

Cardiovascular Disease Fact Sheet

North and West Metropolitan Region

The **North and West Metropolitan** region covers an area of 2980 square kilometres. It comprises the former Northern Metropolitan region and Western Metropolitan regions. In February 2004 these regions were combined to form the North and West Metropolitan region.

The former Northern Metropolitan region included inner urban, outer urban and semi-rural areas with a considerable diversity in population spread. The former Western Metropolitan region covered inner suburban areas and semi-rural areas and was the most culturally diverse region in the state.

The North and West Metropolitan region had an estimated population of 1,478,395 in 2005. The region includes 14 local government areas (LGAs). This fact sheet presents Department of Human Services data for the North and West 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 North and West Metropolitan region which includes the following LGAs: Banyule, Brimbank, Darebin, Hobsons Bay, Hume, Maribyrnong, Moreland, Melbourne, Melton, Moonee Valley, Nillumbik, Whittlesea, Wyndham and Yarra.
- **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: Banyule Nillumbik Primary Care Alliance, Brimbank Melton PCP, Hume Moreland PCP, Moonee Valley Melbourne PCP, North Central Metropolitan PCP and WestBay 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

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/>

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?

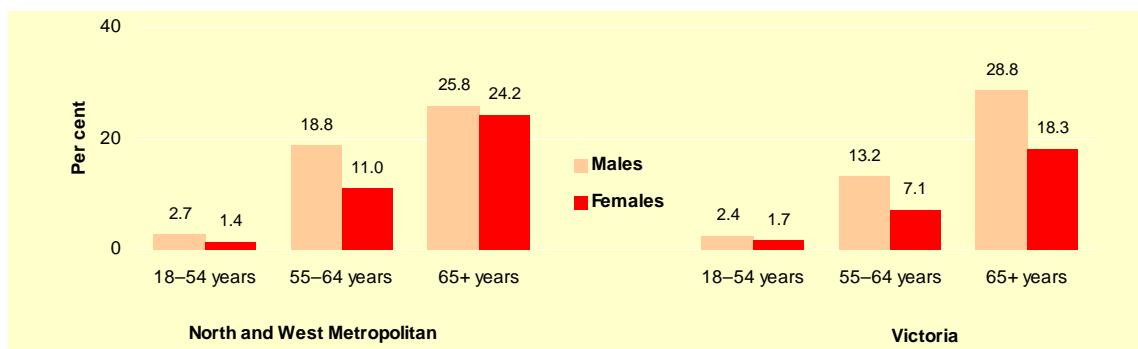
In 2006, 6.8% of Victorians reported that they had been diagnosed with heart disease by a doctor. Additional detail on the specific type of heart disease was not collected. Table 2 compares the self-reported prevalence of heart disease in the North and West Metropolitan region with that for Victoria.

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

Sex	Age group	North and West Metropolitan		Victoria	
		(%)	95% confidence interval	(%)	95% confidence interval
Males	18–54 years	2.7	0.8–4.5	2.4	1.5–3.2
	55–64 years	18.8	7.3–30.3	13.2	9.3–17.0
	65 years or more	25.8	15.5–36.2	28.8	24.6–32.9
	Total	7.7	5.1–10.3	8.1	7.0–9.2
Females	18–54 years	1.4	0.3–2.4	1.7	1.1–2.3
	55–64 years	11.0	5.2–16.8	7.1	4.9–9.3
	65 years or more	24.2	14.6–33.9	18.3	15.1–21.6
	Total	6.1	4.1–8.1	5.6	4.8–6.4
Persons	18–54 years	2.0	1.0–3.0	2.0	1.5–2.5
	55–64 years	14.9	8.4–21.5	10.1	7.9–12.4
	65 years or more	24.9	17.9–32.0	23.0	20.3–25.6
	Total	6.9	5.3–8.5	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 North and West Metropolitan region, the self-reported prevalence of heart disease (6.9%) was almost identical to that for Victoria (6.8%). For men living in the region the self-reported prevalence was marginally lower (7.7%) when compared with that for Victorian men (8.1%), whereas for women it was slightly higher (6.1%) compared with that for Victorian women (5.6%).

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 North and West 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 North and West Metropolitan region, by PCP, LGA and sex, 2001

Area	PCP	LGA	Males (n)	Females (n)	Persons (n)
North and West Metropolitan	Hume Moreland	Hume	440	348	788
		Moreland	876	827	1703
	Banyule Nillumbik Primary Care Alliance	Banyule	589	596	1185
		Nillumbik	150	129	280
	North Central Metropolitan	Darebin	845	865	1710
		Whittlesea	463	365	828
		Yarra	253	239	491
	Moonee Valley Melbourne	Melbourne	176	155	331
		Moonee Valley	588	564	1152
	WestBay Alliance	Hobsons Bay	476	428	904
Maribyrnong		403	434	837	
Wyndham		244	195	439	
Brimbank Melton	Brimbank	758	636	1393	
	Melton	162	128	289	
Total			6422	5909	12,332
Victoria			23,227	21,824	45,051

Some 12,332 people were estimated to be living in the North and West Metropolitan region with ischaemic heart disease. Of these, almost one-quarter (24.6%) lived in the catchment area for the North Central Metropolitan PCP.

