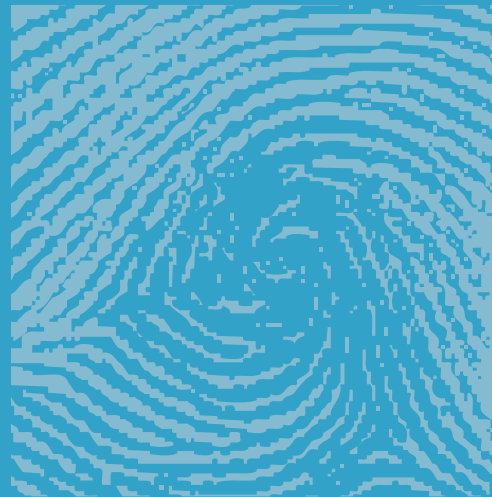


# Victorian Population Health Survey 2002

Selected findings



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**Selected findings**

Department of Human Services

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## Foreword

The Victorian Population Health Survey is an important component of the population health surveillance capacity of the Department of Human Services. The department initiated this survey program in 1998 after a rigorous process of technical evaluation and review. It conducted the first major health survey of Victorians in 2001.

This report contains the key findings from the Victorian Population Health Survey 2002 (the second survey in an ongoing annual series). This survey series will generate high-quality, timely indicators of population health, which are intended to have direct application to evidence-based policy development and strategic planning across the department and the wider community. The Victorian Population Health Survey is based on a core set of question modules that are critical to informing decisions about public health priorities. It fills a significant void in the accessible data that are required to ensure public health programs are relevant and responsive to current and emerging health issues. This report presents comparative information with selected data items from the 2001 survey. Future reports will contain time series data, allowing for comment on trends in selected survey estimates.

The department determined the content of the survey after reviewing the determinants of chronic disease states that are most likely to have an impact on Victorians. It has given priority to areas in which a public health response is likely to be effective in improving health and, importantly, reducing inequalities in health for all Victorians. In the section on health and lifestyle, for example, the survey report contains information on the prevalence of major risk-taking behaviours (smoking, nutrition, alcohol consumption and levels of physical activity) across the Victorian population. Data on self-reported height and weight are now also collected as permanent core items. These data will be vital for targeting public health interventions and evaluating outcomes.

Questions on asthma and diabetes provide indicators for the selected national health priority areas, which are the subject of public health programs in Victoria and nationwide. These data complement the department's Victorian Burden of Disease Study and Victorian Ambulatory Care Sensitive Conditions Study, and they describe aspects of clinical management and prevention that are amenable to public health interventions.

A particular interest is the module of questions on the social determinants of health. The 2001 and 2002 surveys delivered new information based on measures of the extent and diversity of social networks in the Victorian population. For the first time, Victorian data are available to policy-makers, linking preventable risk-taking behaviours, their 'upstream' determinants (such as levels of social networks) and health status. The findings in this report have a direct bearing on State Government policies aimed at tackling social inequalities in health, and they pave the way for a new approach to the surveillance of determinants of preventable chronic disease.

The survey series is an ongoing source of high-quality information on the health of Victorians. This information will underpin our public health efforts in controlling chronic diseases.



**Dr Robert Hall**

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Department of Human Services



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## Summary

The Victorian Population Health Survey 2002 collected a wide range of information relating to the health of the adult Victorian population and the determinants of that health.

### Health and lifestyle

- Of all persons aged 18 years and over, 12.2 per cent usually consumed five or more serves of vegetables each day. A greater proportion of females than males (15.1 per cent and 9.3 per cent respectively) consumed the recommended number of daily serves of vegetables.
- Approximately 55 per cent of persons reported consuming two or more serves of fruit on a usual day. The proportion who consumed the recommended level of fruit consumption each day was greater among females (60.3 per cent) than males (49.0 per cent).
- The proportion of persons who did not consume the recommended daily intake of fruit and vegetables ranged from a maximum of 53.9 per cent among males aged 25-34 years to a minimum of 24.3 per cent among females aged 65 years or over.
- Over half (53.7 per cent) of persons consumed low fat, skim or soya milk, with 38.7 per cent consuming low or reduced fat milk. A higher proportion of females (61.4 per cent) than males (45.8 per cent) consumed these types of milk.
- Of all persons aged 18 years or over, 52.8 per cent of males and 42.2 per cent of females were found to have smoked tobacco products at some point in their lives.
- Overall, 81.0 per cent of persons reported that their home was smoke free, with the proportion ranging from 55.6 per cent of current smokers to 90.6 per cent of nonsmokers.
- Overall, 8.5 per cent persons aged 18 years or over did not undertake any physical activity during the week before the survey.
- The proportion of persons reporting no physical activity was greatest in the oldest age groups, with 14.1 per cent of those aged 65 years or over not undertaking any moderate or vigorous intensity physical activity in the week before the survey.
- After adjusting for differences in age and sex, those persons more likely to be classified as sedentary/insufficiently active were those persons born overseas, persons with lower levels of education, persons in nonprofessional occupations, smokers, overweight persons and persons with lower household incomes.
- Overall, 79.3 per cent of persons reported having had their blood pressure checked in the previous two years.
- Overall, 47.9 per cent of persons indicated having had cholesterol check in the previous two years.
- Overall, 45.3 per cent of persons reported having had a test for diabetes or high blood sugar levels in the previous two years.
- Overall, 14.7 per cent of persons reported having had a bowel examination in the previous two years.
- Overall, 25.2 per cent of persons reported having had a skin examination in the previous two years, with males aged 50 years or over found to be the most likely to have been examined (38.9 per cent).
- Of males, 27.4 per cent reported having had a prostate check (including blood tests) in the previous two years, with 11.0 per cent of males aged less than 50 years and 55.3 per cent of males aged 50 years or over having been tested.
- Overall, 64.2 per cent of persons reported having had a dental check in the previous two years, with females being more likely than males (66.6 per cent and 61.7 per cent respectively) to have used a dental service. Compared with younger respondents, fewer persons aged 50 years or over reported having had a dental check.

### Self-reported health and selected health conditions

- Almost half (47.1 per cent) of all respondents reported their overall health as being excellent or very good, while 35.5 per cent reported that they were in good health.
- After adjusting for age and sex, those respondents more likely to report fair/poor health were those with lower education levels (primary [or secondary]), those in nonprofessional/other occupations, those who were unemployed or not in the labour force, smokers, those with high blood pressure, those in households with lower incomes, those without private health insurance and those living in rented dwellings.

- More than six out of ten females (60.4 per cent) aged 65 years or over had been told by a doctor that they had arthritis.
- Over one-quarter (26.3 per cent) of males aged 65 years or over had been diagnosed with heart disease, as had almost one in five (19.0 per cent) females in this age group.
- Almost 9 per cent of males aged 65 years or over had experienced a stroke. The proportion was lower (6.1 per cent) in females in this age group.
- Over one in five males (21.2 per cent) and 13.4 per cent of females aged 65 years or over had been told by a doctor that they had some form of cancer.
- In all age groups, a higher proportion of females than males reported that they had been diagnosed with depression or anxiety.
- Of females aged 65 years or over, 18.2 per cent reported that they had been told by a doctor that they had osteoporosis.

### Obesity among adults

- Of all persons aged 18 years or over, 45.4 per cent were categorised as either overweight or obese.
- Of males, 52.6 per cent were categorised as overweight or obese.
- Of females, 38.6 per cent were categorised as overweight or obese.
- The proportions of both males and females categorised as being either overweight or obese rose steadily with age until the age group 55-64 years. The highest proportion of overweight males was in the age group 45-54

years (64.2 per cent). The highest proportion of overweight females was in the age group 55-64 years (49.9 per cent).

- After adjusting for age and sex, those respondents more likely to be categorised as being overweight/obese were those who rated their health as good, fair or poor (as opposed to excellent or very good), those living in rural areas, nonprofessionals, nonsmokers, those with high blood pressure, those who reported doing less than 30 minutes per week of vigorous physical activity and those with a high level of psychological distress (as measured by the Kessler 10, or K10-see section 7).

### Asthma prevalence

- An estimated 22.0 per cent of persons aged 18 years or over reported having had asthma ever and 12.6 per cent reported currently having asthma (compared with 22.0 per cent and 12.3 per cent respectively in 2001).
- Younger age groups were most likely to have been diagnosed with asthma at some time in their lives, with 33.0 per cent of persons aged 18-24 years having been told by a doctor that they had the condition.
- Overall, 23.7 per cent of females and 20.1 per cent of males aged 18 years or over had been diagnosed with asthma ever.
- Asthma prevalence was higher among females in most age groups and significantly different between the sexes in the age groups 35-44 years and 65 years or over.

- Half (50.0 per cent) of the respondents who had had asthma symptoms in the 12 months before the survey had been given written instructions or an asthma action plan by their doctor.
- After adjusting for age and sex, those persons more likely to report having been diagnosed with asthma ever were those born in Australia and ex-smokers.

### Diabetes prevalence

- Excluding females diagnosed with diabetes only during pregnancy, 4.5 per cent of persons aged 18 years or over had been told by a doctor that they had diabetes. The reported prevalence of diagnosed type 2 diabetes in persons aged 18 years or over was 3.5 per cent.
- The prevalence of diabetes increased with age for persons aged 18 years or over. Persons aged 65 years or over reported the highest prevalence rate (13.1 per cent).
- Those persons who had diabetes were asked about their visits to health professionals in relation to their condition in the 12 months before the survey. Most (88.4 per cent) had visited their general practitioner/doctor and over half (55.4 per cent) had visited an optometrist or ophthalmologist (table 6.3). Only 34.5 per cent had visited a podiatrist or chiroprast.
- Of all persons aged 18 years or over, 44.3 per cent reported having had a test for diabetes, with a higher proportion of females (46.8 per cent) than males (41.6 per cent) having

undertaken the test in the two years before the survey.

- After adjusting for differences in age and sex, those persons more likely to report having been diagnosed with diabetes or high sugar levels in their blood were those born overseas, those who spoke a language other than English at home, the unemployed, ex-smokers and those who did not have private health insurance.

### **Psychological distress**

- The Kessler 10 psychological distress measure is a set of 10 questions designed to categorise the level of psychological distress over a four-week period (see section 7). Almost 3 per cent of persons aged 18 years or over were categorised as having high levels of psychological distress.
- An estimated 7.4 per cent of persons had accessed professional help for a mental health related problem during the year before the survey.
- Of those who sought professional help for a mental health related problem, most (62.8 per cent) had sought help from a general practitioner. A further 26.6 per cent had had contact with a private counselling service or a psychologist, and 19.3 per cent had had one or more visits with a private psychiatrist.



# 1. Victorian Population Health Survey 2002

## 1.1 Method

The Victorian Population Health Survey 2002 followed a method developed over several years to collect relevant, timely and valid health information for policy, planning and decision-makers. The survey team administered computer-assisted telephone interviewing (CATI) on a representative sample of persons aged 18 years or over who resided in private dwellings in Victoria. The Department of Human Services Human Research Ethics Committee approved the survey method and questionnaire content.

The department outsourced the fieldwork data collection to a market research organisation, which department staff supervised. All data were self-reported and stored directly in the CATI system.

