Cardiovascular Disease Fact Sheet
Southern Metropolitan Region

The **Southern Metropolitan** region covers an area of 2888 square kilometres. It extends from inner urban suburbs such as Port Melbourne to the Mornington Peninsula, eastward across suburban and industrial areas through to Pakenham and numerous small towns on the metropolitan and rural fringe. In 2005, it had an estimated resident population of 1,184,123 (23.6% of the Victorian population). The region includes 10 local government areas (LGAs). This fact sheet presents Department of Human Services data for the Southern 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?

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.[1]
- **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.[2]

- **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.[3]
- **Region**
  This fact sheet covers the Southern Metropolitan region which includes the following LGAs: Bayside, Cardinia, Casey, Frankston, Glen Eira, Greater Dandenong, Kingston, Mornington Peninsula, Port Phillip and Stonnington.
- **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 South East Partnership in Community and Health, Kingston Bayside PCP, South East Healthy Communities Partnership and the Frankston Mornington PCP.
- **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	✓	✓	×	×
	• stroke	✓	✓	×	×
	• obesity/overweight	✓	✓	×	×
	• smoking	✓	✓	×	×
	• physical inactivity	✓	✓	×	×
	• consumption of fruit	✓	✓	×	×
	• consumption of vegetables	✓	✓	×	×
	• high blood pressure	✓	✓	×	×
	• blood pressure screening	✓	✓	×	×
	• blood cholesterol screening	✓	✓	×	×
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)	✓	×	×	×

For further information

Methodological information and other results may be found in selected reports of findings from the Victorian Population Heath 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/

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 Southern Metropolitan region with that for Victoria.

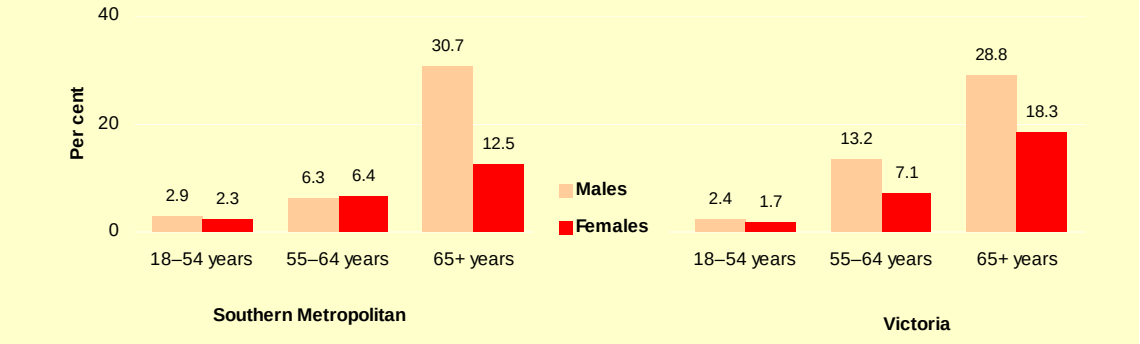
Table 2: Self-reported prevalence of heart disease, by sex and age, 2006

Sex	Age group	Southern Metropolitan		Victoria	
		(%)	95% confidence interval	(%)	95% confidence interval
Males	18–54 years	2.9	0.9–4.9	2.4	1.5–3.2
	55–64 years	6.3	1.0–11.7	13.2	9.3–17.0
	65 years or more	30.7	21.0–40.5	28.8	24.6–32.9
	Total	**7.7**	**5.3–10.1**	**8.1**	**7.0–9.2**
Females	18–54 years	2.3	0.6–4.0	1.7	1.1–2.3
	55–64 years	6.4	1.5–11.3	7.1	4.9–9.3
	65 years or more	12.5	6.7–18.3	18.3	15.1–21.6
	Total	**4.8**	**3.1–6.5**	**5.6**	**4.8–6.4**
Persons	18–54 years	2.6	1.3–3.9	2.0	1.5–2.5
	55–64 years	6.4	2.7–10.0	10.1	7.9–12.4
	65 years or more	20.4	14.9–26.0	23.0	20.3–25.6
	Total	**6.2**	**4.7–7.7**	**6.8**	**6.1–7.5**

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 Southern 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 regional prevalence was 30.7%. This was a little higher than the Victorian prevalence

for men in the same age group (28.8%). As observed for the state as a whole, the prevalence in adult men (7.7%) was higher than in adult women (4.8%).

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 Southern 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 in the region.

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

Area	PCP	LGA	Males (n)	Females (n)	Persons (n)
Southern Metropolitan	Inner South East Partnership in Community and Health	Glen Eira	679	747	1425
		Port Phillip	335	332	667
		Stonnington	404	456	860
	Kingston Bayside	Bayside	510	590	1100
		Kingston	742	730	1472
	South East Healthy Communities Partnership	Cardinia	169	140	309
		Casey	601	503	1104
		Greater Dandenong	759	740	1499
	Frankston Mornington Peninsula	Frankston	516	500	1016
		Mornington Peninsula	832	739	1571
	Total		**5547**	**5476**	**11,023**
Victoria			**23,227**	**21,824**	**45,051**

Some 11,023 people were estimated to be living in the Southern Metropolitan region with ischaemic heart disease. Of these, more than one in four (26.8%) lived within the catchment area for the South East Healthy Communities Partnership.

