

Victorian Population Health Survey

The *Victorian Burden of Disease Study* highlights a number of health and lifestyle-related factors that contribute to the total disease burden experienced at the population level. For women in the EMR, such factors include alcohol consumption, low fruit and vegetable intake, tobacco consumption, high cholesterol and high blood pressure, physical inactivity, obesity, and intimate partner violence. These factors are associated with an increased risk of a range of diseases and conditions (for example, cardiovascular diseases and some cancers) and are often further implicated beyond onset and diagnosis to the management and prognosis of those affected.

Such health and lifestyle-related factors are largely avoidable and modifiable, which means there is considerable scope for health planners to intervene at the individual (behavioural) level to influence the disease burden over time. It is important to remember, however, that public health interventions must not be directed solely at the individual/behavioural level, since socio-economic factors play an equally important role (if not more so) in determining the health and wellbeing status of populations.²⁶ Indeed, each of the health and lifestyle-related factors mentioned above are variously inflected by socio-economic circumstances. Moreover, a strong case can be made for the relationship between the occurrence of intimate partner violence and the socially constructed gender roles that pervade everyday life – roles that generally give men more power over women (in both public and private domains) and foster a tolerance of violence against women.²⁷

The *Victorian Population Health Survey* (VPHS) was established in 1998. The survey is designed to provide information to health planners and decision makers about key health and lifestyle-related factors that contribute to the health (illness) status of Victorians aged 18 years and over. The content of the survey was confirmed after reviewing the determinants of

²⁶ The association between socio-economic status and health and wellbeing is well established in the field of public health. People who experience low socio-economic status carry a greater burden of ill health (morbidity and disability) and live shorter lives than those who are better off. The more a person experiences disadvantage, the worse their prospects for good health (also known as the 'social gradient' in health). For more on socio-economic status, see Volume 1: Social Profile.

²⁷ See Barwon South-Western Regional Women's Health (2006), 'Women and Violence', Women's Health Victoria: Melbourne, <http://whv.org.au/publications-resources/women-s-health-banners>, accessed 27/09/10.

chronic diseases/conditions that have a significant impact on Victorians. Priority was given to areas in which public health interventions are most likely to be effective in improving health and the disease burden. In terms of health and lifestyle-related factors, the survey prioritises the following: alcohol consumption, nutrition and physical activity, smoking, overweight and obesity, and health checks (blood pressure, blood cholesterol and blood glucose).

The survey has been conducted annually since 1999 (this first survey was a demonstration survey).²⁸ In 2008, the survey sample was expanded to 34,168 (from 7,500 in previous years).²⁹ Findings from this most recent survey have been collated and published as LGA factsheets, making available data at the LGA level for the first time since the survey's inception.³⁰ The most recent findings for the EMR's LGAs are summarised below.³¹ The following discussion also includes additional information and data where relevant to (and readily available for) the factors being considered.

Alcohol Consumption

The consumption of alcohol at low or moderate levels can yield health benefits for some people.³² But regular excessive consumption of alcohol over time places people at increased risk of chronic ill health. Conditions include cirrhosis of the liver, cognitive impairment, heart and blood disorders, ulcers, some cancers, and damage to the pancreas. Episodes of heavy drinking can also place the drinker (and others) at risk of injury or death.

The *Australian Alcohol Guidelines: Health Risks and Benefits* specify three risk levels of alcohol consumption over the short term and long term.

²⁸ The *Victorian Population Health Survey* is now administered through the Prevention and Population Health Branch, Wellbeing, Integrated Care and Ageing Division, Department of Health, <http://www.health.vic.gov.au/healthstatus/vphs.htm>, accessed 27/09/10.

²⁹ Computer-assisted telephone interviews were undertaken between August and December 2008. A representative statewide sample of adults aged 18 years or more was randomly selected from households across Victoria.

³⁰ LGA factsheets are available at http://www.health.vic.gov.au/healthstatus/vphs_current.htm.

³¹ Sex-disaggregated figures contained in this report relate to the factsheets for the region's LGAs and were provided by the Health Intelligence Unit of the Prevention and Population Health Branch, Wellbeing, Integrated Care and Ageing Division, Department of Health, as a special request. All LGA estimates in the figures provided and presented in this report have been age standardised to the 2006 Victorian population.

³² For this discussion, see Prevention and Population Health Branch, Wellbeing, Integrated Care and Ageing Division, Department of Health (2010) *Victorian Population Health Survey 2008: Selected Findings*, p. 51, http://www.health.vic.gov.au/healthstatus/vphs_current.htm, accessed 11/10/10.

- 'Low risk' is a level of drinking where the risk of harm is minimal and there are possible benefits.
- 'Risky' is a level of drinking at which the risk of harm outweighs any possible benefit.
- 'High risk' is a level of drinking at which there is substantial risk of serious harm and above which risk increases rapidly.

Results from the 2008 VPHS show the following for short-term risk of alcohol-related harm:

- Females in Whitehorse (23.9%) are most likely to be at risk or high risk of short-term harm on a yearly basis. Meanwhile, females in Boroondara (16.3%) are most likely to be at risk or high risk on a monthly basis, and females in Knox (9.7%) are most likely to be at risk or high risk on a weekly basis.
- Across the region, females are generally less likely than males to be at risk or high risk of short-term harm (whether on a yearly, monthly or weekly basis). The exception is in Monash where females are more likely than males to be at risk of short-term harm at least yearly.

Short-term Risk of Alcohol-related Harm for Females, 2008 Eastern Metropolitan Region Local Government Areas and Victoria									
At Risk or High Risk									
	At Low Risk		At Least Yearly		At Least Monthly		At Least Weekly		
	%	95.0% CI	%	95.0% CI	%	95.0% CI	%	95% CI	
Boroondara	40.8%	34.6–47.4	19.3%	14.3–25.7	16.3%	11.6–22.4	4.9%	2.5–9.4	
Knox	36.8%	31.1–42.8	21.2%	16.4–26.9	10.5%	6.6–16.3	9.7%	5.7–16.2	
Manningham	40.7%	34.7–47.0	20.0%	14.6–26.9	8.2%	4.6–13.9	3.2%	1.4–7.5	
Maroondah	48.6%	41.9–55.4	20.3%	15.0–26.9	7.1%	3.7–13.3	6.9%	3.3–14.2	
Monash	44.7%	38.4–51.2	19.1%	14.2–25.3	8.5%	5.3–13.4	7.3%	4.2–12.5	
Whitehorse	41.5%	35.4–47.9	23.9%	17.8–31.4	8.5%	4.2–16.4	4.5%	2.2–8.8	
Yarra Ranges	40.8%	34.9–47.1	19.3%	14.3–25.6	7.8%	4.7–12.7	7.3%	4.4–11.9	
Victoria	39.2%	38.2–40.2	19.9%	19.0–20.8	10.4%	9.7–11.1	6.9%	6.3–7.6	

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Short-term Risk of Alcohol-related Harm for Males, 2008 Eastern Metropolitan Region Local Government Areas and Victoria								
At Risk or High Risk								
	At Low Risk		At Least Yearly		At Least Monthly		At Least Weekly	
	%	95.0% CI	%	95.0% CI	%	95.0% CI	%	95% CI
Boroondara	37.1%	30.0–44.8	30.2%	22.5–39.3	18.3%	12.1–26.8	8.0%	4.6–13.6
Knox	33.1%	25.7–41.6	23.2%	17.3–30.3	10.6%	6.6–16.8	19.2%	13.5–26.6
Manningham	40.5%	32.8–48.6	22.6%	15.8–31.4	11.2%	7.2–17.0	8.5%	4.1–16.9
Maroondah	28.1%	21.6–35.6	24.4%	17.5–32.8	19.8%	14.2–27.0	15.7%	10.0–23.8
Monash	44.9%	35.3–54.8	14.9%	10.3–21.2	16.3%	9.9–25.7	10.2%	5.5–18.3
Whitehorse	32.7%	25.5–40.8	32.1%	24.7–40.6	12.4%	7.7–19.2	11.9%	7.2–19.0
Yarra Ranges	27.7%	21.9–34.3	21.4%	15.4–29.1	17.6%	11.8–25.3	18.2%	12.7–25.4
Victoria	33.3%	32.1–34.4	24.3%	23.1–25.5	15.8%	14.8–16.9	13.6%	12.7–14.6

VPHS 2008 results show the following for long-term risk of alcohol-related harm:

- Females in Maroondah (80.1%) are most likely to be a low risk of long-term harm and females in Knox (3.8%) are most likely to be at higher risk of long-term harm.
- Across the region, females are less likely than males to be at risk or higher risk of alcohol-related harms in the long term.

