



Physical activity, healthy eating and overweight/obesity

2003

Department of Human Services Loddon Mallee Region

Victorian Population Health Survey

The Victorian Population Health Survey is an annual statewide survey that the Department of Human Services (Health Surveillance and Evaluation Section, Public Health Group) undertakes in the second half of each calendar year to collect a wide range of information on the health of the adult Victorian population and the determinants of that health.

This fact sheet presents major findings from the Victorian Population Health Survey 2003 relating to physical activity, healthy eating and body mass index for persons aged 18 years or over in the department's Loddon Mallee Region.

Loddon Mallee Region

The Loddon Mallee Region covers an area of 58,149 square kilometres and had an estimated population of 298,903 people in 2003. From the region, 1011 respondents (or 13.5 per cent of the total sample of 7500 households) completed the Victorian Population Health Survey in 2003.

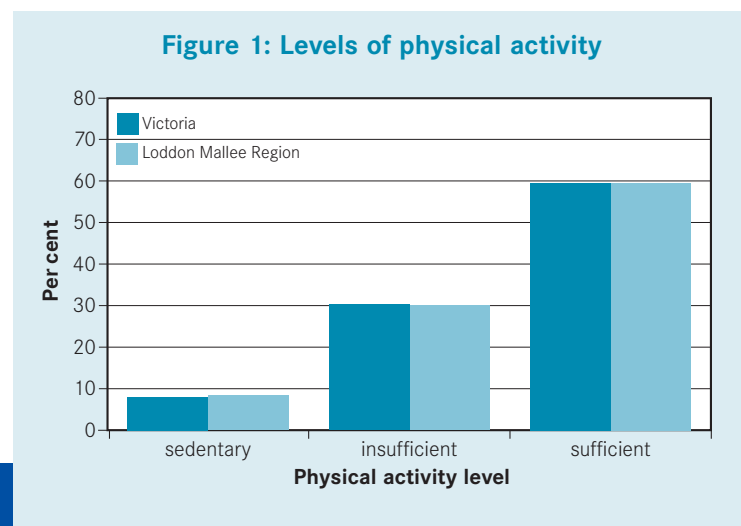
Levels of sufficient physical activity (time and sessions)

Physical inactivity is a modifiable risk factor for a range of diseases and conditions. Physical activity can provide a range of health benefits, including reducing the risk of coronary heart disease, stroke, hypertension, type 2 diabetes, colon cancer and osteoporosis. Participation in regular physical activity can also improve mental health, help to manage arthritis and prevent injury from falls by improving strength and balance, especially in older people. The *National physical activity guidelines for Australians*¹ recommend that individuals undertake at least 30 minutes of moderate intensity activity on most days of the week.

¹ Australian Department of Health and Aged Care 1999, *National physical activity guidelines for Australians*, Canberra.

Figure 1 presents the proportion of adults from the Loddon Mallee Region who were:

- **sufficiently active** for health benefits (150 minutes or more of at least moderate intensity activity over five or more days per week)
- **insufficiently active** for health benefits – some physical activity but less than sufficient (that is, did less than 150 minutes and/or participated in activity fewer than five times per week)
- **sedentary** (physically inactive)
- Approximately 60 per cent of adults in the Loddon Mallee Region undertook sufficient regular physical activity to achieve health benefits (figure 1).
- Thirty per cent of persons aged 18 years or over in the region participated in some physical activity but did less than the level recommended to obtain health benefits.
- More than 8 per cent (8.4 per cent) of adults in the region were physically inactive or sedentary.
- The proportions of the adult population in the region who were sufficiently active, insufficiently active or sedentary were similar to the proportions for the Victorian population as a whole.