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 Southern Metropolitan region with that for Victoria.

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

Sex	Age group	Southern Metropolitan		Victoria	
		(%)	95% confidence interval	(%)	95% confidence interval
Males	18–54 years	0.1	0.0–0.4	0.4	0.1–0.7
	55–64 years	0.8	0.0–2.4	3.7	1.4–6.0
	65 years or more	9.2	3.5–14.9	7.9	5.6–10.2
	Total	**1.6**	**0.7–2.6**	**2.1**	**1.5–2.6**
Females	18–54 years	0.6	0.0–1.4	0.5	0.3–0.8
	55–64 years	1.1	0.0–2.7	3.5	1.9–5.2
	65 years or more	6.5	1.9–11.1	5.0	3.2–6.8
	Total	**1.8**	**0.7–2.9**	**1.8**	**1.3–2.3**
Persons	18–54 years	0.4	0.0–0.8	0.5	0.3–0.7
	55–64 years	1.0	0.0–2.1	3.6	2.2–5.0
	65 years or more	7.7	4.1–11.3	6.3	4.9–7.7
	Total	**1.7**	**1.0–2.5**	**1.9**	**1.6–2.3**

In the Southern Metropolitan region, the self-reported prevalence of stroke among adults (1.7%) was marginally lower than that for Victoria (1.9%). This difference was not statistically significant. In men aged 65 years or more who lived in the region the self-reported prevalence was 9.2%. This compares with a self-reported prevalence of 6.5% among women aged 65 years or more for the region.

Based on information from the 2001 Victorian Burden of Disease Study, an estimated 33,664 Victorians were affected by stroke in 2001. Of these, 8039 lived in the Southern Metropolitan region. Approximately equal numbers lived in the catchment areas for the Inner South East Partnership in Community and Health (2168, 27.0% of the region's prevalent cases of stroke) and for the South East Healthy Communities Partnership (2220 or 27.6%).

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

Area	PCP	LGA	Males (n)	Females (n)	Persons (n)
Southern Metropolitan	Inner South East Partnership in Community and Health	Glen Eira	386	611	997
		Port Phillip	207	317	524
		Stonnington	241	406	647
	Kingston Bayside	Bayside	289	473	761
		Kingston	448	653	1101
	South East Healthy Communities Partnership	Cardinia	112	140	252
		Casey	405	553	958
		Greater Dandenong	444	566	1010
	Frankston Mornington Peninsula	Frankston	315	414	730
		Mornington Peninsula	469	590	1059
	Total		**3316**	**4723**	**8039**
Victoria			**14,049**	**19,615**	**33,664**

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 Southern Metropolitan region it accounts for 58.0% of the cardiovascular disease burden per 1000 in males and 46.1% in females.

Table 6 compares DALY rates for cardiovascular disease in males and females in the Southern 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	Southern 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	138.0	126.3	143.0	129.1
Total cardiovascular disease	24.5	21.9	25.5	22.4
• Ischaemic heart disease	14.2	10.1	14.9	10.5
• Stroke	6.1	7.8	6.2	7.8

DALY rates for total cardiovascular disease in the Southern Metropolitan region were lower for both males and females than those for Victoria. DALY rates for ischaemic heart disease were similarly lower than those for Victoria whereas those for stroke were very similar for both males and females.

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 South East Partnership in Community and Health	Glen Eira	130.9	23.4	13.4	6.0
		Port Phillip	130.9	23.4	13.4	6.0
		Stonnington	130.9	23.4	13.4	6.0
	Kingston Bayside	Bayside	130.9	23.4	13.4	6.0
		Kingston	139.5	23.9	13.8	6.1
	South East Healthy Communities Partnership	Cardinia	143.0	25.9	15.0	6.1
		Casey	143.0	24.8	14.5	6.3
		Greater Dandenong	149.8	26.5	15.6	6.2
	Frankston Mornington Peninsula	Frankston	140.6	25.8	14.9	6.2
		Mornington Peninsula	137.1	25.0	14.4	6.1
Females	Inner South East Partnership in Community and Health	Glen Eira	125.0	22.2	10.0	8.1
		Port Phillip	125.0	22.2	10.0	8.1
		Stonnington	125.0	22.2	10.0	8.1
	Kingston Bayside	Bayside	125.0	22.2	10.0	8.1
		Kingston	123.8	22.0	10.2	7.9
	South East Healthy Communities Partnership	Cardinia	123.9	21.8	10.3	7.3
		Casey	129.0	22.0	10.4	7.7
		Greater Dandenong	134.9	21.4	10.5	7.1
	Frankston Mornington Peninsula	Frankston	123.4	21.0	10.0	7.3
		Mornington Peninsula	123.9	21.4	10.0	7.6

The highest DALY rates for cardiovascular disease occurred in Greater Dandenong for males and within the catchment area for the Inner South East Partnership in Community Health and in Bayside for females. Interestingly the lowest DALY rates for cardiovascular disease occurred in Bayside and across the catchment area for the Inner South East Partnership in Community Health for males and in Frankston 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?

