

# Cardiovascular Disease Fact Sheet

## Eastern Metropolitan Region

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The **Eastern Metropolitan** region covers an area of 2966 square kilometres. It includes inner suburbs such as Kew and Hawthorn, together with large outer metropolitan suburbs such as Croydon, and semi-rural townships such as Healesville. In 2005, it had an estimated resident population of 972,291 (19.4% of the Victorian population). The region includes seven local government areas (LGAs). This fact sheet presents Department of Human Services data for the Eastern Metropolitan region relating to a variety of cardiovascular outcomes and risk factors.

It aims to provide answers to the following questions for this region:

- How common is cardiovascular disease?
  - What is the impact of cardiovascular disease?
  - How common are some of the risk factors for cardiovascular disease—specifically smoking, diet, exercise, obesity and high blood pressure?
  - How commonly do people use screening tests?
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Several specific terms are used in this fact sheet. These terms are defined as follows:

- **Cardiovascular disease**  
A general term that refers to heart, stroke and blood vessel disease. The underlying cause of most cardiovascular disease is a gradual clogging of the arteries (called atherosclerosis) that supply blood to the heart, brain and other vital organs.<sup>1</sup>
- **Heart disease**  
A general term used to describe a range of diseases affecting the heart.
- **Ischaemic heart disease**  
A condition caused by the slow build-up over many years of fatty cholesterol-containing deposits (called plaques) in the inner wall of one or more of the heart's arteries. If the coronary arteries (those arteries supplying the heart with oxygen) become too clogged, the flow of blood is reduced and the heart may not be able to meet the demands placed on it to pump harder during times of exercise or stress. It is also sometimes referred to as coronary heart disease and can lead to angina or heart attack.<sup>2</sup>

- **Stroke**  
Stroke occurs when an artery supplying blood to a part of the brain becomes blocked or bursts. As a result, that part of the brain is damaged because it is deprived of its blood supply, which normally carries oxygen and sugar to the brain and enables it to function.<sup>3</sup>
- **Region**  
This fact sheet covers the Eastern Metropolitan region which includes the following LGAs: Boroondara, Knox, Manningham, Maroondah, Monash, Whitehorse and Yarra Ranges.
- **Local government area (LGA)**  
A municipal council area.
- **Primary care partnership (PCP)**  
Groups of LGAs that cooperate together to improve delivery of primary healthcare services and health promotion activities in their local communities. This fact sheet covers the following PCPs: Inner East PCP, Outer East Health and Community Support Alliance.
- **Prevalence**  
The proportion of people who have a disease at a particular point in time (e.g. 'at the end of 2006'), irrespective of when they were either diagnosed with the condition, or when they first developed the condition.
- **Disability-adjusted life year (DALY)**  
The disability-adjusted life year (DALY) is a measure of the disease impact in a population. This measure combines the effects of healthy years of life lost due to developing illness or becoming injured, with years lost through premature death. One DALY can be thought of as one lost year of healthy life.
- **DALY rates**  
The number of DALYs per 1000 people in the population. The population in areas with high DALY rates has a poorer health status than populations in areas with lower DALY rates. Differences in DALY rates are not due to differences in the age structure between areas.

## Data sources

This fact sheet draws on the following information provided by the Department of Human Services:

- Victorian Population Health Survey 2006
- 2001 Victorian Burden of Disease Study.

Information about the degree of detail available in these data sources is shown in Table 1.

**Table 1: Sources of data on cardiovascular disease, by type of data available**

Source	Type of information	Available for:			
		Victoria	Regions	PCPs	LGAs
Victorian Population Health Survey 2006	Self-reported prevalence of:				
	• heart disease	✓	✓	x	x
	• stroke	✓	✓	x	x
	• obesity/overweight	✓	✓	x	x
	• smoking	✓	✓	x	x
	• physical inactivity	✓	✓	x	x
	• consumption of fruit	✓	✓	x	x
	• consumption of vegetables	✓	✓	x	x
	• high blood pressure	✓	✓	x	x
	• blood pressure screening	✓	✓	x	x
2001 Victorian Burden of Disease Study	Prevalence and DALY rates for:				
	• ischaemic heart disease	✓	✓	✓	✓
	• stroke	✓	✓	✓	✓
	• total cardiovascular disease (DALY rates only)	✓	✓	✓	✓
	• total cardiovascular disease (prevalence)	✓	x	x	x

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### For further information

Methodological information and other results may be found in selected reports of findings from the Victorian Population Health Surveys and the Victorian Burden of Disease Study. These reports and other useful resources can be downloaded from the website <http://www.health.vic.gov.au/healthstatus/>

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## How common is cardiovascular disease?

Information about the occurrence of cardiovascular disease is taken from two sources: the Victorian Population Health Survey, an annual statewide survey that the Department of Human Services (Chronic Disease Surveillance and Epidemiology Section, Public Health Group) undertakes in the second half of each year to collect a wide range of information about the health of the adult Victorian population, and from statistics compiled as part of the 2001 Victorian Burden of Disease Study.

Findings from the Victorian Population Health Survey relate to 2006 and are reported as percentages. These data represent the proportion of adults aged 18 years or more who reported that they had been diagnosed with either heart disease or stroke. Adults living in nursing homes and other similar settings were not included in the survey population.

Findings from the 2001 Victorian Burden of Disease study are estimates of the number of people, who at any point in time during the year 2001, had the condition, regardless of when it first affected the individual. These data were available for ischaemic heart disease, inflammatory heart disease and stroke. The data were calculated using a variety of sources and represent all Victorians, irrespective of type of diagnosis, age or living situation.

## How common is heart disease?

In 2006, 6.8% of Victorians reported that they had been diagnosed with heart disease by a doctor. Additional detail on the specific type of heart disease was not collected. Table 2 compares the self-reported prevalence of heart disease in the Eastern Metropolitan region with that for Victoria.