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 North and West Metropolitan region with that for Victoria.

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

Sex	Age group	North and West Metropolitan		Victoria	
		(%)	95% confidence interval	(%)	95% confidence interval
Males	18–54 years	0.2	0.0–0.7	0.4	0.1–0.7
	55–64 years	6.6	0.0–14.3	3.7	1.4–6.0
	65 years or more	6.0	0.8–11.3	7.9	5.6–10.2
	Total	1.8	0.5–3.0	2.1	1.5–2.6
Females	18–54 years	0.3	0.0–0.7	0.5	0.3–0.8
	55–64 years	6.5	1.6–11.5	3.5	1.9–5.2
	65 years or more	4.6	0.0–9.7	5.0	3.2–6.8
	Total	1.7	0.7–2.8	1.8	1.3–2.3
Persons	18–54 years	0.3	0.0–0.6	0.5	0.3–0.7
	55–64 years	6.5	1.9–11.1	3.6	2.2–5.0
	65 years or more	5.3	1.6–8.9	6.3	4.9–7.7
	Total	1.7	0.9–2.6	1.9	1.6–2.3

In the North and West Metropolitan region, the self-reported prevalence of stroke among adults (1.7%) was similar to that for Victoria (1.9%). For men and women aged 55–64 years, the self-reported prevalence of stroke for the region (6.6% and 6.5% respectively) was higher than that for Victoria (3.7% and 3.5%).

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

Area	PCP	LGA	Males (n)	Females (n)	Persons (n)
North and West Metropolitan	Hume Moreland	Hume	301	380	681
		Moreland	494	618	1112
	Banyule Nillumbik Primary Care Alliance	Banyule	355	539	893
		Nillumbik	112	167	279
	North Central Metropolitan	Darebin	477	644	1121
		Whittlesea	300	369	669
		Yarra	166	242	408
	Moonee Valley Melbourne	Melbourne	118	166	284
		Moonee Valley	353	478	831
	WestBay Alliance	Hobsons Bay	278	383	661
		Maribyrnong	225	299	524
		Wyndham	173	222	394
Brimbank Melton	Brimbank	469	598	1067	
	Melton	112	156	269	
	Total		3932	5261	9193
Victoria			14,049	19,615	33,664

Based on information from the 2001 Victorian Burden of Disease Study, an estimated 33,664 Victorians were affected by stroke in 2001. Of these, 9193 lived in the North and West Metropolitan region. Almost one-quarter (23.9%) of people affected by

stroke in the region were living in the catchment area for the North Central Metropolitan PCP.

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 area covered by the former Northern Metropolitan and Western Metropolitan regions (now amalgamated to form the North and West Metropolitan region), ischaemic heart disease accounts for 58.1% of the cardiovascular disease burden per 1000 in males. In females it accounts for 47.7% in the area covered by the former Northern Metropolitan region and 47.1% in the area covered by the former Western Metropolitan region.

Table 6 compares the Victorian DALY rates for cardiovascular disease in males and females with those for the former Northern Metropolitan and Western Metropolitan regions with the rates for Victoria. These regions were amalgamated in 2004 to form the North and West Metropolitan region.

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

Disease	North and West Metropolitan				Victoria	
	Former Northern Metropolitan Region		Former Western Metropolitan Region		DALY rates per 1000 in males	DALY rates per 1000 in females
	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	142.7	128.2	142.8	128.3	143.0	129.1
Total cardiovascular disease	25.3	21.6	25.3	21.7	25.5	22.4
• Ischaemic heart disease	14.7	10.3	14.7	10.3	14.9	10.5
• Stroke	6.1	7.5	6.3	7.5	6.2	7.8