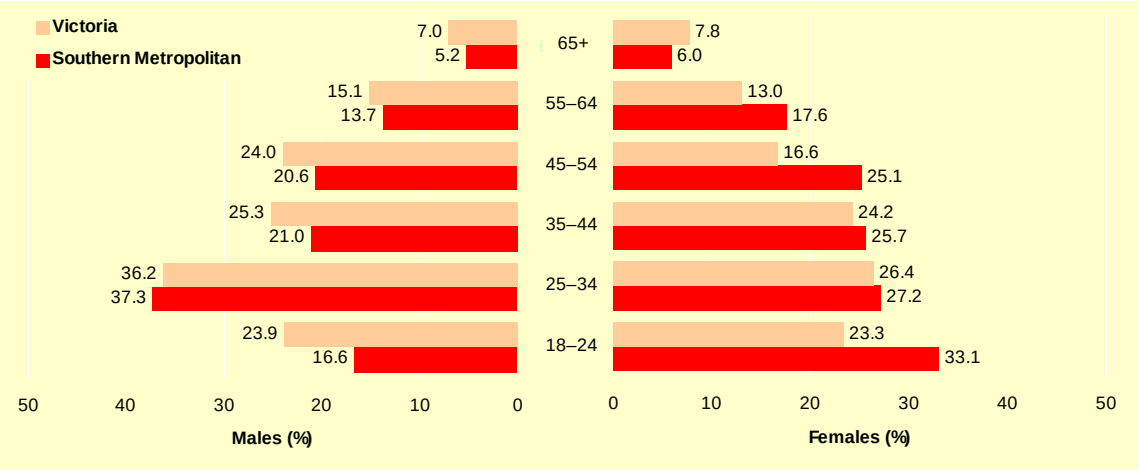
Smoking is a major risk factor for coronary heart disease, stroke and peripheral vascular disease as well as for numerous cancers and a range of other diseases and conditions. Table 8 shows the proportion of Victorian adults who are classified as current smokers on the basis of their self-reported smoking behaviour, by age group and gender. This table compares findings for the Southern 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	Southern Metropolitan		Victoria	
		(%)	95% confidence interval	(%)	95% confidence interval
Males	18–24 years	16.6	2.3–30.9	23.9	17.0–30.8
	25–34 years	37.3	21.9–52.7	36.2	28.7–43.6
	35–44 years	21.0	11.5–30.5	25.3	20.4–30.1
	45–54 years	20.6	11.7–29.4	24.0	19.5–28.6
	55–64 years	13.7	5.8–21.6	15.1	11.3–18.9
	65 years or more	5.2	0.6–9.7	7.0	4.7–9.3
	Total	**20.1**	**15.5–24.8**	**22.6**	**20.3–24.9**
Females	18–24 years	33.1	16.6–49.5	23.3	16.9–29.6
	25–34 years	27.2	17.5–36.9	26.4	22.1–30.7
	35–44 years	25.7	18.0–33.3	24.2	20.8–27.7
	45–54 years	25.1	16.1–34.1	16.6	13.5–19.6
	55–64 years	17.6	9.9–25.3	13.0	10.1–15.8
	65 years or more	6.0	1.5–10.5	7.8	5.3–10.2
	Total	**21.9**	**18.1–25.7**	**18.5**	**17.0–20.0**
Persons	18–24 years	24.7	13.5–35.9	23.6	18.9–28.3
	25–34 years	32.2	23.2–41.2	31.2	26.9–35.6
	35–44 years	23.4	17.2–29.5	24.7	21.8–27.7
	45–54 years	22.9	16.5–29.2	20.3	17.5–23.0
	55–64 years	15.7	10.1–21.2	14.0	11.7–16.4
	65 years or more	5.6	2.4–8.8	7.4	5.7–9.1
	Total	**21.0**	**18.1–24.0**	**20.5**	**19.1–21.9**

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 Southern Metropolitan region the rate was almost identical (21.0%). In contrast to the pattern for Victoria as a whole, a slightly higher percentage of women (21.9%) than men (20.1%) in the region were current smokers. The proportion of current smokers was lowest in those aged 65 years and over for both men and women.

