are from a cross-sectional survey and not a longitudinal study it is not possible to determine the direction of the association. While the hypothesis that obesity causes some absenteeism seems very plausible, the converse cannot be completely eliminated from these data. Also, it is possible that other factors are causing both, perhaps psychosocial factors such as job satisfaction.

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It has been estimated that absenteeism associated with obesity may be over 4 million days per year. This estimate is based on statistically significant but small differences in the average number of days absent between obese and non-obese employees, and should be used with caution. Nevertheless, an estimate of this magnitude suggests that the recent increase in the prevalence of obesity among adults in Australia may be having an impact on productivity in terms of absenteeism from work for personal illness or injury. Productivity is an important component of economic growth, along with labour force participation (Commonwealth of Australia 2003a). However, the estimate is less than the 18 million certified days of sickness per year attributed to obesity in England (National Audit Office 2001), even when the different sizes of the employed populations are taken into consideration (roughly 0.5 days per employee in Australia compared with 0.8 days per employee in England). Further, the estimate for England is believed to be an underestimate as it relates to medically certified days of incapacity and does not include data on self-certified days of sickness. The main causes of certified incapacity due to obesity in that study were Type II diabetes and hypertension, both of which are strongly associated with obesity.

Labour force participation rates are known to be lower for Australians aged 55–64 than those who are younger (ABS 2004). The present results show that participation rates are even lower for obese people than non-obese people within this age group. Obese people aged 55–64 are 20% less likely to be employed full-time than non-obese people. A strong association between obesity and non-participation in the labour force was recently reported by Jose and colleagues (2004). Conditions such as hypertension and diabetes, which are known to be highly associated with obesity, were also noted to be highly associated with labour force non-participation. Certainly, personal ill health or injury is a common reason given by older Australians for leaving their last full-time job (ABS 1998b). The risk of poor health and disability increases with age, and the onset of poor health is known to affect the timing of retirement for a significant proportion of older workers (Borland 2005). A recent analysis of longitudinal data collected in the first three waves of the HILDA (Household, Income and Labour Dynamics in Australia) survey confirmed that, among older working-age men, health has a significant effect on labour supply (Cai & Kalb 2005).

In the context of Australia's ageing population and little expected growth in the number of younger workers, labour force participation in older age is believed to be important for future economic growth (Commonwealth of Australia 2003a). For older people themselves, continuation in the workforce can bring social, economic and health benefits (PMSEIC 2003). It appears that obesity, perhaps through its association with chronic disease and injury, may be working against the aim of providing workers with the option of staying in the workforce should they wish to do so.

Although the analysis has not focused especially on differences between men and women, two differences were noted. First, rates of absenteeism for personal illness or injury were highest among younger women, especially obese younger women. For a number of these younger women, information about pregnancy status was collected indirectly through the supplementary women's health topics. This information suggested that pregnancy was not an explanation for the higher rates of absenteeism among obese younger women. Second, women were generally more likely to have consulted a GP than men, and the obese/non-obese differential was particularly marked for older women. These factors will have contributed to the results for men and women combined.

Regarding the validity and reliability of the absenteeism measure used, it has been reported that self-reported absenteeism correlates very well with company-reported absenteeism (Aldana & Pronk 2001). Apart from reporting errors, the extent to which employees go to work when ill or stay at home when not ill would tend to dilute the associations reported here. Similarly, because respondents tend to underestimate their weight and overestimate their height (ABS 1998a), the analysis will include some degree of misclassification by obesity status which will also dilute any associations. Thus this analysis is likely to have underestimated the true strength of the association between obesity and absenteeism.

What needs to be done?

This bulletin has provided evidence that obesity may contribute to absenteeism in the workplace, possibly through ill health. To the extent that this is true, it follows that employers may be able to reduce absenteeism by helping employees achieve and/or maintain a healthy weight. In general, attempts to date to improve employee health by using health promotion programs have had mixed results (Bengoechea et al. 2004; Aldana & Pronk 2001). The extent to which absenteeism can be reduced by helping obese employees lose weight is a research issue (Tucker & Freidman 1998).

The National Health and Medical Research Council (NHMRC 1997) developed a strategy for tackling obesity in the workplace based on:

- encouraging the inclusion of physical activity and healthy food choices in occupational health and safety policies and workplace health policies
- encouraging negotiation between employers and employees to develop opportunities for increased physical activity within work patterns and practices as well as workplace design
- encouraging workplace food services to offer a variety of food choices consistent with the dietary guidelines for Australians.

In late 2003, Australian Health Ministers asked the National Obesity Taskforce to lead and coordinate the implementation of 'Healthy Weight 2008' to address overweight and obesity in children and youth (Commonwealth of Australia 2003b) and to develop further advice on strategies to reduce obesity in adults and older Australians. The Taskforce is considering actions that will involve long-term effort across multiple settings including workplaces. For example, although the focus of 'Healthy Weight 2008' is children, young people and their families, the report identifies workplaces as a key setting for action, aiming to assist employed parents with healthy eating and active living in their families.

The Strategic Inter-Governmental forum on Physical Activity and Health is developing 'Be Active Australia: A Framework for Health Sector Action for Physical Activity 2005–2010' (NPHP 2004), which outlines actions the health sector could take to address physical inactivity over the next four years. Older Australians (aged over 55 years) are identified as one of six priority population groups, and workplaces are identified as one of six key settings for influencing policies and programs and reaching different population groups.

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Acknowledgments

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