Long-term Risk of Alcohol-related Harm for Females, 2008 Eastern Metropolitan Region Local Government Areas and Victoria						
	Abstainer		Low Risk		Risky/High Risk	
	%	95.0% CI	%	95.0% CI	%	95.0% CI
Boroondara	17.3%	12.0–24.3	79.4%	72.2–85.2	2.0%	1.0–4.0
Knox	21.5%	17.0–26.9	74.1%	68.3–79.1	3.8%	1.8–7.5
Manningham	27.6%	21.4–34.9	68.2%	60.7–74.8	2.6%	0.9–7.4
Maroondah	17.0%	12.6–22.5	80.1%	74.2–84.9	2.6%	1.1–6.0
Monash	20.3%	15.4–26.3	76.1%	69.8–81.5	3.3%	1.4–7.6
Whitehorse	21.2%	16.5–26.8	75.2%	69.5–80.1	2.9%	1.5–5.6
Yarra Ranges	23.5%	18.3–29.7	73.7%	67.5–79.1	2.0%	1.0–4.3
Victoria	23.0%	22.2–23.9	73.2%	72.2–74.1	3.1%	2.7–3.4

Source: Prevention and Population Health Branch, Department of Health,
Victorian Population Health Survey 2008

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Long-term Risk of Alcohol-related Harm for Males, 2008 Eastern Metropolitan Region Local Government Areas and Victoria						
	Abstainer		Low Risk		Risky/High Risk	
	%	95.0% CI	%	95.0% CI	%	95.0% CI
Boroondara	6.3%	3.0–12.6	90.5%	84.0–94.5	3.2%	1.3–7.3
Knox	13.0%	8.2–19.9	76.8%	68.7–83.2	8.6%	4.7–15.2
Manningham	17.2%	11.0–26.0	74.9%	66.2–82.0	7.7%	3.5–16.2
Maroondah	10.9%	6.7–17.1	82.8%	75.6–88.2	6.0%	3.1–11.3
Monash	13.6%	8.1–21.9	81.2%	72.2–87.8	3.6%	1.3–9.4
Whitehorse	10.5%	6.1–17.5	86.4%	79.2–91.3	2.9%	1.1–7.6
Yarra Ranges	14.2%	10.3–19.3	80.5%	74.4–85.5	5.3%	2.6–10.2
Victoria	12.6%	11.7–13.5	82.2%	81.1–83.2	4.3%	3.8–4.9

Source: Prevention and Population Health Branch, Department of Health,
Victorian Population Health Survey 2008

Women and Alcohol

Whilst the figures above show that harm from drinking alcohol is less likely to be a problem for the region's women than men, there are gender-specific issues to consider in relation to women and alcohol. According to Gippsland Women's Health Service.³³

- Rates of drinking amongst young women are increasing and at some levels exceeding those of young men.
- Women often carry the burden of other people's drinking problems. In some ways, the biggest issue for women in terms of problematic alcohol use is the drinking of others. Women, for example, are likely to take on the care of family members who drink such as partners and/or children.
- Women's drinking is less socially acceptable than men's drinking, and the stigma and fear of consequences in seeking help can mean women are reluctant to admit to a drinking problem.
- When intoxicated, women are more likely to engage in unprotected sex placing them at higher risk of unplanned pregnancies and sexually transmitted infections. Intoxicated women are also at increased risk of violence and sexual assault.

Nutrition and Physical Activity

Plant foods have been found to protect against a range of heart-related diseases and conditions including coronary heart disease, high blood pressure, obesity and non-insulin dependent diabetes.³⁴ Conversely, inadequate consumption of fruit and vegetables has been identified as a risk factor for a number of chronic diseases including coronary heart disease and stroke.

Current Australian guidelines recommend a daily vegetable intake of five serves for persons aged 19 years or more, where a serve is defined as half a cup of cooked vegetables or a cup of salad vegetables. The recommended daily fruit intake is two serves for persons aged 19 years or more, where a serve is defined as one medium piece or two small pieces of fruit, or one cup of diced pieces.

³³ Gippsland Women's Health Service (2006), 'Women and Alcohol', <http://whv.org.au/publications-resources/women-s-health-banners>, accessed 11/10/10.

³⁴ For this discussion, see National Heart Foundation of Australia and Department of Human Services (2007) *Cardiovascular Disease Fact Sheet: Eastern Metropolitan Region*, http://www.health.vic.gov.au/healthstatus/vphs_previous_fs.htm, accessed 11/10/10.

Findings for the VPHS 2008 show that:

- Females in Whitehorse (61.6%) and Maroondah (12.6%) are most likely to meet current guidelines for daily fruit intake and vegetable intake respectively. Meanwhile, females in Yarra Ranges (49.9%) and Monash (8.8%) are least likely to meet current guidelines for daily fruit intake and vegetable intake respectively.
- Across the region, females are more likely than males to meet current guidelines for daily fruit intake and vegetable intake, although the difference between females and males in Monash and Yarra Ranges are less pronounced than in the other LGAs.

Daily Fruit and Vegetable Consumption for Females, 2008 Eastern Metropolitan Region Local Government Areas and Victoria						
	Fruit Guidelines		Vegetable Guidelines		Both Guidelines	
	%	95.0% CI	%	95.0% CI	%	95.0% CI
Boroondara	60.1%	53.6–66.3	11.2%	7.7–16.1	7.3%	4.6–11.4
Knox	52.3%	45.4–59.1	11.9%	7.9–17.5	10.0%	6.3–15.5
Manningham	58.6%	51.3–65.6	12.2%	8.6–17.2	9.1%	6.1–13.4
Maroondah	60.2%	52.3–67.5	12.6%	8.7–17.9	10.2%	6.6–15.4
Monash	50.0%	43.3–56.6	8.8%	5.8–13.2	7.1%	4.3–11.3
Whitehorse	61.6%	55.3–67.6	10.3%	7.3–14.5	8.6%	5.7–12.7
Yarra Ranges	49.9%	43.1–56.7	9.6%	6.6–13.8	6.5%	4.2–10.0
Victoria	53.5%	52.4–54.6	10.7%	10.1–11.3	8.0%	7.5–8.6