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	Southern Metropolitan				Victoria			
Age group	Current daily		Occasional		Current daily		Occasional	
Males	(%)	95% confidence interval	(%)	95% confidence interval	(%)	95% confidence interval	(%)	95% confidence interval
18–24 years	7.7	0.0–15.4	8.9	0.0–21.7	16.5	10.9–22.1	7.4	2.7–12.1
25–34 years	30.0	15.5–44.5	7.3	0.0–14.9	24.0	17.6–30.4	12.1	6.2–18.0
35–44 years	18.6	9.4–27.7	2.5	0.0–5.6	21.7	17.1–26.3	3.6	1.4–5.7
45–54 years	17.0	8.8–25.1	3.6	0.0–7.7	19.4	15.2–23.6	4.6	2.4–6.9
55–64 years	13.7	5.8–21.6	0.0	0.0–0.0	13.5	9.8–17.1	1.7	0.4–2.9
65 years or more	4.0	0.0–8.0	1.1	0.0–3.4	6.4	4.2–8.6	0.6	0.0–1.2
Total	**16.2**	**12.0–20.4**	**3.9**	**1.4–6.4**	**17.5**	**15.5–19.4**	**5.1**	**3.7–6.6**
Females								
18–24 years	22.8	8.7–36.8	10.3	0.0–22.3	15.9	10.7–21.1	7.4	2.9–11.8
25–34 years	17.0	9.2–24.8	10.2	3.1–17.3	21.6	17.6–25.5	4.8	2.5–7.1
35–44 years	20.0	12.9–27.2	5.6	1.9–9.3	19.0	15.8–22.1	5.3	3.4–7.1
45–54 years	22.1	13.4–30.9	3.0	0.2–5.8	14.7	11.7–17.7	1.8	1.0–2.7
55–64 years	16.4	8.9–24.0	1.1	0.0–2.7	11.7	8.9–14.5	1.3	0.6–2.0
65 years or more	3.8	0.0–7.6	2.2	0.0–4.8	6.2	4.0–8.4	1.6	0.4–2.7
Total	**16.5**	**13.2–19.9**	**5.4**	**3.1–7.6**	**14.9**	**13.5–16.3**	**3.6**	**2.8–4.4**
Persons								
18–24 years	15.1	6.8–23.3	9.6	0.9–18.4	16.2	12.4–20.0	7.4	4.1–10.6
25–34 years	23.4	15.2–31.6	8.8	3.6–14.0	22.8	19.0–26.5	8.5	5.2–11.7
35–44 years	19.3	13.5–25.1	4.0	1.6–6.5	20.3	17.6–23.1	4.4	3.0–5.9
45–54 years	19.6	13.6–25.6	3.3	0.8–5.7	17.0	14.5–19.6	3.2	2.0–4.4
55–64 years	15.1	9.6–20.6	0.6	0.0–1.3	12.6	10.3–14.8	1.5	0.8–2.2
65 years or more	3.9	1.2–6.6	1.7	0.0–3.5	6.3	4.7–7.9	1.1	0.4–1.8
Total	**16.4**	**13.7–19.0**	**4.7**	**3.0–6.3**	**16.2**	**15–17.3**	**4.4**	**3.5–5.2**

The proportion of adults within the region who reported that they smoked daily was almost identical to that for Victoria. For men it was a little lower than the state

average (16.2% in the region compared with 17.5% for all Victorian men). In contrast, a higher percentage of women in the region were current daily smokers (16.5%) compared with the Victorian average (14.9%).

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.[4] 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.[5] 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.[6]

Tables 10 and 11 show the levels of reported consumption of fruit and vegetables by sex and number of serves, within the Southern 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	Southern Metropolitan		Victoria	
		(%)	95% confidence interval	(%)	95% confidence interval
Males	None	7.4	3.7–11.1	5.1	3.9–6.3
	One or two serves	61.7	56.1–67.3	64.4	62.0–66.9
	Three or four serves	21.8	17.4–26.2	22.5	20.4–24.5
	Five or more serves	6.5	3.7–9.3	6.6	5.2–8.0
Females	None	4.1	2.4–5.8	3.9	3.1–4.7
	One or two serves	47.4	42.9–51.9	44.5	42.5–46.5
	Three or four serves	34.3	30.1–38.6	37.5	35.6–39.4
	Five or more serves	12.7	9.8–15.5	13.1	11.9–14.4
Persons	None	5.7	3.7–7.7	4.5	3.8–5.2
	One or two serves	54.4	50.8–58.0	54.2	52.6–55.8
	Three or four serves	28.3	25.2–31.4	30.2	28.7–31.6
	Five or more serves	9.7	7.7–11.7	9.9	9.0–10.9

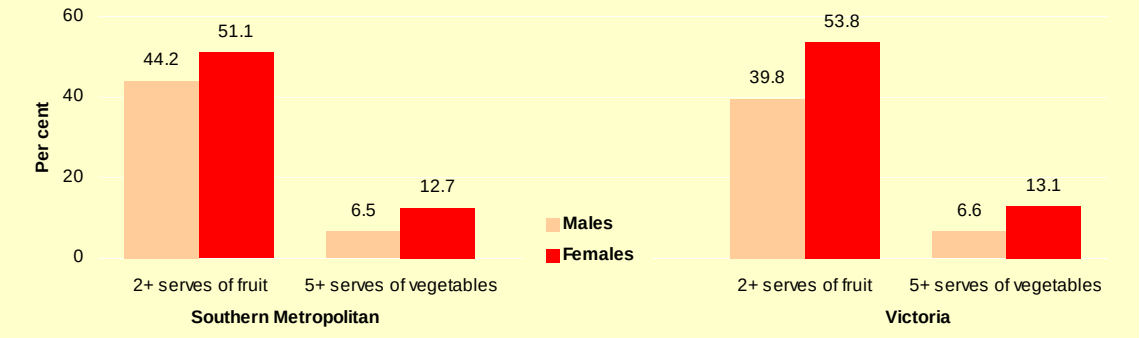
Table 11: Self-reported prevalence of daily fruit consumption by sex and number of serves, 2006

