

## Health-related behaviours

This section presents information on various risk factors and health-related behaviours. The selected public health indicators are smoking, nutrition, alcohol consumption, physical inactivity and screening participation.



# Smoking

## In this chapter

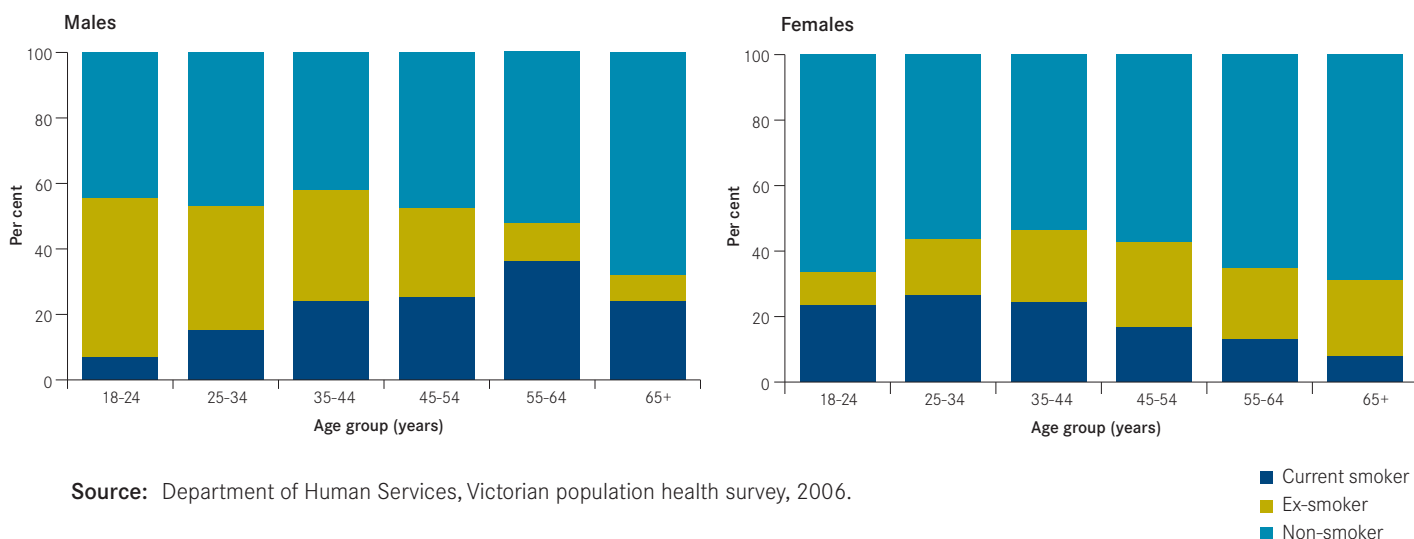
- smoking status

## Summary

- Tobacco smoking accounted for 8.2 per cent of total disability-adjusted life years (DALYs) lost for Victoria in 2001. It is a major risk factor for coronary heart disease, stroke, peripheral vascular disease, numerous cancers and a range of other diseases. Smoking is of concern during pregnancy, because of its teratogenic potential and environmental tobacco smoke, or passive smoking, can cause serious health effects.
- In 2006, survey estimates show that approximately one in five (20.5 per cent) adults aged 18 years and over were current smokers, almost one-quarter (24.1) were ex-smokers and more than a half (55.4 per cent) were non-smokers.
- Current smoking rates were significantly higher for males (22.6 per cent) compared to females (18.5 per cent) and current smoking rates declined with age.

## Smoking status

### Smoking status, persons aged 18 years and over, by age group and sex, Victoria, 2006



Tobacco smoking is the single largest preventable cause of the disability burden in Victoria, accounting for 8.2 per cent of total disability-adjusted life years (DALYs) in 2001. It is a major risk factor for coronary heart disease, stroke, peripheral vascular disease, numerous cancers and a range of other diseases. Smoking is of concern during pregnancy, because of its teratogenic potential and environmental tobacco smoke, or passive smoking, can cause serious health effects.

Estimates from the *Victorian population health survey 2006* (VPHS) showed that approximately one in five (20.5 per cent) adults aged 18 years and over were current smokers, almost one-quarter (24.1 per cent) were ex-smokers and more than a half (55.4 per cent) were non-smokers.

The self reported prevalence rate for current smoking has decreased significantly since 2001, down from 24.5 per cent (95% self-reported CI: 23.2-25.9) to 20.5 per cent (19.2-21.9) for adults in 2006. The prevalence among males (22.6 per cent, 95% CI: 20.4-25.0) was significantly higher than that for females (18.5 per cent, 17.0-20.1) in 2006, although the rate for males has also decreased significantly since 2001 (28.3 per cent, 26.2-30.5), when the first VPHS survey was undertaken.

The prevalence of current smoking in 2006 decreased with age, from 23.4 per cent (95% CI: 19.2-28.6) for young adults aged 18-24 years to 7.4 per cent (5.9-9.3) for adults aged 65 years and over.

### For more information

Department of Human Services, Health Intelligence Unit, Public Health, *Victorian population health survey 2006*, Melbourne: [www.health.vic.gov.au/healthstatus](http://www.health.vic.gov.au/healthstatus)

Department of Human Services, 2005, *The Victorian burden of disease study: mortality and morbidity in 2001*, Melbourne: [www.health.vic.gov.au/healthstatus](http://www.health.vic.gov.au/healthstatus)

National Health and Medical Research Council (NHMRC), 1997, *The health effects of passive smoking*, Canberra: NHMRC.

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## Nutrition

### In this chapter

- fruit and vegetable guidelines
- daily vegetable consumption
- daily fruit consumption

### Summary

- Inadequate consumption of fruit and vegetables has been identified as a risk factor in the development of a number of chronic diseases, including coronary heart disease, stroke and many types of cancer (including cancers of the mouth, pharynx, oesophagus, stomach and lungs). The *Victorian burden of disease study 2001* estimated that 3.3 per cent of total disability-adjusted life years (DALYs) were attributable to inadequate fruit and vegetable intake (less than 600 grams per day). This contribution exceeded that made by alcohol (3.1 per cent), illicit drugs (1.5 per cent), unsafe sex (0.4 per cent) and occupational hazards and exposures (1.5 per cent).
- The *Dietary guidelines for Australian adults (2000)* recommend that adults aged 19 years or over (excluding pregnant and lactating females) consume at least 300 grams (two serves) of fruit and 300 grams (five serves) of vegetables (including legumes) each day to meet their need for essential nutrients. The *Dietary guidelines for children and adolescents in Australia* recommend children and adolescents, aged 12–18 years, consume at least three serves of fruit and three serves of vegetables every day.
- Estimates from the *Victorian population health survey 2006* (VPHS) showed that approximately one in ten (9.9 per cent) adults (aged 18 years and over) met the guidelines for vegetable intake, consuming five or more serves of vegetables each day. The rates for females were significantly higher than the rates for males and older people (65 years and over) had significantly higher rates than the rates for younger adults (aged 18–24 years).
- Forty seven per cent of adults met the guidelines for fruit intake, consuming two or more serves of fruit each day. The rates for females were significantly higher than the rates for males and young adults aged 25–34 years had significantly lower rates than all other age groups.
- In 2006, 7.5 per cent of adults met the guidelines for both fruit and vegetable consumption, 2.8 per cent met the guidelines for vegetables only, 39.1 per cent met the guidelines for fruit only and 48.5 per cent did not meet either the fruit or vegetable guidelines.

## Fruit and vegetable guidelines

Inadequate consumption of fruit and vegetables has been identified as a risk factor in the development of a number of chronic diseases, including coronary heart disease, stroke and many types of cancer (including cancers of the mouth, pharynx, oesophagus, stomach and lungs). The *Victorian burden of disease study 2001* estimated that 3.3 per cent of total disability-adjusted life years (DALYs) were attributable to inadequate fruit and vegetable intake (less than 600 grams per day). This contribution exceeded that made by alcohol (3.1 per cent), illicit drugs (1.5 per cent), unsafe sex (0.4 per cent) and occupational hazards and exposures (1.5 per cent).

The *Dietary guidelines for Australian adults* (2000) recommend that persons aged 19 years or over (excluding pregnant and lactating females) consume at least 300 grams (two serves) of fruit and 300 grams (five serves) of vegetables (including legumes) each day to meet their need for essential nutrients. The *Dietary guidelines for children and adolescents in Australia* recommend children and adolescents, aged 12–18 years, consume at least three serves of fruit and three serves of vegetables every day.

### National Health and Medical Research Council's recommended daily intake of fruit and vegetables



**Note:** Excluding pregnant and breastfeeding women.

## References

Department of Human Services, 2005, *The Victorian burden of disease study: mortality and morbidity in 2001*, Melbourne: [www.health.vic.gov.au/healthstatus](http://www.health.vic.gov.au/healthstatus)

National Health and Medical Research Council (NHMRC), 2003, *Dietary guidelines for Australian adults*, Canberra: AusInfo.