Daily Fruit and Vegetable Consumption for Males, 2008 Eastern Metropolitan Region Local Government Areas and Victoria						
	Fruit Guidelines		Vegetable Guidelines		Both Guidelines	
	%	95.0% CI	%	95.0% CI	%	95.0% CI
Boroondara	42.4%	34.3–51.0	5.7%	2.5–12.6	1.5%	0.6–3.8
Knox	38.2%	30.0–47.1	3.3%	1.6–6.6	2.5%	1.1–5.8
Manningham	49.3%	40.0–58.7	3.7%	1.7–7.9	3.1%	1.3–7.5
Maroondah	38.2%	30.2–46.8	5.2%	2.7–9.9	1.5%	0.4–5.0
Monash	38.8%	30.8–47.3	7.4%	3.6–14.9	6.3%	2.7–14.0
Whitehorse	44.5%	36.6–52.8	5.8%	3.3–10.0	3.8%	1.8–7.6
Yarra Ranges	49.7%	41.9–57.5	8.6%	5.2–13.8	4.1%	2.1–7.7
Victoria	41.0%	39.7–42.4	5.0%	4.5–5.6	3.2%	2.8–3.6

Source: Prevention and Population Health Branch, Department of Health,
Victorian Population Health Survey 2008

Physical inactivity is a major modifiable risk factor for a range of diseases and conditions including cardiovascular diseases, diabetes, obesity, some cancers, and falls amongst the elderly. Current *National Physical Activity Guidelines for Australians* recommend that in order to benefit from physical activity individuals need to accrue at least 150 minutes of moderate-intensity activity on a regular basis through the week. For those with an adequate baseline level of fitness, extra benefits are achieved by undertaking at least 30 minutes of regular vigorous exercise on three to four days of the week.³⁵

Findings for the VPHS 2008 show that:

- Females in Maroondah (31.1%) are most likely to spend an insufficient time on physical activity through the week for there to be benefits. Meanwhile, females in Boroondara (67.7%) are most likely to spend sufficient time on physical activity through the week to achieve benefits.
- Across the region, females are generally less likely than males to spend sufficient time on physical activity through the week to achieve benefits (especially in Knox and Monash). The exceptions are in Manningham and Yarra Ranges where females are slightly more likely than males to spend sufficient time on physical activity through the week to achieve benefits.

Levels of Physical Activity of Females, 2008 Eastern Metropolitan Region Local Government Areas and Victoria						
	Sedentary		Insufficient Levels		Sufficient Levels	
	%	95.0% CI	%	95.0% CI	%	95.0% CI
Boroondara	2.8%	1.5–5.2	25.5%	20.0–31.9	67.7%	61.2–73.7
Knox	7.6%	5.0–11.3	27.9%	22.4–34.1	58.6%	52.3–64.7
Manningham	3.5%	2.0–6.3	27.7%	21.8–34.3	63.4%	56.7–69.7
Maroondah	2.6%	1.5–4.5	31.1%	24.8–38.2	60.9%	53.9–67.5
Monash	5.3%	3.1–8.7	27.5%	22.5–33.2	55.4%	49.1–61.6
Whitehorse	4.9%	3.0–7.9	30.2%	23.6–37.7	60.2%	52.6–67.3
Yarra Ranges	5.3%	3.2–8.6	25.3%	19.7–31.9	62.3%	55.3–68.8
Victoria	5.4%	5.0–5.9	27.2%	26.3–28.2	59.7%	58.7–60.7

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³⁵ For this discussion, see Prevention and Population Health Branch, Wellbeing, Integrated Care and Ageing Division, Department of Health (2010) *Victorian Population Health Survey 2008: Selected Findings*, p. 51, http://www.health.vic.gov.au/healthstatus/vphs_current.htm, accessed 11/10/10.

Levels of Physical Activity of Males, 2008 Eastern Metropolitan Region Local Government Areas and Victoria						
	Sedentary		Insufficient Levels		Sufficient Levels	
	%	95.0% CI	%	95.0% CI	%	95.0% CI
Boroondara	1.2%	0.4–3.6	29.0%	21.8–37.4	68.4%	60.1–75.8
Knox	3.1%	1.4–6.9	25.3%	18.9–32.9	67.9%	60.4–74.5
Manningham	5.6%	3.2–9.7	29.1%	21.3–38.3	61.9%	52.6–70.4
Maroondah	5.8%	3.1–10.8	20.2%	14.7–27.1	64.4%	56.4–72.2
Monash	3.0%	1.3–6.6	26.6%	19.2–35.5	65.0%	56.1–73.0
Whitehorse	7.4%	4.7–11.6	23.8%	17.3–31.7	64.2%	55.6–72.0
Yarra Ranges	6.9%	3.8–12.2	26.2%	19.6–34.1	60.5%	52.4–68.1
Victoria	5.1%	4.6–5.6	27.5%	26.3–28.7	61.0%	59.7–62.3

Source: Prevention and Population Health Branch, Department of Health,
Victorian Population Health Survey 2008

Women and Nutrition

Whilst women in the region are more likely than men to meet the dietary guidelines for fruit and vegetable intake thereby reducing their risk of chronic diseases, it is important to remember the socio-economic realities of women's lives. The fact is that women tend to be over-represented in disadvantaged groups, and those experiencing disadvantage often have fewer resources to facilitate healthy behaviours and lifestyle choices – such as consumption of recommended daily amounts of fruit and vegetables.³⁶

Women and Physical Activity

The figures from the VPHS 2008 suggest that women in the region are generally less likely than men to spend sufficient time on physical activity through the week to achieve benefits. Gender-specific barriers to physical activity exist for many women. Many women typically juggle primary care responsibilities, household work and paid work in their lives, which leaves little time and energy for physical activity. Studies show that the more children a woman has, the less likely she is to exercise regularly.

The most recent ABS *Multi-purpose Household Survey* (2005–2006) included questions relating to participation in sport and recreation activities. The study found that males are more likely than females to report insufficient time because of work or study as their main

³⁶ Women's Health Grampians (2006) 'Women and Heart Disease', <http://whv.org.au/publications-resources/women-s-health-banners>, accessed 11/10/10. Readers can refer to Volume 1: Social Profile of this report for more detailed information about women's socio-economic status.

constraint to participation; whereas almost twice the number of females compared with males indicated their main reason as insufficient time due to family commitments. ³⁷

Other gender-specific considerations include the following:

- Women experiencing socio-economic disadvantage are less likely to exercise regularly because of perceptions of (and actual) associated costs.
- Women can feel uncomfortable undertaking physical activity in public areas because of sexist attitudes, unwelcoming spaces for women, and expectations about women's 'place', i.e. in the home and caring for others rather than themselves.

Smoking

Smoking is a major risk factor for several major diseases and conditions such as coronary heart disease, stroke and peripheral vascular disease.³⁸ It is also associated with numerous types of cancers. Smoking is of concern during pregnancy given the evidence of its impact on foetal growth.

Findings from the VPHS 2008 show that:

- Females in Knox (24.2%) are most likely to be current smokers, whilst females in Whitehorse (7.1%) are least likely to be.
- Across the region, females are less likely than males to be current smokers, although the difference in Yarra Ranges is less pronounced than in other LGAs.

Women and Smoking

Whilst women in the region are less likely than men to be current smokers and are thereby less at risk of smoking-related health conditions and diseases, there are gender-specific issues to consider in relation to women and smoking. According to Women's Health Victoria:³⁹

- The tobacco industry specifically targets women using marketing techniques that include alliances with companies selling products to women.

³⁷ Australian Bureau of Statistics (2007) *Participation in Sports and Physical Recreation, Australia, 2005–2006*, Latest Issue Release at 11:30 a.m. (Canberra time) 14/02/07, <http://www.abs.gov.au/AUSSTATS/abs@.nsf/Lookup/4177.0Main+Features12005-06?OpenDocument>, accessed 11/10/10.