DALY rates for total cardiovascular disease in the region, including those for ischaemic heart disease and for stroke, were 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	Hume Moreland	Hume	145.3	25.8	15.1	6.2
		Moreland	143.9	26.1	15.1	6.2
	Banyule Nillumbik Primary Care Alliance	Banyule	135.5	23.7	13.7	6.1
		Nillumbik	130.8	23.0	13.1	5.9
	North Central Metropolitan	Darebin	146.2	25.7	15.0	6.2
		Whittlesea	148.8	26.4	15.4	6.2
		Yarra	139.8	24.5	14.2	6.1
	Moonee Valley Melbourne	Melbourne	138.9	23.8	13.8	6.1
		Moonee Valley	140.1	25.0	14.4	6.2
	WestBay Alliance	Hobsons Bay	141.0	24.4	14.3	6.5
		Maribyrnong	149.8	26.5	15.6	6.2
		Wyndham	140.4	25.4	14.7	6.2
	Brimbank Melton	Brimbank	146.0	25.8	15.2	6.4
		Melton	141.3	24.5	14.4	6.5
Females	Hume Moreland	Hume	129.9	21.5	10.4	7.3
		Moreland	127.5	21.2	10.2	7.2
	Banyule Nillumbik Primary Care Alliance	Banyule	124.2	22.1	10.1	8.0
		Nillumbik	124.1	22.2	10.1	8.0
	North Central Metropolitan	Darebin	130.9	21.6	10.4	7.3
		Whittlesea	133.4	21.4	10.4	7.1
		Yarra	123.7	21.7	10.2	7.7
	Moonee Valley Melbourne	Melbourne	123.9	22.1	10.2	7.9
		Moonee Valley	123.5	21.4	10.1	7.5
	WestBay Alliance	Hobsons Bay	128.8	22.3	10.4	7.9
		Maribyrnong	134.9	21.4	10.5	7.1
		Wyndham	123.4	21.2	10.1	7.4
	Brimbank Melton	Brimbank	133.1	21.8	10.5	7.4
		Melton	129.3	22.3	10.5	7.8

The highest DALY rates for cardiovascular disease occurred in Maribyrnong for males and in Hobsons Bay and Melton for females. The lowest DALY rates for cardiovascular disease occurred in Nillumbik for males and in Moreland and Wyndham 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?

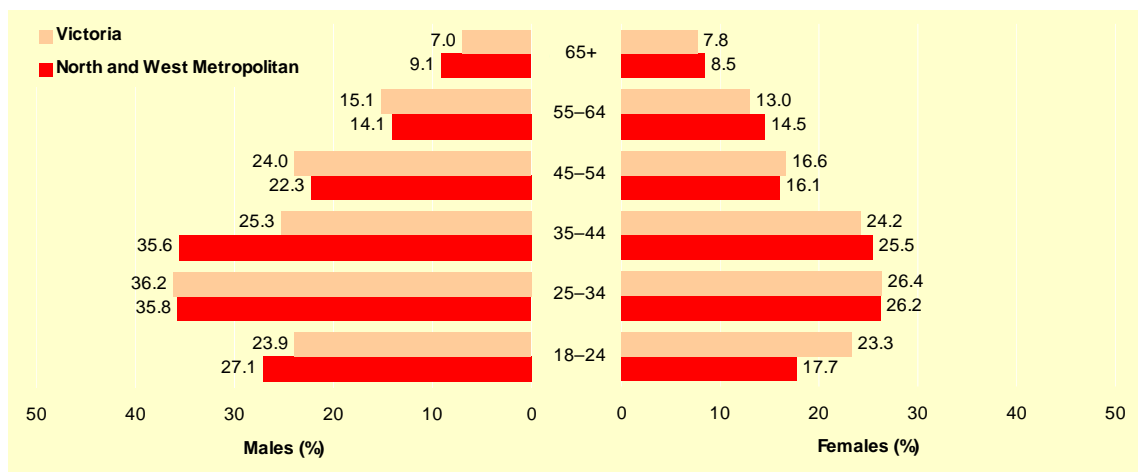
Smoking is a major risk factor for coronary heart disease, stroke and peripheral vascular disease as well as for numerous cancers and a range of other diseases and conditions. Table 8 shows the proportion of Victorian adults who are classified as current smokers on the basis of their self-reported smoking behaviour, by age group and gender. This table compares findings for the North and West 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	North and West Metropolitan		Victoria	
		(%)	95% confidence interval	(%)	95% confidence interval
Males	18–24 years	27.1	12.5–41.7	23.9	17.0–30.8
	25–34 years	35.8	21.7–49.9	36.2	28.7–43.6
	35–44 years	35.6	24.2–46.9	25.3	20.4–30.1
	45–54 years	22.3	12.4–32.2	24.0	19.5–28.6
	55–64 years	14.1	4.5–23.7	15.1	11.3–18.9
	65 years or more	9.1	2.4–15.7	7.0	4.7–9.3
	Total		26.0	20.9–31.1	22.6
Females	18–24 years	17.7	6.3–29.0	23.3	16.9–29.6
	25–34 years	26.2	18.1–34.4	26.4	22.1–30.7
	35–44 years	25.5	17.6–33.4	24.2	20.8–27.7
	45–54 years	16.1	9.7–22.4	16.6	13.5–19.6
	55–64 years	14.5	7.9–21.2	13.0	10.1–15.8
	65 years or more	8.5	1.1–15.9	7.8	5.3–10.2
	Total		19.0	15.6–22.4	18.5
Persons	18–24 years	22.4	13.1–31.7	23.6	18.9–28.3
	25–34 years	31.0	22.8–39.2	31.2	26.9–35.6
	35–44 years	30.5	23.6–37.4	24.7	21.8–27.7
	45–54 years	19.1	13.3–25.0	20.3	17.5–23.0
	55–64 years	14.3	8.4–20.2	14.0	11.7–16.4
	65 years or more	8.7	3.7–13.8	7.4	5.7–9.1
	Total		22.4	19.4–25.5	20.5