### Survey design

Random digit dialling was used to generate a sample of telephone numbers that formed the household sample for CATI. All residential households with land-line telephone connections were considered in-scope for the survey. A telephonic mode of survey delivery excludes various population groups, such as the homeless or itinerant, those persons in hospitals or institutions, the frail and aged, and those persons with disabilities who are unable to participate in an interview.

## 1.2 Stratification

Five rural and four metropolitan Department of Human Services regions cover Victoria. The survey sample included a total of 7,500

Figure 1.1: Rural regions, Victoria

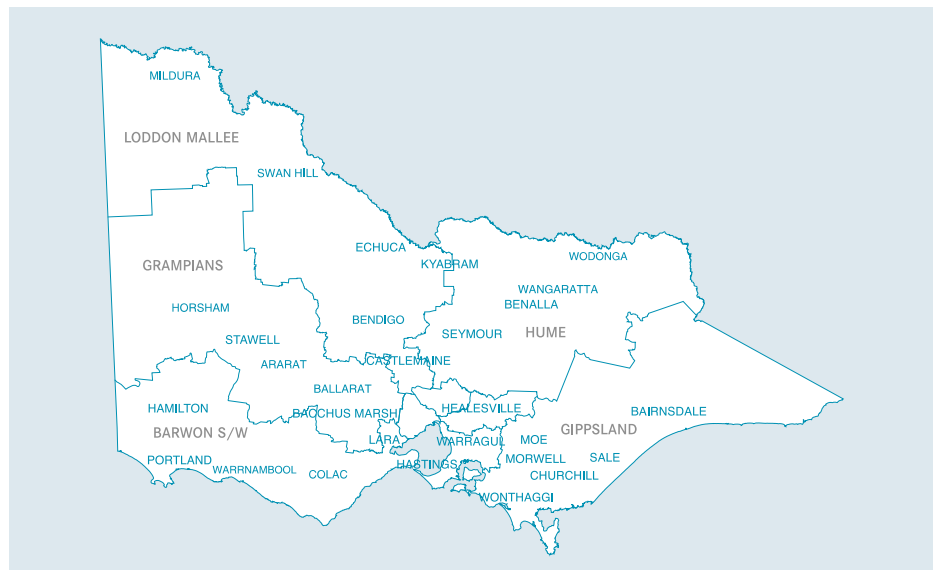


Figure 1.2: Urban regions, Victoria



Figure 1.1

Region	Number of respondents
Barwon south west	903
Grampians	806
Loddon-Mallee	986
Hume	819
Gippsland	902

Figure 1.2

Region	Number of respondents
Western metropolitan	718
Northern metropolitan	713
Eastern metropolitan	803
Southern metropolitan	850

households and was stratified by departmental region. The rural regions were oversampled because inequalities in health between urban and rural Victoria were a major interest.

### 1.3 Sampling frame

The department generated an electronic listing of Victorian six-digit telephone exchange prefixes and localities to form the basis of the sampling frame. It mapped exchange localities to one of the nine departmental regions, then divided the sampling frame into two groups: (i) telephone numbers belonging to a block of 100 numbers without a prefix match in an electronic directory of Victorian household telephone numbers (referred to as 'empty blocks'); and (ii) telephone numbers belonging to blocks with one or more prefix matches in the directory.

#### Sample generation

The 'no empty blocks' approach excluded from the sampling frame those blocks of 100 consecutive telephone numbers known to be less likely to result in private dwelling contact than other blocks of 100 consecutive telephone numbers. This approach maximised fieldwork efficiency and minimised costs. That is, blocks that were likely to be less productive than others were excluded, so as to maintain the fieldwork efficiency that would prevent the costs of pure random digit dialling from being prohibitive.

The department appended randomly generated suffixes to current eligible six-digit telephone number prefixes. It 'washed' these numbers against

current electronic business listings to remove known business numbers. Matching the randomly generated telephone numbers to an electronic directory produced a file of matched telephone numbers, names and addresses. The department used that file to produce the primary approach letters.

#### Primary approach letter

Primary approach letters were mailed to all households where the randomly selected telephone number matched a listing in an electronic directory of Victorian household telephone numbers. Approximately 12,600 primary approach letters were mailed. The letter informed the households that the department was conducting the Victorian Population Health Survey to collect information about health, lifestyles and wellbeing in the community, and outlined the importance of the survey. It also introduced market research company NCS Pearson Pty Ltd as the agency appointed to conduct the survey.

After contacting a household, an interviewer would select for interview the person (usually a resident) aged 18 years or over with the most recent birthday. Seventy-four per cent of the 7500 interviews conducted were from the matched sample. The proportion of interviews from the unmatched sample was higher in the metropolitan areas (13 per cent) than in the rural areas (11 per cent).

Call outcomes from the unmatched sample were characterised by:

- a lower proportion of interviews as eligible telephone numbers

- a higher proportion of noncontacts from eligible telephone numbers
- a higher proportion of refusals by in-scope contacts
- a higher proportion of numbers reaching the end of the call cycle without result.

Throughout the survey period, the department operated a 1800 number, which was identified in the primary approach letter. Individuals contacted about the survey could call this number for further information. The majority of calls received were to arrange an interview time or verify the nature of the survey.

### 1.4 Data collection

The interviewers achieved over two-thirds of completed interviews within the first three calls. This proportion is consistent with national experience on similar projects. A group of more experienced interviewers were chosen for refusal conversions to increase the participation of selected respondents in the survey. This effort ensured respondents were a more representative sample of the population.

### 1.5 Call routine

The interviewers made up to six call attempts to establish contact with a household and up to another nine call attempts to complete an interview where required. Further attempts were made only when there was a clear opportunity for interview at the end of the 15th call. Over two-thirds of interviews were achieved within the first three calls.

Call attempts were spread over different times of the day and different days of the week, and were controlled by a customised call algorithm in the survey management system. Except for engaged numbers at the first call attempt, a noncontact in any specific time block was automatically scheduled for call-back in a different time block as per the call-back routine. A scripted message was left at the first and second calls to an answering machine, encouraging respondents to contact the 1800 number. After establishing contact, interviewers could make calls, by appointment, outside the time block hours.

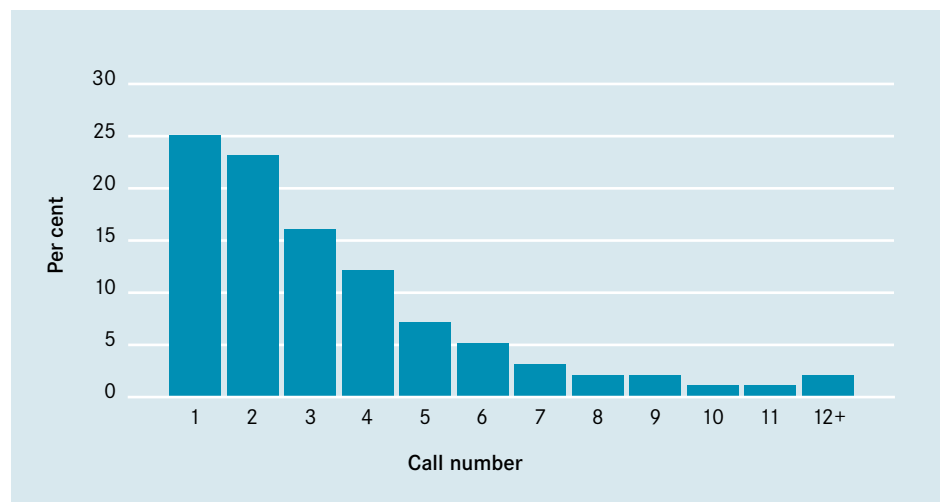
## 1.6 Interviewing in languages other than English

The interviewing process used six community languages. An external agency translated questionnaires into Mandarin, Cantonese, Vietnamese, Italian, Greek and Macedonian. CATI interviewers were recruited to undertake the interviews in these other languages as required. Respondents who received a primary approach letter, which was also translated into these languages, could nominate to be interviewed in their preferred language.

## 1.7 Fieldwork period

The main survey interviewing occurred during August–November 2002 over 12 weeks. This followed two pilot tests of the questionnaire during June–July 2002, a debriefing of interviewers and the modification of the questionnaire as required.

Figure 1.3: Completed interviews, by number of calls



## 1.8 Participation

The participation rate, defined as the proportion of households where contact was made and an interview was then completed, was 65 per cent.

## 1.9 Weighting

The department's project team weighted the survey data to reflect (i) the probability of selection of the respondent within the household and (ii) the age/sex/geographic distribution of the population. Although a single respondent was randomly selected from within a household, the size of any household could vary upwards from one person. To account for this variation, the project team treated each respondent as representing the whole household, so his or her weight factor included a multiplier of the number of persons in the household.

Further, a household might have more than one telephone line (that is, land lines used primarily for contact with

the household), which would increase that household's probability of selection over those households with only one telephone line. To ensure the probability of contacting any household was the same, the project team divided the weight factor by the number of telephone lines connected to the household. The formula for this component was  $n_{ah}/n_{pl}$ , where:

$n_{ah}$  = the number of adults aged 18 years or over in the household

$n_{pl}$  = the number of telephone lines in the household.



## Population benchmark components

Further to the selection weight component, the project team applied a population benchmark component to ensure the adjusted sample distribution matched the population distribution for the combined cross-cells of age group and gender by region (for example, males aged 18-24 years in Barwon South West). The categories used for each of the variables were:

- **age groups:** 18-24 years, 25-34 years, 35-44 years, 45-54 years, 55-64 years and 65 years or over
- **sex:** male, female
- **regions:** Barwon South West, Grampians, Loddon-Mallee, Hume, Gippsland, Eastern Metropolitan, Northern Metropolitan, Western Metropolitan and Southern Metropolitan.

The department's project team calculated the population benchmark component by dividing the population of each cross-cell by the sum of the selection weight components for all the respondents within that cross-cell. For each cross-cell, the formula for this component was:

$$pbmark_i = N_i / \sum sw_{ij}$$

where:

$i$  = the  $i$ th cross-cell

$j$  = the  $j$ th person in the cross cell

$N_i$  = the population of the  $i$ th cross-cell

$\sum sw_{ij}$  = the sum of selection weights for all respondents (1- $j$ ) in the  $i$ th cross-cell.

## Calculation of the person weight

The project team assigned respondent records a weight factor ( $pwt$ ) by multiplying the selection weight ( $sw$ ) value by the population benchmark value ( $pbmark$ ):

$$pwt_{ij} = sw_{ij} * pbmark$$

where:

$i$  = the  $i$ th cross-cell

$j$  = the  $j$ th person in the cross-cell.

## 1.10 Profile of survey respondents

Known population benchmarks for selected data items may be used to assess the representativeness of the sample. Table 1.1 shows the benchmark data and the weighted and unweighted estimates obtained from the survey.

A comparison of benchmark and survey data indicates that:

- Females were more likely than males to participate in the survey.
- Persons younger than 65 years were less likely to participate than persons aged 65 years or over.
- Persons born in Australia were more likely to participate than those born overseas, perhaps as a result of those who did not speak English or any of the six languages offered for interview.
- The survey included a higher proportion of persons not in the labour force.

A small proportion of respondents (0.9 per cent) identified as being Aboriginal or Torres Strait Islander.