Sex	Number of serves	Eastern Metropolitan		Victoria	
		(%)	95% confidence interval	(%)	95% confidence interval
Males	None	17.2	13.1–21.4	20.3	18.3–22.3
	One serve	36.9	31.3–42.5	38.8	36.3–41.3
	Two or more serves	44.2	38.4–49.9	39.8	37.2–42.3
Females	None	11.5	8.7–14.3	11.1	9.9–12.3
	One serve	36.5	32.1–40.8	34.0	32.1–35.8
	Two or more serves	51.1	46.6–55.6	53.8	51.9–55.8
Persons	None	14.3	11.8–16.7	15.6	14.4–16.8
	One serve	36.7	33.1–40.2	36.3	34.7–37.9
	Two or more serves	47.7	44.1–51.3	47.0	45.4–48.6

Consumption patterns for fruits and vegetables within the region were similar to those observed for the whole of Victoria.

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.[7–11] The national physical activity guidelines for Australians[12] 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 (4.9% of adults in the region) and those who report 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 region, 29.8% of adults reported an insufficient amount of time and/or sessions spent exercising.

The proportion of adults in the region categorised as having sedentary behaviour was lowest for men in the 25–34 years age group and for women aged 45–54 years.

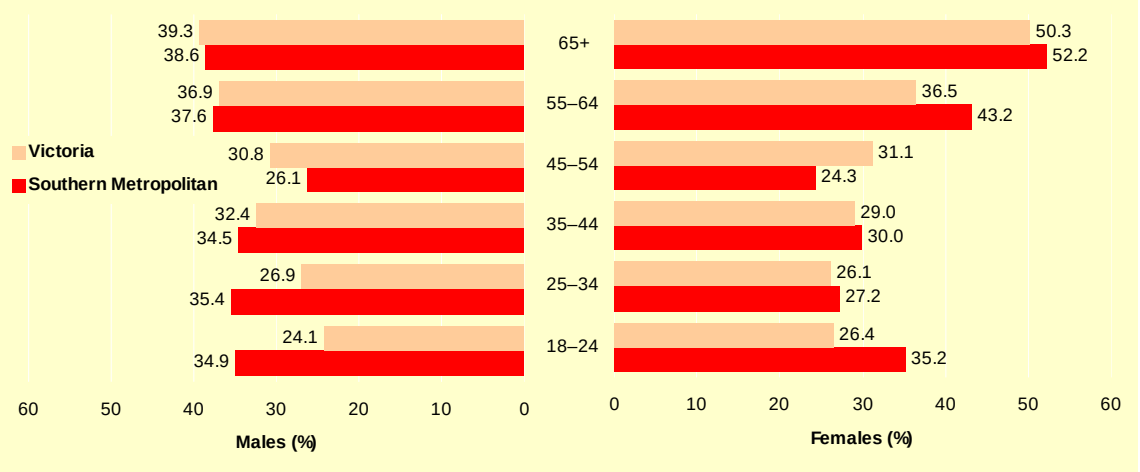
Among women and men aged 18–24 years the prevalence of insufficient physical exercise was higher than that reported for Victoria as whole.