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 North and West Metropolitan region the rate (22.4%) was a little higher than that for Victoria. In common with other parts of Victoria, a higher percentage of men (26.0%) than women (19.0%) in the region were current smokers. The proportion of current smokers was highest in younger age groups 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	Age group	North and West Metropolitan				Victoria			
		Current daily		Occasional		Current daily		Occasional	
		95% confidence interval (%)	95% confidence interval (%)	95% confidence interval (%)	95% confidence interval (%)	95% confidence interval (%)	95% confidence interval (%)	95% confidence interval (%)	95% confidence interval (%)
Males									
	18-24 years	19.5	6.7-32.3	7.6	0.0-16.3	16.5	10.9-22.1	7.4	2.7-12.1
	25-34 years	19.5	8.0-31.1	16.3	4.7-27.9	24.0	17.6-30.4	12.1	6.2-18.0
	35-44 years	29.6	18.8-40.4	6.0	0.2-11.8	21.7	17.1-26.3	3.6	1.4-5.7
	45-54 years	20.3	10.6-29.9	2.0	0.0-4.8	19.4	15.2-23.6	4.6	2.4-6.9
	55-64 years	13.2	3.7-22.7	0.9	0.0-2.8	13.5	9.8-17.1	1.7	0.4-2.9
	65 years or more	9.1	2.4-15.7	0.0	0.0-0.0	6.4	4.2-8.6	0.6	0.0-1.2
	Total	19.6	15.1-24.1	6.4	3.1-9.7	17.5	15.5-19.4	5.1	3.7-6.6
Females									
	18-24 years	10.9	2.3-19.5	6.7	0.0-14.9	15.9	10.7-21.1	7.4	2.9-11.8
	25-34 years	22.3	14.7-30.0	3.9	0.5-7.4	21.6	17.6-25.5	4.8	2.5-7.1
	35-44 years	19.6	12.5-26.7	5.9	1.3-10.6	19.0	15.8-22.1	5.3	3.4-7.1
	45-54 years	15.1	8.8-21.4	1.0	0.0-2.0	14.7	11.7-17.7	1.8	1.0-2.7
	55-64 years	14.0	7.4-20.6	0.5	0.0-1.5	11.7	8.9-14.5	1.3	0.6-2.0
	65 years or more	6.2	0.0-12.9	2.3	0.0-5.6	6.2	4.0-8.4	1.6	0.4-2.7
	Total	15.4	12.4-18.5	3.6	1.8-5.3	14.9	13.5-16.3	3.6	2.8-4.4
Persons									
	18-24 years	15.2	7.5-23.0	7.2	1.2-13.1	16.2	12.4-20.0	7.4	4.1-10.6
	25-34 years	20.9	14.1-27.8	10.1	3.8-16.3	22.8	19.0-26.5	8.5	5.2-11.7
	35-44 years	24.6	18.1-31.0	6.0	2.2-9.7	20.3	17.6-23.1	4.4	3.0-5.9
	45-54 years	17.7	11.9-23.4	1.5	0.0-3.0	17.0	14.5-19.6	3.2	2.0-4.4
	55-64 years	13.6	7.8-19.4	0.7	0.0-1.8	12.6	10.3-14.8	1.5	0.8-2.2
	65 years or more	7.5	2.7-12.2	1.3	0.0-3.1	6.3	4.7-7.9	1.1	0.4-1.8
	Total	17.5	14.8-20.2	5.0	3.1-6.8	16.2	15-17.3	4.4	3.5-5.2

The proportion of adult males within the region who reported that they smoked daily (19.6%) was a little higher than that for Victoria (17.5%), but the difference was not

statistically significant. The proportion of adult females within the region who reported that they smoked daily (15.4%) was similar to that for Victoria (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 North and West 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