National Health and Medical Research Council (NHMRC), 2003, *Dietary guidelines for children and adolescents in Australia* incorporating the infant feeding guidelines for health workers, Canberra: AusInfo.

### For more information

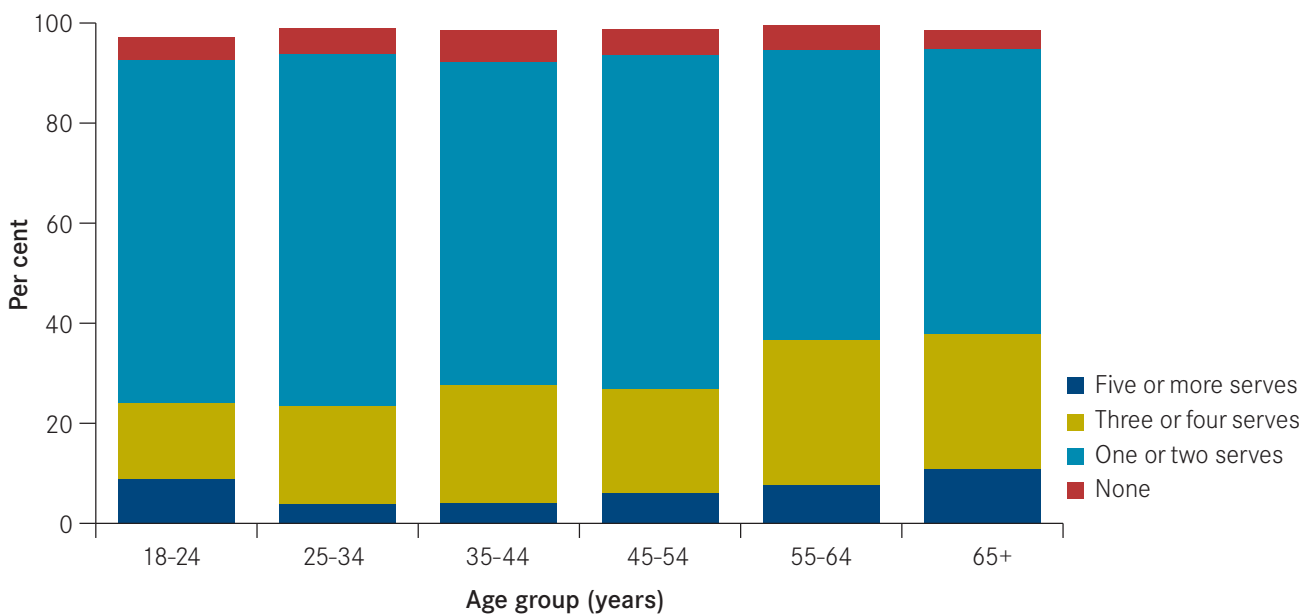
Department of Human Services, Go for your life website: [www.goforyourlife.vic.gov.au](http://www.goforyourlife.vic.gov.au)

## Daily vegetable consumption

### Daily consumption of vegetables, persons aged 18 years or over, by sex, Victoria, 2006

Serves	Males		Females		Persons	
	%	SE (%)	%	SE (%)	%	SE (%)
None	5.1	0.6	3.9	0.4	4.5	0.4
One or two serves	64.4	1.3	44.5	1.0	54.2	0.8
Three or four serves	22.5	1.0	37.5	1.0	30.2	0.7
Five or more serves	6.6	0.7	13.1	0.6	9.9	0.5

### Daily vegetable consumption, persons aged 18 years and over, by age group, Victoria, 2006



**Note:** SE = standard error.

Figures may not add to 100 per cent due to a proportion of 'don't know' or 'refused' responses.

A serve is half a cup of cooked vegetables or a cup of salad vegetables.

**Source:** Department of Human Services, Victorian population health survey 2006.

Estimates from the *Victorian population health survey 2006* (VPHS) showed that approximately one in ten (9.9 per cent) adults aged 18 years and over consumed five or more serves of vegetables each day, 30.2 per cent consumed 3–4 serves, more than half (54.2 per cent) consumed 1–2 serves and 4.5 per cent reported consuming less than one or no serves of vegetables on a daily basis.

The percentage of females (13.1 per cent, 95% CI: 11.9–14.5) who reported consuming the recommended number of serves of vegetables was significantly higher than the percentage for males (6.6 per cent, 5.3–8.1).

Vegetable consumption also varied by age group. The percentage of persons aged 65 years or over (13.7 per cent, 95% CI: 11.6–16.1) who reported consuming five or more serves of vegetables was significantly higher than the percentage for younger adults aged 18–24 years (7.2 per cent, 4.5–11.5).

### For more information

Department of Human Services, Health Intelligence Unit, Public Health, *Victorian population health survey 2006*,  
[www.health.vic.gov.au/healthstatus](http://www.health.vic.gov.au/healthstatus)

### Contact

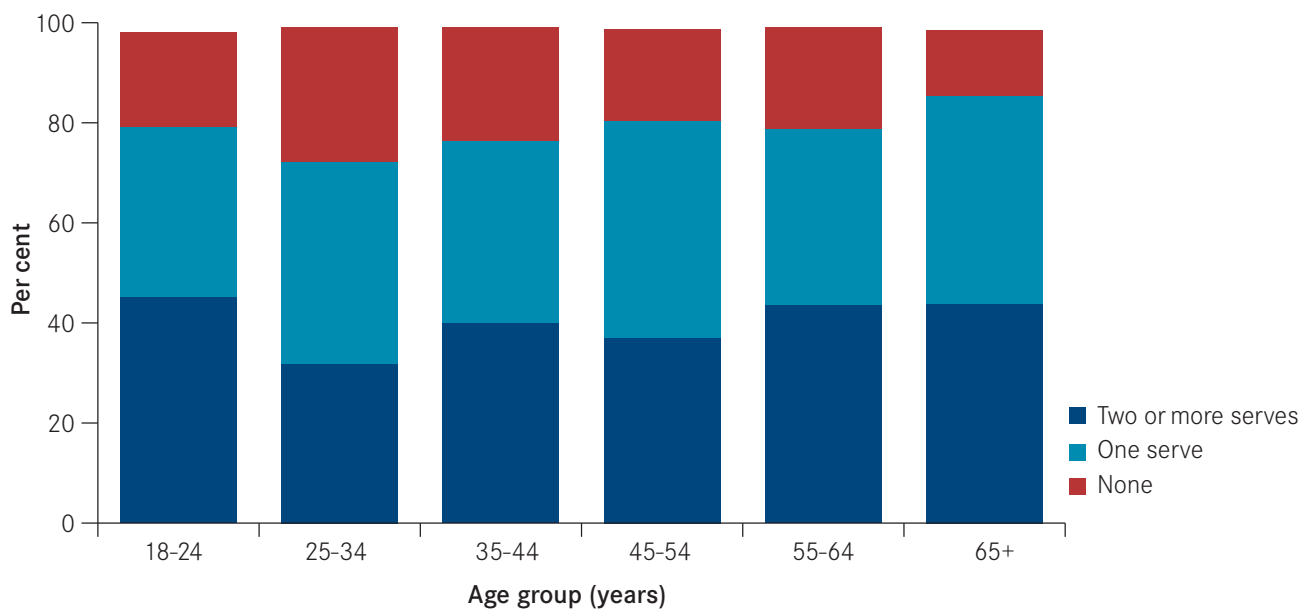
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## Daily fruit consumption

### Daily fruit consumption, persons aged 18 years or over, by sex, Victoria, 2006

Serves	Males		Females		Persons	
	%	SE (%)	%	SE (%)	%	SE (%)
None	20.3	1.0	11.1	0.6	15.6	0.6
One serve	38.8	1.3	34.0	1.0	36.3	0.8
Two or more serves	39.8	1.3	53.8	1.0	47.0	0.8

### Daily consumption of fruit, persons aged 18 years and over, by age group, Victoria, 2006



**Note:** SE = standard error.

Figures may not add to 100 per cent due to a proportion of 'don't know' or 'refused' responses.

A serve is one medium piece or two small pieces of fruit, or one cup of diced pieces.

**Source:** Department of Human Services, Victorian population health survey, 2006.

Estimates from the *Victorian population health survey 2006* (VPHS) showed that almost a half (47.0 per cent) of adults reported consuming two or more serves of fruit each day, 36.3 per cent reported consuming one serve and 15.6 per cent reported consuming less than one serve, or no serves of fruit, on a daily basis.

The percentage of females (53.8 per cent, 95% CI: 51.9–55.8) who reported consuming the recommended serves of fruit was significantly higher than the percentage for males (39.8 per cent, 37.3–42.3).

There were also some differences in fruit consumption by age group. The percentage of adults aged 25–34 years who reported consuming two or more serves of fruit per day (37.2 per cent, 95% CI 33.0–41.6) was significantly lower than for any other age group.