(Notes to table 1.1)

- Persons aged 18 years or over. Victorian Department of Infrastructure 2002, Population projections 2001, Melbourne.*
  - Australian Bureau of Statistics 1996 census, AusInfo, Canberra. (The 'never married' category is not directly comparable between the census and the Victorian Population Health Survey 2002 because the latter collected the extra category of 'living with a partner'.)*
  - Australian Bureau of Statistics, 2001 census, AusInfo, Canberra.*
  - Australian Bureau of Statistics, Labour force, August 2002, cat. no. 6202.0, AusInfo, Canberra. Persons aged 15 years and over.*
  - Private Health Insurance Administration Council, www.phiac.gov.au (accessed June 2001).*
- na Not available.*
- \* Survey estimate was significantly lower than benchmark estimate ( $p < 0.05$ ).*
- \*\* Survey estimate was significantly higher than benchmark estimate ( $p < 0.05$ ).*

*Notes: 95 per cent confidence intervals are provided for benchmark data where available. The survey sample was allocated a 60 per cent/40 per cent rural/urban split respectively. Selected benchmark characteristics are for the whole of Victoria.*

Table 1.1: Profile of respondents in the Victorian Population Health Survey 2002

Selected characteristics	Benchmark data (%)	Survey outcome (%)	Survey estimate using probability of selection weights (%)	95% confidence interval (%)
<b>Sex<sup>i</sup></b>				
Male	48.8	38.5	48.8	(47.2-50.4.)
Female	51.2	68.5	51.2	(49.6-52.8)
<b>Age group (years)<sup>i</sup></b>				
18-24	12.8	8.3	12.9	(11.7-14.1)
25-34	19.9	17.2	19.9	(18.6-21.2)
35-44	19.7	22.2	19.7	(18.6-20.8)
45-54	17.7	18.8	17.7	(16.5-18.9)
55-64	12.9	14.5	12.9	(11.9-13.9)
65+	17.0	19.0	17.0	(15.9-18.1)
<b>Marital status<sup>i</sup></b>				
Married	51.5	53.5	57.2**	(55.7-58.7)
Widowed	6.3	9.5	5.9	(5.3-6.5)
Divorced	6.8	7.7	4.9*	(4.3-5.5)
Separated	3.2	5.2	2.9	(2.5-3.3)
Never married	32.2	16.4	20.5	(19.1-21.9)
Living with a partner	na	7.7	8.3	(7.5-9.1)
<b>Country of birth<sup>iii</sup></b>				
Australia	75.2	81.2	74.8	(73.4-76.2)
<b>Labour force status<sup>iv</sup></b>				
Employed	59.7 (58.8-60.5)	55.5	60.1	(58.6-61.6)
Unemployed	3.7 (3.5-4.0)	3.8	3.6	(3.0-4.2)
Not in the labour force	36.6 (35.9-37.2)	37.5	33.8*	(32.4-35.2)
<b>Private health insurance<sup>v</sup></b>				
Yes	43.6	46.9	49.8**	(48.3-51.3)

## 2. Health and lifestyle

### 2.1 Introduction

This section provides descriptive output from the survey for:

- dietary habits
- alcohol consumption
- smoking
- physical activity
- health care use (screening)
- propensity to seek care.

### 2.2 Fruit and vegetable intake

Evidence exists for the protective role of plant foods in a range of health problems including coronary heart disease, hypertension, some forms of cancer (including colon, lung and gastrointestinal cancers), obesity and non-insulin dependent diabetes.<sup>1</sup> Inadequate consumption of fruit and vegetables has been identified as a risk factor in the development of a number of chronic diseases, including coronary heart disease, stroke and many types of cancer, including cancers of the mouth, pharynx, oesophagus, stomach and lungs. The Victorian Burden of Disease Study<sup>2</sup> estimated that 2.8 per cent of total disability-adjusted life years (DALYs) may be attributed to inadequate fruit and vegetable intake (less than seven serves per day). This contribution exceeds that made by alcohol (2.1 per cent), illicit drugs (1.9 per cent), unsafe sex (0.8 per cent) and occupational hazards and exposures (1.7 per cent).

Table 2.1: Daily vegetable consumption, by sex

	Males		Females		Persons	
	%	SE(%)	%	SE(%)	%	SE(%)
<b>Serves of vegetables eaten each day*</b>						
None	3.1	0.4	1.7	0.3	2.4	0.2
One or two serves	60.8	1.2	44.5	1.0	52.5	0.8
Three or four serves	26.4	1.1	38.5	1.0	32.6	0.7
Five or more serves	9.3	0.7	15.1	0.7	12.2	0.5

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

SE = standard error.

Consumption	Recommended daily intake
Fruit	Two serves
Vegetables	Five serves

Evidence regarding the protective effect of vegetables is stronger than that for the protective effect of fruit, although this may be due to the limited range of fruit available in some populations and/or the greater amount of vegetables in most diets.<sup>3</sup> Current Australian guidelines recommend that all persons aged 18 years or over (excluding pregnant and lactating females) consume at least 300 grams (two serves) of fruit and 300 grams (five serves) of vegetables (including legumes) each day to meet their need for essential nutrients.<sup>4</sup>

## Survey results

Of all persons aged 18 years or over, 12.2 per cent usually consumed five or more serves of vegetables each day. A greater proportion of females than males consumed the recommended number of daily serves of vegetables (15.1 per cent and 9.3 per cent respectively). Over half (52.5 per cent) of respondents consumed only one or two serves of vegetables daily, with a higher proportion of males (60.8 per cent) than females (44.5 per cent) doing so. A higher proportion of males than females (3.1 per cent and 1.7 per cent respectively) did not consume any vegetables.

Older persons were found to be the largest consumers of vegetables, with 22.0 per cent of females aged 65 years or over and 14.0 per cent of males in the same age group consuming five or more serves daily (tables 2.2 and 2.3). A further 44.5 per cent of females and 36.6 per cent of males in this age group consumed three or four serves of vegetables each day. Males aged 25-34 years were found to be the least likely to consume five or more serves of vegetables daily, with only 6.7 per cent doing so (figure 2.1). Among females, approximately 9 per cent of those aged 18-24 years and 25-34 years reported eating the recommended quantity of vegetables each day (figure 2.2).

**Table 2.2: Daily vegetable consumption, by age-males**

Age group (years)	Serves of vegetables eaten each day*							
	None		1-2		3-4		5+	
	%	SE(%)	%	SE(%)	%	SE(%)	%	SE(%)
18-24	3.0	1.0	64.0	3.8	23.6	3.4	9.4	2.4
25-34	4.6	1.2	67.5	2.7	20.7	2.3	6.7	1.5
35-44	3.6	0.9	66.5	2.3	21.3	2.0	8.6	1.4
45-54	2.0	0.7	62.3	2.6	26.1	2.5	9.0	1.5
55-64	1.8	0.9	54.3	3.2	34.1	3.1	9.1	1.7
65+	3.2	0.9	45.5	2.8	36.6	2.8	14.0	1.9

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

SE = standard error.

**Table 2.3: Daily vegetable consumption, by age-females**

Age group (years)	Serves of vegetables eaten each day*							
	None		1-2		3-4		5+	
	%	SE(%)	%	SE(%)	%	SE(%)	%	SE(%)
18-24	2.1	0.9	61.1	3.3	27.9	3.0	8.5	2.0
25-34	2.1	0.7	57.5	2.2	31.8	2.1	8.6	1.2
35-44	1.9	0.5	45.6	1.9	39.9	1.9	12.3	1.2
45-54	1.6	0.8	35.0	2.3	43.3	2.4	19.7	1.8
55-64	1.4	0.5	37.9	2.8	41.5	2.7	19.2	2.1
65+	0.9	0.5	32.5	2.3	44.5	2.4	22.0	1.9

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

SE = standard error.

Persons living in rural areas had a higher intake of vegetables, with 15.3 per cent consuming five or more serves daily, compared with 11.1 per cent of persons living in urban Victoria (table 2.4). A greater proportion of rural Victorian adults (36.0 per cent) than of their urban counterparts (31.3 per cent) also consumed three or four serves of vegetables per day.

Figure 2.1: Daily vegetable consumption, by age-males

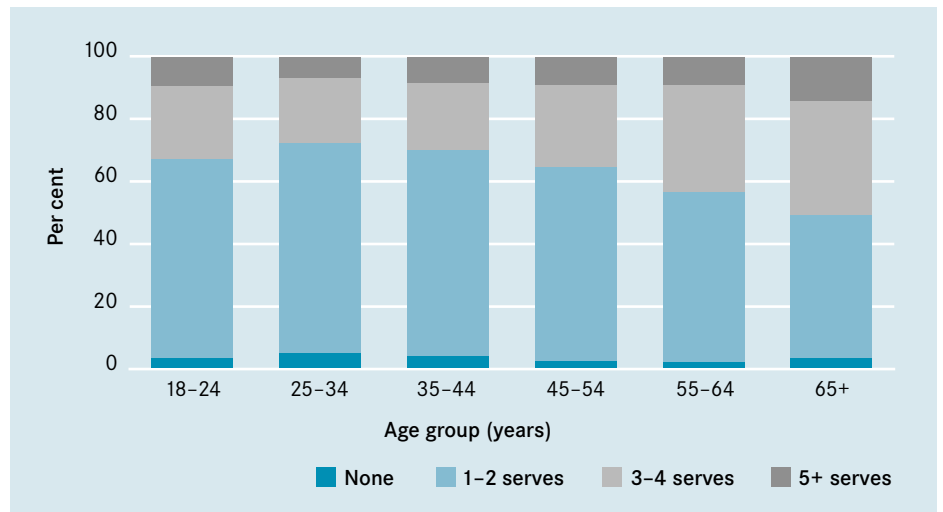
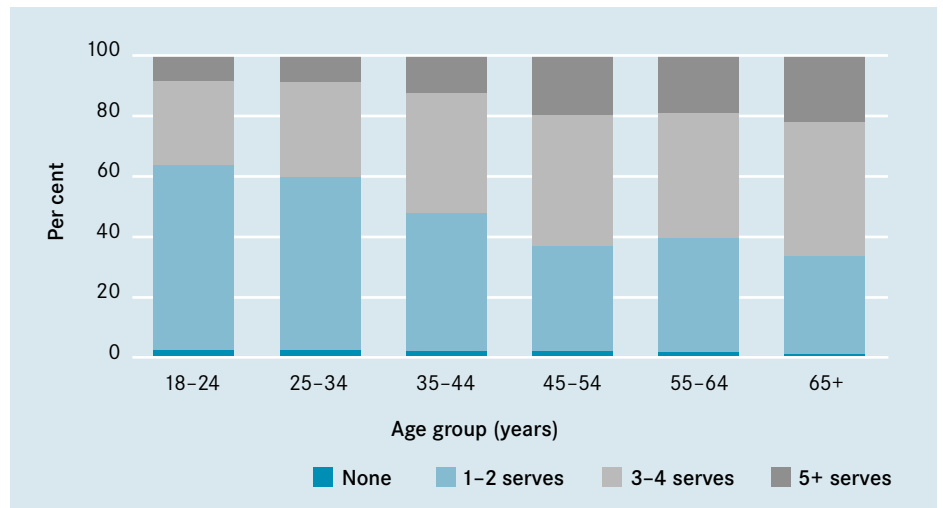


Figure 2.2: Daily vegetable consumption, by age-females



Approximately 55 per cent of persons consumed two or more serves of fruit on a usual day (table 2.5). The proportion who consumed the recommended level of fruit consumption each day was greater among females (60.3 per cent) than males (49.0 per cent). This finding applied in every age group except for those aged 18-24 years, for which a greater proportion of males (52.2 per cent) than females (49.7 per cent) reported this level of consumption (tables 2.6 and 2.7).