Levels of sufficient physical activity (time and sessions), by sex, age and education

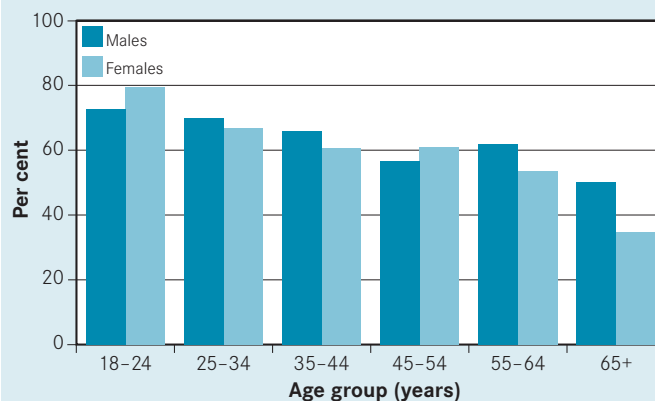
Table 1 presents the proportion of adults in the Loddon Mallee Region who were sufficiently active to achieve health benefits, by selected characteristics.

Table 1: Participation in sufficient physical activity (time and sessions)

	Loddon Mallee Region		Victoria	
	%	95% confidence interval	%	95% confidence interval
Sex				
Male	62.1	56.5–67.4	61.4	59.1–63.7
Female	57.0	52.7–61.3	57.6	55.7–59.6
Age group				
18–24 years	75.9	64.4–84.5	66.9	62.2–71.4
25–34 years	68.3	59.1–76.2	64.8	61.1–68.3
35–44 years	63.2	55.3–70.4	63.0	59.9–66.1
45–54 years	58.7	50.7–66.2	57.6	54.0–61.1
55–64 years	57.8	49.5–65.7	57.6	53.6–61.4
65+ years	41.5	34.3–49.1	46.6	43.2–50.1
Education level				
Primary	41.7	26.6–58.5	40.6	32.9–48.8
Secondary	59.2	54.9–63.4	57.3	55.2–59.3
Tertiary	62.8	56.3–68.8	63.6	61.2–65.9

- There were no significant differences by sex, age or education in the proportion of adults in the Loddon Mallee Region and the proportion of Victorian adults who undertook a sufficient level of regular physical activity (table 1).
- Similar proportions of males and females in the region undertook sufficient regular physical activity.
- There were no significant differences by age group in the proportions of males in the region who undertook sufficient moderate intensity physical activity to gain health benefits on all or most days of the week (figure 2). The proportion of females in the region who undertook sufficient regular activity was similar for all age groups (excluding those aged 65 years or over).

Figure 2: Sufficient physical activity (time and sessions) – Loddon Mallee Region

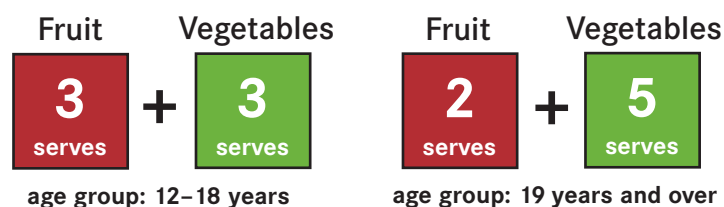


Note: Persons who participate in sufficient regular physical activity are sometimes referred to as undertaking 'adequate' physical activity.

Healthy eating

Adults often need to balance their eating and physical activity to prevent weight gain. The *Dietary guidelines for Australian adults* and those for adolescents and children² highlight the groups of foods and lifestyle patterns that promote good nutrition and health. Adults should include plenty of wholegrain foods, vegetables and fruit, and eat according to their energy needs. The dietary guidelines for vegetables recommend a daily intake of three serves for persons aged 12–18 years and five serves for persons aged 19 years or over. The recommended daily intake of fruit is three serves for persons aged 12–18 years and two serves for persons aged 19 years or over. The recommended number of fruit and vegetable servings is higher for pregnant and breastfeeding women.

Figure 3: National Health and Medical Research Council's recommended daily intake of fruit and vegetables



Note: Excluding pregnant and breastfeeding women.