### For more information

Department of Human Services, Health Intelligence Unit, Public Health, *Victorian population health survey 2006*,  
[www.health.vic.gov.au/healthstatus](http://www.health.vic.gov.au/healthstatus)

### Contact

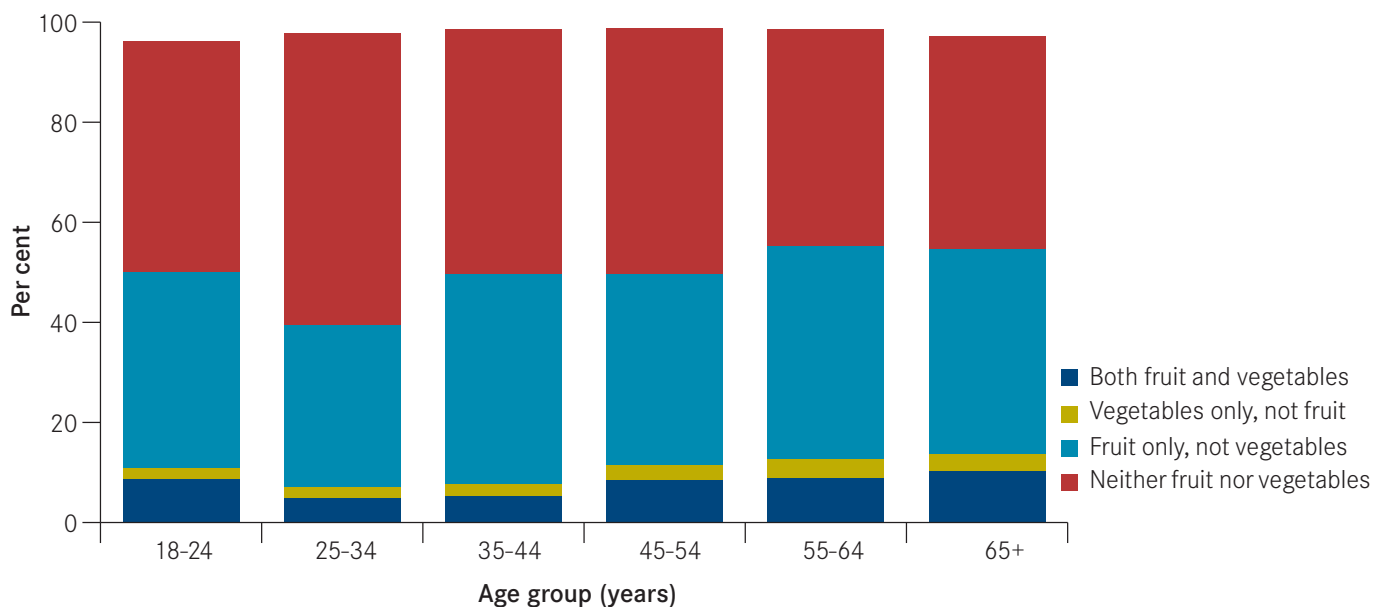
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## Recommended daily serves of fruit and/or vegetables

Meeting guidelines for consumption of fruit and/or vegetables, persons aged 18 years and over, by sex, Victoria, 2006

Guidelines met:	Males		Females		Persons	
	%	SE (%)	%	SE (%)	%	SE (%)
Fruit and vegetables	5.1	0.7	9.9	0.6	7.5	0.4
Vegetables only, not fruit	1.9	0.3	3.6	0.3	2.8	0.2
Fruit only, not vegetables	34.3	1.2	43.6	1.0	39.1	0.8
Neither fruit nor vegetables	56.4	1.3	41.0	1.0	48.5	0.8

Meeting guidelines for consumption of fruit and/or vegetables, persons aged 18 years and over, by age group, Victoria, 2006



**Note:** SE = standard error.

Figures may not add to 100 per cent due to a proportion of 'don't know' or 'refused' responses.

**Source:** Department of Human Services, *Victorian population health survey, 2006*.

Estimates from the *Victorian population health survey 2006* (VPHS) showed that 7.5 per cent of the adults met the guidelines for both fruit and vegetable consumption, 2.8 per cent met the guidelines for vegetables only, 39.1 per cent met the guidelines for fruit only and 48.5 per cent did not meet either the fruit or vegetable guidelines.

The percentage of females (9.9 per cent, 95% CI: 8.8–11.1) who reported consuming the recommended serves of fruit and vegetables was significantly higher than the percentage for males (5.1 per cent, 3.9–6.6).

One in ten older persons aged 65 years and over (10.2 per cent, 95% CI: 8.3–12.4) met the guidelines for both fruit and vegetable consumption, which was significantly higher than the comparable rate for adults aged 25–34 years (4.8 per cent, 3.0–7.7) and adults aged 35–44 years (5.3 per cent, 4.1–6.8).

### For more information

Department of Human Services, Health Intelligence Unit, Public Health, *Victorian population health survey 2006*,  
[www.health.vic.gov.au/healthstatus](http://www.health.vic.gov.au/healthstatus)

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## Alcohol consumption

### In this chapter

- alcohol consumption guidelines
- short-term risk from alcohol consumption
- long-term risk from alcohol consumption

### Summary

- Regular excessive consumption of alcohol over time places people at increased risk of chronic ill health and premature death, and episodes of heavy drinking may place the drinker (and others) at risk of injury or death. The consequences of heavy regular use of alcohol may include cirrhosis of the liver, cognitive impairment, heart and blood disorders, ulcers, cancers and damage to the pancreas. Intoxication and acute alcohol related problems include violence, risky behaviour, road trauma and injury. Significant psychosocial and economic consequences also arise from such patterns of drinking, not only for the individuals concerned, but also for their families and the wider community. Excessive alcohol consumption is estimated to account for 3.1 per cent of the total burden of disease for Victoria.
- The *Australian Alcohol Guidelines* are currently under review by the National Health and Medical Research Council. Proposed changes to the guidelines include a single guideline for Australian adults with a recommended low-risk drinking level to reduce both the immediate and long-term harm from alcohol consumption. The proposed new guidelines also recommend two standard drinks or less in any one day for both men and women.
- The results presented in this chapter relate to the existing 2001 *Australian Alcohol Guidelines*, which emphasise patterns of drinking, as opposed to levels of consumption (the average amount consumed).
- Survey estimates from the *Victorian population health survey 2006* showed that one in ten (10.3 per cent) adults aged 18 years and over reported consuming alcohol at risky or high risk levels, at least weekly, above the threshold for short-term harm. The rates for males were significantly higher than the rates for females, and younger adults (18–24 years) had significantly higher rates than older adults (65 years and over).
- Survey estimates also showed that 4.3 per cent of adults (aged 18 years and over) reported consuming alcohol at risky/high risk levels for long-term alcohol-related harm. The differences in the rates between the sexes and age groups at this level of consumption were not statistically significant.
- Survey estimates also showed that a significantly higher percentage of females (21.6 per cent) reported being abstainers, or non-drinkers, than males (11.8 per cent).

## Alcohol consumption guidelines

At low or moderate levels, the consumption of alcohol yields health benefits for some people. In particular, it may help reduce the risk of heart disease from middle age. Regular excessive consumption of alcohol over time, however, places people at increased risk of chronic ill health and premature death, and episodes of heavy drinking may place the drinker (and others) at risk of injury or death. The consequences of heavy regular use of alcohol may include cirrhosis of the liver, cognitive impairment, heart and blood disorders, ulcers, cancers and damage to the pancreas. Intoxication and acute alcohol related problems include violence, risky behaviour, road trauma and injury. Significant psychosocial and economic consequences also arise from such patterns of drinking, not only for the individuals concerned, but also for their families and the wider community.

Excessive alcohol consumption is estimated to account for 3.1 per cent of the total burden of disease for Victoria. Allowing for the beneficial effects of low to moderate levels of alcohol, the net harm associated with alcohol consumption accounts for around 1.4 per cent of the total burden of disease in 2001.

The data presented in this chapter on alcohol consumption was taken from the 2006 *Victorian population health survey* (VPHS). The VPHS asked respondents about their alcohol consumption based on the 2001 *Australian alcohol guidelines*. The National Health Medical Research Council is currently reviewing the *Australian alcohol guidelines*. Proposed changes to the guidelines include a single guideline for Australian adults with a recommended low-risk drinking level to reduce both the immediate and long-term harm from alcohol consumption. The proposed new guidelines also recommend two standard drinks or less in any one day for both men and women.

The results presented in this report relate to the existing 2001 *Australian Alcohol Guidelines*, which emphasise patterns of drinking, as opposed to levels of consumption (the average amount consumed). 'Patterns of drinking' refers to aspects of drinking behaviour other than the level of drinking, including the context or circumstances of drinking (when, where and with whom the drinking behaviour occurs), the types of drink consumed, the number of heavy drinking occasions and their characteristics and the norms associated with drinking behaviour. Two main patterns of drinking were identified as creating a risk to health—excessive alcohol intake on a particular occasion, and consistent high-level intake over months and years.