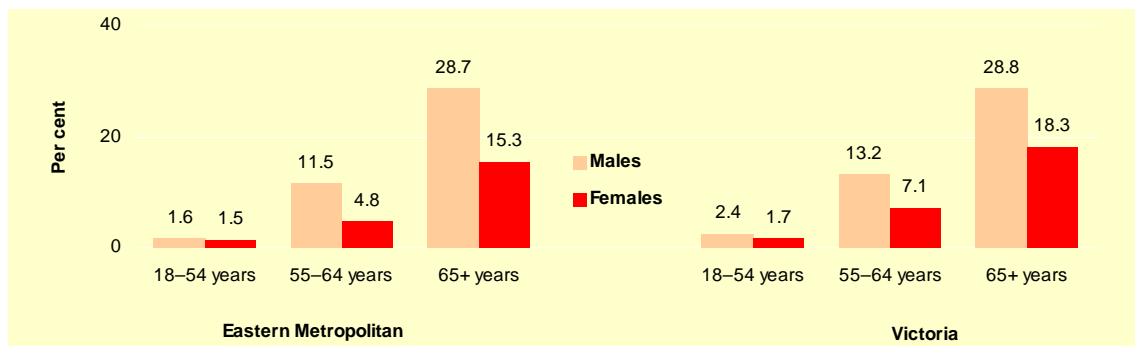
**Table 2: Self-reported prevalence of heart disease, by sex and age, 2006**

Sex	Age group	Eastern Metropolitan		Victoria	
		(%)	95% confidence interval	(%)	95% confidence interval
<b>Males</b>	18–54 years	1.6	0.1–3.1	2.4	1.5–3.2
	55–64 years	11.5	4.2–18.8	13.2	9.3–17.0
	65 years or more	28.7	19.0–38.4	28.8	24.6–32.9
	<b>Total</b>	<b>7.5</b>	<b>5.1–9.8</b>	<b>8.1</b>	<b>7.0–9.2</b>
<b>Females</b>	18–54 years	1.5	0.0–3.1	1.7	1.1–2.3
	55–64 years	4.8	0.1–9.5	7.1	4.9–9.3
	65 years or more	15.3	8.5–22.2	18.3	15.1–21.6
	<b>Total</b>	<b>4.7</b>	<b>2.8–6.6</b>	<b>5.6</b>	<b>4.8–6.4</b>
<b>Persons</b>	18–54 years	1.6	0.5–2.6	2.0	1.5–2.5
	55–64 years	8.1	3.8–12.4	10.1	7.9–12.4
	65 years or more	21.2	15.4–27.0	23.0	20.3–25.6
	<b>Total</b>	<b>6.0</b>	<b>4.5–7.5</b>	<b>6.8</b>	<b>6.1–7.5</b>

In Victoria in 2006, over one-quarter of men aged 65 years or more had been diagnosed with heart disease. This compares with 18.3% of Victorian women in the same age group. In the Eastern Metropolitan region, the self-reported prevalence of heart disease was generally a little lower than that for Victoria; however, the differences were not statistically significant. In men aged 65 years or more the prevalence was 28.7%, almost identical to the Victorian prevalence in men of the

same age group. As observed for the state as a whole, the prevalence in adult men (7.5%) was higher than in adult women (4.7%).

**Figure 1: Self-reported prevalence of heart disease, by sex and age, 2006**



### How common is ischaemic heart disease?

Ischaemic heart disease is one of the most common types of heart disease. Based on estimates compiled for the 2001 Victorian Burden of Disease Study, there were 45,051 Victorians living with ischaemic heart disease in 2001. This represents 53.9% of Victorians living with heart disease in that year.

Table 3 contains estimates of the number of Victorians living in the Eastern Metropolitan region with ischaemic heart disease in 2001. It details the number of males and females with ischaemic heart disease in each LGA and PCP of the region.

**Table 3: Estimated prevalent cases of ischaemic heart disease in the Eastern Metropolitan region, by PCP, LGA and sex, 2001**

Area	PCP	LGA	Males (n)	Females (n)	Persons (n)
Eastern Metropolitan	Inner East	Boroondara	767	904	1671
		Manningham	520	438	959
		Monash	852	769	1621
		Whitehorse	797	839	1636
	Outer East Health and Community Support Alliance	Knox	500	502	1003
		Maroondah	425	428	853
		Yarra Ranges	521	475	996
<b>Total</b>			<b>4382</b>	<b>4356</b>	<b>8738</b>
<b>Victoria</b>			<b>23,227</b>	<b>21,824</b>	<b>45,051</b>

Some 8738 people were estimated to be living in the Eastern Metropolitan region with ischaemic heart disease. Of these, almost 20% lived in the City of Boroondara.

Approximately equal numbers of Victorian males and females were estimated to be living with ischaemic heart disease.

## How common is stroke?

In 2006, 1.9% of Victorian adults indicated that they had been diagnosed with stroke by a doctor. Table 4 compares the self-reported prevalence of stroke in the Eastern Metropolitan region with that for Victoria.

**Table 4: Self-reported prevalence of stroke, by sex and age, 2006**

Sex	Age group	Eastern Metropolitan		Victoria	
		(%)	95% confidence interval	(%)	95% confidence interval
<b>Males</b>	18–54 years	1.0	0.0–2.3	0.4	0.1–0.7
	55–64 years	1.4	0.0–4.2	3.7	1.4–6.0
	65 years or more	6.4	1.5–11.3	7.9	5.6–10.2
	<b>Total</b>	<b>1.9</b>	<b>0.6–3.2</b>	<b>2.1</b>	<b>1.5–2.6</b>
<b>Females</b>	18–54 years	0.3	0.0–0.8	0.5	0.3–0.8
	55–64 years	5.3	0.9–9.7	3.5	1.9–5.2
	65 years or more	1.5	0.0–3.2	5.0	3.2–6.8
	<b>Total</b>	<b>1.3</b>	<b>0.5–2.1</b>	<b>1.8</b>	<b>1.3–2.3</b>
<b>Persons</b>	18–54 years	0.6	0.0–1.3	0.5	0.3–0.7
	55–64 years	3.4	0.8–6.1	3.6	2.2–5.0
	65 years or more	3.7	1.3–6.0	6.3	4.9–7.7
	<b>Total</b>	<b>1.6</b>	<b>0.8–2.3</b>	<b>1.9</b>	<b>1.6–2.3</b>

In the Eastern Metropolitan region, the self-reported prevalence of stroke among adults (1.6%) was lower than that for Victoria (1.9%). This difference was not statistically significant. The self-reported prevalence of stroke in men living in the region was highest for those aged 65 years or more. For women living in the region, it was highest for those in the 55–64 years age group.

Based on information from the 2001 Victorian Burden of Disease Study, an estimated 33,664 Victorians were affected by stroke in 2001. Of these, 6786, lived in the Eastern Metropolitan region. More than half (64.4%) of people affected by stroke in the region were living in the catchment area for the Inner East PCP.

**Table 5: Estimated prevalent cases of stroke, by PCP, LGA and sex, 2001**

Area	PCP	LGA	Males (n)	Females (n)	Persons (n)
<b>Eastern Metropolitan</b>	Inner East	Boroondara	447	751	1198
		Manningham	321	454	774
		Monash	505	701	1205
		Whitehorse	466	726	1192
	Outer East Health and Community Support Alliance	Knox	337	523	860
		Maroondah	271	413	683
		Yarra Ranges	356	517	873
<b>Total</b>			<b>2701</b>	<b>4085</b>	<b>6786</b>
<b>Victoria</b>			<b>14,049</b>	<b>19,615</b>	<b>33,664</b>

There were marked differences in the gender balance between the self-reported data from 2006 and the prevalence estimates from 2001. The prevalence estimates from 2001 were modelled from a wider range of sources and, although less recent, provide a more accurate reflection of the true prevalence of stroke in the community as they include all cases of stroke, including those in hospitals and nursing homes. In contrast, the 2006 population survey excludes people aged less than 18 years and

those who live in institutional settings such as nursing homes. Differences between these two data sources should not therefore be interpreted as reflecting changes in the distribution of stroke.