² National Health and Medical Research Council 2003a, *Dietary guidelines for Australian adults*, Canberra; National Health and Medical Research Council 2003b, *Dietary guidelines for children and adolescents in Australia incorporating the infant feeding guidelines for health workers*, Canberra.





Table 2: Proportion who usually eat recommended serves of fruit each day

	Loddon Mallee Region		Victoria	
	%	95% confidence interval	%	95% confidence interval
Males				
18*-24 years	47.2	30.7-64.3	36.0	29.7-43.0
25-34 years	41.1	26.5-57.4	40.7	34.9-46.7
35-44 years	45.4	30.5-61.3	38.9	33.8-44.3
45-54 years	50.7	38.5-62.9	45.6	40.2-51.1
55-64 years	39.6	28.1-52.4	46.2	40.3-52.2
65+ years	41.0	29.7-53.2	50.7	45.4-56.1
Total	44.4	38.5-50.4	42.8	40.5-45.2
Females				
18*-24 years	37.4	22.3-55.4	49.9	43.0-56.8
25-34 years	55.3	44.2-65.8	50.0	45.5-54.5
35-44 years	54.8	46.1-63.3	56.3	52.3-60.1
45-54 years	67.6	58.0-75.9	58.0	53.4-62.5
55-64 years	65.7	55.3-74.8	67.7	62.6-72.4
65+ years	63.9	54.5-72.4	63.9	59.2-68.3
Total	58.9	54.5-63.1	57.3	55.4-59.3

* Please note: Refer to Figure 3 for recommended intake of fruit for 18 year olds.

- Only 44.4 per cent of males in the Loddon Mallee Region consumed the recommended amount of fruit each day (table 2).
- The proportion of males in the region who consumed the recommended minimum number serves of fruit per day ranged from 39.6 per cent among those aged 55-64 years to 50.7 per cent for those aged 45-54 years.

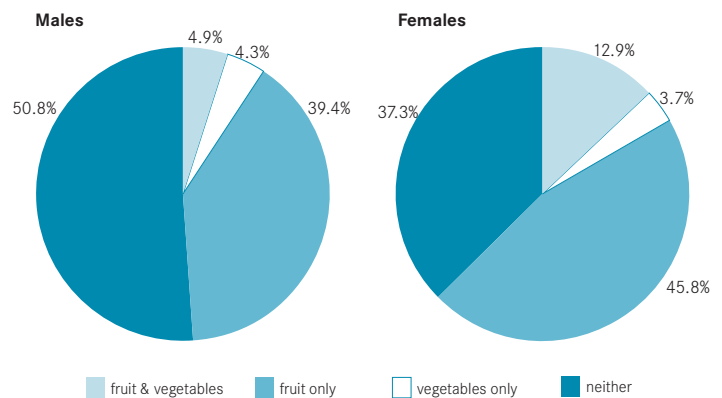
- Except for those aged 18-24 years, the proportion of females in the region who consumed the recommended number of serves of fruit per day was greater than 50 per cent in all age groups. The proportion of females who met the dietary guidelines for fruit was highest among females aged 45-54 years and lowest among those aged 18-24 years (67.6 per cent and 37.4 per cent respectively).
- In the Loddon Mallee Region, 9.3 per cent of males and 16.6 per cent of females consumed the recommended number of serves of vegetables each day (table 3).
- The proportion of females in the region who satisfied the dietary guidelines for vegetables ranged from a low of 8.0 per cent of those aged 18-24 years to a maximum of 23.4 per cent of those aged 55-64 years.
- The proportion of males in the region who met the dietary guidelines for vegetables was lowest among those aged 35-44 years and highest among those aged 45-54 years (5.0 per cent and 15.9 per cent respectively).
- The proportions of males and females who ate the recommended minimum number of serves of vegetables each day in the region were similar to the proportions for Victoria as a whole.
- For both the Loddon Mallee Region and the whole of Victoria, the proportion of adults who ate the recommended minimum number of serves of vegetables each day was lower than that for fruit for each age group, for both males and females.