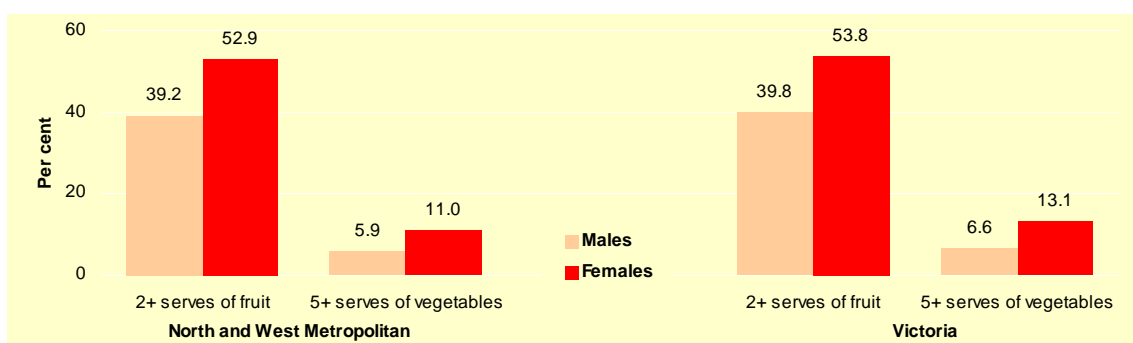
Sex	Number of serves	North and West Metropolitan		Victoria	
		(%)	95% confidence interval	(%)	95% confidence interval
Males	None	4.6	2.4–6.8	5.1	3.9–6.3
	One or two serves	66.5	61.2–71.9	64.4	62.0–66.9
	Three or four serves	21.5	16.9–26.1	22.5	20.4–24.5
	Five or more serves	5.9	2.9–8.8	6.6	5.2–8.0
Females	None	5.4	3.3–7.4	3.9	3.1–4.7
	One or two serves	48.0	43.6–52.4	44.5	42.5–46.5
	Three or four serves	34.9	30.7–39.1	37.5	35.6–39.4
	Five or more serves	11.0	8.3–13.7	13.1	11.9–14.4
Persons	None	5.0	3.5–6.5	4.5	3.8–5.2
	One or two serves	57.1	53.6–60.6	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	8.5	6.5–10.5	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	North and West Metropolitan		Victoria	
		(%)	95% confidence interval	(%)	95% confidence interval
Males	None	20.2	15.7–24.6	20.3	18.3–22.3
	One serve	39.4	33.9–45.0	38.8	36.3–41.3
	Two or more serves	39.2	33.7–44.7	39.8	37.2–42.3
Females	None	12.4	9.6–15.2	11.1	9.9–12.3
	One serve	32.6	28.5–36.8	34.0	32.1–35.8
	Two or more serves	52.9	48.5–57.3	53.8	51.9–55.8
Persons	None	16.2	13.6–18.8	15.6	14.4–16.8
	One serve	36.0	32.5–39.4	36.3	34.7–37.9
	Two or more serves	46.2	42.6–49.7	47.0	45.4–48.6

Daily consumption of fruit and vegetables within the region followed similar patterns to that seen across Victoria, with higher consumption of both in females compared with males. The proportion of adults aged 18 years or more who report consuming at least the recommended daily amount of fruit and/or vegetables is shown in Figure 3.

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 Australians¹² 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 (4.5% 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, 29.2% 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 and women aged 25–34 years. Adults aged 25–34 years who lived in

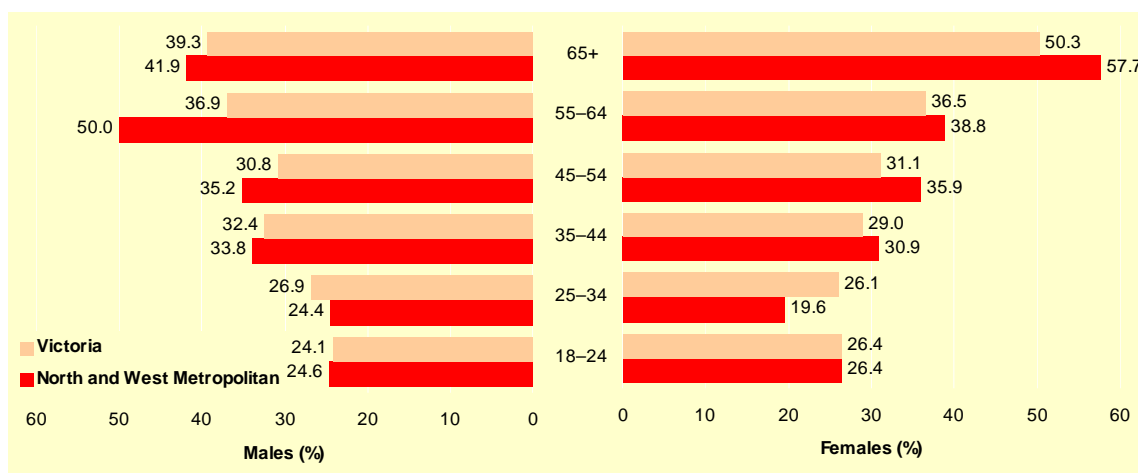
the region were significantly less likely to be categorised as having sedentary behaviour (0.4%) when compared with all Victorians in that age group (2.9%).