## What is the impact of cardiovascular disease?

The impact of cardiovascular disease includes that of ischaemic heart disease and stroke together with other types of cardiovascular disease. The impact of cardiovascular disease can be measured using DALYs. DALY rates quantify the number of DALYs lost per 1000 people in the population and are useful when making comparisons of health status between populations in different geographic areas.

Across Victoria, ischaemic heart disease accounts for 58.4% of the cardiovascular disease burden per 1000 in males and 46.9% in females. In the Eastern Metropolitan region it accounts for 57.3% of cardiovascular disease burden per 1000 in males and 45.5% in females.

Table 6 compares DALY rates for cardiovascular disease in males and females in the Eastern Metropolitan region with the rates for Victoria.

**Table 6: Burden of disease and injury, all causes and cardiovascular disease, in males and females, DALY rates, 2001**

Disease	Eastern Metropolitan		Victoria	
	DALY rates per 1000 in males	DALY rates per 1000 in females	DALY rates per 1000 in males	DALY rates per 1000 in females
All causes	135.3	124.9	143.0	129.1
Total cardiovascular disease	23.9	22.2	25.5	22.4
• Ischaemic heart disease	13.7	10.1	14.9	10.5
• Stroke	6.1	8.0	6.2	7.8

DALY rates for total cardiovascular disease for males in the Eastern Metropolitan region were lower than those for Victoria for males. DALY rates for females in the region were very similar to those for Victoria.

**Table 7: Burden of cardiovascular disease in males and females by PCP and LGA, DALY rates, 2001**

Sex	PCP	LGA	DALY rates per 1000			
			All causes	Total cardio-vascular disease	Ischaemic heart disease	Stroke
Males	Inner East	Boroondara	130.9	23.4	13.4	6.0
		Manningham	130.9	23.4	13.4	6.0
		Monash	133.4	24.0	13.8	6.1
		Whitehorse	133.9	23.6	13.6	6.1
	Outer East Health and Community Support Alliance	Knox	137.6	23.8	13.8	6.1
		Maroondah	139.5	23.9	13.8	6.1
		Yarra Ranges	143.7	25.2	14.7	6.3
Females	Inner East	Boroondara	125.0	22.2	10.0	8.1
		Manningham	125.0	22.2	10.0	8.1
		Monash	124.5	21.9	10.0	7.9
		Whitehorse	124.6	22.1	10.1	8.1
	Outer East Health and Community Support Alliance	Knox	123.9	22.1	10.2	7.9
		Maroondah	123.8	22.0	10.2	7.9
		Yarra Ranges	127.4	22.8	10.6	8.1

The highest DALY rates for cardiovascular disease occurred in Yarra Ranges for both males and females. The lowest DALY rates for cardiovascular disease occurred in Boroondara and Manningham for males and in Monash for females.

## How common are some of the risk factors for cardiovascular disease?

Selected key risk factors presented here include smoking, inadequate consumption of fruit and vegetables, physical inactivity, obesity and high blood pressure. Self-reported information about behaviour in relation to these risk factors was drawn from the Victorian Population Health Survey. Findings from the survey relate to 2006 and are reported as percentages. These data represent the proportion of adults aged 18 years or more. Adults living in nursing homes and other similar settings were not included in the survey population.

### How common is smoking?

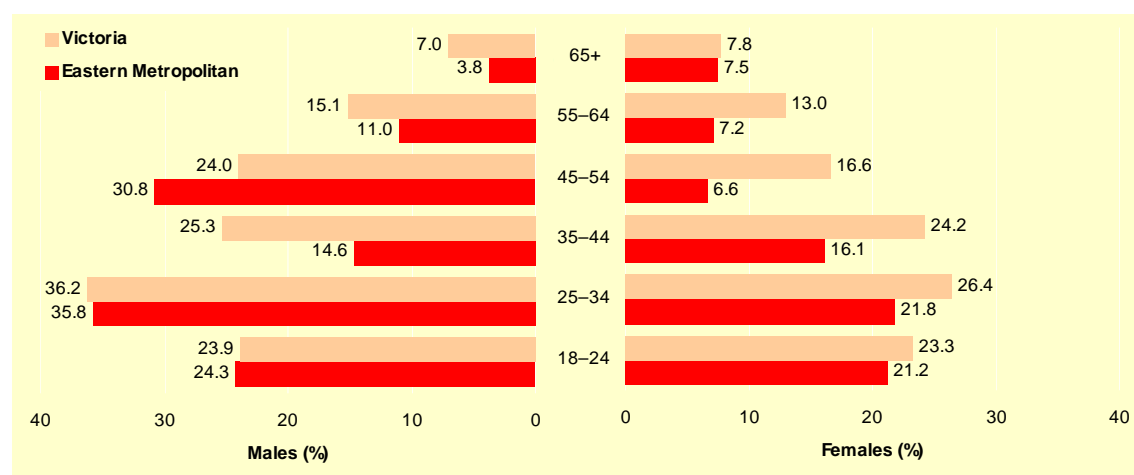
Smoking is a major risk factor for coronary heart disease, stroke and peripheral vascular disease as well as for numerous cancers and a range of other diseases and conditions. Table 8 shows the proportion of Victorian adults who are classified as current smokers on the basis of their self-reported smoking behaviour, by age group and gender. This table compares findings for the Eastern Metropolitan region with those for Victoria. Current smokers were defined as those who smoke daily or occasionally.

**Table 8: Self-reported prevalence of current smoking, by sex and age, 2006**

Sex	Age group	Eastern Metropolitan		Victoria	
		(%)	95% confidence interval	(%)	95% confidence interval
<b>Males</b>	18–24 years	24.3	10.1–38.5	23.9	17.0–30.8
	25–34 years	35.8	14.7–56.8	36.2	28.7–43.6
	35–44 years	14.6	6.1–23.1	25.3	20.4–30.1
	45–54 years	30.8	18.1–43.6	24.0	19.5–28.6
	55–64 years	11.0	3.7–18.4	15.1	11.3–18.9
	65 years or more	3.8	0.2–7.4	7.0	4.7–9.3
	<b>Total</b>	<b>20.4</b>	<b>14.6–26.1</b>	<b>22.6</b>	<b>20.3–24.9</b>
<b>Females</b>	18–24 years	21.2	8.8–33.6	23.3	16.9–29.6
	25–34 years	21.8	11.4–32.2	26.4	22.1–30.7
	35–44 years	16.1	9.7–22.6	24.2	20.8–27.7
	45–54 years	6.6	2.0–11.2	16.6	13.5–19.6
	55–64 years	7.2	1.7–12.7	13.0	10.1–15.8
	65 years or more	7.5	3.0–12.1	7.8	5.3–10.2
	<b>Total</b>	<b>13.0</b>	<b>9.9–16.0</b>	<b>18.5</b>	<b>17.0–20.0</b>
<b>Persons</b>	18–24 years	22.8	13.3–32.3	23.6	18.9–28.3
	25–34 years	28.8	16.5–41.2	31.2	26.9–35.6
	35–44 years	15.4	10.1–20.7	24.7	21.8–27.7
	45–54 years	18.2	11.1–25.3	20.3	17.5–23.0
	55–64 years	9.1	4.5–13.6	14.0	11.7–16.4
	65 years or more	5.9	2.9–8.9	7.4	5.7–9.1
	<b>Total</b>	<b>16.6</b>	<b>13.3–19.8</b>	<b>20.5</b>	<b>19.1–21.9</b>