The consumption of fruit equal to the recommended two serves or more per day was highest (69.1 per cent) among females aged 65 years or over (figure 2.3). Among males, the same age group was also most likely to consume the recommended level, with 55.1 per cent having two or more serves each day (figure 2.4). The proportion of males who did not consume fruit was highest (15.6 per cent) in the age group 35-44 years; among females, the proportion was highest in the age group 18-24 years (11.3 per cent).

**Table 2.4: Daily vegetable consumption, by area of Victoria**

Serves of vegetables eaten each day*	Urban		Rural	
	%	SE(%)	%	SE(%)
None	2.5	0.3	2.0	0.2
One or two serves	54.6	1.0	46.6	0.9
Three or four serves	31.3	1.0	36.0	0.8
Five or more serves	11.1	0.6	15.3	0.6

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

SE = standard error.

**Table 2.5: Daily fruit consumption, by sex**

Serves of fruit eaten each day*	Males		Females		Persons	
	%	SE(%)	%	SE(%)	%	SE(%)
None	13.4	0.8	7.9	0.6	10.6	0.5
One serve	37.4	1.2	31.7	0.9	34.4	0.8
Two or more serves	49.0	1.2	60.3	1.0	54.8	0.8

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

SE = standard error.

Table 2.6: Daily fruit consumption, by age-males

Age group years	Serves of fruit eaten each day*					
	None		1		2+	
	%	SE(%)	%	SE(%)	%	SE(%)
18-24	14.2	2.6	32.6	3.7	52.2	3.9
25-34	14.9	1.9	40.4	2.9	44.5	2.0
35-44	15.6	1.9	37.6	2.4	46.7	2.5
45-54	12.5	1.6	41.1	2.8	45.6	2.7
55-64	13.0	2.2	33.7	2.9	53.3	3.2
65+	9.1	1.7	35.8	2.7	55.1	2.8

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

SE = standard error.

Table 2.7: Daily fruit consumption, by age-females

Age group years	Serves of fruit eaten each day*					
	None		1		2+	
	%	SE(%)	%	SE(%)	%	SE(%)
18-24	11.3	2.2	38.9	3.3	49.7	3.4
25-34	8.4	1.3	36.6	2.2	55.0	2.3
35-44	6.7	0.9	33.8	1.8	59.6	1.9
45-54	9.3	1.4	30.4	2.2	60.3	2.4
55-64	8.8	1.6	24.5	2.4	66.7	2.6
65+	4.5	1.1	25.7	2.1	69.1	2.2

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

SE = standard error.

Fruit consumption was not found to vary greatly between rural and urban Victoria (table 2.8).

Figure 2.3: Daily fruit consumption, by age-males

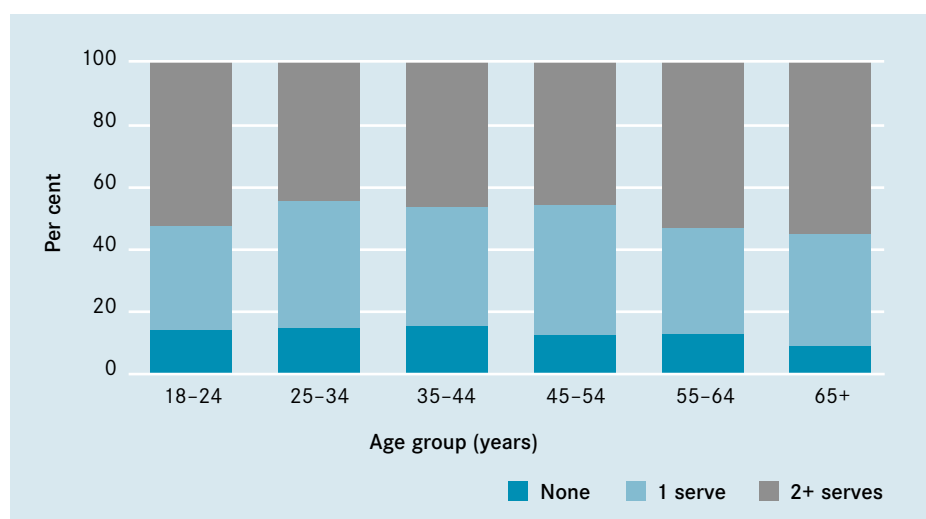


Figure 2.4: Daily fruit consumption, by age-females

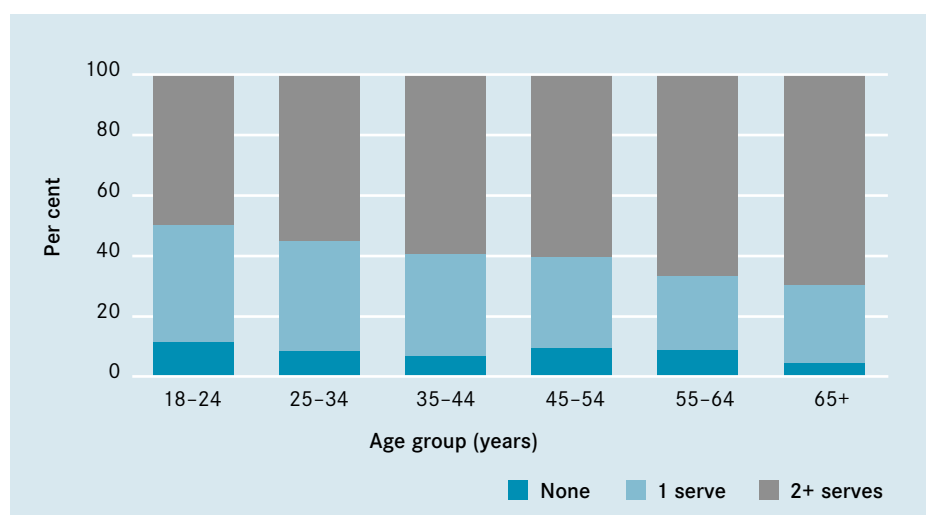


Table 2.8: Daily fruit consumption, by area of Victoria

Serves of fruit*	Urban		Rural	
	%	SE(%)	%	SE(%)
None	10.1	0.6	11.9	0.6
One serve	34.0	0.1	35.5	0.8
Two or more serves	55.7	0.1	52.3	0.9

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

SE = standard error.



Among females, the proportion whose daily consumption equalled or exceeded the recommended number of serves of both fruit and vegetables increased steadily with age, from a minimum of 5.8 per cent among those aged 18-24 years to 16.0 per cent among those aged 65 years or over (table 2.9). For males, there was no consistent trend by age group in the proportion who achieved the recommended daily intake of fruit and vegetables; the proportion ranged from a low of 5.2 per cent in the age group 35-44 years to a high of 9.9 per cent among older males aged 65 years or over. The extent of compliance with recommended fruit and vegetables consumption was lower among males compared with females in all age groups beyond 18-24 years (figures 2.5 and 2.6).

The proportion of persons who did not consume the recommended intake of fruit and vegetables ranged from a maximum of 53.9 per cent among males aged 25-34 years to a minimum of 24.3 per cent among females aged 65 years or over.

**Table 2.9: Persons achieving recommended daily intake of fruit and/or vegetables**

Age group (years)	Fruit and vegetables		Vegetables only, not fruit		Fruit only not vegetables		Neither fruit nor vegetables	
	%	SE(%)	%	SE(%)	%	SE(%)	%	SE(%)
<b>Males</b>								
18-24	7.1	2.2	2.3	1.0	45.0	3.9	44.5	3.9
25-34	5.7	1.4	0.9	0.5	38.8	2.9	53.9	2.9
35-44	5.2	1.2	3.4	0.9	41.5	2.5	49.8	2.5
45-54	6.3	1.2	2.7	0.8	39.3	2.6	51.0	2.7
55-64	5.7	1.3	3.5	1.1	47.7	3.2	42.5	3.1
65+	9.9	1.7	4.1	0.9	44.5	2.9	40.8	2.8
Total	6.5	0.6	2.7	0.3	42.3	1.2	47.8	1.2
<b>Females</b>								
18-24	5.8	1.7	2.6	1.0	43.9	3.4	47.2	3.4
25-34	7.7	1.1	0.9	0.3	47.3	2.2	44.1	2.3
35-44	9.7	1.2	2.6	0.5	49.9	1.9	37.5	1.8
45-54	14.5	1.6	5.2	1.1	45.5	2.4	34.4	2.3
55-64	14.9	1.8	4.4	1.2	51.9	2.8	28.8	2.5
65+	16.0	1.7	5.7	1.1	53.2	2.4	24.3	2.1
Total	11.5	0.6	3.5	0.4	48.8	1.0	35.9	1.0

SE = standard error.

Figure 2.5: Usual daily consumption of fruit and vegetables in relation to recommended serves, by age-males

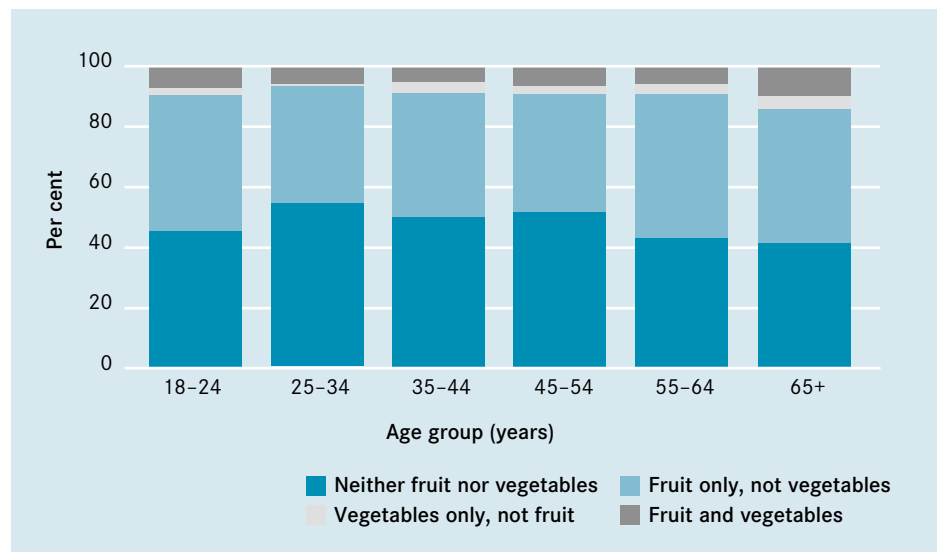
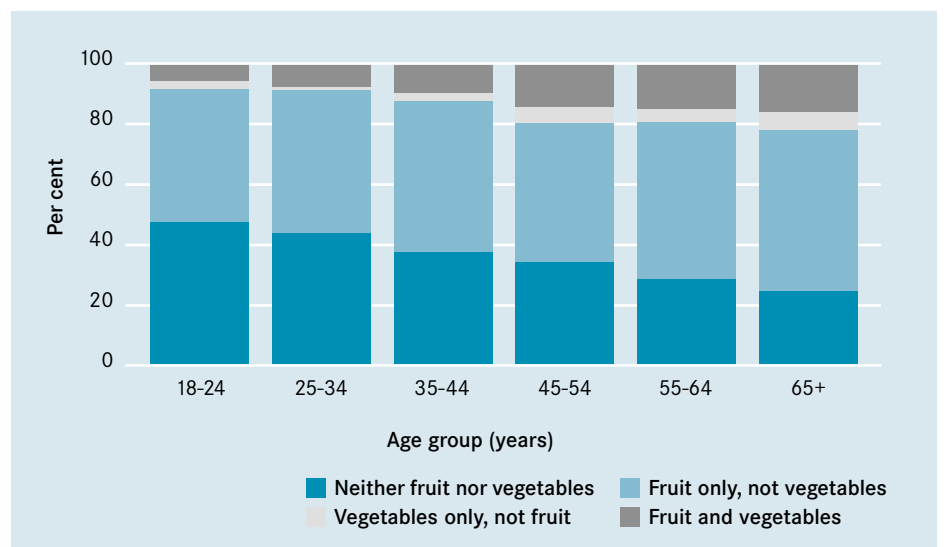