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

Sex	Southern Metropolitan				Victoria			
Age group	Sedentary behaviour		Insufficient time and/or sessions		Sedentary behaviour		Insufficient time and/or sessions	
Males	**(%)**	**95% confidence interval**	**(%)**	**95% confidence interval**	**(%)**	**95% confidence interval**	**(%)**	**95% confidence interval**
18–24 years	2.6	0.0–7.5	32.3	13.5–51.2	3.9	0.8–7.0	20.2	13.3–27.1
25–34 years	2.5	0.0–6.5	32.9	17.7–48.0	2.1	0.6–3.6	24.8	18.5–31.0
35–44 years	3.5	0.0–8.4	31.0	19.8–42.1	3.7	1.6–5.8	28.7	23.7–33.7
45–54 years	7.2	1.7–12.7	18.9	10.0–27.8	6.1	3.6–8.6	24.7	20.3–29.1
55–64 years	3.3	0.0–7.8	34.3	22.1–46.6	5.3	2.2–8.5	31.6	26.0–37.2
65 years or more	7.5	1.8–13.1	31.1	21.3–40.9	7.1	4.9–9.3	32.2	27.9–36.5
Total	**4.4**	**2.4–6.5**	**29.9**	**24.6–35.2**	**4.6**	**3.6–5.6**	**27.1**	**24.8–29.3**
Females								
18–24 years	3.3	0.0–8.0	32.0	15.5–48.5	2.5	0.5–4.5	23.9	17.2–30.6
25–34 years	5.1	0.0–10.5	22.1	13.1–31.0	3.7	1.8–5.5	22.4	18.3–26.6
35–44 years	3.7	0.5–7.0	26.2	18.4–34.0	3.8	2.2–5.4	25.2	21.7–28.7
45–54 years	2.0	0.0–4.7	22.3	13.7–30.9	3.8	2.1–5.4	27.3	23.5–31.1
55–64 years	4.2	0.0–8.9	39.0	28.7–49.4	4.8	2.9–6.6	31.7	27.6–35.8
65 years or more	12.0	5.5–18.4	40.2	30.5–49.9	12.7	9.6–15.7	37.6	33.4–41.8
Total	**5.3**	**3.3–7.3**	**29.8**	**25.7–33.9**	**5.4**	**4.5–6.3**	**28.1**	**26.4–29.9**
Persons								
18–24 years	2.9	0.0–6.3	32.2	19.6–44.7	3.2	1.3–5.0	22.0	17.2–26.8
25–34 years	3.8	0.5–7.2	27.4	18.6–36.2	2.9	1.7–4.1	23.6	19.8–27.3
35–44 years	3.6	0.7–6.5	28.6	21.8–35.4	3.7	2.4–5.1	26.9	23.9–30.0
45–54 years	4.6	1.5–7.7	20.6	14.4–26.8	4.9	3.4–6.4	26.0	23.1–28.9
55–64 years	3.7	0.5–7.0	36.7	28.7–44.7	5.0	3.2–6.9	31.7	28.2–35.1
65 years or more	10.0	5.6–14.4	36.2	29.3–43.2	10.2	8.2–12.2	35.2	32.2–38.2
Total	**4.9**	**3.4–6.3**	**29.8**	**26.5–33.2**	**5.0**	**4.4–5.7**	**27.6**	**26.2–29.0**

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 in the 18–24 years age group were higher than those for Victoria for both males and females. In most age groups, levels of inadequate physical activity were higher in the Southern 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).

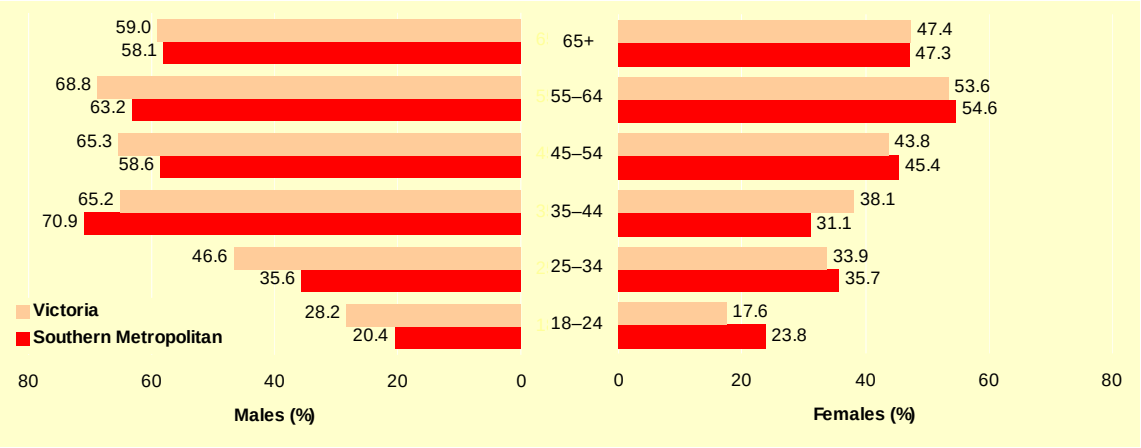
Being overweight refers to increased body weight in relation to height, compared with a standard of acceptable or desirable weight. BMI data were classified into the following categories using the standard cut-offs recommended by the World Health Organization:[13]

- 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 Southern 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 both men and women categorised as being either overweight or obese rose steadily with age. For men the peak age group was the 35–44 years age group. Thereafter the proportion categorised as either overweight or obese declined slightly to 58.1% for men aged 65 years and over. In women the proportion was highest for those in the 55–64 years age group.