More than one in five Victorian adults (20.5%) were categorised as current smokers in 2006 on the basis of their self-reported smoking behaviour. In the Eastern Metropolitan region the rate was lower (16.6%), and for women it was significantly lower (13.0%) than the Victorian rate for women (18.5%). The self-reported prevalence of current smoking among men in the region (20.4%) was also lower than the self-reported prevalence among Victorian men (22.6%); however, this difference was not statistically significant.

**Figure 2: Self-reported prevalence of current smoking, by sex and age, 2006**



Most current smokers were daily smokers (Table 9). Among Victorian adults, 17.5% of men and 14.9% of women smoked daily, while 5.1% of men and 3.6% of women smoked occasionally.

**Table 9: Self-reported prevalence of current smoking, by type of smoking behaviour, sex and age, 2006**

Sex Age group	Eastern Metropolitan				Victoria			
	Current daily		Occasional		Current daily		Occasional	
	(%)	95% confidence interval	(%)	95% confidence interval	(%)	95% confidence interval	(%)	95% confidence interval
<b>Males</b>								
18–24 years	16.8	5.1–28.4	7.5	0.0–17.6	16.5	10.9–22.1	7.4	2.7–12.1
25–34 years	19.9	3.2–36.5	15.9	0.0–35.4	24.0	17.6–30.4	12.1	6.2–18.0
35–44 years	12.9	4.9–20.9	1.7	0.0–5.1	21.7	17.1–26.3	3.6	1.4–5.7
45–54 years	21.2	9.9–32.6	9.6	0.9–18.3	19.4	15.2–23.6	4.6	2.4–6.9
55–64 years	6.1	0.6–11.6	4.9	0.0–10.2	13.5	9.8–17.1	1.7	0.4–2.9
65 years or more	3.2	0.0–6.6	0.6	0.0–1.7	6.4	4.2–8.6	0.6	0.0–1.2
<b>Total</b>	<b>13.6</b>	<b>9.2–18.1</b>	<b>6.8</b>	<b>2.3–11.2</b>	<b>17.5</b>	<b>15.5–19.4</b>	<b>5.1</b>	<b>3.7–6.6</b>
<b>Females</b>								
18–24 years	10.9	1.9–19.8	10.4	0.7–20.0	15.9	10.7–21.1	7.4	2.9–11.8
25–34 years	19.8	9.8–29.8	2.0	0.0–5.8	21.6	17.6–25.5	4.8	2.5–7.1
35–44 years	12.4	6.7–18.0	3.8	0.1–7.5	19.0	15.8–22.1	5.3	3.4–7.1
45–54 years	6.6	2.0–11.2	0.0	0.0–0.0	14.7	11.7–17.7	1.8	1.0–2.7
55–64 years	5.8	0.6–10.9	1.4	0.0–3.5	11.7	8.9–14.5	1.3	0.6–2.0
65 years or more	6.0	1.9–10.1	1.5	0.0–3.7	6.2	4.0–8.4	1.6	0.4–2.7
<b>Total</b>	<b>10.1</b>	<b>7.5–12.8</b>	<b>2.8</b>	<b>1.2–4.5</b>	<b>14.9</b>	<b>13.5–16.3</b>	<b>3.6</b>	<b>2.8–4.4</b>
<b>Persons</b>								
18–24 years	13.9	6.5–21.3	8.9	2.0–15.9	16.2	12.4–20.0	7.4	4.1–10.6
25–34 years	19.8	10.1–29.6	9.0	0.0–19.6	22.8	19.0–26.5	8.5	5.2–11.7
35–44 years	12.6	7.8–17.5	2.8	0.3–5.3	20.3	17.6–23.1	4.4	3.0–5.9
45–54 years	13.6	7.5–19.8	4.6	0.3–8.9	17.0	14.5–19.6	3.2	2.0–4.4
55–64 years	5.9	2.2–9.7	3.1	0.4–5.9	12.6	10.3–14.8	1.5	0.8–2.2
65 years or more	4.8	2.0–7.6	1.1	0.0–2.4	6.3	4.7–7.9	1.1	0.4–1.8
<b>Total</b>	<b>11.8</b>	<b>9.3–14.4</b>	<b>4.7</b>	<b>2.4–7.1</b>	<b>16.2</b>	<b>15–17.3</b>	<b>4.4</b>	<b>3.5–5.2</b>

The proportion of adults within the Eastern Metropolitan region who reported that they smoked daily (11.8%) was lower than that for Victoria (16.2%). This finding was consistent for males and females. The self-reported prevalence of occasional smoking (4.7%) was similar to that for Victoria (4.4%).

## How many serves of fruit and vegetables do people consume?

Plant foods have been found to be protective in a range of heart-related health problems, including coronary heart disease, high blood pressure, obesity and non-insulin dependent diabetes.<sup>4</sup> 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 and stroke.

Evidence regarding the protective effect of vegetables is stronger than that for fruit, although this may be due to the limited range of fruit available in some populations and/or the greater amount of vegetables in most diets.<sup>5</sup> Current Australian guidelines recommend a daily vegetable intake of three serves for people aged 12–18 years and five serves for people aged 19 years or more. The recommended daily fruit intake is three serves for people aged 12–18 years and two serves for people aged 19 years or more.<sup>6</sup>

Tables 10 and 11 show the levels of reported consumption of fruit and vegetables by sex and number of serves, within the Eastern Metropolitan region and within Victoria, for adults aged 18 years or more.