Figure 2.6: Usual daily consumption of fruit and vegetables in relation to recommended serves, by age-females



## 2.3 Milk consumption

Eating excessive amounts of some foods may be harmful. A high intake of saturated fat, for example, is associated with having an elevated blood cholesterol level, being overweight and having an increased risk of heart attack. Total fat (including saturated, mono-unsaturated and polyunsaturated fats) accounts for about 33 per cent of the energy intake of adult Australians,<sup>5</sup> which is above the National Health and Medical Research Council's recommended level of 30 per cent.<sup>1</sup> Within the total dietary fat intake, saturated fat accounts for about 13 per cent, compared with the maximum recommended level of 10 per cent.<sup>6</sup>

Choosing a low-fat or reduced-fat milk and yoghurt or calcium-fortified soy beverage is recommended for healthy eating<sup>7</sup>.

### Survey results

Over half (53.7 per cent) of persons consumed low fat, skim or soya milk, with 38.7 per cent consuming low or reduced fat milk (table 2.10). A higher proportion of females (61.4 per cent) than males (45.8 per cent) consumed these types of milk.

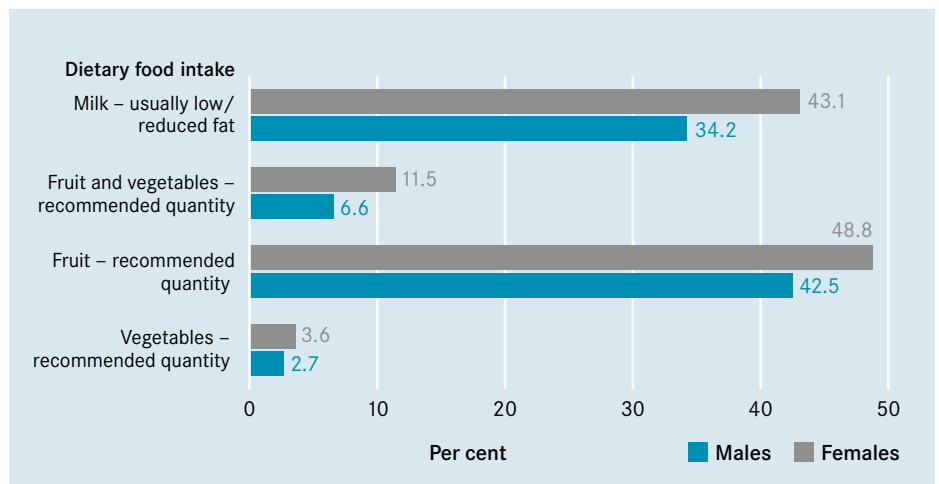
Table 2.10: Type of milk usually consumed

Type of milk	Males		Females		Persons	
	%	SE(%)	%	SE(%)	%	SE(%)
Whole	47.9	1.2	33.0	0.9	40.3	0.8
Low or reduced fat	34.1	1.2	43.1	1.0	38.7	0.8
Skim or soya	11.6	0.8	18.3	0.8	15.0	0.6
Other*	1.2	0.2	1.3	0.2	1.3	0.2
Don't drink milk	4.8	0.5	4.2	0.4	4.5	0.3

\* Includes lactose-free milk.

SE = standard error.

Figure 2.7: Usual food intake, by sex



## 2.4 Alcohol consumption

At low or moderate levels, the consumption of alcohol yields health benefits for some people. In particular, it may help reduce the risk of heart disease from middle age. Regular excessive consumption of alcohol over time, however, places people at increased risk of chronic ill health and premature death, and episodes of heavy drinking may place the drinker (and others) at risk of injury or death. The consequences of heavy regular use of alcohol may include cirrhosis of the liver, cognitive impairment, heart and blood disorders, ulcers, cancers and damage to the pancreas. Intoxication and acute alcohol related problems include violence, risky behaviour, road trauma and injury. Significant psychosocial and economic consequences also arise from such patterns of drinking, not only for the individuals concerned but also for their families and the wider community.<sup>8</sup>

Excessive alcohol consumption is estimated to account for 4.9 per cent of the total burden of disease for Australia. Allowing for the beneficial effects of low to moderate levels of alcohol, the net harm associated with alcohol consumption accounts for around 2.2 per cent of the total burden of disease.<sup>9</sup>

The new Australian alcohol guidelines<sup>8</sup> emphasise patterns of drinking as opposed to levels of consumption (the average amount consumed). The concept of 'patterns of drinking' refers to aspects of drinking behaviour other than the level of drinking, including the context or circumstances of drinking (when, where and with

**Table 2.11: Australian alcohol guidelines for short-term drinking and the levels of risk to health**

Risk of harm in the short term*			
	Low risk	Risky	High risk
<b>Males</b>			
On any one day	Up to six on any one day; no more than three days per week	Seven to 10 on any one day	11 or more on any one day
<b>Females</b>			
On any one day	Up to four on any one day; no more than three days per week	Five to six on any one day	Seven or more on any one day

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

Source: National Health and Medical Research Council 2001, *Australian alcohol guidelines: health risks and benefits*, Canberra.

**Table 2.12: Abstainers from alcohol\***

Age group (years)	Males		Females	
	%	SE(%)	%	SE(%)
18-24	6.2	2.0	14.6	2.6
25-34	8.3	1.7	18.1	1.7
35-44	12.1	1.7	17.3	1.5
45-54	12.7	1.8	20.1	2.0
55-64	15.2	2.4	24.0	2.4
65+	18.2	2.2	36.2	2.3
Total	12.0	0.8	22.0	0.8

\* Includes those who had had a drink in the previous 12 months but who no longer drank ('recent abstainers').

SE = standard error.

whom the drinking behaviour occurs), the types of drink consumed, the number of heavy drinking occasions and their characteristics, and the norms associated with drinking behaviour. Two main patterns of drinking have been identified as creating a risk of health problems:

(i) excessive alcohol intake on a particular occasion; and (ii) consistent high-level intake over months and years.

The guidelines specify the risks for various drinking levels for males and females of average or larger than average body size (60 kilograms for

males and 50 kilograms for females) in the short term and the long term for the whole population (table 2.11). Risk is categorised according to three levels: (i) low risk—a level of drinking at which the risk of harm is minimal and there are possible benefits for some of the population; (ii) risky—a level of drinking at which the risk of harm outweighs any possible benefit; and (iii) high risk—a level of drinking at which there is substantial risk of serious harm and above which risk increases rapidly.

### Abstainers from alcohol

#### Survey results

Persons who had not had an alcoholic drink of any kind in the 12 months before the survey were classified as abstainers. A lower proportion of males than females were categorised as abstainers (table 2.12).

### Short-term risk from alcohol consumption

For the purpose of determining the risk of alcohol related harm, the short-term risk is defined in terms of the number of standard drinks consumed per drinking occasion (table 2.11). The guidelines for the whole population indicate that males who drink up to six standard drinks and females who drink up to four standard drinks are at low risk of alcohol related harm in the short term. Males who drink 11 or more drinks when they consume alcohol and females who consume seven or more drinks are categorised as being at high risk. Between these levels, alcohol consumption behaviour is classified as risky in the short term. In specifying these short-term risks, it is assumed

**Table 2.13: Frequency of drinking above short-term risk levels, by age and sex**

Age group (years)	Risky and high risk							
	Low risk		At least yearly		At least monthly		At least weekly	
%	SE(%)	%	SE(%)	%	SE(%)	%	SE(%)	
<b>Males</b>								
18-24	16.5	3.0	26.7	3.5	25.5	3.3	25.1	3.4
25-34	18.6	2.3	27.7	2.7	25.8	2.5	19.5	2.4
35-44	25.5	2.3	31.3	2.4	17.4	1.9	13.8	1.6
45-54	29.0	2.4	24.9	2.4	18.9	2.2	14.5	1.9
55-64	41.9	3.2	24.4	2.8	10.0	1.9	8.4	1.6
65+	54.6	2.8	17.7	2.3	6.1	1.2	3.5	0.9
Total	30.1	1.1	25.8	1.1	17.8	0.9	14.3	0.9
<b>Females</b>								
18-24	18.3	2.5	30.5	3.2	22.1	2.8	14.6	2.4
25-34	30.4	2.1	27.4	2.0	14.9	1.5	9.2	1.5
35-44	36.9	1.9	27.2	1.7	12.1	1.3	6.4	0.9
45-54	47.2	2.4	18.5	1.9	9.7	1.4	4.6	1.0
55-64	53.0	2.8	16.1	2.0	5.0	1.4	1.9	0.7
65+	53.0	2.4	5.6	0.9	4.5	1.2	0.6	0.3
Total	40.2	1.0	20.7	0.8	11.1	0.7	6.0	0.5

SE = standard error.

Risk levels are defined in terms of the number of standard drinks per drinking occasion, subject to certain qualifications for specific population groups, and differ for males and females. For males, the risk categories are: low risk-less than six; risky-seven to 10; and high risk-11 or more. For females, the corresponding thresholds are: low risk-up to four; risky-five to six; and high risk-seven or more.

that heavier drinking days occur on a maximum of three occasions per week and remain within the levels of long-term harm.<sup>8</sup>

#### Survey results

Table 2.13 shows the frequency with which persons consumed alcohol above the recommended short-term risk levels.

A higher proportion of males than females (14.3 per cent and 6.0 per cent respectively) were categorised as consuming alcohol at risky or high-risk levels at least weekly. The proportion of persons who consumed alcohol at levels above the threshold for short-term alcohol harm at least weekly was greatest in the age group 18-24 years for both sexes. Within this

age group, a higher proportion of males (25.1 per cent) than females (14.6 per cent) engaged in binge drinking at least weekly.

For the age group 65 years or over, 3.5 per cent of males and 0.6 per cent of females drank at risky or high-risk levels at least weekly. The proportion of males who drank at above short-term risk levels at least yearly ranged from 31.3 per cent in the age group 35–44 years to 17.7 per cent of those aged 65 years or over. Among females, 30.5 per cent of those aged 18–24 years engaged in ‘binge drinking’ at least yearly. The proportion of females aged 65 years or over who drank at short-term risky or high-risk levels at least yearly was 5.6 per cent.