³⁸ For this discussion, see National Heart Foundation of Australia and Department of Human Services (2006) *Cardiovascular Disease Fact Sheet: Cardiovascular Disease Fact Sheet: Eastern Metropolitan Region*, http://www.health.vic.gov.au/healthstatus/vphs_previous_fs.htm, accessed 11/10/10.

³⁹ Women's Health Victoria (2006) 'Women and Smoking', <http://whv.org.au/publications-resources/women-s-health-banners>, accessed 11/10/10. Readers can refer to Volume 1: Social Profile of this report for more detailed information about women's socio-economic status.

- Smoking is linked to isolation and the care-giving role. Women account for more than 80.0% of lone-parent households in Australia, and around 46.0% of single mothers smoke. In addition, the highest smoking rate in this group is in women aged 19–25 years, at around 59.0%.
- Some young women and girls take up smoking as a method of controlling appetite and weight. Fear of weight gain is a social factor that contributes to the smoking status of women.
- Socio-economic disadvantage is associated with increased rates of smoking, and as noted previously women are disproportionately represented in those experiencing disadvantage.

Smoking Status of Females, 2008 Eastern Metropolitan Region Local Government Areas and Victoria						
	Current Smoker		Ex Smoker		Non Smoker	
	%	95.0% CI	%	95.0% CI	%	95.0% CI
Boroondara	9.1%	5.7–14.1	18.6%	14.1–24.2	72.0%	65.6–77.6
Knox	24.2%	18.8–30.6	18.7%	14.7–23.5	57.1%	50.3–63.6
Manningham	9.5%	5.7–15.5	14.4%	10.1–20.3	76.0%	68.9–81.9
Maroondah	11.8%	7.7–17.5	20.5%	16.2–25.7	67.4%	60.9–73.4
Monash	15.3%	11.1–20.7	19.7%	15.3–25.1	64.8%	58.3–70.8
Whitehorse	7.1%	4.5–11.2	15.1%	11.2–20.0	77.8%	72.5–82.3
Yarra Ranges	20.4%	15.3–26.6	21.2%	17.1–26.0	58.4%	51.7–64.9
Victoria	16.9%	16.1–17.8	20.4%	19.6–21.1	62.4%	61.4–63.4

Smoking Status of Males, 2008 Eastern Metropolitan Region Local Government Areas and Victoria						
	Current Smoker		Ex Smoker		Non Smoker	
	%	95.0% CI	%	95.0% CI	%	95.0% CI
Boroondara	18.0%	11.7–26.8	25.8%	19.8–32.9	55.0%	46.1–63.7
Knox	30.2%	23.0–38.4	26.6%	20.8–33.3	43.3%	35.3–51.6
Manningham	19.8%	13.0–28.9	16.5%	11.8–22.6	63.7%	54.5–72.0
Maroondah	23.9%	17.2–32.3	27.5%	20.8–35.3	48.6%	41.2–56.1
Monash	20.4%	13.1–30.3	21.7%	16.0–28.8	57.5%	47.9–66.6
Whitehorse	18.6%	12.3–27.1	31.5%	25.3–38.3	50.0%	41.3–58.6
Yarra Ranges	21.6%	15.5–29.3	26.4%	20.2–33.6	52.0%	44.0–59.9
Victoria	21.4%	20.2–22.6	27.6%	26.6–28.7	50.7%	49.4–52.0

Source: Prevention and Population Health Branch, Department of Health,
Victorian Population Health Survey 2008

Overweight and Obesity

Being overweight or obese is associated with increased risk of developing type 2 diabetes, cardiovascular diseases and high blood pressure.⁴⁰ The 'body mass index' (BMI) is one way to measure a population's weight status. BMI is weight divided by height. VPHS classifies BMI data into four categories following recommendations by the World Health Organisation.

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

Being overweight can be caused by increases in body fat or muscle mass/lean tissue. Those with a BMI of 25.0 and higher because of lean tissue mass are not necessarily overweight.

Studies collecting information on self-reported height and weight show that respondents tend to underestimate their weight and overestimate their height resulting in an underestimation of BMI. This means that any population estimates of overweight or obesity prevalence based on self-reported information are likely to underestimate the extent of the problem.⁴¹

Findings for the VPHS 2008 show that:

- Females in Maroondah (25.0%) and Knox (25.0%) are most likely to be in the overweight category according to their BMI. Females in Yarra Ranges (20.2%) are most likely to be in the obese category.
- Across the region, females are less likely than males to be overweight; however, females in Manningham, Monash and Yarra Ranges are more likely than their male counterparts to be obese.

⁴⁰ For this discussion, see National Heart Foundation of Australia and Department of Human Services (2006) *Cardiovascular Disease Fact Sheet: Cardiovascular Disease Fact Sheet: Eastern Metropolitan Region*, http://www.health.vic.gov.au/healthstatus/vphs_previous_fs.htm, accessed 11/10/10.

⁴¹ See Prevention and Population Health Branch, Wellbeing, Integrated Care and Ageing Division, Department of Health (2010) *Victorian Population Health Survey 2008: Selected Findings*, p. 210, http://www.health.vic.gov.au/healthstatus/vphs_current.htm, accessed 11/10/10.

Overweight and Obesity of Females, 2008 Eastern Metropolitan Region Local Government Areas and Victoria						
	Healthy Weight		Overweight		Obese	
	%	95.0% CI	%	95.0% CI	%	95.0% CI
Boroondara	65.9%	59.3–72.0	19.1%	14.6–24.7	6.0%	3.7–9.7
Knox	49.0%	42.6–55.4	23.6%	18.1–30.1	15.4%	11.6–20.2
Manningham	54.8%	47.9–61.5	22.3%	17.2–27.3	15.2%	11.0–19.4
Maroondah	47.9%	40.4–55.5	25.0%	19.7–31.3	11.5%	8.2–16.1
Monash	48.0%	41.6–54.5	20.1%	15.8–25.2	18.8%	14.7–23.8
Whitehorse	57.8%	51.7–63.6	25.0%	19.9–30.8	10.1%	7.3–13.8
Yarra Ranges	43.5%	37.0–50.2	23.8%	18.5–30.1	20.2%	15.5–26.0
Victoria	48.1%	47.1–49.2	24.2%	23.4–25.1	16.1%	15.4–16.8

Overweight and Obesity of Males, 2008 Eastern Metropolitan Region Local Government Areas and Victoria						
	Healthy Weight		Overweight		Obese	
	%	95.0% CI	%	95.0% CI	%	95.0% CI
Boroondara	55.2%	46.6–63.6	31.1%	24.4–38.7	9.5%	5.0–17.3
Knox	35.9%	27.6–44.1	40.9%	32.7–49.5	19.1%	13.6–26.3
Manningham	44.7%	36.1–53.6	40.5%	32.5–49.1	12.9%	8.7–18.8
Maroondah	33.1%	26.2–40.9	43.2%	34.5–52.3	20.4%	14.2–28.4
Monash	44.4%	35.2–54.1	35.7%	27.9–44.4	13.4%	8.6–20.2
Whitehorse	43.3%	35.1–51.9	40.6%	32.6–49.2	14.6%	10.2–20.4
Yarra Ranges	37.2%	30.5–44.5	43.5%	36.6–50.5	14.0%	9.4–20.4
Victoria	38.6%	37.3–40.0	39.9%	38.7–41.2	17.3%	16.3–18.2

Source: Prevention and Population Health Branch, Department of Health, *Victorian Population Health Survey 2008*

Women and Weight

Whilst women in the region are less likely than men to be overweight, and (with the exception of Manningham, Monash and Yarra Ranges) are generally less likely than men to be obese, there are a number of gender-specific issues to consider in relation to women and weight.