**Table 10: Self-reported prevalence of daily vegetable consumption by sex and number of serves, 2006**

Sex	Number of serves	Eastern Metropolitan		Victoria	
		(%)	95% confidence interval	(%)	95% confidence interval
Males	None	3.3	1.6–5.0	5.1	3.9–6.3
	One or two serves	67.3	61.6–72.9	64.4	62.0–66.9
	Three or four serves	22.6	17.8–27.3	22.5	20.4–24.5
	Five or more serves	6.6	2.6–10.6	6.6	5.2–8.0
Females	None	3.7	2.0–5.4	3.9	3.1–4.7
	One or two serves	40.3	35.9–44.6	44.5	42.5–46.5
	Three or four serves	40.2	35.9–44.6	37.5	35.6–39.4
	Five or more serves	14.7	11.6–17.8	13.1	11.9–14.4
Persons	None	3.5	2.3–4.7	4.5	3.8–5.2
	One or two serves	53.3	49.6–57.0	54.2	52.6–55.8
	Three or four serves	31.7	28.4–35.0	30.2	28.7–31.6
	Five or more serves	10.8	8.3–13.3	9.9	9.0–10.9

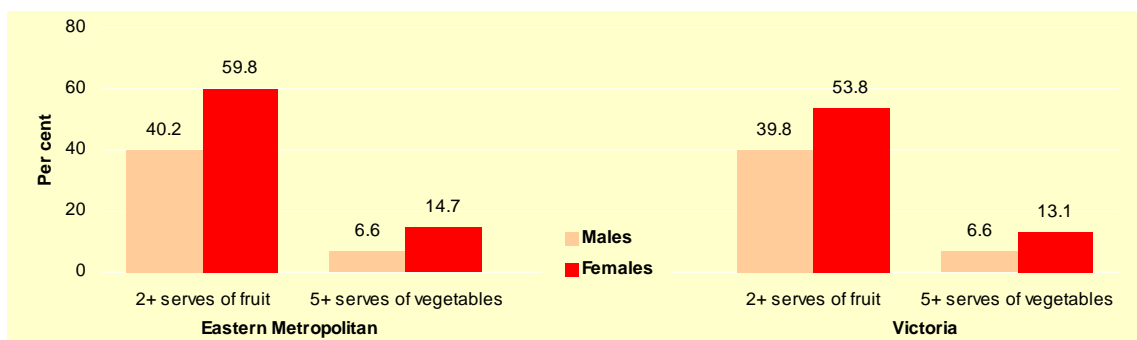
**Table 11: Self-reported prevalence of daily fruit consumption by sex and number of serves, 2006**

Sex	Number of serves	Eastern Metropolitan		Victoria	
		(%)	95% confidence interval	(%)	95% confidence interval
Males	None	17.9	13.2–22.6	20.3	18.3–22.3
	One serve	41.6	35.8–47.4	38.8	36.3–41.3
	Two or more serves	40.2	34.3–46.1	39.8	37.2–42.3
Females	None	8.7	6.2–11.3	11.1	9.9–12.3
	One serve	31.1	27.0–35.2	34.0	32.1–35.8
	Two or more serves	59.8	55.4–64.1	53.8	51.9–55.8
Persons	None	13.2	10.5–15.8	15.6	14.4–16.8
	One serve	36.1	32.6–39.6	36.3	34.7–37.9
	Two or more serves	50.3	46.7–54.0	47.0	45.4–48.6

Daily consumption of fruit and vegetables within the Eastern Metropolitan region followed similar patterns to that seen across Victoria, with higher overall consumption of both in females compared with males.

Figure 3 shows the proportion of adults aged 18 years or more who reported consuming at least the recommended daily amount of fruit and/or vegetables.

**Figure 3: Self-reported prevalence of consumption of at least the recommended intake of fruit and/or vegetables, by sex, 2006**



## How common is physical inactivity?

Physical inactivity is a major modifiable risk factor for a range of diseases and conditions, including cardiovascular disease, diabetes, obesity, some cancers, and falls among the elderly.<sup>7-11</sup> The national physical activity guidelines for Australians<sup>12</sup> recommend that individuals undertake at least 30 minutes of moderate-intensity activity on most days of the week. This is generally interpreted as meaning at least 30 minutes on each of five or more days of the week.

Table 12 shows the percentage of adults reporting inadequate physical activity during the previous week. Adults with inadequate physical activity include those who are sedentary (6.4% of adults in the region) and those who reported an insufficient amount of time and/or sessions spent exercising during the week. This was defined as exercising for less than 150 minutes per week and/or participating in less than five exercise sessions per week. In the Eastern Metropolitan region, 24.5% of adults reported an insufficient amount of time and/or sessions spent exercising.

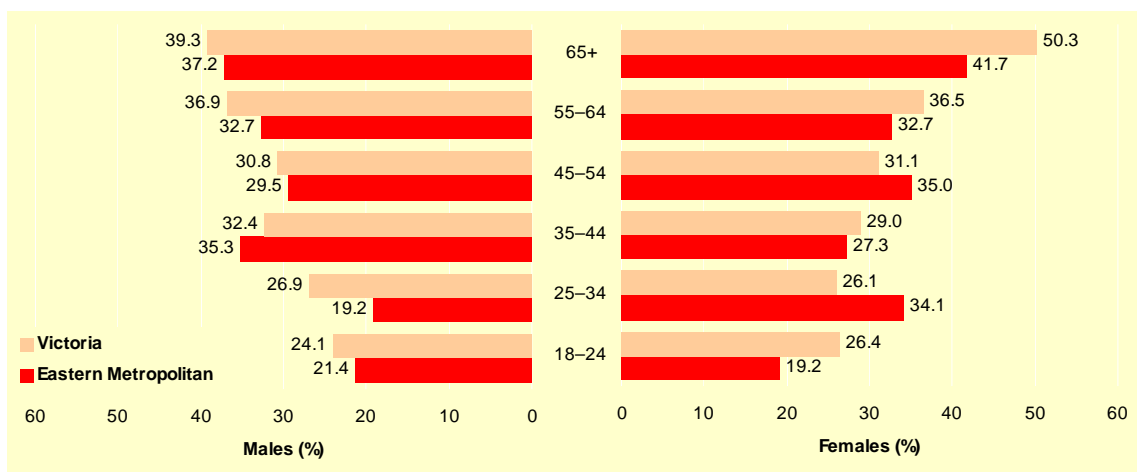
The proportion of men in the region categorised as having sedentary behaviour was lowest for those aged 55–64 years, however in the same age group, 31.3% of men were categorised as engaging in insufficient physical exercise. A similar pattern was present for women in the region, with 3.4% of those aged 55–64 years having sedentary behaviour and 29.3% of women in this age group being categorised as engaging in insufficient physical exercise.