The 2001 guidelines specify the risks (for various drinking levels) for males and females of average or larger-than-average body size (60 kilograms for males and 50 kilograms for females) in the short and long term for the whole population. Risk is categorised as either:

- low (a level of drinking at which the risk of harm is minimal and there are possible benefits for some of the population)
- risky (a level of drinking at which the risk of harm outweighs any possible benefit)
- high (a level of drinking at which there is substantial risk of serious harm, above which risk increases rapidly).

### 2001 Short-term risk guidelines

#### 2001 Australian alcohol guidelines for short-term drinking and the levels of risk to health

	Risk of harm in the short term*		
	Low risk	Risky	High risk
<b>Males</b>	Up to six drinks on any one day; no more than three days per week	Seven to ten drinks on any one day	11 or more drinks on any one day
<b>Females</b>	Up to four drinks on any one day; no more than three days per week	Five to six drinks on any one day	Seven or more drinks on any one day

**Note:** \*Based on a standard drink containing 10 grams or 12.5 millilitres of alcohol.

**Source:** National Health and Medical Research Council (NHMRC) 2001, *Australian alcohol guidelines: Health risks and benefits*, Canberra: AusInfo.

For the purpose of determining the potential for alcohol-related harm, the short-term risk is defined in terms of the number of standard drinks consumed per drinking occasion. The guidelines for the whole population indicate that males who drink up to six standard drinks and females who drink up to four standard drinks are at low risk of alcohol-related harm in the short term. Males who drink 11 or more drinks, and females who consume seven or more drinks, are categorised as being at high risk. Between these levels, alcohol consumption behaviour is classified as risky in the short term. In specifying these short-term risks, it is assumed that heavier drinking days occur on a maximum of three occasions per week, and remain within the levels of long-term harm.

## 2001 Long-term risk guidelines

### Australian alcohol guidelines for long-term drinking and the level of risk to health

	Risk of harm in the long term*		
	Low risk	Risky	High risk
<b>Males</b>			
On an average day	Up to four drinks per day	Five to six drinks per day	Seven or more drinks per day
Overall weekly level	Up to 28 per week	29–42 per week	43 or more per week
<b>Females</b>			
On an average day	Up to two drinks per day	Three to four drinks per day	Five or more drinks per day
Overall weekly level	Up to 14 per week	15–28 per week	29 or more per week

**Note:** \*Based on a standard drink containing ten grams or 12.5 millilitres of alcohol.

**Source:** National Health and Medical Research Council (NHMRC) 2001, *Australian alcohol guidelines: Health risks and benefits*, Canberra: AusInfo.

Long-term risk of poor health outcomes due to alcohol consumption is associated with regular daily patterns of drinking, defined in terms of the amount of alcohol typically consumed each week. The Australian alcohol guidelines indicate that males are at high risk of long-term alcohol-related health problems if they consume seven or more drinks on an average day, or an overall weekly level of more than 43 standard drinks per week. For females, high long-term risk is equated with the consumption of five or more standard drinks on an average day, or more than 29 drinks per week. Alcohol consumption is classified as risky in the long term if males consume five to six drinks on an average day (29–42 per week) and if females consume more than three to four drinks daily (15–28 per week).

### For more information

Department of Human Services, Health Intelligence Unit, Public Health, *Victorian population health survey 2006*, [www.health.vic.gov.au/healthstatus](http://www.health.vic.gov.au/healthstatus)

NHMRC (National Health and Medical Research Council) 2001, *Australian alcohol guidelines: Health risks and benefits*, AusInfo, Canberra.

NHMRC (National Health and Medical Research Council) 2007, *Australian alcohol guidelines: Draft for public consultation*, AusInfo, Canberra.

## Short-term risk from alcohol consumption

Frequency of drinking alcohol at above short-term risk levels, persons aged 18 years and over, by age group and sex, Victoria, 2006

Age group (years)	Abstainer		Low risk		Risky or high risk					
	%	SE (%)	%	SE (%)	At least yearly		At least monthly		At least weekly	
	%	SE (%)	%	SE (%)	%	SE (%)	%	SE (%)	%	SE (%)
<b>Males</b>										
18-24	5.4	1.8	13.7	2.8	30.0	4.1	26.9	3.9	21.7	3.4
25-34	12.1	2.6	18.0	2.9	32.7	3.7	15.8	2.4	21.4	3.1
35-44	9.5	1.7	27.1	2.6	28.7	2.6	20.5	2.2	13.3	1.9
45-54	10.0	1.6	34.1	2.6	25.1	2.2	16.6	1.9	13.6	1.8
55-64	13.3	2.0	43.2	2.9	22.5	2.4	8.1	1.4	12.0	1.9
65+	20.2	1.9	53.4	2.3	12.0	1.5	7.2	1.3	5.9	1.1
<b>Total</b>	<b>11.8</b>	<b>0.8</b>	<b>31.3</b>	<b>1.2</b>	<b>25.5</b>	<b>1.2</b>	<b>15.9</b>	<b>1.0</b>	<b>14.7</b>	<b>1.0</b>
<b>Females</b>										
18-24	14.1	3.0	16.8	2.8	32.8	3.8	19.9	3.0	16.0	2.8
25-34	19.2	2.2	30.8	2.4	28.6	2.3	14.0	1.8	7.2	1.2
35-44	17.0	1.6	39.5	2.0	25.1	1.7	11.0	1.2	6.5	1.0
45-54	18.1	1.7	47.4	2.2	21.5	1.8	7.7	1.0	4.9	0.9
55-64	24.4	2.0	52.3	2.2	15.0	1.6	3.7	0.7	3.2	0.8
65+	34.4	2.1	50.9	2.2	7.8	1.2	3.2	0.8	1.7	0.6
<b>Total</b>	<b>21.6</b>	<b>0.8</b>	<b>40.4</b>	<b>1.0</b>	<b>21.4</b>	<b>0.9</b>	<b>9.6</b>	<b>0.6</b>	<b>6.1</b>	<b>0.5</b>
<b>Persons</b>										
18-24	9.7	1.8	15.2	2.0	31.4	2.8	23.5	2.5	18.9	2.2
25-34	15.7	1.7	24.5	1.9	30.7	2.2	14.9	1.5	14.3	1.7
35-44	13.3	1.1	33.4	1.6	26.9	1.6	15.7	1.2	9.8	1.0
45-54	14.1	1.2	40.9	1.7	23.3	1.4	12.1	1.1	9.2	1.0
55-64	18.9	1.4	47.8	1.8	18.7	1.5	5.9	0.8	7.6	1.0
65+	28.1	1.4	52.0	1.6	9.7	0.9	5.0	0.7	3.6	0.6
<b>Total</b>	<b>16.8</b>	<b>0.6</b>	<b>36.0</b>	<b>0.8</b>	<b>23.4</b>	<b>0.7</b>	<b>12.7</b>	<b>0.6</b>	<b>10.3</b>	<b>0.5</b>

**Note:** SE = standard error.

Figures may not add to 100 per cent (excluding abstainers) due to a proportion of 'don't know' or 'refused' responses.

Based on current guidelines (under review), risk levels are defined in terms of the number of standard drinks per drinking occasion (subject to qualifications for specific population groups), and differ for males and females.

For males, the risk categories are:

- low risk—less than six standard drinks per day
- risky—seven to 10 standard drinks per day
- high risk—11 or more standard drinks per day.

For females the corresponding thresholds are:

- low risk—less than four standard drinks per day
- risky—five to six standard drinks per day
- high risk—seven or more standard drinks per day.

**Source:** Department of Human Services, Victorian population health survey, 2006.

Estimates from the *Victorian population health survey 2006* (VPHS) showed that one in ten (10.3 per cent) adults aged 18 years or over reported consuming alcohol at risky or high risk levels, at least weekly, above the threshold for short-term harm. There were statistically significant differences between the sexes and between age groups. The rate for males (14.7 per cent, 95% CI: 12.9–16.7) was significantly higher than the rate for females (6.1 per cent, 5.2–7.2) and the rate for younger adults aged 18–24 years (18.9 per cent, 95% CI: 14.9–23.6) was significantly higher than the rate for older adults aged 65 years and over (3.6 per cent, 2.6–4.9).

Approximately one-quarter (23.4 per cent) of adults reported risky or high risk levels of alcohol consumption, at least yearly, above the threshold for short term harm, and 12.7 per cent reported risky or high risk levels of consumption at least monthly.

The percentage of females (21.6 per cent, 95% CI: 20.0–23.3) who reported being an abstainer (do not drink, or no longer drink) was significantly higher than the percentage of males (11.8 per cent, 10.3–13.5).