Table 3: Proportion who usually eat recommended serves of vegetables each day

	Loddon Mallee Region		Victoria	
	%	95% confidence interval	%	95% confidence interval
Males				
18*-24 years	6.6	2.0-19.6	10.4	7.1-15.0
25-34 years	6.3	1.5-23.2	10.2	7.0-14.6
35-44 years	5.0	2.0-12.2	7.5	5.1-10.9
45-54 years	15.9	8.6-27.6	8.7	6.3-11.9
55-64 years	8.8	4.1-18.0	12.6	9.3-16.8
65+ years	11.2	5.4-21.8	11.6	8.5-15.5
Total	9.3	6.5-13.0	9.9	8.6-11.4
Females				
18*-24 years	8.0	2.4-23.9	9.2	6.0-13.8
25-34 years	8.8	4.3-17.1	10.7	8.1-13.9
35-44 years	17.8	12.0-25.6	14.0	11.4-17.1
45-54 years	19.5	12.7-28.8	14.9	12.0-18.2
55-64 years	23.4	15.8-33.4	21.3	17.3-25.8
65+ years	18.7	12.3-27.3	14.6	11.8-17.9
Total	16.6	13.6-20.0	13.9	12.6-15.3

* Please note: Refer to Figure 3 for recommended intake of vegetables for 18 year olds.

Figure 4: Adherence to dietary guidelines for fruit and vegetable consumption – Loddon Mallee Region





- In the Loddon Mallee Region, almost four in 10 females (37.3 per cent) and more than half of all males (50.8 per cent) met neither the fruit nor the vegetable guidelines for healthy eating (figure 4).
- A significantly lower proportion of males than females (4.9 per cent compared with 12.9 per cent) met the dietary guidelines for fruit and vegetable consumption.

Overweight and obesity

The health risks of being overweight or obese include an increased risk of developing type 2 diabetes, cardiovascular disease, high blood pressure, certain cancers, sleep apnoea and osteoarthritis. Physical activity, along with a healthy diet, plays an important role in the prevention of overweight and obesity. To maintain a current healthy weight, the amount of kilojoules/calories used should equal the amount of kilojoules/calories consumed. Individuals who eat more (that is, consume more kilojoules/calories) than they expend gain weight; individuals who eat less than they expend lose weight.

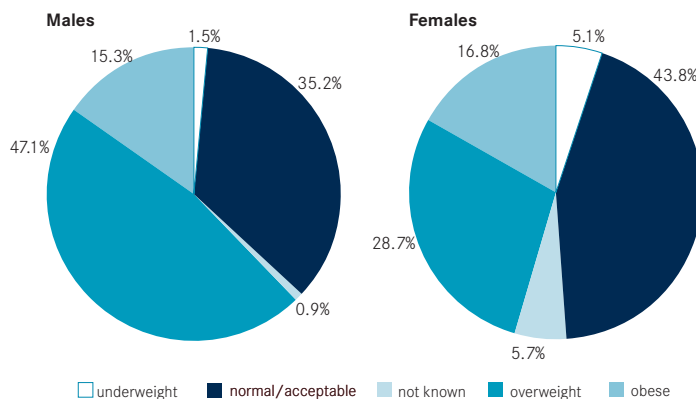
The most common population-level measure of weight status is the body mass index (BMI). Self-reported height and weight data were used to determine the BMI for each survey respondent (weight in kilograms divided by height in metres squared). Being overweight refers to increased body weight in relation to height, compared with a standard of acceptable or desirable weight. BMI data were classified into the following categories using the standard cut-offs recommended by the World Health Organisation³:

- less than 18.5 (underweight)
- 18.5 to less than 25.0 (normal)
- 25.0 to less than 30.0 (overweight)
- greater than 30.0 (obese).

Being overweight may be due to increases in body fat or increases in lean tissue. Individuals who are overweight due to lean tissue mass are not necessarily overweight, regardless of BMI.