**Table 12: Self-reported prevalence of sedentary behaviour/insufficient physical exercise during the previous week, by sex and age, 2006**

Sex Age group	Eastern Metropolitan				Victoria			
	Sedentary behaviour		Insufficient time and/or sessions		Sedentary behaviour		Insufficient time and/or sessions	
	(%)	95% confidence interval	(%)	95% confidence interval	(%)	95% confidence interval	(%)	95% confidence interval
<b>Males</b>								
18–24 years	9.2	0.0–19.2	12.2	1.7–22.6	3.9	0.8–7.0	20.2	13.3–27.1
25–34 years	2.6	0.0–7.8	16.6	4.6–28.5	2.1	0.6–3.6	24.8	18.5–31.0
35–44 years	9.5	2.1–16.8	25.8	14.9–36.8	3.7	1.6–5.8	28.7	23.7–33.7
45–54 years	3.4	0.0–7.4	26.0	14.9–37.2	6.1	3.6–8.6	24.7	20.3–29.1
55–64 years	1.4	0.0–4.2	31.3	19.2–43.3	5.3	2.2–8.5	31.6	26.0–37.2
65 years or more	11.7	4.9–18.5	25.5	16.3–34.7	7.1	4.9–9.3	32.2	27.9–36.5
<b>Total</b>	<b>6.3</b>	<b>3.7–8.9</b>	<b>23.0</b>	<b>18.4–27.7</b>	<b>4.6</b>	<b>3.6–5.6</b>	<b>27.1</b>	<b>24.8–29.3</b>
<b>Females</b>								
18–24 years	3.7	0.0–8.9	15.5	4.7–26.3	2.5	0.5–4.5	23.9	17.2–30.6
25–34 years	6.3	1.1–11.6	27.7	16.0–39.5	3.7	1.8–5.5	22.4	18.3–26.6
35–44 years	7.1	1.9–12.4	20.1	13.0–27.3	3.8	2.2–5.4	25.2	21.7–28.7
45–54 years	6.9	1.4–12.5	28.1	19.2–36.9	3.8	2.1–5.4	27.3	23.5–31.1
55–64 years	3.4	0.0–7.0	29.3	20.3–38.3	4.8	2.9–6.6	31.7	27.6–35.8
65 years or more	10.1	4.0–16.1	31.7	23.0–40.3	12.7	9.6–15.7	37.6	33.4–41.8
<b>Total</b>	<b>6.5</b>	<b>4.3–8.8</b>	<b>25.8</b>	<b>22.0–29.7</b>	<b>5.4</b>	<b>4.5–6.3</b>	<b>28.1</b>	<b>26.4–29.9</b>
<b>Persons</b>								
18–24 years	6.5	0.8–12.3	13.8	6.3–21.3	3.2	1.3–5.0	22.0	17.2–26.8
25–34 years	4.5	0.8–8.2	22.1	13.4–30.8	2.9	1.7–4.1	23.6	19.8–27.3
35–44 years	8.3	3.8–12.8	22.9	16.4–29.4	3.7	2.4–5.1	26.9	23.9–30.0
45–54 years	5.2	1.7–8.7	27.1	20.0–34.2	4.9	3.4–6.4	26.0	23.1–28.9
55–64 years	2.4	0.1–4.7	30.3	22.8–37.7	5.0	3.2–6.9	31.7	28.2–35.1
65 years or more	10.8	6.2–15.3	29.0	22.6–35.3	10.2	8.2–12.2	35.2	32.2–38.2
<b>Total</b>	<b>6.4</b>	<b>4.7–8.1</b>	<b>24.5</b>	<b>21.5–27.5</b>	<b>5.0</b>	<b>4.4–5.7</b>	<b>27.6</b>	<b>26.2–29.0</b>

Figure 4 shows the proportion of adults, by age group and gender, who undertake less than the recommended levels of exercise. This includes adults who are sedentary together with those who exercise for less than 150 minutes per week and/or participate in less than five exercise sessions per week.

**Figure 4: Self-reported prevalence of sedentary behaviour/insufficient physical exercise during the previous week, by sex and age, 2006**



Levels of inadequate physical activity generally increased with age. For most age groups, levels of sedentary behaviour/insufficient physical exercise were lower in the Eastern Metropolitan region than for Victoria.

## How common is obesity?

Cardiovascular health risks associated with being overweight or obese include an increased risk of developing type 2 diabetes, cardiovascular disease and high blood pressure. The most common population-level measure of weight status is 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).

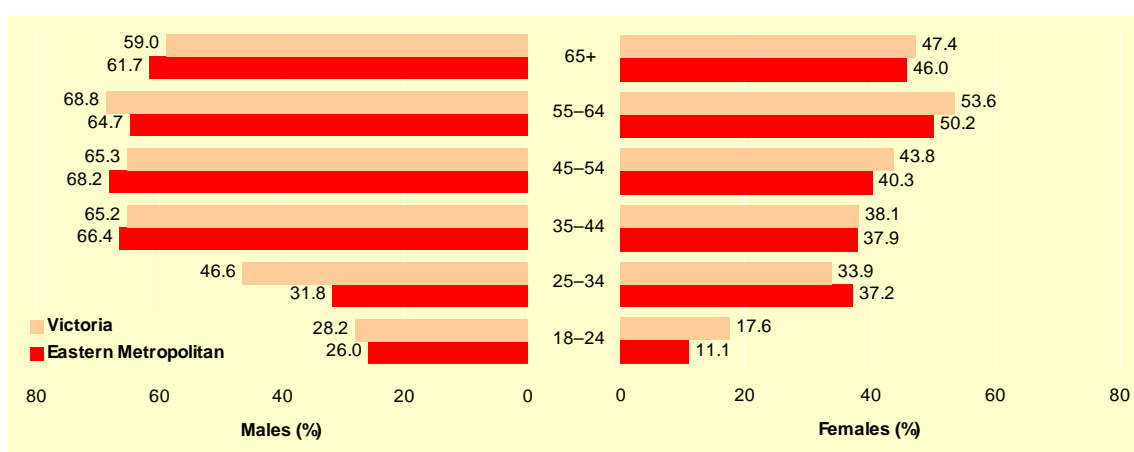
Being overweight refers to increased body weight in relation to height, compared with a standard of acceptable or desirable weight. BMI data were classified into the following categories using the standard cut-offs recommended by the World Health Organization:<sup>13</sup>

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

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

Figure 5 shows the proportion of adults who are categorised as being either overweight or obese on the basis of their self-reported height and weight by sex and age. It compares findings for the Eastern Metropolitan region with those for Victoria.

**Figure 5: Prevalence of being overweight or obese, based on self-reported height and weight, by sex and age, 2006**



The proportion of men in the Eastern Metropolitan region who were categorised as being either overweight or obese increased with age, more than doubling from 31.8% for those aged 25–34 years to 66.4% for those aged 35–44 years. In women in the region, the proportion also increased with age, tripling from 11.1% for those aged 18–24 years to 37.2% for those aged 25–34 years. Within the region, the prevalence of being overweight/obese for women was highest (50.2%) in the 55–64 years age group.

Approximately one-third (33.7%) of adults in the region were categorised as being overweight. A further 12.1% of adults in the region were categorised as being obese. These proportions were similar to those for Victoria. Within the region, a higher proportion of men (43.5%) were overweight when compared with all Victorian men (40.0%).