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

Sex	Southern Metropolitan				Victoria			
Age group	Overweight		Obese		Overweight		Obese	
Males	**(%)**	**95% confidence interval**	**(%)**	**95% confidence interval**	**(%)**	**95% confidence interval**	**(%)**	**95% confidence interval**
18–24 years	17.9	1.5–34.3	2.6	0.0–7.5	22.2	15.0–29.4	6.0	2.9–9.0
25–34 years	24.8	10.7–38.9	10.8	2.5–19.1	32.3	25.5–39.1	14.3	9.7–18.9
35–44 years	54.0	42.3–65.7	16.9	8.7–25.2	48.6	43.0–54.1	16.6	12.8–20.4
45–54 years	40.9	29.3–52.4	17.7	9.1–26.3	45.5	40.3–50.6	19.8	15.7–23.9
55–64 years	42.0	29.4–54.7	21.2	10.8–31.5	44.0	38.3–49.7	24.8	19.5–30.1
65 years or more	43.4	32.9–54.0	14.6	7.2–22.0	43.7	39.2–48.3	15.3	12.1–18.5
Total	**37.9**	**32.4–43.4**	**14.2**	**10.7–17.7**	**40.0**	**37.5–42.5**	**16.3**	**14.6–18.0**
Females								
18–24 years	17.3	5.2–29.5	6.5	0.0–13.7	12.4	7.7–17.0	5.2	2.2–8.1
25–34 years	25.5	16.3–34.7	10.2	3.1–17.3	21.4	17.3–25.5	12.5	9.3–15.7
35–44 years	22.1	14.7–29.5	9.0	4.0–13.9	24.0	20.6–27.4	14.1	11.4–16.8
45–54 years	28.3	19.0–37.5	17.1	9.3–25.0	25.6	22.0–29.3	18.2	15.1–21.3
55–64 years	27.3	18.0–36.6	27.3	17.9–36.7	31.6	27.6–35.7	22.0	18.3–25.7
65 years or more	33.4	23.9–42.9	13.9	7.4–20.3	32.0	27.9–36.0	15.4	12.1–18.6
Total	**26.1**	**22.2–30.0**	**13.6**	**10.7–16.6**	**24.9**	**23.3–26.6**	**14.7**	**13.4–16.0**
Persons								
18–24 years	17.6	7.3–27.9	4.5	0.1–8.9	17.4	13.0–21.8	5.6	3.5–7.7
25–34 years	25.1	16.8–33.5	10.5	5.0–15.9	26.8	22.9–30.8	13.4	10.6–16.2
35–44 years	37.9	30.5–45.4	12.9	8.1–17.7	36.1	32.8–39.5	15.4	13.0–17.7
45–54 years	34.5	27.0–42.0	17.4	11.6–23.3	35.4	32.2–38.6	19.0	16.4–21.6
55–64 years	34.6	26.7–42.5	24.3	17.3–31.3	37.8	34.3–41.3	23.4	20.2–26.6
65 years or more	37.8	30.7–44.8	14.2	9.3–19.1	37.2	34.1–40.2	15.3	13.0–17.6
Total	**31.8**	**28.5–35.2**	**13.9**	**11.6–16.2**	**32.3**	**30.8–33.8**	**15.5**	**14.4–16.6**

Almost one-third (31.8%) of adults in the region were categorised as being overweight. A further 13.9% of adults in the region were categorised as being obese. These proportions were similar to those for Victoria. Within the region, 37.9% of men were overweight compared with 26.1% of women.

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 Southern Metropolitan region.

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

Sex	Age group	Southern Metropolitan		Victoria	
		(%)	95% confidence interval	(%)	95% confidence interval
Males	18–24 years	7.4	0.0–15.0	2.6	0.6–4.6
	25–34 years	8.6	1.0–16.1	8.9	4.8–13.1
	35–44 years	12.6	4.6–20.7	11.8	8.4–15.3
	45–54 years	23.1	13.4–32.7	23.6	19.4–27.8
	55–64 years	32.1	20.2–44.1	35.0	29.6–40.4
	65 years or more	57.7	47.2–68.2	54.4	49.9–59.0
	Total	**22.7**	**18.4–26.9**	**22.2**	**20.3–24.1**
Females	18–24 years	3.3	0.0–9.5	2.8	0.6–5.1
	25–34 years	11.9	5.2–18.6	13.1	9.7–16.5
	35–44 years	7.9	3.4–12.3	14.3	11.7–17.0
	45–54 years	29.2	18.9–39.5	25.6	21.8–29.4
	55–64 years	37.1	27.1–47.1	39.6	35.3–43.9
	65 years or more	59.5	49.7–69.3	59.2	55.0–63.5
	Total	**25.4**	**21.7–29.2**	**26.7**	**25.0–28.3**
Persons	18–24 years	5.4	0.5–10.3	2.7	1.2–4.2
	25–34 years	10.3	5.2–15.3	11.0	8.3–13.7
	35–44 years	10.2	5.6–14.8	13.1	10.9–15.3
	45–54 years	26.2	19.0–33.3	24.6	21.8–27.4
	55–64 years	34.6	26.8–42.4	37.3	33.8–40.8
	65 years or more	58.7	51.6–65.9	57.1	54.0–60.2
	Total	**24.1**	**21.3–27.0**	**24.5**	**23.2–25.7**

Levels of high blood pressure were generally higher among women and increased with increasing age. Levels of high blood pressure in the region were similar to those 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?