Figure 5 presents the prevalence of each BMI category for males and females aged 18 years or over in the Loddon Mallee Region.

Figure 5: BMI categories – Loddon Mallee Region



The proportion of adults in the Loddon Mallee Region who were overweight was 47.1 per cent for males and 28.7 per cent for females (figure 5). A further 15.3 per cent of males and 16.8 per cent of females were classified as obese.

- The 'not known' category includes persons who did not provide weight and/or height data. A higher proportion of females than males (5.7 per cent compared with 0.9 per cent) were classified as not known.
- More than four in 10 males (43.8 per cent) were of normal or acceptable weight for their height, compared to more than one in three females (35.2 per cent).

³ World Health Organisation 2001, *Obesity: preventing and managing the global epidemic*, WHO Technical Series no. 894, Geneva.





Table 4: Prevalence of overweight/obesity

	Loddon Mallee Region		Victoria	
	%	95% confidence interval	%	95% confidence interval
Males				
18–24 years	36.0	21.8–53.3	30.0	24.1–36.6
25–34 years	69.5	53.5–81.8	50.6	44.7–56.6
35–44 years	65.8	52.7–76.9	59.0	53.7–64.1
45–54 years	71.0	59.0–80.7	65.2	59.9–70.2
55–64 years	60.0	47.4–71.4	65.4	59.6–70.8
65+ years	60.6	48.2–71.8	51.8	46.5–57.1
Total	62.4	56.8–67.7	54.3	52.0–56.7
Females				
18–24 years	17.2	8.3–32.4	19.7	14.8–25.6
25–34 years	42.4	32.0–53.5	36.1	31.9–40.6
35–44 years	46.6	38.0–55.4	37.0	33.2–40.9
45–54 years	53.1	43.4–62.5	44.7	40.2–49.3
55–64 years	53.5	43.2–63.6	50.8	45.5–56.0
65+ years	48.5	39.1–58.0	38.5	34.2–43.1
Total	45.5	41.2–49.8	38.0	36.1–39.9

- In the Loddon Mallee Region, almost four in 10 males (36.0 per cent) aged 18–24 years were overweight or obese. In the age group 45–54 years, more than seven in 10 males (71.0 per cent) were overweight or obese (table 4).
- The proportion of females in the region who were overweight or obese was lowest in the age group 18–24 years (17.2 per cent) and highest in the age group 55–64 years (53.5 per cent).
- The proportions of males and females in each age group who were overweight or obese were similar in the Loddon Mallee Region to the proportions for Victoria as a whole.

4 Department of Infrastructure 2001, *Population projections 2001*, Government of Victoria, Melbourne.

Rates

The 2001 Victorian population⁴ has been used when specifying population weights to ensure that the adjusted sample distribution is representative of the population by age group, gender and region. Differences between regions in the age and sex distribution of their populations may account, in part, for differences in overall region-specific rates.

Confidence intervals

The rates reported in this publication are based on information collected from a sample of adults, selected at random by household telephone number. As a result, they are subject to sampling variability. This means that the rates are estimates and may differ from those that would result if all adults in Victoria had been included in the survey.

One measure of the amount of variation associated with an estimate is the confidence interval. Estimates with wider confidence intervals reflect a higher degree of unreliability in the estimate and should be used with caution. Confidence intervals that do not overlap are interpreted as representing significant differences.

Additional information

The method of the Victorian Population Health Survey 2003 and other results may be found in the report *Victorian Population Health Survey 2003: selected findings*. This report and other useful resources may be viewed or downloaded from the website www.health.vic.gov.au/healthstatus

VicHealth provided support for the Victorian Population Health Survey data analysis. Information about VicHealth initiatives to increase levels of physical activity and promote the health of Victorians is available at the website www.vichealth.vic.gov.au



Source:

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Public Health Group
Rural and Regional Health and Aged Care Services Division
Department of Human Services Victoria