### For more information

Department of Human Services, Health Intelligence Unit, Public Health, *Victorian population health survey 2006*:

[www.health.vic.gov.au/healthstatus](http://www.health.vic.gov.au/healthstatus)

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## Long-term risk from alcohol consumption

Long-term risk of alcohol related harm, persons aged 18 years and over, by age group and sex, Victoria, 2006

Age group (years)	Abstainer		Low risk		Risky		High risk	
	%	SE (%)	%	SE (%)	%	SE (%)	%	SE (%)
<b>Males</b>								
18-24	5.4	1.8	87.8	2.8	4.7	1.8	0.3	0.3
25-34	12.1	2.6	81.0	3.0	5.1	1.7	1.5	0.7
35-44	9.5	1.7	83.7	2.0	4.1	1.0	1.4	0.6
45-54	10.0	1.6	84.9	1.8	2.8	0.9	1.6	0.6
55-64	13.3	2.0	80.6	2.2	3.3	0.9	1.8	0.7
65+	20.2	1.9	75.3	2.0	2.8	0.6	0.6	0.2
<b>Total</b>	<b>11.8</b>	<b>0.8</b>	<b>82.2</b>	<b>1.0</b>	<b>3.8</b>	<b>0.5</b>	<b>1.2</b>	<b>0.2</b>
<b>Females</b>								
18-24	14.1	3.0	77.8	3.4	4.3	1.5	2.0	1.3
25-34	19.2	2.2	77.0	2.3	2.3	0.7	1.1	0.5
35-44	17.0	1.6	79.5	1.6	1.9	0.5	0.7	0.3
45-54	18.1	1.7	76.9	1.8	4.5	0.9	0.0	0.0
55-64	24.4	2.0	70.8	2.1	3.1	0.7	0.0	0.0
65+	34.4	2.1	61.1	2.2	1.9	0.6	0.7	0.3
<b>Total</b>	<b>21.6</b>	<b>0.8</b>	<b>73.7</b>	<b>0.9</b>	<b>2.9</b>	<b>0.3</b>	<b>0.7</b>	<b>0.2</b>
<b>Persons</b>								
18-24	9.7	1.8	82.9	2.2	4.5	1.2	1.1	0.7
25-34	15.7	1.7	79.0	1.9	3.7	0.9	1.3	0.4
35-44	13.3	1.1	81.6	1.3	3.0	0.6	1.0	0.3
45-54	14.1	1.2	80.8	1.3	3.6	0.6	0.8	0.3
55-64	18.9	1.4	75.7	1.5	3.2	0.5	0.9	0.3
65+	28.1	1.4	67.4	1.5	2.3	0.4	0.6	0.2
<b>Total</b>	<b>16.8</b>	<b>0.6</b>	<b>77.8</b>	<b>0.7</b>	<b>3.3</b>	<b>0.3</b>	<b>1.0</b>	<b>0.2</b>

**Note:** SE = standard error.

Figures may not add to 100 per cent due to a proportion of 'don't know' or 'refused' responses.

Based on current guidelines (under review), risk levels are defined in terms of the number of standard drinks per drinking occasion (subject to qualifications for specific population groups), and differ for males and females.

For males, the risk categories are:

- low risk– up to 28 standard drinks per week
- risky– 29–42 standard drinks per week
- high risk– 43 or more standard drinks per week.

For females the corresponding thresholds are:

- low risk– up to 14 standard drinks per week
- risky– 15–28 standard drinks per week
- high risk– 29 or more standard drinks per week.

**Source:** Department of Human Services, *Victorian population health survey, 2006*.

The quantity/frequency method was used to estimate the proportion of the population drinking at long term risky or high-risk levels. This method combines the data on how often respondents usually had an alcoholic drink of any kind with data on the number of standard drinks that respondents usually had on a day when consuming an alcoholic drink.

Estimates from the *Victorian population health survey 2006* (VPHS) showed that 3.3 per cent of adults aged 18 years and over reported consuming alcohol at risky levels for long-term alcohol-related harm and a further one per cent reported high-risk levels of consumption.

Although there were differences in the rates for risky and high risk levels of alcohol consumption for long term harm between the sexes and different age groups, these differences were not statistically significant.

### For more information

Department of Human Services, Health Intelligence Unit, Public Health, *Victorian population health survey 2006*:  
[www.health.vic.gov.au/healthstatus](http://www.health.vic.gov.au/healthstatus)

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## Physical activity/inactivity

### In this chapter

- physical activity guidelines
- types of physical activity
- levels of physical activity
- overweight/obesity

### Summary

- Physical inactivity is a major modifiable risk factor for a range of diseases and conditions, including cardiovascular disease, diabetes, some cancers, obesity and falls among the elderly. The evidence available suggests that health benefits accrue with increased physical activity, and that the protective effect of physical activity occurs even if adopted in middle and later life.
- Estimates from the *Victorian population health survey 2006* showed that five per cent of adults (aged 18 years or over) did not undertake any physical activity (sedentary behaviour) during the previous week. Approximately one-quarter of adults reported walking only; 5.3 per cent reported undertaking vigorous activity only; and, 59.7 per cent reported undertaking both walking and vigorous physical activity in the previous week.
- Survey estimates showed that 64.1 per cent of adults reported undertaking sufficient time and sessions of physical activity to confer a health benefit in the previous week. The percentage of younger adults (71.7 per cent, 95% CI: 66.2–76.6) who reported sufficient time and sessions of physical activity was significantly higher than the percentage of older adults aged 65 years and over (50.2 per cent, 47.1–53.4). Differences in the rates of sufficient activity between the sexes were not significant.
- Overweight and obesity, which together can be termed ‘excess weight’, are major contributors to several chronic diseases. Excess weight is a condition of abnormal and excessive fat accumulation, to the extent that a person’s health and wellbeing may be adversely affected. The primary cause of excess weight is an imbalance in the long-term energy equation, with energy intake exceeding energy consumption.
- VPHS 2006 survey estimates also showed that approximately one-half (47.8 per cent) of adults aged 18 years and over were classified as overweight or obese, with a body mass index of 25 or greater. The rate for males (56.3 per cent) was significantly higher than the rate for females (39.7 per cent) and a greater percentage of older adults aged 65 years and over (52.5 per cent) were classified as overweight or obese compared to younger adults aged 18–24 years (22.9 per cent).

## Physical activity guidelines

Physical inactivity is a major modifiable risk factor for a range of diseases and conditions, including cardiovascular disease, diabetes, some cancers, obesity and falls among the elderly. The evidence available suggests that health benefits accrue with increased physical activity, and that the protective effect of physical activity occurs even if adopted in middle and later life. In Victoria, physical activity levels are monitored at the population level to investigate the outcomes of health promotion efforts in this area.

The level of health benefit achieved from physical activity partly depends on the intensity of the activity. In general, participation in moderate-intensity activities (at least) is required to obtain a health benefit from physical activity. Accruing 150 minutes of (at least) moderate-intensity physical activity (such as brisk walking) over one week is believed to be sufficient to confer health benefits, and is the recommended threshold of physical activity according to *National physical activity guidelines for Australians* (NHMRC 1999). For those who achieve an adequate baseline level of fitness, extra health benefits may be gained by undertaking at least 30 minutes of regular vigorous exercise on three to four days per week.

The measure 'sufficient time and sessions' is the preferred risk indicator for measuring participation in a sufficient level of health-enhancing physical activity at a population level. Consistent with *Guideline 3*, the 'sufficient time and sessions' definition of physical activity requires that an individual accumulate at least 150 minutes of at least moderate physical activity regularly. The 'sufficient' time element of physical activity is calculated by adding the minutes of walking and the minutes of moderate-intensity activity, plus two times the minutes of vigorous activity (that is, the minutes of vigorous intensity activity are weighted by a factor of two).

Given this definition, a person is classified as being 'sedentary' if they report no minutes of physical activity for the relevant time period. 'Insufficient' physical activity is defined as some reported physical activity within the specified time period, but either not spending enough time participating in physical activity (that is, less than 150 minutes) or undertaking fewer than five sessions of physical activity per week. Individuals who satisfy the requirements with respect to both the amount of time and the number of sessions are classified as doing 'sufficient' physical activity.

### References

Department of Health and Aged Care (DoHAC), 1999, *National physical activity guidelines for adults*, Canberra: DoHAC. [www.health.gov.au/internet/wcms/publishing.nsf/Content/health-publth-strateg-phys-act-guidelines](http://www.health.gov.au/internet/wcms/publishing.nsf/Content/health-publth-strateg-phys-act-guidelines)

### For more information

Department of Human Services, Go for your life website: [www.goforyourlife.vic.gov.au](http://www.goforyourlife.vic.gov.au)

Department for Victorian Communities, Sports and Recreation Victoria website: [www.sport.vic.gov.au](http://www.sport.vic.gov.au)

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## Types of physical activity

Types of physical activity undertaken during the previous week, persons aged 18 years and over, by age group and sex, Victoria, 2006.