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

Sex Age group	North and West 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
Males								
18–24 years	4.2	0.0–10.2	20.3	7.0–33.7	3.9	0.8–7.0	20.2	13.3–27.1
25–34 years	0.0	0.0–0.0	24.4	12.7–36.1	2.1	0.6–3.6	24.8	18.5–31.0
35–44 years	1.3	0.0–3.9	32.5	21.7–43.3	3.7	1.6–5.8	28.7	23.7–33.7
45–54 years	8.6	2.1–15.1	26.6	16.6–36.5	6.1	3.6–8.6	24.7	20.3–29.1
55–64 years	11.3	0.7–21.8	38.7	24.2–53.2	5.3	2.2–8.5	31.6	26.0–37.2
65 years or more	1.3	0.0–4.0	40.6	29.4–51.9	7.1	4.9–9.3	32.2	27.9–36.5
Total	3.9	1.8–6.0	29.7	24.8–34.7	4.6	3.6–5.6	27.1	24.8–29.3
Females								
18–24 years	2.5	0.0–6.2	23.8	10.5–37.1	2.5	0.5–4.5	23.9	17.2–30.6
25–34 years	0.9	0.0–2.6	18.7	11.6–25.9	3.7	1.8–5.5	22.4	18.3–26.6
35–44 years	3.0	0.0–5.9	28.0	20.0–35.9	3.8	2.2–5.4	25.2	21.7–28.7
45–54 years	3.2	0.1–6.3	32.8	24.3–41.2	3.8	2.1–5.4	27.3	23.5–31.1
55–64 years	7.0	2.1–11.9	31.8	22.4–41.2	4.8	2.9–6.6	31.7	27.6–35.8
65 years or more	16.2	7.4–24.9	41.5	30.3–52.7	12.7	9.6–15.7	37.6	33.4–41.8
Total	5.0	3.2–6.9	28.8	24.9–32.7	5.4	4.5–6.3	28.1	26.4–29.9
Persons								
18–24 years	3.4	0.0–6.9	22.1	12.6–31.5	3.2	1.3–5.0	22.0	17.2–26.8
25–34 years	0.4	0.0–1.3	21.6	14.7–28.4	2.9	1.7–4.1	23.6	19.8–27.3
35–44 years	2.1	0.2–4.1	30.2	23.5–36.9	3.7	2.4–5.1	26.9	23.9–30.0
45–54 years	5.9	2.3–9.5	29.7	23.2–36.2	4.9	3.4–6.4	26.0	23.1–28.9
55–64 years	9.2	3.3–15.0	35.3	26.5–44.0	5.0	3.2–6.9	31.7	28.2–35.1
65 years or more	9.5	4.4–14.7	41.1	33.1–49.1	10.2	8.2–12.2	35.2	32.2–38.2
Total	4.5	3.1–5.9	29.2	26.1–32.4	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



In the North and West Metropolitan region, as in Victoria as a whole, levels of inadequate physical activity increased with age. Within the region, levels of inadequate physical activity were highest for men in the 55–64 years age group and for women aged 65 years or more.

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).

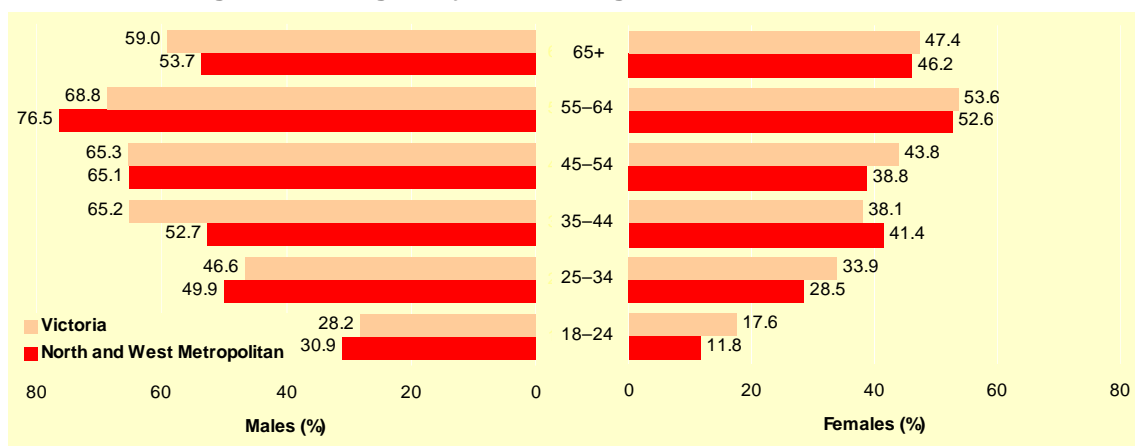
Being overweight refers to increased body weight in relation to height, compared with a standard of acceptable or desirable weight. BMI data were classified into the following categories using the standard cut-offs recommended by the World Health Organization:¹³

- 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 North and West 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 until the age group 55–64 years. The highest proportion of overweight/obese men was in the age group 55–64 years (68.8% for Victoria and 76.5% within the North and West Metropolitan region). The highest proportion of obese/overweight women was also in the age group 55–64 years (53.6% for Victoria and 52.6% within the North and West Metropolitan region).

More than one-quarter (28.9%) of adults in the region were categorised as being overweight. A further 16.0% of adults in the region were categorised as being obese. Overall, being overweight was a little less common within the region than within Victoria, whereas levels of obesity were slightly higher. Within the region, obesity occurred most commonly within the 55–64 years age group for men and within the 45–54 years age group for women.