Levels of adult obesity were lower in the Eastern Metropolitan region (12.1%) than for Victoria as a whole (15.5%). In men, this difference was statistically significant, with 10.4% of men in the region being classified as obese, compared with 16.3% for all Victorian men.

**Table 13: Prevalence of being overweight or obese, based on self-reported height and weight, by sex and age, 2006**

Sex Age group	Eastern Metropolitan				Victoria			
	Overweight		Obese		Overweight		Obese	
	(%)	95% confidence interval	(%)	95% confidence interval	(%)	95% confidence interval	(%)	95% confidence interval
<b>Males</b>								
18–24 years	15.5	2.4–28.6	10.5	0.4–20.6	22.2	15.0–29.4	6.0	2.9–9.0
25–34 years	23.8	8.0–39.7	7.9	0.0–16.1	32.3	25.5–39.1	14.3	9.7–18.9
35–44 years	58.2	45.8–70.7	8.2	1.3–15.1	48.6	43.0–54.1	16.6	12.8–20.4
45–54 years	57.9	44.9–70.8	10.3	2.5–18.0	45.5	40.3–50.6	19.8	15.7–23.9
55–64 years	51.7	39.1–64.3	13.0	5.1–21.0	44.0	38.3–49.7	24.8	19.5–30.1
65 years or more	48.4	37.7–59.2	13.2	6.4–20.1	43.7	39.2–48.3	15.3	12.1–18.5
<b>Total</b>	<b>43.5</b>	<b>37.7–49.3</b>	<b>10.4</b>	<b>7.1–13.6</b>	<b>40.0</b>	<b>37.5–42.5</b>	<b>16.3</b>	<b>14.6–18.0</b>
<b>Females</b>								
18–24 years	10.4	1.8–18.9	0.7	0.0–2.2	12.4	7.7–17.0	5.2	2.2–8.1
25–34 years	21.4	10.9–31.9	15.8	7.0–24.7	21.4	17.3–25.5	12.5	9.3–15.7
35–44 years	19.5	12.5–26.5	18.4	11.2–25.7	24.0	20.6–27.4	14.1	11.4–16.8
45–54 years	30.4	20.9–40.0	9.9	4.2–15.5	25.6	22.0–29.3	18.2	15.1–21.3
55–64 years	30.0	20.8–39.2	20.2	11.7–28.7	31.6	27.6–35.7	22.0	18.3–25.7
65 years or more	31.4	22.8–40.1	14.6	8.0–21.1	32.0	27.9–36.0	15.4	12.1–18.6
<b>Total</b>	<b>24.5</b>	<b>20.8–28.3</b>	<b>13.8</b>	<b>10.8–16.7</b>	<b>24.9</b>	<b>23.3–26.6</b>	<b>14.7</b>	<b>13.4–16.0</b>
<b>Persons</b>								
18–24 years	13.0	5.0–20.9	5.7	0.4–11.1	17.4	13.0–21.8	5.6	3.5–7.7
25–34 years	22.6	13.1–32.1	11.9	5.7–18.0	26.8	22.9–30.8	13.4	10.6–16.2
35–44 years	38.4	30.7–46.2	13.4	8.4–18.5	36.1	32.8–39.5	15.4	13.0–17.7
45–54 years	43.6	35.5–51.6	10.1	5.3–14.8	35.4	32.2–38.6	19.0	16.4–21.6
55–64 years	40.5	32.5–48.6	16.7	10.8–22.6	37.8	34.3–41.3	23.4	20.2–26.6
65 years or more	38.8	32.0–45.7	14.0	9.2–18.7	37.2	34.1–40.2	15.3	13.0–17.6
<b>Total</b>	<b>33.7</b>	<b>30.2–37.1</b>	<b>12.1</b>	<b>9.9–14.3</b>	<b>32.3</b>	<b>30.8–33.8</b>	<b>15.5</b>	<b>14.4–16.6</b>

## How common is high blood pressure?

Elevated blood pressure is an important risk factor for cardiovascular disease. In 2006, 24.5% of Victorians indicated that they had been diagnosed with high blood pressure by a doctor.

Table 14 compares the proportion of adults with high blood pressure in Victoria with that for the Eastern Metropolitan region.

**Table 14: Self-reported prevalence of high blood pressure, by sex and age, 2006**

Sex	Age group	Eastern Metropolitan		Victoria	
		(%)	95% confidence interval	(%)	95% confidence interval
<b>Males</b>	18–24 years	0.0	0.0–0.0	2.6	0.6–4.6
	25–34 years	5.3	0.0–15.3	8.9	4.8–13.1
	35–44 years	9.0	2.3–15.8	11.8	8.4–15.3
	45–54 years	17.1	7.9–26.3	23.6	19.4–27.8
	55–64 years	37.4	25.2–49.6	35.0	29.6–40.4
	65 years or more	57.9	47.3–68.5	54.4	49.9–59.0
	<b>Total</b>	<b>20.7</b>	<b>16.4–24.9</b>	<b>22.2</b>	<b>20.3–24.1</b>
<b>Females</b>	18–24 years	5.2	0.0–11.7	2.8	0.6–5.1
	25–34 years	10.3	2.4–18.2	13.1	9.7–16.5
	35–44 years	14.0	7.8–20.3	14.3	11.7–17.0
	45–54 years	23.0	14.3–31.7	25.6	21.8–29.4
	55–64 years	31.2	22.0–40.4	39.6	35.3–43.9
	65 years or more	48.2	38.8–57.7	59.2	55.0–63.5
	<b>Total</b>	<b>23.1</b>	<b>19.5–26.8</b>	<b>26.7</b>	<b>25.0–28.3</b>
<b>Persons</b>	18–24 years	2.5	0.0–5.7	2.7	1.2–4.2
	25–34 years	7.8	1.4–14.2	11.0	8.3–13.7
	35–44 years	11.6	7.0–16.2	13.1	10.9–15.3
	45–54 years	20.2	13.8–26.6	24.6	21.8–27.4
	55–64 years	34.2	26.6–41.8	37.3	33.8–40.8
	65 years or more	52.4	45.4–59.5	57.1	54.0–60.2
	<b>Total</b>	<b>21.9</b>	<b>19.1–24.7</b>	<b>24.5</b>	<b>23.2–25.7</b>

Levels of high blood pressure were generally higher among women and increased with increasing age. Levels of high blood pressure were generally lower in the Eastern Metropolitan region than for Victoria.

## How commonly do people use screening tests?

In Victoria, data are collected each year about some routine checks or screening tests that may be performed to identify the presence of risk factors for the development of a disease or condition before its symptoms occur. These data are collected via the Victorian Population Health Survey. They are collected for the following two factors that may influence development of cardiovascular disease: blood pressure and blood cholesterol levels.