Obesity and unhealthy weight, like so many other health and lifestyle-related risk factors, are more common to those experiencing socio-economic disadvantage; and women are more likely than men to be amongst the disadvantaged. According to Women's Health Victoria, the rate of obesity amongst women who are most disadvantaged is twice that of women who are least disadvantaged.⁴²

⁴² Women's Health Victoria (2008) 'Gender Health Impact Assessment: Cardiovascular Disease', <http://whv.org.au/publications-resources/gender-impact-assessments>, accessed 11/10/10.

Health Checks (Blood Pressure, Blood Cholesterol and Blood Glucose)

High blood pressure (also known as hypertension) is considered a health problem that is itself strongly associated with other conditions such as cardiovascular diseases.⁴³ Moreover, an individual's risk of cardiovascular diseases increases the higher their blood pressure. Modifiable factors contributing to high blood pressure include poor nutrition (especially a diet high in salt), low levels of physical activity, obesity, and high levels of alcohol consumption. Adults are advised to have their blood pressure checked regularly.

Raised blood cholesterol is a risk factor for conditions such as coronary heart disease, stroke and peripheral vascular disease. Regular cholesterol checks are recommended for people at high risk of these diseases. These include people with a significant family history of coronary heart disease (i.e. with affected first-degree relatives at less than 60 years of age), those who are overweight or obese, those with hypertension, and smokers. People aged 45 years and over are advised to undertake regular cholesterol checks.

Diabetes is a significant health problem that can lead to potentially lethal complications including heart attack, stroke and kidney failure. It can also lead to a range of morbidities including blindness, lower limb amputation, and erectile dysfunction; and it is associated with depression. People at risk of diabetes include those who are physically inactive, overweight or obese persons, those with high total cholesterol, and those with high blood pressure. Blood glucose tests detect the development of (or predisposition to) diabetes mellitus.

The VPHS 2008 asked respondents about checks for blood pressure, blood cholesterol and blood glucose in the past two years. Findings for the VPHS 2008 show that:

- Females in Whitehorse (86.8%) are most likely to have had their blood pressure checked in the past two years; females in Yarra Ranges (80.9%) are least likely to have done so. Females in Manningham (58.6%) are most likely to have taken a blood cholesterol test in the past two years; females in Maroondah (49.0%) are least likely to have done so. Females in Manningham (58.7%) are most likely to have taken a blood glucose test in the past two years; females in Boroondara (47.3%) are least likely to have done so.
- Across the region, females are more likely than males to have had their blood pressure checked in the past two years. Females are generally less likely than males

⁴³ For this discussion, see Prevention and Population Health Branch, Wellbeing, Integrated Care and Ageing Division, Department of Health (2010) *Victorian Population Health Survey 2008: Selected Findings*, p. 131, p. 139 and p. 147, http://www.health.vic.gov.au/healthstatus/vphs_current.htm, and Diabetes Australia – Victoria, <http://www.diabetesvic.org.au/media-centre/diabetes-epidemic>, both accessed 11/10/10.

to have taken a blood cholesterol test in the past two years (the exception is in Yarra Ranges). Females in Boroondara, Manningham and Yarra Ranges are more likely than their male counterparts to have taken a blood glucose test in the past two years, whilst females in Knox, Maroondah, Monash and Whitehorse are less likely than their male counterparts to have done so.

Health Checks in the Past 2 Years for Females, 2008 Eastern Metropolitan Region Local Government Areas and Victoria						
	Blood Pressure		Blood Cholesterol		Blood Glucose	
	%	95.0% CI	%	95.0% CI	%	95.0% CI
Boroondara	85.0%	78.6–89.7	50.5%	44.5–56.6	47.3%	41.1–53.5
Knox	84.9%	79.1–89.3	53.9%	47.6–60.1	55.7%	49.0–62.2
Manningham	81.4%	74.8–86.7	58.6%	52.3–64.6	58.7%	51.6–65.5
Maroondah	81.8%	75.8–86.6	49.0%	42.8–55.2	50.9%	43.7–58.0
Monash	81.4%	75.5–86.1	58.1%	52.3–63.7	54.2%	48.1–60.1
Whitehorse	86.8%	81.0–91.0	52.0%	46.5–57.4	48.5%	42.7–54.3
Yarra Ranges	80.9%	74.9–85.8	56.9%	50.4–63.1	52.6%	46.0–59.2
Victoria	83.5%	82.6–84.3	55.2%	54.3–56.2	53.4%	52.4–54.4

Health Checks in the Past 2 Years for Males, 2008 Eastern Metropolitan Region Local Government Areas and Victoria						
	Blood Pressure		Blood Cholesterol		Blood Glucose	
	%	95.0% CI	%	95.0% CI	%	95.0% CI
Boroondara	74.7%	66.1–81.7	50.8%	44.3–57.4	46.7%	39.6–53.8
Knox	77.6%	69.1–84.3	64.1%	55.5–71.8	57.5%	49.1–65.4
Manningham	71.6%	62.4–79.3	60.6%	51.6–69.0	56.7%	48.7–64.3
Maroondah	73.5%	65.0–80.6	53.6%	47.0–60.2	51.9%	44.5–59.2
Monash	79.8%	69.2–87.4	63.2%	56.9–69.2	59.7%	51.2–67.7
Whitehorse	69.8%	61.8–76.8	56.4%	49.3–63.3	52.3%	45.1–59.4
Yarra Ranges	69.6%	61.8–76.3	54.1%	46.9–61.2	45.2%	37.9–52.6
Victoria	75.6%	74.4–76.8	57.9%	56.7–59.0	51.2%	50.0–52.4

Source: Prevention and Population Health Branch, Department of Health,
Victorian Population Health Survey 2008

Tests for Bowel Cancer

In July 2008, the National Bowel Cancer Screening Program began mailing invitations to people in the community to participate in the national screening program for bowel cancer.⁴⁴ Faecal occult blood test kits were sent out to be completed then forwarded to a pathology lab for analysis. People eligible for the tests were those turning 50 years of age between January 2008 and December 2010, and those turning 55 or 65 between July 2008 and December 2010.

The VPHS 2008 asked respondents over 50 years of age whether they had had a bowel test to detect bowel cancer in the past two years (as part of the screening program or otherwise) and if so what kind of test was done (i.e. colonoscopy, faecal occult blood test kits, flexible sigmoidoscopy or barium enema). Findings for the VPHS 2008 show that:

- Females aged 50 years or more in Boroondara (31.2%) are most likely to have had tests for bowel cancer in the past two years, whereas their counterparts in Monash (23.7%) are least likely to have done so.
- Across the region, females aged 50 years or more are less likely than their male counterparts to have had tests for bowel cancer in the past two years.

Females and Males Aged 50+ Years Tests for Bowel Cancer in the Past 2 Years, 2008 Eastern Metropolitan Region Local Government Areas and Victoria				
	Females		Males	
	%	95.0% CI	%	95.0% CI
Boroondara	31.2%	23.6-40.0	44.8%	33.8-56.4
Knox	28.0%	21.1-36.2	28.3%	19.5-39.2
Manningham	23.8%	17.5-31.3	28.3%	19.4-39.2
Maroondah	29.0%	21.6-37.7	31.4%	22.3-42.3
Monash	23.7%	17.0-32.1	37.8%	27.6-49.2
Whitehorse	26.0%	19.3-34.0	32.0%	23.2-42.2
Yarra Ranges	24.7%	17.6-33.4	25.3%	18.3-34.0
Victoria	25.6%	24.4-26.7	33.5%	31.9-35.0

Source: Prevention and Population Health Branch, Department of Health, *Victorian Population Health Survey 2008*

⁴⁴ For this discussion, see Prevention and Population Health Branch, Wellbeing, Integrated Care and Ageing Division, Department of Health (2010) *Victorian Population Health Survey 2008: Selected Findings*, p. 155, http://www.health.vic.gov.au/healthstatus/vphs_current.htm, accessed 11/10/10.