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

Sex Age group	North and West Metropolitan				Victoria			
	Overweight		Obese		Overweight		Obese	
	(%)	95% confidence interval	(%)	95% confidence interval	(%)	95% confidence interval	(%)	95% confidence interval
Males								
18–24 years	28.4	13.1–43.7	2.5	0.0–6.3	22.2	15.0–29.4	6.0	2.9–9.0
25–34 years	34.5	21.2–47.7	15.5	5.6–25.4	32.3	25.5–39.1	14.3	9.7–18.9
35–44 years	38.0	26.4–49.6	14.6	6.8–22.4	48.6	43.0–54.1	16.6	12.8–20.4
45–54 years	37.5	26.4–48.5	27.6	17.4–37.8	45.5	40.3–50.6	19.8	15.7–23.9
55–64 years	36.4	22.3–50.4	40.1	25.4–54.9	44.0	38.3–49.7	24.8	19.5–30.1
65 years or more	40.6	29.3–51.9	13.1	5.0–21.2	43.7	39.2–48.3	15.3	12.1–18.5
Total	35.9	30.5–41.2	18.1	14.0–22.3	40.0	37.5–42.5	16.3	14.6–18.0
Females								
18–24 years	7.6	0.0–15.6	4.2	0.0–10.1	12.4	7.7–17.0	5.2	2.2–8.1
25–34 years	19.4	11.9–26.9	9.1	3.7–14.6	21.4	17.3–25.5	12.5	9.3–15.7
35–44 years	28.8	21.0–36.6	12.7	6.9–18.4	24.0	20.6–27.4	14.1	11.4–16.8
45–54 years	17.2	10.5–23.8	21.6	14.6–28.6	25.6	22.0–29.3	18.2	15.1–21.3
55–64 years	34.5	24.7–44.4	18.0	10.0–26.1	31.6	27.6–35.7	22.0	18.3–25.7
65 years or more	26.9	16.6–37.3	19.2	9.8–28.6	32.0	27.9–36.0	15.4	12.1–18.6
Total	22.2	18.7–25.7	13.8	11.0–16.7	24.9	23.3–26.6	14.7	13.4–16.0
Persons								
18–24 years	18.0	9.1–26.9	3.4	0.0–6.9	17.4	13.0–21.8	5.6	3.5–7.7
25–34 years	26.9	19.2–34.6	12.3	6.6–17.9	26.8	22.9–30.8	13.4	10.6–16.2
35–44 years	33.4	26.4–40.4	13.6	8.8–18.5	36.1	32.8–39.5	15.4	13.0–17.7
45–54 years	27.2	20.7–33.8	24.6	18.4–30.8	35.4	32.2–38.6	19.0	16.4–21.6
55–64 years	35.5	26.9–44.1	29.1	20.3–38.0	37.8	34.3–41.3	23.4	20.2–26.6
65 years or more	33.0	25.4–40.7	16.5	10.1–22.8	37.2	34.1–40.2	15.3	13.0–17.6
Total	28.9	25.7–32.1	16.0	13.5–18.5	32.3	30.8–33.8	15.5	14.4–16.6

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 North and West Metropolitan region.

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

Sex	Age group	North and West Metropolitan		Victoria	
		(%)	95% confidence interval	(%)	95% confidence interval
Males	18–24 years	0.0	0.0–0.0	2.6	0.6–4.6
	25–34 years	10.6	1.7–19.5	8.9	4.8–13.1
	35–44 years	12.0	4.9–19.1	11.8	8.4–15.3
	45–54 years	25.6	16.1–35.1	23.6	19.4–27.8
	55–64 years	33.7	19.9–47.5	35.0	29.6–40.4
	65 years or more	53.0	41.5–64.5	54.4	49.9–59.0
	Total	20.3	16.2–24.4	22.2	20.3–24.1
Females	18–24 years	0.8	0.0–2.5	2.8	0.6–5.1
	25–34 years	11.7	4.8–18.6	13.1	9.7–16.5
	35–44 years	16.3	10.0–22.5	14.3	11.7–17.0
	45–54 years	22.7	15.3–30.2	25.6	21.8–29.4
	55–64 years	44.9	34.5–55.4	39.6	35.3–43.9
	65 years or more	63.1	52.0–74.1	59.2	55.0–63.5
	Total	24.9	21.2–28.6	26.7	25.0–28.3
Persons	18–24 years	0.4	0.0–1.2	2.7	1.2–4.2
	25–34 years	11.2	5.5–16.8	11.0	8.3–13.7
	35–44 years	14.1	9.4–18.9	13.1	10.9–15.3
	45–54 years	24.1	18.1–30.1	24.6	21.8–27.4
	55–64 years	39.3	30.5–48.0	37.3	33.8–40.8
	65 years or more	58.6	50.6–66.6	57.1	54.0–60.2
	Total	22.6	19.9–25.4	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 North and West Metropolitan 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?