## How many people have had their blood pressure checked?

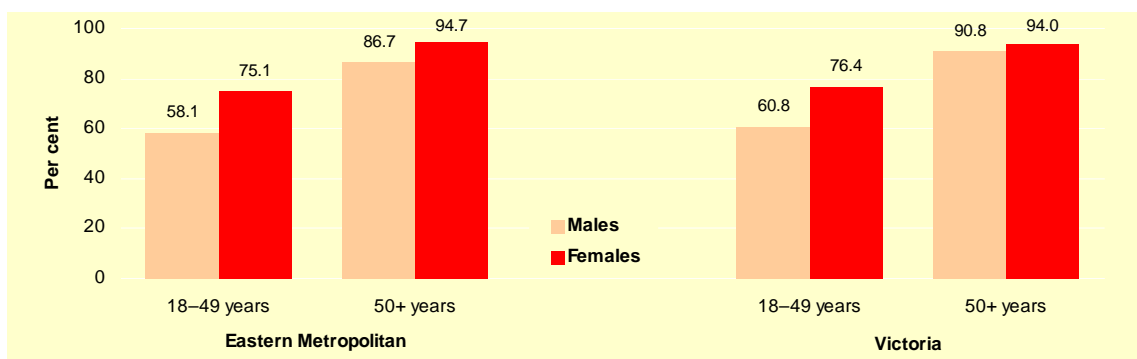
It is recommended that all adults have their blood pressure checked regularly, primarily to identify high blood pressure, also known as hypertension.<sup>14</sup> Table 15 shows the percentage of adults, in the Eastern Metropolitan region and in Victoria, who reported having had their blood pressure checked within the previous two years.

**Table 15: Self-reported prevalence of having had a blood pressure check in the previous two years, by sex and age, 2006**

Sex	Age group	Eastern Metropolitan		Victoria	
		(%)	95% confidence interval	(%)	95% confidence interval
Males	18–49 years	58.1	49.9–66.3	60.8	57.2–64.4
	50 years or more	86.7	80.7–92.7	90.8	88.9–92.7
	<b>Total</b>	<b>69.1</b>	<b>63.4–74.8</b>	<b>72.5</b>	<b>70.1–75.0</b>
Females	18–49 years	75.1	69.5–80.7	76.4	74.0–78.8
	50 years or more	94.7	92.1–97.3	94.0	92.8–95.2
	<b>Total</b>	<b>83.6</b>	<b>80.1–87.1</b>	<b>83.6</b>	<b>82.1–85.2</b>
Persons	18–49 years	66.5	61.5–71.6	68.7	66.5–70.9
	50 years or more	91.1	88.0–94.2	92.5	91.4–93.6
	<b>Total</b>	<b>76.6</b>	<b>73.2–79.9</b>	<b>78.2</b>	<b>76.8–79.7</b>

In the Eastern Metropolitan region more than 75% of adults reported having had their blood pressure checked within the past two years, including almost all adults aged 50 years or more (91.1%).

**Figure 6: Self-reported prevalence of having had a blood pressure check in the previous two years, by sex and age, 2006**



Victorians aged 50 years or more were more likely than younger adults to report having had their blood pressure checked within the past two years. In Victoria, for adults aged less than 50 years, women were more likely than men to have had their blood pressure checked.

### How many people have had their blood cholesterol checked?

Elevated blood cholesterol is an important risk factor for coronary heart disease. Cholesterol checks are recommended for persons potentially at high risk, such as smokers, those with a significant family history of coronary heart disease (a first-degree relative affected before the age of 60 years), those who are overweight or obese, those who have high blood pressure and those aged 45 years or more.<sup>15</sup>

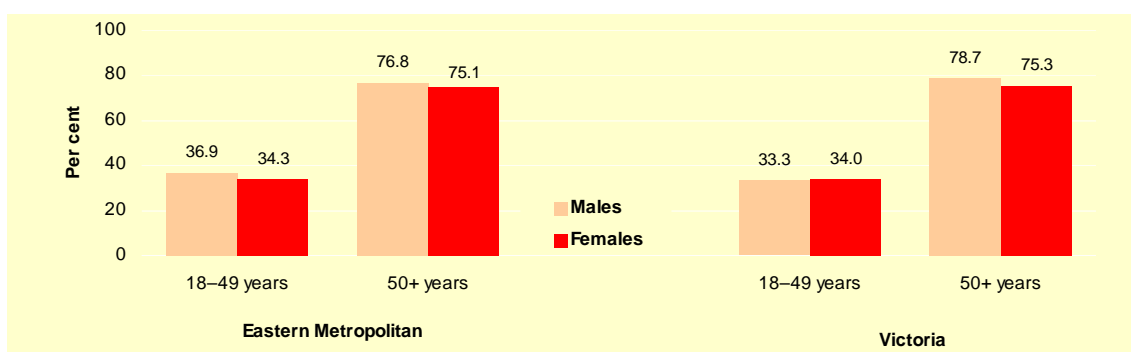
Table 16 shows the percentage of adults in the Eastern Metropolitan region and in Victoria who have had their blood cholesterol checked within the previous two years.

**Table 16: Self-reported prevalence of having had a blood cholesterol check in the previous two years, by sex and age, 2006**

Sex	Age group	Eastern Metropolitan		Victoria	
		(%)	95% confidence interval	(%)	95% confidence interval
Males	18–49 years	36.9	29.2-44.6	33.3	30.0–36.7
	50 years or more	76.8	69.8-83.8	78.7	76.0–81.4
	<b>Total</b>	<b>52.2</b>	<b>46.2-58.2</b>	<b>51.1</b>	<b>48.5–53.7</b>
Females	18–49 years	34.3	28.6-40.0	34.0	31.5–36.6
	50 years or more	75.1	69.7-80.5	75.3	72.9–77.6
	<b>Total</b>	<b>52.0</b>	<b>47.5-56.4</b>	<b>50.9</b>	<b>48.9–52.9</b>
Persons	18–49 years	35.6	30.8-40.4	33.7	31.6–35.8
	50 years or more	75.9	71.5-80.2	76.9	75.2–78.7
	<b>Total</b>	<b>52.1</b>	<b>48.4-55.8</b>	<b>51.0</b>	<b>49.4–52.6</b>

Adults living in the Eastern Metropolitan region were generally a little more likely to report having had their blood cholesterol levels checked within the previous two years than the general Victorian population (52.1% compared with 51.0%). Reported levels of testing were slightly lower in those aged 50 years or more when compared with those for Victoria (75.9% compared with 76.9%).

**Figure 7: Self-reported prevalence of having had a blood cholesterol check in the previous two years, by sex and age, 2006**



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- For further information about the data in this fact sheet, visit <http://www.health.vic.gov.au/healthstatus/>
- For further information about cardiovascular disease, visit <http://www.heartfoundation.org.au>.