Age group (years)	Sedentary		Walking only		Vigorous activity only		Walking and vigorous activity	
	%	SE (%)	%	SE (%)	%	SE (%)	%	SE (%)
<b>Males</b>								
18–24	3.9	1.6	10.1	2.6	8.5	2.6	73.9	3.9
25–34	2.1	0.8	21.3	3.3	5.7	1.6	64.7	3.7
35–44	3.7	1.1	28.1	2.6	5.2	1.1	60.4	2.8
45–54	6.1	1.3	28.6	2.4	5.5	1.2	56.4	2.6
55–64	5.3	1.6	37.3	2.9	4.9	1.3	50.0	2.9
65+	7.1	1.1	41.0	2.3	4.9	1.1	43.0	2.3
<b>Total</b>	<b>4.6</b>	<b>0.5</b>	<b>27.8</b>	<b>1.2</b>	<b>5.7</b>	<b>0.6</b>	<b>58.1</b>	<b>1.3</b>
<b>Females</b>								
18–24	2.5	1.0	18.3	3.1	2.7	1.3	73.9	3.4
25–34	3.7	0.9	16.3	2.0	6.0	1.2	72.8	2.4
35–44	3.8	0.8	17.7	1.6	6.1	1.0	69.5	1.9
45–54	3.8	0.8	26.5	1.9	3.2	0.7	64.1	2.1
55–64	4.8	0.9	33.1	2.2	4.7	0.9	55.4	2.2
65+	12.7	1.6	41.5	2.2	5.7	1.0	35.4	2.1
<b>Total</b>	<b>5.4</b>	<b>0.5</b>	<b>25.7</b>	<b>0.9</b>	<b>4.9</b>	<b>0.4</b>	<b>61.3</b>	<b>1.0</b>
<b>Persons</b>								
18–24	3.2	0.9	14.1	2.0	5.6	1.5	73.9	2.6
25–34	2.9	0.6	18.8	1.9	5.8	1.0	68.8	2.2
35–44	3.7	0.7	22.9	1.5	5.6	0.7	65.0	1.7
45–54	4.9	0.8	27.5	1.5	4.3	0.7	60.3	1.7
55–64	5.0	0.9	35.2	1.8	4.8	0.8	52.7	1.8
65+	10.2	1.0	41.3	1.6	5.4	0.7	38.8	1.6
<b>Total</b>	<b>5.0</b>	<b>0.3</b>	<b>26.7</b>	<b>0.7</b>	<b>5.3</b>	<b>0.4</b>	<b>59.7</b>	<b>0.8</b>

**Note:** SE = standard error.

Figures may not add to 100 per cent due to a proportion of 'don't know' or 'refused' responses.

Walking for a minimum of ten minutes is categorised as a moderate-intensity physical activity. Vigorous activity includes household chores (excluding gardening) and vigorous 'other' activities (for example, tennis, jogging, cycling and 'keep-fit' exercises).

**Source:** Department of Human Services, Victorian population health survey, 2006.

The *Victorian population health survey 2006* collected data on three types of physical activity:

- time spent walking (for more than ten minutes at a time) for recreation, exercise or to get to and from places
- time spent doing vigorous household chores (excluding gardening)
- time spent doing vigorous activities other than household chores and gardening (for example, tennis, jogging, cycling and 'keep-fit' exercises).

Data were also collected on the number of sessions and the duration of each type of physical activity.

Estimates from the *Victorian population health survey 2006* (VPHS) showed that five per cent of adults aged 18 years or over did not undertake any physical activity (sedentary behaviour) during the week before the survey. Approximately one-quarter of adults surveyed reported walking only; 5.3 per cent reported undertaking vigorous activity only; and, 59.7 per cent reported undertaking both walking and vigorous physical activity in the week before the survey.

Sedentary behaviour varied significantly between age groups with 10.2 per cent (95% CI: 8.4–12.3) of older adults aged 65 years and over reporting no physical activity in the week before the survey compared to 3.2 per cent (1.8–5.7) of younger adults aged 18–24 years. Differences in the rates of sedentary behaviour between the sexes were not significant.

### For more information

Department of Human Services, Health Intelligence Unit, Public Health, *Victorian population health survey 2006*:  
[www.health.vic.gov.au/healthstatus](http://www.health.vic.gov.au/healthstatus)

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## Levels of physical activity

Adequacy of physical activity undertaken during the previous week, persons aged 18 years and over, by age group and sex, Victoria, 2006

Age group (years)	Sedentary		Insufficient time and sessions		Sufficient time and sessions	
	%	SE (%)	%	SE (%)	%	SE (%)
<b>Males</b>						
18-24	3.9	1.6	20.2	3.5	72.3	3.9
25-34	2.1	0.8	24.8	3.2	66.9	3.5
35-44	3.7	1.1	28.7	2.6	64.9	2.7
45-54	6.1	1.3	24.7	2.2	65.7	2.5
55-64	5.3	1.6	31.6	2.8	60.5	3.0
65+	7.1	1.1	32.2	2.2	56.7	2.3
<b>Total</b>	<b>4.6</b>	<b>0.5</b>	<b>27.1</b>	<b>1.1</b>	<b>64.5</b>	<b>1.2</b>
<b>Females</b>						
18-24	2.5	1.0	23.9	3.4	71.0	3.5
25-34	3.7	0.9	22.4	2.1	72.7	2.3
35-44	3.8	0.8	25.2	1.8	68.1	1.9
45-54	3.8	0.8	27.3	1.9	66.4	2.0
55-64	4.8	1.0	31.7	2.1	61.5	2.2
65+	12.7	1.6	37.6	2.1	45.0	2.2
<b>Total</b>	<b>5.4</b>	<b>0.5</b>	<b>28.1</b>	<b>0.9</b>	<b>63.7</b>	<b>1.0</b>
<b>Persons</b>						
18-24	3.2	0.9	22.0	2.5	71.7	2.6
25-34	2.9	0.6	23.6	1.9	69.8	2.1
35-44	3.7	0.7	26.9	1.6	66.5	1.6
45-54	4.9	0.8	26.0	1.5	66.1	1.6
55-64	5.0	0.9	31.7	1.8	61.0	1.8
65+	10.2	1.0	35.2	1.5	50.2	1.6
<b>Total</b>	<b>5.0</b>	<b>0.3</b>	<b>27.6</b>	<b>0.7</b>	<b>64.1</b>	<b>0.8</b>

**Note:** SE = standard error.

Figures may not add to 100 per cent due to a proportion of 'don't know' or 'refused' responses.

'Sufficient activity' is defined as participating in 150 or more minutes of at least moderate-intensity physical activity over five or more sessions per week. Physical activity is classified as 'insufficient' if fewer than 150 minutes of activity are accumulated and/or fewer than five sessions are undertaken.

**Source:** Department of Human Services, *Victorian population health survey, 2006*.

Estimates from the *Victorian population health survey 2006* (VPHS) showed that 64.1 per cent of adults aged 18 years and over reported undertaking sufficient time and sessions of physical activity to confer a health benefit in the week before the survey.

The percentage of younger adults (71.7 per cent, 95% CI: 66.2–76.6) who reported sufficient time and sessions of physical activity was significantly higher than the percentage of older adults aged 65 years and over (50.2 per cent, 47.1–53.4).

Differences in the rates of sufficient activity between the sexes were not significant. Overall, 64.5 per cent of males and 63.7 per cent of females reported sufficient time and sessions of physical activity to confer health benefits, as recommended in the *National physical activity guidelines for Australians* (NHMRC 1999).

## References

Department of Health and Aged Care (DoHAC), 1999, *National physical activity guidelines for adults*, Canberra: DoHAC.

### For more information

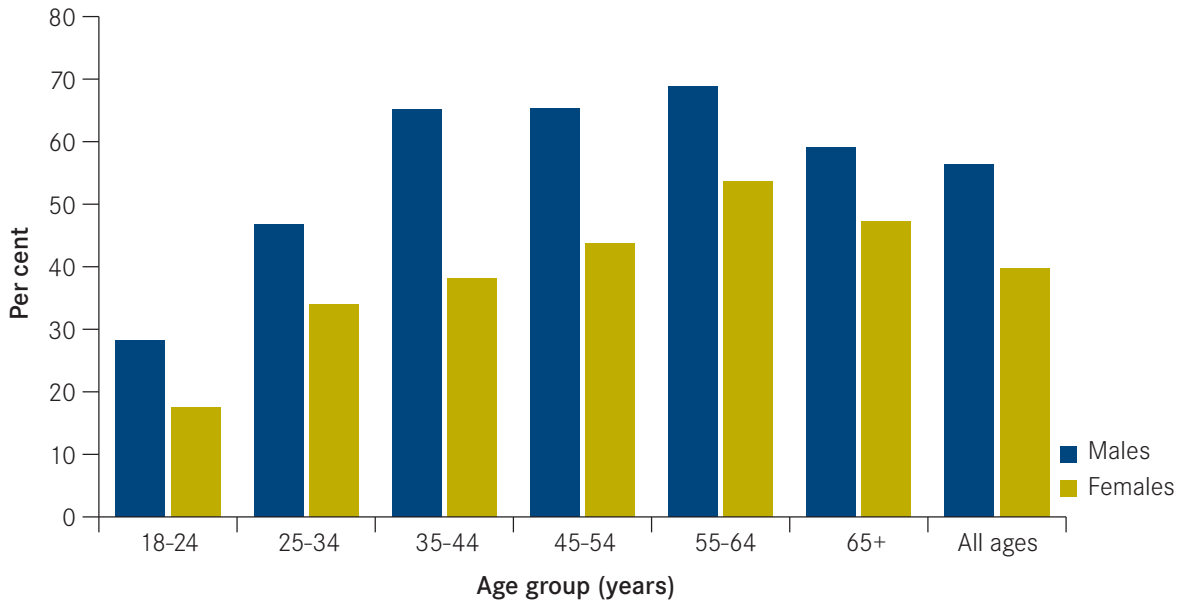
Department of Human Services, Health Intelligence Unit, Public Health, *Victorian population health survey 2006*:  
[www.health.vic.gov.au/healthstatus](http://www.health.vic.gov.au/healthstatus)