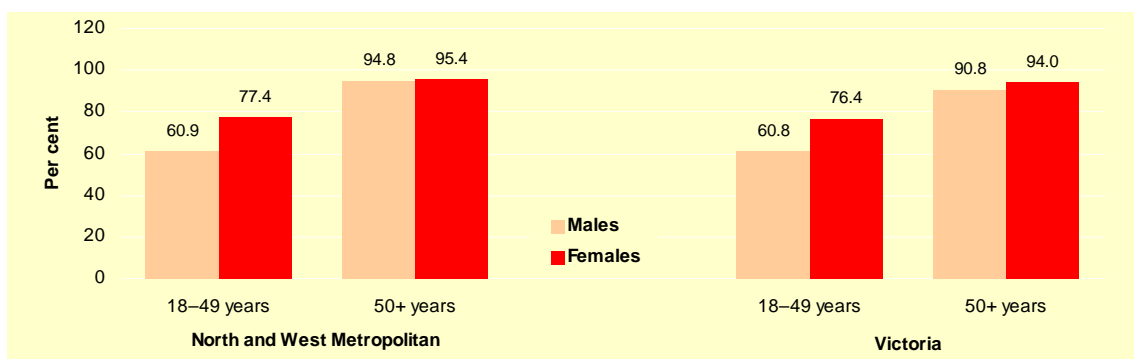
It is recommended that all adults have their blood pressure checked regularly, primarily to identify high blood pressure, also known as hypertension.¹⁴ Table 15 shows the percentage of adults, in the North and West Metropolitan region and in Victoria, who report having had their blood pressure checked 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	North and West Metropolitan		Victoria	
		(%)	95% confidence interval	(%)	95% confidence interval
Males	18–49 years	60.9	53.4–68.3	60.8	57.2–64.4
	50 years or more	94.8	91.6–98.0	90.8	88.9–92.7
	Total	72.5	67.2–77.9	72.5	70.1–75.0
Females	18–49 years	77.4	72.3–82.4	76.4	74.0–78.8
	50 years or more	95.4	92.9–98.0	94.0	92.8–95.2
	Total	83.6	80.1–87.2	83.6	82.1–85.2
Persons	18–49 years	69.2	64.7–73.8	68.7	66.5–70.9
	50 years or more	95.1	93.1–97.2	92.5	91.4–93.6
	Total	78.2	75.0–81.4	78.2	76.8–79.7

In the North and West Metropolitan region almost 80% of adults reported having had their blood pressure checked within the past two years, including 95.1% of 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

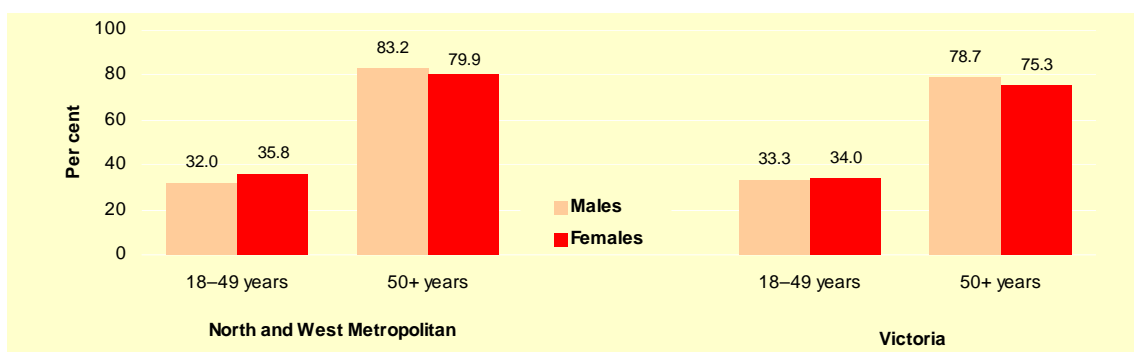
Table 16 shows the percentage of adults in the North and West Metropolitan region and in Victoria who have had their blood cholesterol checked within the previous two years.

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	North and West Metropolitan		Victoria	
		(%)	95% confidence interval	(%)	95% confidence interval
Males	18–49 years	32.0	25.3–38.7	33.3	30.0–36.7
	50 years or more	83.2	77.4–89.1	78.7	76.0–81.4
	Total	49.6	44.0–55.3	51.1	48.5–53.7
Females	18–49 years	35.8	30.5–41.1	34.0	31.5–36.6
	50 years or more	79.9	74.7–85.2	75.3	72.9–77.6
	Total	51.1	46.7–55.6	50.9	48.9–52.9
Persons	18–49 years	33.9	29.6–38.2	33.7	31.6–35.8
	50 years or more	81.5	77.6–85.5	76.9	75.2–78.7
	Total	50.4	46.8–54.0	51.0	49.4–52.6

Reported levels of cholesterol testing for adults living in the North and West Metropolitan region were similar to those for Victoria as a whole. Screening rates were highest for those aged 50 years or more.

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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Acknowledgements

Produced by the **Heart Foundation** with the assistance of the **Department of Human Services**. All data in this fact sheet were provided via the Department of Human Services.

- 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>.