### Long-term risk from alcohol consumption

Long-term risk of poor health outcomes due to alcohol consumption is associated with regular daily patterns of drinking, defined in terms of the amount of alcohol typically consumed each week. The Australian alcohol guidelines indicate that males are at high risk of long-term alcohol related health problems if they consume seven or more drinks on an average day or an overall weekly level of more than 43 standard drinks per week (table 2.14). For females, high long-term risk is equated with the consumption of five or more standard drinks on an average day or more than 29 drinks per week. Alcohol consumption is classified as risky in the long term if males consume five to six drinks on an average day (29–42 per week) and if females consume more than three to four drinks daily (15–28 per week).

**Table 2.14: Australian alcohol guidelines for long-term drinking and the level of risk to health**

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

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

SE = standard error.

Source: National Health and Medical Research Council 2001, *Australian alcohol guidelines: health risks and benefits*, Canberra.

### Survey results

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

Among males, the prevalence of high-risk long-term levels of alcohol consumption was greatest (2.6 per cent) in the age group 55–64 years (table 2.15). The age group 45–54 years had the highest proportion (5.2 per cent) drinking at levels considered risky to health in the long term. More than 6 per cent of males in the age groups 45–64 years and 55–64 years engaged in drinking at levels considered to be risky or high risk in terms of long-term health consequences.

Among females, about 2 per cent of females aged 18–24 years reported drinking at levels associated with a high long-term health risk (table 2.15). The proportion who had 29 or more drinks per week was less than 0.5 per cent for females aged 35 years or over. The proportion who drank at a risky level (15–28 drinks per week) was highest for the age group 45–54 years.

Risk levels are defined in terms of the number of standard drinks per drinking occasion, subject to certain qualifications for specific population groups, and different for males and females. For males, the risk categories are: low risk–up to 28 standard drinks per week; risky–29–42 drinks; and high risk–43 or more. For females, the corresponding thresholds are: low risk–up to 14 drinks per week; risky–15–28 drinks; and high risk–29 or more drinks.

Table 2.15: Long-term risk of alcohol related harm, by sex

Age group (years)	Level of risk					
	Low		Risky		High risk	
	%	SE(%)	%	SE(%)	%	SE(%)
<b>Males</b>						
18-24	88.2	2.5	4.6	1.5	0.4	0.3
25-34	86.2	2.0	2.4	0.8	0.9	0.3
35-44	84.0	1.8	2.0	0.6	1.1	0.4
45-54	79.4	2.2	5.2	1.3	1.0	0.5
55-64	78.3	2.7	3.5	1.1	2.6	0.9
65+	78.2	2.3	3.0	1.1	0.1	0.1
Total	82.6	0.9	3.4	0.4	1.0	0.2
<b>Females</b>						
18-24	79.8	2.8	1.7	0.6	2.1	1.1
25-34	78.3	1.9	1.4	0.5	1.1	0.7
35-44	79.7	1.6	1.4	0.4	0.4	0.2
45-54	75.7	2.1	2.2	0.7	0.5	0.3
55-64	71.4	2.7	1.6	0.5	0.2	0.1
65+	59.1	2.3	1.9	0.7	0.1	0.1
Total	73.8	0.9	1.7	0.2	0.7	0.2

(Notes to table 2.15)

SE = standard error.

Risk levels are defined in terms of the number of standard drinks per drinking occasion, subject to certain qualifications for specific population groups, and differ for males and females. For males, the risk categories are: low risk-up to 28 standard drinks per week; risky- 29-42 drinks; and high risk- 43 or more.

For females, the corresponding thresholds are: low risk-up to 14 drinks per week; risky- 15-28; and high risk-29 or more drinks.

Table 2.16: Smoking status, by age

Age group (years)	Males						Females					
	Current smoker		Ex-smoker		Nonsmoker		Current smoker		Ex-smoker		Nonsmoker	
	%	SE(%)	%	SE(%)	%	SE(%)	%	SE(%)	%	SE(%)	%	SE(%)
18-24	38.5	3.8	7.7	2.2	53.9	3.9	36.3	3.3	8.2	1.9	55.2	3.4
25-34	37.8	2.9	12.8	1.9	49.4	2.9	27.9	2.1	19.5	1.7	52.6	2.3
35-44	26.3	2.2	21.1	2.1	52.2	2.5	26.2	1.7	22.8	1.6	51.0	1.9
45-54	25.6	2.4	31.1	2.5	42.8	2.7	22.4	2.0	21.2	1.9	56.4	2.4
55-64	17.0	2.4	39.5	3.1	43.6	3.2	16.2	2.1	25.2	2.3	58.5	2.7
65+	9.5	1.6	51.4	2.9	38.5	2.8	6.4	1.1	21.4	1.9	71.8	2.1
Total	26.4	1.1	26.4	1.0	47.0	1.2	22.1	0.8	20.1	0.8	57.6	1.0

SE = standard error.

## 2.5 Smoking

Tobacco smoking accounts for 9.8 per cent of total DALYs for Victoria. Smoking tobacco is a major risk factor for coronary heart disease, stroke, peripheral vascular disease, numerous cancers and a range of other diseases and conditions. Smoking is also of concern during pregnancy, when a strong effect of smoking on foetal growth has been observed. Evidence links maternal smoking during pregnancy with an increased risk of the sudden infant death syndrome, while household exposure to tobacco smoke has an independent additive effect.<sup>10</sup>

### Survey results

Of all persons aged 18 years or over, 52.8 per cent of males and 42.2 per cent of females were found to have smoked tobacco products at some point in their lives (table 2.16). Approximately 26.4 per cent of males and 22.1 per cent of females identified themselves as current smokers. Across age groups, the proportion of males who had smoked at some point in their lives varied between 46.2 per cent (age group 18-24 years) and 60.9 per cent (age group 65 years or over). Among females, the proportion who had smoked during their lifetime was highest for the age group 35-44 years (49.0 percent) and lowest for the age group 65 years or over. These proportions were similar between the sexes up to the age group 45-54 years. Among persons aged 65 years or over, males were more than twice as likely as females (60.9 per cent and 27.8 per cent respectively) to have ever smoked.

Figure 2.8: Smoking status, by age-females

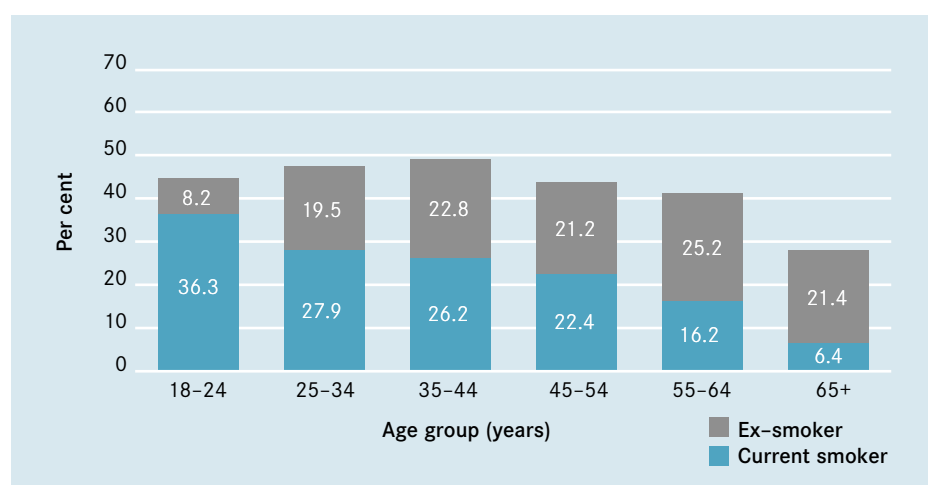
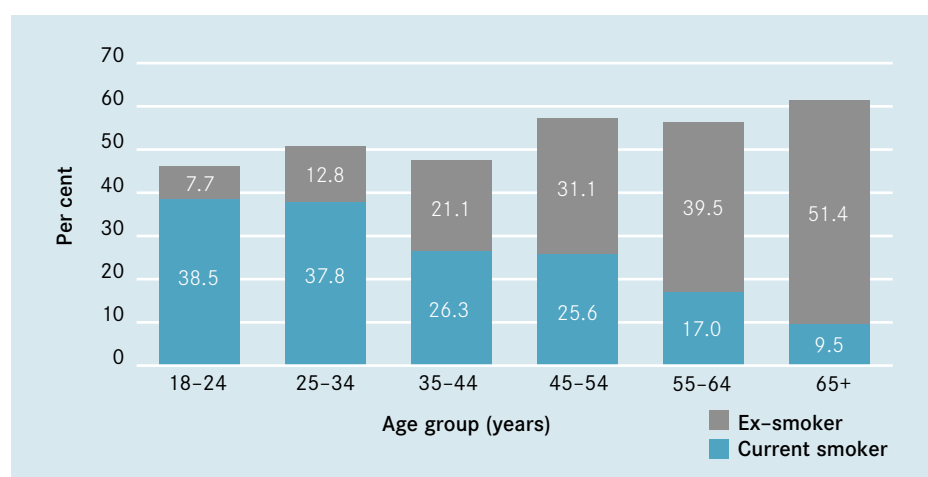


Figure 2.9: Smoking status, by age-males



Among females, the prevalence of smoking was greatest in the age group 18-24 years, in which 36.4 per cent indicated that they were current smokers (figure 2.8). The prevalence among males was also greatest (38.5 per cent) in that age group (figure 2.9). Males were more likely than females to be current smokers; the greatest margin between the sexes was found in the age group 25-34 years, in which 9.9 per cent more males than females identified themselves as current smokers.

Among females who were pregnant at the time of the survey, 15.4 per cent were current smokers.

Among males, the majority of current and former smokers first started smoking at the age of 14-17 years (52.7 per cent and 48.9 per cent respectively). The age at which females first started smoking was similar, with 55.4 per cent of current smokers and 47.4 per cent of former smokers indicating that they had first started smoking in this age range. Among



persons who had tried smoking but never smoked regularly and those who had smoked fewer than 100 cigarettes (or an equivalent amount of tobacco) in their lifetime, most (48.3 per cent and 52.4 per cent respectively) also first tried smoking in this age group.

Among smokers, the mean number of years for which they had smoked was 18.9 years (standard error = 0.014) (table 2.17). On average, females had smoked for fewer years (mean = 16.8 years; standard error = 0.020) than males had (mean = 20.6 years; standard error = 0.020).