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## Overweight/obesity

### Overweight or obese persons, aged 18 years or over, by age group and sex, Victoria, 2006



**Note:** Body mass index (BMI) = weight (kilograms)/height<sup>2</sup> (metres).

BMI categories are:

- underweight (<18.5)
- normal weight (BMI 18.5–25)
- overweight (BMI 25–30)
- obese (BMI ≥ 30).

**Source:** Department of Human Services, *Victorian population health survey, 2006*.

Overweight and obesity, which together can be termed ‘excess weight’, are major contributors to several chronic diseases. Excess weight is a condition of abnormal and excessive fat accumulation, to the extent that a person’s health and wellbeing may be adversely affected. The primary cause of excess weight is an imbalance in the long-term energy equation, with energy intake exceeding energy consumption. The measurement of excess weight as a risk factor for chronic diseases is not simple, because both overall fat and the regional distribution of fat contribute to chronic disease development and progression. At the population level, a common indicator of excess weight (approximating body fat) is the body mass index (BMI).

Estimates from the 2006 *Victorian population health survey* (VPHS) showed that 47.8 per cent of adults aged 18 years and over were classified as overweight or obese, with a body mass index of 25 or greater. The rate for males (56.3 per cent, 95% CI: 53.7–58.9) was significantly higher than the rate for females (39.7 per cent, 37.8–41.6).

Levels of overweight and obesity also varied by age group. The rate for older adults aged 65 years and over (52.5 per cent, 95% CI: 49.3–55.7) was significantly higher than the rate for younger adults aged 18–24 years (22.9 per cent, 18.6–28.0).

### For more information

Department of Human Services, Health Intelligence Unit, Public Health, *Victorian population health survey 2006*:  
[www.health.vic.gov.au/healthstatus](http://www.health.vic.gov.au/healthstatus)

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## Screening participation

### In this chapter

- introduction
- cervical cancer screening
- bowel cancer screening
- breast cancer screening
- newborn screening

### Summary

- Screening refers to the use of simple tests across a healthy population in order to identify individuals who have disease, but do not yet have symptoms, or who have precursors to the disease. The aim of screening is to find the disease or condition in its early stages, or to find changes in the body that indicate the disease is likely to develop in future. In most cases, early detection of a disease increases the chances of successful treatment. The benefits of population screening programs include a reduction in the impact of diseases on individuals, families and society, and a reduced demand on the health system.
- In Victoria, the estimated two-year (2005–2006) participation rate for cervical cancer screening in women aged 20–69 years was 63.4 per cent. Participation varied by department region of residence, ranging from 58.4 per cent in the Grampians region to 66.8 per cent in the Eastern region.
- Survey estimates for 2006 indicate 14.2 per cent of adults aged 18 years and over had been screened for bowel cancer in the previous two years. Although the percentage of adults who reported having been screened varied between regions, these differences were not statistically significant.
- At 31 July 2007 the new National Bowel Cancer Screening Program (NBCSP) had registered 44,708 participants (aged either 55 or 65 years) who had completed and returned a faecal occult blood screening test, representing a crude participation rate of 35.2 per cent.
- In Victoria the estimated two-year (2005–2007) participation rate for breast cancer screening in women aged 50–69 years was 58.6 per cent. Participation since 2000–2002 has remained steady at just under 60 per cent.
- The estimated proportion of babies undergoing newborn screening was 99.4 per cent statewide in 2003.

## Introduction

Screening refers to the use of simple tests across a healthy population in order to identify individuals who have disease, but do not yet have symptoms, or who have precursors to the disease. The aim of screening is to find the disease or condition in its early stages, or to find changes in the body that indicate the disease is likely to develop in future. In most cases, early detection of a disease increases the chances of successful treatment.

The benefits of population screening programs include a reduction in the impact of diseases on individuals, families and society, and a reduced demand on the health system. Four population-based screening programs operate in Victoria:

- BreastScreen Victoria, which provides mammography screening for women aged 50–69 every two years
- National Cervical Screening Program, which provides screening for cervical cancer in women aged 20–69 every two years
- National Bowel Cancer Screening Program, which provides screening for bowel cancer (this new program is currently focused on people aged 55 or 65 only)
- Newborn Screening Program, which tests newborn babies for serious conditions such as phenylketonuria (PKU), congenital hypothyroidism, cystic fibrosis and several metabolic conditions.

One of the key determinants of the community effectiveness of a screening program is the extent of its population coverage. The term ‘participation’ is used to describe the percentage of the eligible target population attending for screening.

### For more information

Screening and early detection of cancer, World Health Organization website: [www.who.int/cancer/detection/en/](http://www.who.int/cancer/detection/en/)

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## Cervical cancer screening

Biennial cervical screening participation rates, by region, Victoria, 1 January 2005–31 December 2006



	Grampians	Gippsland	Loddon Mallee	North and West Metropolitan	Barwon-South Western	Hume	Southern Metropolitan	Eastern Metropolitan
<b>Participation (per cent screened)</b>	58.4	60.8	61.5	61.6	62.5	64.4	66.3	66.8
<b>Lower 95% CI</b>	58.0	60.5	61.1	61.4	62.2	64.0	66.1	66.6
<b>Upper 95% CI</b>	58.8	61.2	61.8	61.7	62.9	64.8	66.4	67.0

**Note:** CI = confidence interval. Participation is defined by region of residence of women in the target population. Regions are listed in order of increasing participation rates.

**Source:** Victorian Cervical Cytology Registry, *Statistical Report, 2006*.

The National Cervical Screening Program screens for cervical cancer in women aged 20–69 every two years. The test used in the screening program is the Pap test (Pap smear), which is a quick and simple test used to check for changes to the cells of the cervix that may lead to cervical cancer.

In 2006, more than 572,000 Pap tests were registered by the Victorian Cervical Cytology Registry (VCCR), representing almost 541,000 women. The estimated two-year (2005–06) participation rate for women in the target population in Victoria was 63.4 per cent. Participation varied by department region of residence, ranging from 58.4 per cent in the Grampians region to 66.8 per cent in the Eastern region.

There were significant differences in the percentage of women aged 20–69 years who were screened during the two-year interval 2005–06 for all regions except between the Gippsland and Loddon Mallee regions and between Loddon Mallee and the North and West Metropolitan regions.

### For more information

Victorian Cervical Cytology Register, *Statistical Report, 2006*: [www.vccr.org/stats.html](http://www.vccr.org/stats.html)

PapScreen Victoria website: [www.papscreen.org.au](http://www.papscreen.org.au)

### Contact

Cathryn Wharton

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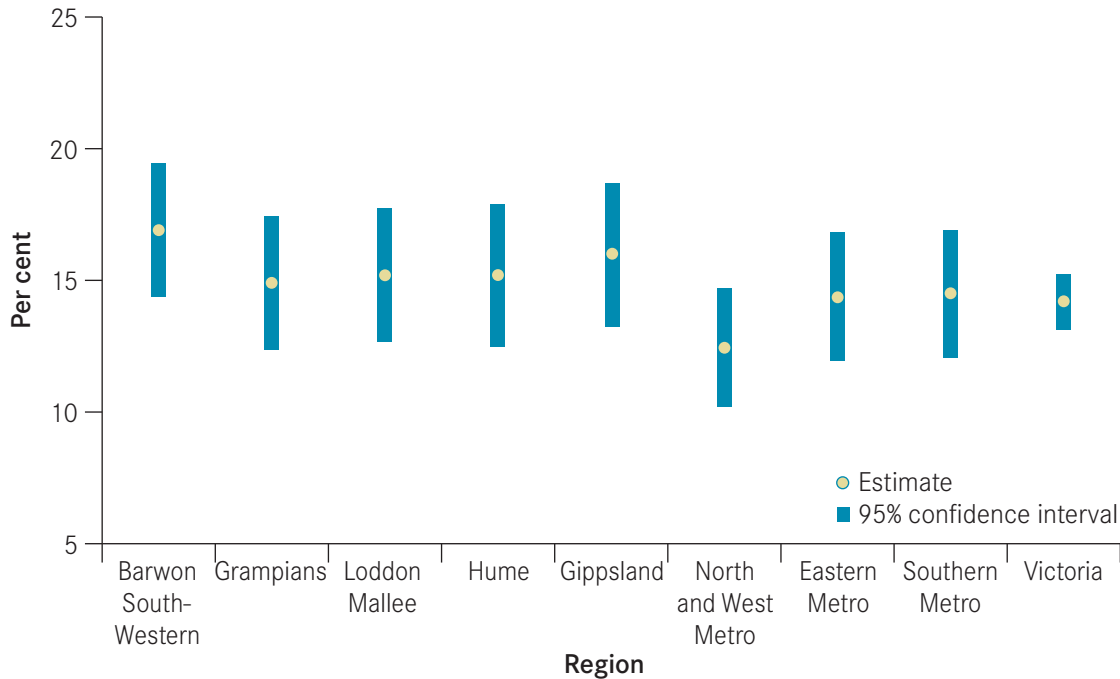
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## Bowel cancer screening