Screening for Breast Cancer

BreastScreen Australia actively recruits women aged 50–69 years to participate in the national mammography screening program for breast cancer.⁴⁵ The program specifically targets asymptomatic women aged 50–69 years for mammograms, although women aged 40–49 years and 70 years and over are able to attend for screening if they wish.

The VPHS 2008 survey asked female respondents aged 50 years and over whether had had a mammogram in the past two years. Findings for the VPHS 2008 show that females in Knox (89.1%) were most likely to have had a mammogram in the past two years, whereas females in Maroondah (69.7%) were least likely to have done so.

Females Aged 50–69 Years Mammogram in the Past 2 Years, 2008 Eastern Metropolitan Region Local Government Areas and Victoria		
	Females	
	%	95.0% CI
Boroondara	81.5%	70.7-88.9
Knox	89.1%	80.8-94.1
Manningham	82.6%	73.8-88.9
Maroondah	69.7%	57.5-79.6
Monash	77.0%	66.5-85.0
Whitehorse	76.0%	65.9-83.9
Yarra Ranges	74.5%	64.1-82.6
Victoria	75.9%	74.5-77.2

Source: Prevention and Population Health Branch, Department of Health,
Victorian Population Health Survey 2008

⁴⁵ See BreastScreen Australia,
<http://www.cancerscreening.gov.au/internet/screening/publishing.nsf/Content/breastscreen-about>.

Participation in the National Cervical Cancer Screening Program



Screening for Cervical Cancer

New cases of cervical cancer are currently diagnosed in about 160 Victorian women each year.⁴⁶ Cervical cancer is almost always linked to the human papilloma virus (HPV). Unlike many other cancers, screening for cancer of the cervix is possible because cervical cells pass through a series of detectable changes (dysplasia) before they become cancerous. Indeed, the main risk factor for cervical cancer is non-participation in regular screening (i.e. every two years) through a Pap test. It is estimated that regular Pap tests save more than 1,200 Australian women each year from developing cervical cancer. Of those who develop cervical cancer, most have never had a Pap test or did not have them regularly.

Since its introduction in the 1980s, the National Cervical Screening Program has seen the death rate from cervical cancer in Victoria decrease steadily to being amongst the lowest in the world. The program is administered in Victoria through PapScreen Victoria.

According to the Victorian Cervical Cytology Registry (VCCR), we are currently seeing a slight decline in the screening participation rate of eligible Victorian women, with an estimated 61.3% rate for the two-year period of 2008 and 2009 compared with 62.3% for 2007 and 2008.⁴⁷ The introduction of the National HPV Vaccination Program in 2007 has emphasised the importance of ongoing regular Pap tests for vaccinated young women eligible to participate in the National Cervical Screening Program. The latest VCCR figures for 2008 and 2009 do show a slight decline in the participation rate of young women aged 20–24 years, an age group that includes many young women who would have been vaccinated through the National HPV Vaccination Catch-up Program.

Even though the majority of eligible women in Victoria are currently presenting for regular screening, the figures show that more than one-third are missing out on the Pap test.

⁴⁶ For this discussion, see 'Cervical Cancer and Pap Test Statistics', PapScreen Victoria, <http://www.papscreen.org.au/website/forhealthprofessional/cervicalcancerpapteststatistics>, and 'Cervical Cancer', Better Health Channel, http://www.betterhealth.vic.gov.au/bhcv2/bhcarticles.nsf/pages/Cervical_cancer?OpenDocument, both accessed 11/10/10.

⁴⁷ Victorian Cervical Cytology Registry (n.d.) *Statistical Report 2009*, <http://www.vccr.org/stats.html>, accessed 24/11/10. Eligible women are between 18–70 years of age who have had sexual intercourse and who retain a cervix. The screening program targets eligible women aged 20–69 years.

According to PapScreen Victoria, challenges exist in the recruitment of under-screened or unscreened women to the program. These include (and not limited to) the following.⁴⁸

- lack of information and understanding about the test;
- belief that cervical cancer will not affect them;
- fear of Pap tests, or bad past experiences;
- lack of transport and/or access to health services;
- fear of results/not wanting to know the results;
- cultural and language difficulties for women from diverse backgrounds;
- embarrassment/awkward nature of the test;
- difficulty in accessing a provider of their choice;
- being busy or forgetting when it is due; and
- barriers associated with a disability.

Specific sub-groups of women likely to be under-screening or not presenting to services include women identifying as Aboriginal or Torres Strait Islander, women from culturally and linguistically diverse backgrounds, women who have experienced childhood sexual abuse, women with disabilities, women with mental illness, women in prison, women in remote areas.

Participation rates in the National Cervical Screening Program can be helpful to health planners in identifying local areas in need of interventions to redress barriers to regular screening. When considered in the light of socio-economic and demographic information (such as those detailed in Volume 1: Social Profile of this report), specific sub-groups of women can be identified and further supported to attend screening services on a regular basis.

Participation Rates in the Region

The participation rates of women aged 20–69 years estimated to be eligible for a Pap test were sourced through VCCR for the 24-month period of 2008 and 2009 (calendar years). Figures were requested at the postcode level, and are represented in the tables that follow (along with the suburbs they refer to). It is noted that postcodes and their suburbs do not always concord exactly with LGA boundaries. The following table places some postcodes and suburbs in the LGA that ‘best fits’ their actual location.⁴⁹

⁴⁸ ‘Barriers to Screening for Women’, PapScreen Victoria, <http://www.papscreen.org.au/website/forhealthprofessional/barrierstoscreening>, accessed 11/10/10.

⁴⁹ Ashwood is a suburb that lies in Boroondara and Monash and has been placed in the table under Boroondara along with suburbs sharing the 3147 postcode. Bayswater North is a suburb that lies in Knox and Maroondah and has been placed in the table under Knox along with suburbs sharing the 3153 postcode. Burwood is a suburb that lies in Monash and Whitehorse and has been placed in the table under Whitehorse along with suburbs sharing the 3125 postcode. Kilsyth and Kilsyth South are suburbs

Other data notes to consider before proceeding lie in the imprecision of calculations and vulnerability to measurement error because of the denominators and numerators used. According to VCCR, the biggest impact on denominator error comes from uncertainty about hysterectomy rates since only women with a cervix are considered eligible for cervical screening.⁵⁰ The biggest impact on numerator error comes from imperfect record-linkage between multiple smears from the same woman (resulting in an overestimate of the number of women screened) and inaccuracies in the database regarding whether the Pap test was taken from a woman with or without a cervix. Because of the associated imprecision, data on participation rates should be interpreted with caution – particularly with regard to postcodes/suburbs and age groups with small numbers of women involved.