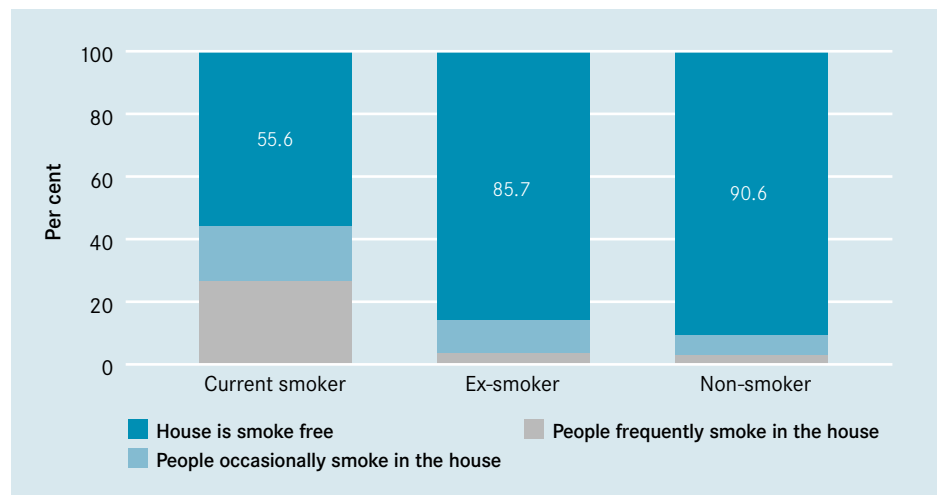
### Environmental tobacco smoke in the home

Tobacco smoke is a significant environmental contaminant of indoor air. Exposure to environmental tobacco smoke is associated with increased health risks. Children who live in households with smokers have an increased risk of respiratory disease and are more likely to experience the symptoms of asthma.<sup>11,12</sup> Household exposure to tobacco smoke is also an independent risk factor for sudden infant death syndrome. Further, passive smoking increases a nonsmoker’s risk of developing lung cancer<sup>13</sup> and ischaemic heart disease. It is also associated with an increased risk of respiratory disease among adults.<sup>14</sup>

**Table 2.17: Number of years that ex-smokers smoked, by sex**

	Males	Females	Total
Mean	20.6	16.8	18.9
75th percentile	30.0	25.0	28.0
95th percentile	48.0	42.0	45.0

**Figure 2.10: Home situation with regard to smoking, by smoking status**



### Survey results

Overall, 81.0 per cent of persons reported that their home was smoke free, with the proportion ranging from 90.6 per cent of nonsmokers to 55.6 per cent of current smokers. Among ex-smokers, 10.6 per cent reported that people occasionally smoked in their house, compared with 6.1 per cent of nonsmokers (figure 2.10).

## 2.6 Physical activity/ inactivity

Physical inactivity is a major modifiable risk factor in terms of reducing the mortality and morbidity rates of many chronic diseases. In particular, lack of participation in physical activity is increasingly recognised as an independent risk factor for cardiovascular disease; it is also associated with risk factors such as high blood cholesterol levels, high blood pressure, and being overweight or obese.<sup>15-18</sup>

Physical inactivity is implicated in other chronic diseases too, such as non-insulin dependent diabetes, osteoporosis, cancer of the colon, anxiety and depression.<sup>19</sup> About 7 per cent of the total burden of disease in Australia is attributable to physical inactivity.<sup>8</sup> As such, physical inactivity ranks second only to smoking in terms of its contribution to total DALYs.

The Victorian Burden of Disease Study estimated that physical inactivity accounts for 6.6 per cent of total DALYs, with two-thirds of this burden arising from the increased risk of cardiovascular disease among persons who are not sufficiently physically active.<sup>2</sup> Together with evidence that more health benefits accrue with more physical activity<sup>15,18</sup> and that the protective effect of physical activity occurs even if adopted in middle and later life,<sup>20,21</sup> such estimates suggest that physical activity is an obvious target for health promotion. Monitoring physical activity at the population level is relevant for investigating the outcomes of such promotion efforts.

### Survey results

Information was collected on three types of physical activity: (i) time spent walking (for more than 10 minutes at a time) for recreation, exercise or to get to and from places; (ii) time spent doing vigorous household chores (excluding gardening); and (iii) time spent doing vigorous activities other than household chores and gardening (for example, tennis, jogging, cycling, keep-fit exercises). Data were collected on the number of sessions and the duration of each type of physical activity.

Almost one in 10 (8.5 per cent) persons aged 18 years or over did not undertake any physical activity during the week before the survey (table 2.18). Among both males and females who were physically active, walking was the most prevalent type of physical activity undertaken during the

previous week, with 30.4 per cent of females and 28.7 per cent of males indicating that this was their only form of physical activity. A further 54.3 per cent of males and 53.1 per cent of females participated in both walking and some form of vigorous activity.

The proportion of persons reporting no physical activity was greatest in the oldest age groups, with 14.1 per cent of those aged 65 years or over not undertaking any moderate-intensity or vigorous physical activity in the previous week (table 2.19). Within this age group, a higher proportion of females than males (15.8 per cent and 12.8 per cent respectively) had not participated in physical activity in the previous week. Persons aged 45-54 years ranked second in terms of those classified as sedentary, with 10.5 per cent having done no physical activity in the previous week. The proportion

**Table 2.18: Types of physical activity undertaken during the previous week, by sex**

Type of physical activity	Males		Females		Persons	
	%	SE(%)	%	SE(%)	%	SE(%)
No physical activity	9.0	0.7	8.1	0.5	8.5	0.4
Walking only*	28.7	1.1	30.4	0.9	29.6	0.7
Vigorous activity only**	7.2	0.6	7.8	0.5	7.5	0.4
Walking and vigorous activity**	54.3	1.2	53.1	1.0	53.7	0.8

\* Walking for a minimum of 10 minutes is categorised as a moderate-intensity physical activity.

\*\* Includes vigorous household chores (excluding gardening) and vigorous 'other' activities (for example, tennis, jogging, cycling and keep-fit exercises).

SE = standard error.

of persons who nominated walking as their only physical activity in the previous week varied with age, from a minimum of 15.9 per cent of those aged 18-24 years to a maximum of 42.9 per cent of those aged 65 years or over.

The proportion of persons whose physical activity in the previous week included a vigorous activity component decreased with increasing age. Between the age groups 18-24 years and 65 years or over, the proportion of those whose physical activity included both walking and some form of vigorous activity more than halved, decreasing from 72.4 per cent of younger adults to 35.1 per cent of the oldest age group. The proportion of those who engaged in vigorous activities only was highest in the age group 35-44 years (9.3 per cent).

Among females, the proportion of those involved in vigorous activity only ranged from 6.6 per cent of those aged 18-24 years to 8.9 per cent of those aged 65 years or over. Among males, the proportion ranged from 3.3 per cent of those aged 55-64 years to 11.7 per cent of those aged 35-44 years.

The level of health benefit achieved from physical activity partly depends on the intensity of the activity. In general, to obtain a health benefit from physical activity requires participation in moderate-intensity activities (at least). Accruing 150 minutes of (at least) moderate-intensity physical activity (such as walking) over one

**Table 2.19: Types of physical activity undertaken during the previous week, by age group**

Age group (years)	Type of physical activity							
	No physical activity		Walking only*		Vigorous activity only**		Walking and vigorous activity**	
	%	SE(%)	%	SE(%)	%	SE(%)	%	SE(%)
<b>Males</b>								
18-24	2.8	1.0	12.7	2.7	8.4	2.1	75.0	3.4
25-34	6.3	1.4	22.8	2.4	7.8	1.6	62.7	2.8
35-44	8.7	1.4	24.1	2.2	11.7	1.7	54.7	2.5
45-54	12.9	2.0	30.1	2.5	4.7	1.0	50.4	2.7
55-64	10.4	2.1	40.7	3.2	3.3	0.9	45.0	3.2
65+	12.8	1.7	44.5	2.9	5.9	1.2	36.8	2.8
Total	9.0	0.7	28.7	1.1	7.2	0.6	54.3	1.2
<b>Females</b>								
18-24	3.9	1.2	19.2	2.8	6.6	0.6	69.6	3.1
25-34	5.1	1.0	23.7	2.0	7.4	1.2	63.1	2.2
35-44	5.8	0.9	27.9	1.7	7.0	0.9	59.2	1.9
45-54	8.2	1.3	32.0	2.2	8.6	1.4	50.5	2.4
55-64	9.8	1.7	36.7	2.7	7.8	1.4	44.5	2.8
65+	15.1	1.7	41.7	2.4	8.9	1.2	33.9	2.3
Total	8.1	0.5	30.4	0.9	7.8	0.5	53.1	1.0
<b>Persons</b>								
18-24	3.4	0.8	15.9	1.9	7.5	1.3	72.4	2.3
25-34	5.7	0.9	23.3	1.6	7.6	1.0	62.9	1.8
35-44	7.2	0.9	26.0	1.4	9.3	1.0	57.0	1.6
45-54	10.5	1.2	31.1	1.7	6.7	0.9	50.5	1.8
55-64	10.1	1.4	38.7	2.1	5.5	0.8	44.7	2.1
65+	14.1	1.2	42.9	1.8	7.6	0.9	35.1	1.8
Total	8.5	0.4	29.6	0.7	7.5	0.4	53.7	0.8

\* Walking for a minimum of 10 minutes is categorised as a moderate-intensity physical activity.

\*\* Includes vigorous household chores (excluding gardening) and vigorous 'other' activities (for example, tennis, jogging, cycling and keep-fit exercises).

SE = standard error.

week is believed to be 'sufficient' to confer health benefits and is the recommended threshold of physical activity according to National Physical Activity Guidelines.<sup>22</sup> For those who achieve an adequate baseline level of fitness, extra health benefits may be gained by undertaking at least 30 minutes of regular vigorous exercise on three to four days per week.<sup>22, 23</sup>

The 'sufficient' time definition of a health-enhancing level of physical activity<sup>24, 25</sup> is calculated by adding the minutes of walking and the minutes of moderate-intensity activity, plus two times the minutes of vigorous activity (that is, the minutes of vigorous intensity activity are weighted by a factor of two). Given this definition, 'insufficient' physical activity is defined as some reported physical activity within the specified time period, but not enough to satisfy the 'sufficient' criterion. A person is classified as being 'sedentary' if they report no minutes of physical activity for the relevant time period.

#### Factors associated with sedentary behaviour

After adjusting for differences in age and sex (table 2.20), those persons more likely to be classified as sedentary/insufficiently active were those persons born overseas, those with lower levels of education, those in nonprofessional occupations, smokers,

\* 'Sufficient' time is defined as at least 150 minutes per week, using the sum of walking and vigorous activity (weighted by two). Insufficient time is defined as less than 150 minutes but greater than 0 minutes (that is, sedentary activity level).

- Not applicable.

**Table 2.20: Sedentary/insufficiently active behaviour\* and selected socioeconomic variables**

	<i>p</i> value	Odds ratio	95% confidence interval	
<b>Area of Victoria</b>				
Rural	-	1.00	-	-
Urban	0.190	1.08	0.96	1.21
<b>Country of birth</b>				
Australia	-	1.00	-	-
Overseas	0.040	1.19	1.01	1.40
<b>Education level</b>				
Tertiary	-	1.00	-	-
Secondary	0.237	1.09	0.95	1.26
Primary	<0.001	1.92	1.31	2.82
<b>Occupation</b>				
Professional	-	1.00	-	-
Nonprofessional	0.004	1.24	1.07	1.43
Other	0.001	1.62	1.23	2.13
<b>Employment status</b>				
Employed	-	1.00	-	-
Unemployed	0.178	1.27	0.89	1.83
Not in the labour force	0.569	0.95	0.79	1.14
<b>Smoking status</b>				
Nonsmoker	-	1.00	-	-
Smoker	0.033	1.21	1.02	1.43
Ex-smoker	0.098	0.87	0.73	1.03
<b>High blood pressure ever</b>				
No	-	1.00	-	-
Yes	0.453	1.06	0.91	1.25
<b>Body Mass Index</b>				
Not overweight	-	1.00	-	-
Overweight	<0.001	1.27	1.10	1.47
<b>Household income per year</b>				
Greater than or equal to \$60,000	-	1.00	-	-
From \$40,000 to less than \$60,000	0.003	1.26	1.02	1.57
From \$20,000 to less than \$40,000	<0.001	1.37	1.12	1.68
Less than \$20,000	<0.001	1.59	1.30	1.96
<b>Dwelling ownership</b>				
Owned	-	1.00	-	-
Rented	0.519	1.05	0.73	1.88

Table 2.21: Persons achieving 'sufficient' physical activity time\* in the previous week, by self-reported health status

Activity level	Self-rated health									
	Excellent		Very good		Good		Fair		Poor	
	%	SE(%)	%	SE(%)	%	SE(%)	%	SE(%)	%	SE(%)
Insufficient	16.3	1.7	19.7	1.1	24.8	1.1	29.1	1.9	27.6	3.8
Sufficient	78.4	1.9	72.8	1.2	66.2	1.2	55.5	2.0	52.9	4.2
Sedentary	4.4	1.0	6.8	0.6	8.6	0.7	14.4	1.5	18.0	3.0

\* 'Sufficient' time is defined as at least 150 minutes per week, using the sum of walking and vigorous activity (weighted by two). Insufficient time is defined as less than 150 minutes but greater than 0 minutes (that is, sedentary activity level).