### Self-reported bowel cancer screening within previous 2 years, by region, Victoria, 2006



	Rural Regions					Metropolitan Regions			
	Barwon-South Western	Grampians	Loddon Mallee	Hume	Gippsland	North and West Metropolitan	Eastern Metropolitan	Southern Metropolitan	Victoria
<b>Estimate (per cent)</b>	16.9	14.9	15.2	15.2	16.0	12.4	14.4	14.5	14.2
<b>Lower 95% CI</b>	14.4	12.4	12.7	12.5	13.3	10.2	12.0	12.1	13.2
<b>Upper 95% CI</b>	19.4	17.4	17.7	17.9	18.7	14.6	16.8	16.9	15.2

**Note:** CI = confidence interval.

**Source:** Department of Human Services, Victorian population health survey, 2006.

Bowel cancer was the second most common cancer in Victorians and the second ranking site of cancer death, accounting for 1,087 deaths (11 per cent) in 2004. Research shows that the risk of developing bowel cancer rises after the age of 50 years. Bowel cancer can be treated successfully if detected in its early stages, when it is still localised within the bowel, however, current estimates show that less than 40 per cent of bowel cancers are detected early. Diet is the principle risk factor, particularly high-fat, animal meat and low fibre diets. Smoking, obesity and low levels of physical activity are also risk factors for the development of the disease.

The 2006 *Victorian population health survey* (VPHS) asked respondents to indicate whether they had been screened for bowel cancer in the previous two years. Screening tests included a colonoscopy, faecal occult blood test (FOBT), flexible sigmoidoscopy or barium enema. Overall for Victoria, 14.2 per cent of respondents indicated that they had been screened for bowel cancer in the previous two years. Although the percentage of adults who reported having been screened varied between regions, these differences were not statistically significant.

The new National Bowel Cancer Screening Program (NBCSP) aims to reduce incidence and mortality from bowel cancer by offering population screening with a faecal occult blood test for people turning 55 or 65 years of age between May 2006 and June 2008. Victoria commenced Phase I of the program on 29 January 2007 and will invite more than 230,000 Victorians to participate by June 2008.

The faecal occult blood test is a simple test which can be completed at home and mailed to a laboratory for analysis. An invitation to complete the test is sent to all eligible participants through the mail. These screening tests were shown in overseas clinical trials and in the Bowel Cancer Screening Pilot Program to be simple to use and highly effective. People with a positive faecal occult blood test result are advised to discuss their results with their doctor, who will generally refer them for further investigation, usually a colonoscopy.

At 31 July 2007 more than 126,900 eligible Victorians had received an invitation to be screened. There were 44,708 tests completed, representing a crude participation rate of 35.2 per cent. By the end of July 2007 3,156 Victorian program participants had received a positive faecal occult blood test result and were advised to consult their GP for further assessment and referral for colonoscopy.

### For more information

Australian Cancer Network Colorectal Cancer Guidelines Revision Committee, 2005, *Clinical practice guidelines for the prevention, early detection and management of colorectal cancer*, Sydney: The Cancer Council Australia and Australian Cancer Network.

Department of Health and Ageing, National Bowel Cancer Screening Program website: [www.cancerscreening.gov.au](http://www.cancerscreening.gov.au)

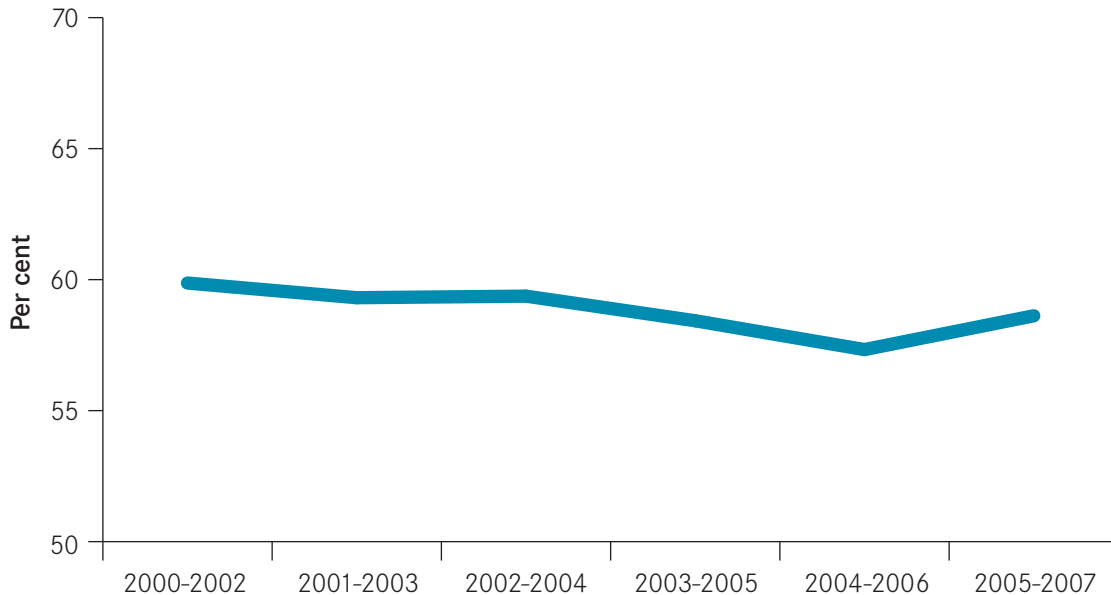
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## Breast cancer screening

Two-year screening cycle BreastScreen participation rates, Victoria, financial years 2000–2002 to 2005–2007



**Source:** BreastScreen Victoria, 2008.

BreastScreen Victoria is part of a government-funded mammography screening program in Australia for women without breast cancer signs or symptoms. The program aims to reduce mortality from breast cancer through early detection of the disease. Free screening mammograms at two-yearly intervals are provided for women aged 50–69, because breast X-ray screening is most effective with women in this age group. The program aims to achieve a 70 per cent participation rate amongst eligible women.

During 2005–2007 58.6 per cent of eligible Victorian women participated in the breast screening program. Participation since 2000–2002 has remained steady at just under 60 per cent.

### For more information

BreastScreen Victoria website: [www.breastscreen.org.au/](http://www.breastscreen.org.au/)

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## Newborn screening

Newborn screening (NBS) is offered to all babies and has been available in Victoria for approximately 30 years. The screening includes testing for phenylketonuria (PKU), cystic fibrosis, congenital hypothyroidism and, since 2002, approximately 25 other metabolic conditions. The Department of Human Services' *Guidelines for newborn screening* (2001) and the *Newborn screening policy* of the HGSA-RACP Joint Subcommittee (2004) state that NBS tests for conditions where early detection and intervention provide demonstrable benefit should be available to all newborn babies.

Until recently, the proportion of babies in Victoria having NBS had not been formally assessed. A study that involved record linkage of NBS tests (from Genetic Health Services Victoria) with birth data from the Perinatal Morbidity Statistics System (a register of all births 20 weeks and over in Victoria), estimated the proportion of babies undergoing the NBS in 2003. Results indicated that the uptake in Victoria is extremely high, with an estimated 99.4 per cent of babies undergoing NBS. There were 375 births that were not matched to a NBS screening test, suggesting that these births did not have NBS.

Factors significantly associated with births not being matched to a NBS test included neonatal death, having a homebirth, living in rural Victoria, having a short length of stay after birth and not having any other children.

### For more information

Department of Human Services, 2001, *Guidelines for Newborn Screening*, Melbourne: Victorian Government Department of Human Services.

Human Genetics Society of Australasia – Royal Australasian College of Physicians (HGSA-RACP), Newborn Screening Joint Subcommittee 2004, *Newborn screening policy*, Melbourne: HGSA.

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