The following tables show the participation rates of eligible women across the region's postcodes and their suburbs by 10 year age groups. The numbers in the table represent the women who had at least one Pap test in the time period, and who appear to have a cervix, i.e. who have not had a hysterectomy according to information held by VCCR. The percentages are the numbers of women screened as a proportion of the ABS female estimate resident population for each postcode after adjustment for the proportion estimated to have had a hysterectomy.⁵¹ In other words, the percentages reflect the estimated proportions of women with a cervix who have had at least one Pap test in the time period (adjusted for hysterectomy).

that lie in Maroondah and Yarra Ranges and have been placed in the table under Yarra Ranges. Lysterfield and Upper Ferntree Gully are localities that lie in Knox and Yarra Ranges and have been placed in the table under Knox along with suburbs sharing the 3156 postcode. Nunawading is a suburb that lies in Manningham and Whitehorse and has been placed in the table under Whitehorse along with suburbs sharing the 3131 postcode. Ringwood North and Warrandyte South are suburbs that lie in Manningham and Maroondah and have been placed in the table under Maroondah along with suburbs sharing the 3134 postcode. Sassafra is a locality that lies in Knox and Yarra Ranges and has been placed in the table under Yarra Ranges along with localities that share the 3787 postcode. Surrey Hills is a suburb that lies in Boroondara and Whitehorse and has been placed in the table under Whitehorse along with suburbs sharing the 3127 postcode.

⁵⁰ The VCCR uses estimates of the number of women who have had a hysterectomy from the 2004–2005 *National Health Survey* and then applies these to each postcode. Whilst the appropriateness of this method of estimating the numbers of eligible women is frequently debated, in the absence of local hysterectomy rates it has been considered to be the best approach.

⁵¹ Using 2006 ABS population data. VCCR applies the average of 2008 revised figures and 2009 preliminary figures.

Postcodes and suburbs with low screening rates in the five 10-year age groups (relative to Victorian figures for 2008 and 2009) would indicate areas of interest to practitioners for health promotion interventions.

Screening Participation Rates of Women in Boroondara, 2008 and 2009											
Postcodes and Suburbs		20–29 Years		30–39 Years		40–49 Years		50–59 Years		60–69 Years	
		No. Women Screened	% Eligible Women	No. Women Screened	% Eligible Women	No. Women Screened	% Eligible Women	No. Women Screened	% Eligible Women	No. Women Screened	% Eligible Women
3101	Kew	990	47.8%	1133	71.4%	1185	74.1%	996	81.4%	575	78.1%
3102	Kew E	201	45.8%	332	62.1%	403	86.5%	260	89.7%	185	101.1%
3103	Balwyn, Deepdene	470	44.8%	512	72.8%	859	72.6%	718	78.0%	380	72.4%
3104	Balwyn N	545	49.2%	734	67.1%	1267	73.7%	829	78.0%	495	75.2%
3122	Hawthorn	1496	50.8%	1316	76.2%	908	84.3%	727	87.3%	488	91.9%
3123	Hawthorn East	679	38.4%	674	59.9%	567	66.3%	465	74.9%	242	65.6%
3124	Camberwell, Camberwell N, S and W, Middle Camberwell	831	58.9%	901	74.0%	1168	82.4%	1020	85.8%	516	77.5%
3126	Camberwell E, Canterbury	328	64.7%	254	72.6%	490	78.7%	444	90.4%	227	90.8%
3146	Glen Iris	965	52.0%	1195	67.4%	1323	74.8%	995	79.5%	526	70.0%
3147	Ashburton, Ashwood	442	47.4%	695	72.2%	714	72.0%	486	72.0%	271	71.1%

Screening Participation Rates of Women in Knox, 2008 and 2009											
Postcodes and Suburbs		20–29 Years		30–39 Years		40–49 Years		50–59 Years		60–69 Years	
		No. Women Screened	% Eligible Women	No. Women Screened	% Eligible Women	No. Women Screened	% Eligible Women	No. Women Screened	% Eligible Women	No. Women Screened	% Eligible Women
3152	Knox City Centre, Studfield, Wantirna, Wantirna S	1188	48.9%	1165	67.0%	1518	65.4%	1677	81.4%	681	65.6%
3153	Bayswater, Bayswater N	740	46.3%	868	61.7%	719	58.5%	606	61.8%	383	58.0%
3154	The Basin	166	61.7%	236	65.2%	227	87.0%	168	79.6%	74	67.3%
3155	Boronia	815	49.4%	910	62.8%	871	65.0%	772	68.7%	465	59.4%
3156	Ferntree Gully, Upper Ferntree Gully, Mountain Gate, Lysterfield	1273	55.0%	1662	63.7%	1822	70.7%	1311	70.3%	658	63.3%
3178	Rowville	1132	47.6%	1799	66.2%	2082	67.9%	1182	72.0%	461	65.2%
3179	Scoresby	238	52.8%	282	64.2%	272	64.0%	274	78.3%	142	78.0%
3180	Knoxfield	249	52.1%	314	64.1%	319	73.3%	293	72.7%	182	71.1%

Screening Participation Rates of Women in Manningham, 2008 and 2009											
		20–29 Years		30–39 Years		40–49 Years		50–59 Years		60–69 Years	
Postcodes and Suburbs		No. Women Screened	% Eligible Women	No. Women Screened	% Eligible Women	No. Women Screened	% Eligible Women	No. Women Screened	% Eligible Women	No. Women Screened	% Eligible Women
3105	Bulleen	292	43.6%	539	73.5%	501	74.8%	385	74.9%	370	66.8%
3106	Templestowe	567	47.9%	668	67.0%	951	74.4%	874	80.4%	558	88.6%
3107	Templestowe Lower	344	43.1%	629	69.8%	601	75.7%	472	69.3%	560	77.5%
3108	Doncaster	627	51.2%	756	65.2%	887	74.2%	735	74.5%	641	70.1%
3109	Doncaster E, Doncaster Heights	808	42.4%	1152	66.9%	1365	64.9%	1108	74.5%	844	72.6%
3111	Donvale	379	51.6%	493	66.2%	619	68.0%	492	80.4%	329	67.7%
3113	North Warrandyte, Warrandyte	281	66.6%	397	76.8%	528	78.0%	468	90.9%	215	83.0%
3114	Park Orchards	97	54.5%	121	61.1%	229	79.0%	179	90.4%	107	67.7%
3115	Wonga Park	108	45.2%	175	59.1%	241	66.2%	173	70.0%	82	65.1%

Screening Participation Rates of Women in Maroondah, 2008 and 2009											
		20–29 Years		30–39 Years		40–49 Years		50–59 Years		60–69 Years	
Postcodes and Suburbs		No. Women Screened	% Eligible Women	No. Women Screened	% Eligible Women	No. Women Screened	% Eligible Women	No. Women Screened	% Eligible Women	No. Women Screened	% Eligible Women
3134	Ringwood, Warranwood, Warrandyte S, Ringwood N	1022	49.6%	1510	68.5%	1545	72.5%	1099	72.7%	745	75.6%
3135	Heathmont, Ringwood E	575	46.0%	883	67.7%	765	63.4%	602	67.4%	481	65.6%
3136	Croydon, Croydon Hills, Croydon N, Croydon S	1414	50.0%	1807	64.1%	1818	65.7%	1468	71.5%	877	60.1%