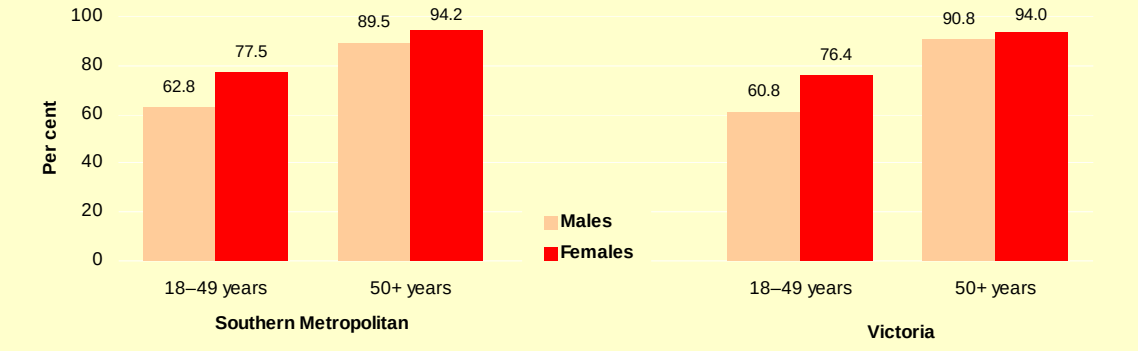
It is recommended that all adults have their blood pressure checked regularly, primarily to identify high blood pressure, also known as hypertension.[14] Table 15 shows the percentage of adults, in the Southern Metropolitan region and in Victoria, who reported having had their blood pressure checked 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	Southern Metropolitan		Victoria	
		(%)	95% confidence interval	(%)	95% confidence interval
Males	18–49 years	62.8	55.0–70.7	60.8	57.2–64.4
	50 years or more	89.5	84.9–94.1	90.8	88.9–92.7
	Total	**73.1**	**67.8–78.4**	**72.5**	**70.1–75.0**
Females	18–49 years	77.5	72.2–82.8	76.4	74.0–78.8
	50 years or more	94.2	91.3–97.1	94.0	92.8–95.2
	Total	**84.3**	**80.8–87.7**	**83.6**	**82.1–85.2**
Persons	18–49 years	70.3	65.5–75.0	68.7	66.5–70.9
	50 years or more	92.0	89.3–94.6	92.5	91.4–93.6
	Total	**78.8**	**75.6–82.0**	**78.2**	**76.8–79.7**

In the Southern Metropolitan region almost 80% of adults reported having had their blood pressure checked within the past two years, including 92.0% of all adults aged 50 years or more.

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.[15]

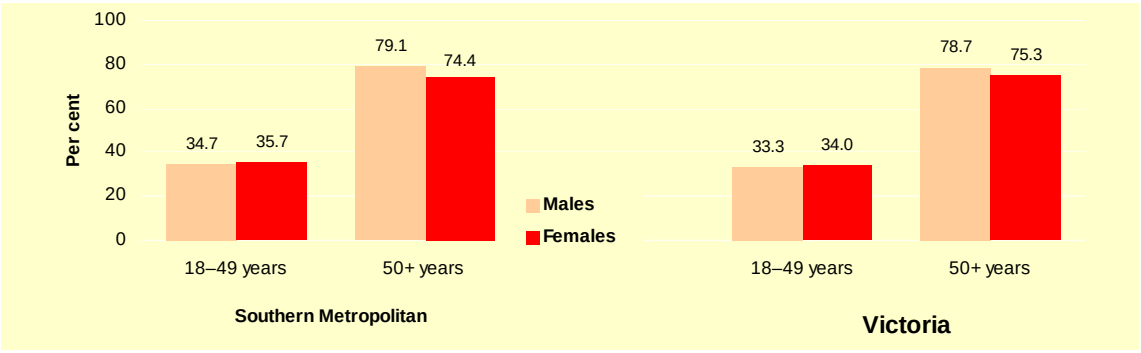
Table 16 shows the percentage of adults in the Southern Metropolitan region and in Victoria who have had their blood cholesterol checked within the previous two years.

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	Southern Metropolitan		Victoria	
		(%)	95% confidence interval	(%)	95% confidence interval
Males	18–49 years	34.7	27.1–42.3	33.3	30.0–36.7
	50 years or more	79.1	73.0–85.2	78.7	76.0–81.4
	Total	**51.8**	**46.0–57.6**	**51.1**	**48.5–53.7**
Females	18–49 years	35.7	29.9–41.5	34.0	31.5–36.6
	50 years or more	74.4	68.6–80.2	75.3	72.9–77.6
	Total	**51.4**	**46.8–55.9**	**50.9**	**48.9–52.9**
Persons	18–49 years	35.2	30.4–40.0	33.7	31.6–35.8
	50 years or more	76.7	72.4–80.9	76.9	75.2–78.7
	Total	**51.6**	**47.9–55.2**	**51.0**	**49.4–52.6**

Reported levels of cholesterol testing for adults living in the Southern Metropolitan region were similar to those for Victoria as a whole (51.6% compared with 51.0%).

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.

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