Screening Participation Rates of Women in Monash, 2008 and 2009											
Postcodes and Suburbs		20–29 Years		30–39 Years		40–49 Years		50–59 Years		60–69 Years	
		No. Women Screened	% Eligible Women	No. Women Screened	% Eligible Women	No. Women Screened	% Eligible Women	No. Women Screened	% Eligible Women	No. Women Screened	% Eligible Women
3148	Chadstone	348	38.5%	461	82.5%	302	75.1%	289	90.6%	166	80.6%
3149	Mount Waverley, Syndal	936	44.1%	1284	64.1%	1557	69.5%	1220	79.3%	893	71.2%
3150	Glen Waverley, Wheeler's Hill	1563	41.0%	2067	61.3%	2859	68.4%	2590	75.1%	1833	69.6%
3166	Hughesdale, Huntingdale, Oakleigh, Oakleigh E	759	38.4%	1183	64.6%	978	69.9%	573	71.7%	361	63.3%
3167	Oakleigh S	273	40.6%	417	62.2%	428	67.3%	364	83.5%	214	64.5%
3168	Clayton, Notting Hill	822	29.6%	612	63.9%	422	67.6%	334	72.6%	302	81.8%
3170	Mulgrave	616	46.7%	885	70.9%	723	69.3%	729	77.1%	535	72.6%

Screening Participation Rates of Women in Whitehorse, 2008 and 2009											
Postcodes and Suburbs		20–29 Years		30–39 Years		40–49 Years		50–59 Years		60–69 Years	
		No. Women Screened	% Eligible Women	No. Women Screened	% Eligible Women	No. Women Screened	% Eligible Women	No. Women Screened	% Eligible Women	No. Women Screened	% Eligible Women
3125	Bennettswood, Burwood	411	34.6%	535	63.8%	549	85.0%	372	71.3%	286	77.3%
3127	Surrey Hills, Mont Albert	672	53.0%	822	67.4%	1101	78.0%	925	88.8%	432	84.7%
3128	Box Hill, Box Hill S, Houston, Wattle Park	762	44.5%	852	68.8%	781	71.8%	606	89.1%	297	69.9%
3129	Box Hill N, Kerrimuir, Mont Albert N	445	35.0%	797	61.5%	726	62.7%	537	67.0%	327	60.2%
3130	Blackburn, Blackburn N, Blackburn S, Laburnum	835	45.4%	1547	68.6%	1508	71.7%	1027	77.7%	694	69.3%
3131	Brentford Square, Forest Hill, Nunawading	601	43.1%	1042	62.9%	883	68.5%	635	71.2%	460	60.6%
3132	Mitcham, Rangeview	522	49.2%	894	66.3%	652	72.6%	467	72.1%	387	77.4%
3133	Vermont S, Vermont	649	49.6%	910	64.8%	968	65.3%	1024	76.6%	690	76.4%
3135	Burwood E, Burwood Heights	575	46.0%	883	67.7%	765	63.4%	602	67.4%	481	65.6%

Screening Participation Rates of Women in Yarra Ranges, 2008 and 2009

Postcodes and Suburbs		20–29 Years		30–39 Years		40–49 Years		50–59 Years		60–69 Years	
		No. Women Screened	% Eligible Women	No. Women Screened	% Eligible Women	No. Women Screened	% Eligible Women	No. Women Screened	% Eligible Women	No. Women Screened	% Eligible Women
3116	Chirnside Park	333	59.8%	370	64.3%	398	66.0%	349	63.2%	240	66.3%
3137	Kilsyth, Kilsyth S	499	56.6%	591	64.6%	603	63.9%	426	67.8%	269	64.2%
3138	Mooroolbark	744	53.3%	854	64.5%	899	63.5%	758	71.7%	392	58.7%
3139	Hoddles Creek, Launching Place, Seville, Wandin N, Yellingbo, Woori Yallock,	438	48.3%	586	61.4%	650	74.3%	480	69.1%	266	68.6%
3140	Lilydale	580	55.9%	672	58.9%	783	72.4%	499	69.6%	264	60.8%
3158	Upwey	241	51.5%	334	71.7%	360	68.2%	329	78.9%	111	77.1%
3159	Menzies Creek, Selby	61	37.9%	143	61.9%	139	50.5%	117	60.0%	47	47.0%
3160	Belgrave, Tecoma	313	60.0%	465	69.5%	492	68.5%	426	76.2%	160	69.3%
3723	Matlock	37	24.7%	55	29.6%	84	42.6%	73	33.2%	84	59.2%
3765	Montrose	243	63.8%	301	72.4%	336	75.5%	280	68.8%	157	74.1%
3766	Kalorama	41	60.3%	68	80.0%	72	80.0%	58	73.4%	30	69.8%
3767	Mount Dandenong	21	36.8%	45	63.4%	54	46.2%	48	56.5%	37	61.7%
3770	Coldstream, Gruyere	114	57.0%	119	59.2%	123	56.9%	97	57.7%	49	46.7%
3775	Christmas Hill, Dixons Creek, Steels Creek, Yarra Glen	101	61.2%	140	50.4%	157	56.1%	147	60.5%	89	61.4%
3777	Healesville, Toolangi	271	57.8%	409	68.6%	504	64.4%	366	62.1%	269	71.2%
3782	Macclesfield, Emerald	217	59.9%	344	67.3%	411	68.5%	374	77.0%	202	83.8%
3786	Ferny Creek	34	49.3%	73	73.0%	72	64.3%	78	73.6%	36	94.7%
3787	Sassafras Gully, Sassafras	34	69.4%	55	85.9%	57	68.7%	57	95.0%	23	82.1%
3788	Olinda	42	48.3%	91	67.4%	81	54.7%	110	84.6%	35	52.2%
3791	Kallista	39	60.0%	61	76.3%	95	99.0%	84	84.0%	37	105.7%
3792	The Patch	29	59.2%	53	101.9%	59	73.8%	63	94.0%	39	84.8%

Continued ...

		20–29 Years		30–39 Years		40–49 Years		50–59 Years		60–69 Years	
		No. Women Screened	% Eligible Women	No. Women Screened	% Eligible Women	No. Women Screened	% Eligible Women	No. Women Screened	% Eligible Women	No. Women Screened	% Eligible Women
3793	Monbulk	104	53.1%	168	77.8%	189	72.7%	153	78.9%	87	76.3%
3795	Silvan	29	26.9%	72	48.6%	66	49.6%	48	41.7%	40	65.6%
3796	Mount Evelyn	313	51.3%	398	57.8%	443	66.0%	356	79.6%	159	71.9%
3797	Gilderoy, Gladesdale, Powelltown, Three Bridges, Yarra Junction	58	45.7%	103	48.1%	133	65.5%	109	61.9%	66	67.3%
3799	McMahons Creek, Millgrove, Warburton, Wesburn	101	41.9%	212	58.4%	271	63.3%	179	63.5%	110	46.8%
3804	Narre Warren E	179	49.6%	268	76.1%	368	66.5%	250	68.1%	111	63.4%

Screening Participation Rates of Women, 2008 and 2009 Eastern Metropolitan Region and Victoria					
	20–29 Years	30–39 Years	40–49 Years	50–59 Years	60–69 Years
	% Eligible Women	% Eligible Women	% Eligible Women	% Eligible Women	% Eligible Women
EMR	48.8%	67.1%	71.5%	74.5%	71.0%
Victoria	48.5%	63.7%	65.5%	69.4%	64.6%

Source: Victorian Cervical Cancer Registry⁵²

⁵² Screening participation rates for the region are based on figures provided in the preceding tables as calculated by VCCR. Victorian figures are from the VCCR *Statistical Report 2009*, <http://www.vccr.org/stats.html>, accessed 24/11/10. The *Statistical Report 2009* includes participation screening rates for women aged 20–69 years for all Victorian LGAs. VCCR applies a conversion file that allocates proportions of postcodes to reflect actual LGA boundaries. Their figures are necessarily different to any summing of figures that could be attempted for the LGA tables above. Readers are therefore asked not to arrive at LGA totals by summing the figures contained in the tables above.