SE = standard error

those who were overweight and those with lower household incomes.

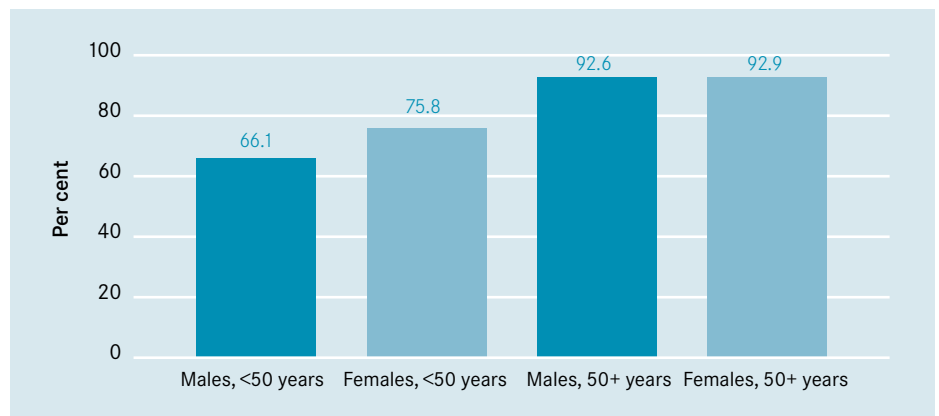
About 78 per cent of those who rated their health as excellent undertook sufficient physical activity to achieve health benefits, compared with only 52.9 per cent of those who rated their health as poor (table 2.21).

Correspondingly, whereas only 4.4 per cent of those who rated their health as excellent were sedentary, 18.0 per cent of those who regarded themselves as being in poor health did not engage in any physical activity in the week before the survey.

## 2.7 Selected health screening and checks

The survey collected information on a number of routine checks or screening tests that may be performed to detect the presence of risk factors for the development of a disease condition or to detect a disease before its symptoms are manifest. Specifically, the survey collected information on: (i) a blood pressure check; (ii) a blood test for cholesterol; (iii) a test for

Figure 2.11: Blood pressure check in previous two years, by age and sex



diabetes or high blood sugar levels; (iv) a bowel examination (of any type); (v) a skin examination for lesions/cancers; (vi) a prostate check (males only); and (vii) a dental check-up (including visits to dental technicians).

### Blood pressure checks

It is recommended that all adults have their blood pressure checked regularly, primarily to identify high blood pressure or hypertension<sup>26</sup>.

### Survey results

In total, 79.3 per cent of persons reported having had their blood

pressure checked in the two years before the survey. Those aged 50 years or over were more likely than others to have had the test recently, with 92.6 per cent of males and 92.9 per cent of females in this age group having done so (figure 2.11).

Among persons aged 18 years to less than 50 years, 71.0 per cent had had their blood pressure checked in the previous two years, with females being more likely than males (75.8 per cent and 66.1 per cent respectively) to have been tested.

## Cholesterol checks

Elevated blood cholesterol is an important risk factor for coronary heart disease (CHD). Cholesterol checks are recommended for persons potentially at high risk, such as smokers, those with a significant family history of CHD (a first-degree relative affected at age < 60 years), those who are overweight or obese, have hypertension and those persons aged 45 years and over<sup>7</sup>.

### Survey results

In total, 47.9 per cent of persons indicated that they had had a cholesterol check in the two years before the survey. Screening for elevated blood cholesterol levels was found to be higher among those aged 50 years or over, with 75.4 per cent of males and 67.4 per cent of females in this age group reporting that they had undergone a recent cholesterol check (figure 2.12). For those aged under 50 years, males were more likely than females (36.2 per cent and 31.1 per cent respectively) to have had their cholesterol checked.

## Blood sugar test

Blood glucose tests are primarily used to detect the development of, or a predisposition to, diabetes mellitus. While the screening of asymptomatic individuals is generally not considered to be justified, at-risk individuals are advised to have their blood glucose levels checked periodically. At-risk groups include persons aged 55 years or over, overweight persons, those with a first-degree relative with diabetes, and females with a history of gestational diabetes.

Figure 2.12: Cholesterol check in previous two years, by age and sex

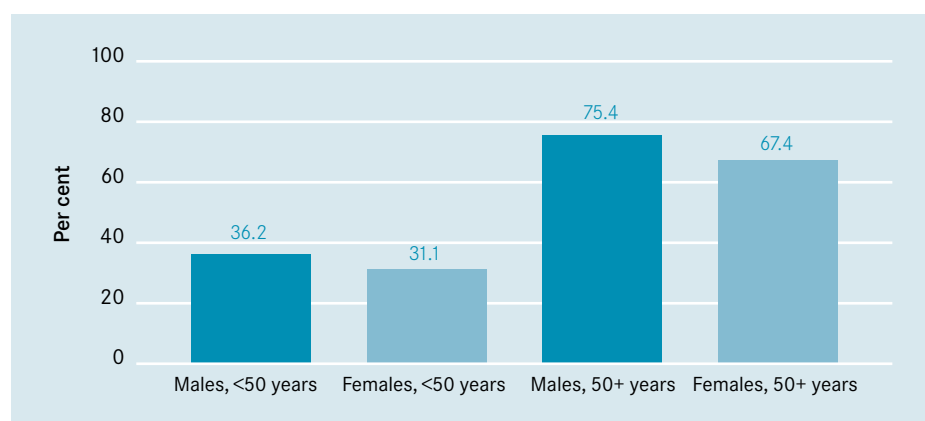
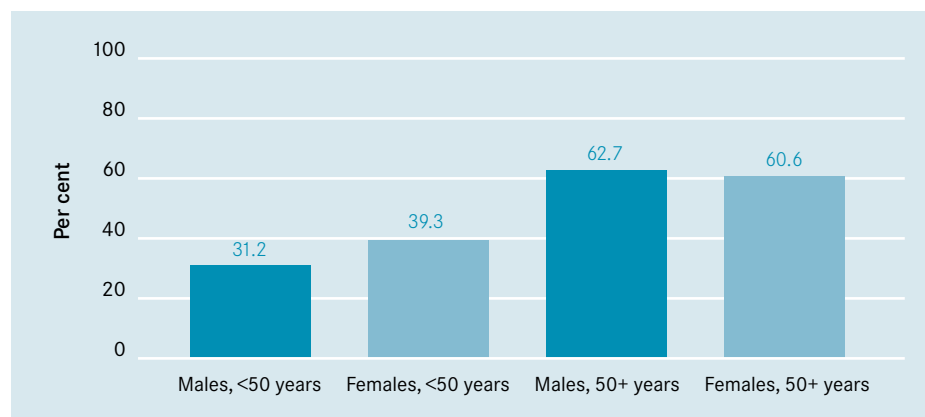


Figure 2.13: Glucose check in previous two years, by age and sex



### Survey results

In total, 45.3 per cent of persons reported having had a test for diabetes or high blood sugar levels in the two years before the survey. This proportion was greatest for males aged 50 years or over (62.7 per cent), followed by females in the same age group (figure 2.13). Among persons aged under 50 years, this gender difference was reversed, with females being more likely to have had their blood glucose levels tested.

## Bowel examination

Different types of bowel examination are used to detect cancer of the bowel or colon. They may take the form of an x-ray of the bowel (barium enema), an examination of the lower bowel using a rigid or flexible tube (sigmoidoscopy or colonoscopy) or an examination of faecal samples (faecal occult blood test). Asymptomatic persons aged 50 years or over are advised to have a faecal occult blood test every two years and a flexible sigmoidoscopy every five years.

### Survey results

In total, 14.7 per cent of persons reported having had a bowel examination in the two years before the survey. The proportions of males and females who had undergone a bowel examination were similar (table 2.22).

### Skin examination

Australia has the highest incidence of skin cancer in the world. Although health promotion programs emphasise avoiding exposure to solar ultra-violet radiation, Australians should check their skin regularly for suspicious looking or changing spots. Each person is advised to check his or her skin every new season with the help of a mirror or a family member. Checks for melanoma are particularly important for those aged 50 years or over, because the consequences of childhood exposure may become manifest in later life.

### Survey results

In total, 25.2 per cent of persons reported having had a skin examination in the two years before the survey. The proportion was greatest among males aged 50 years or over (38.9 per cent) (figure 2.14). Among females, 29.6 per cent of the same age group reported having had a skin examination.

### Prostate check

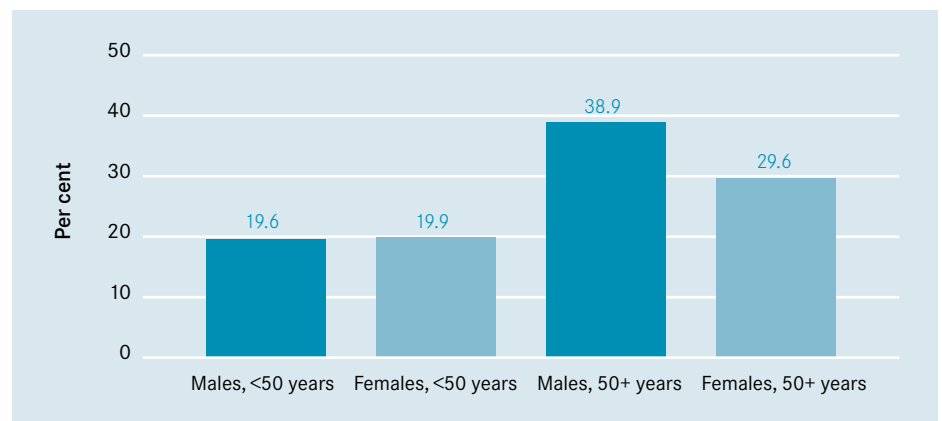
Mass screening for prostate cancer is not currently recommended in Australia. Nonetheless, a procedure such as a digital rectal examination or a prostate specific antigen test may be advised for males aged 50 years or over to identify problems with the prostate gland.

**Table 2.22: Bowel examination in previous two years, by age and sex**

	18–49 years		50 years or over		Total	
	%	SE(%)	%	SE(%)	%	SE(%)
Males	7.5	0.8	27.1	1.7	14.7	0.8
Females	8.4	0.7	22.0	1.3	13.7	0.7
Persons	7.9	0.5	24.4	1.1	14.2	0.5

*SE = standard error.*

**Figure 2.14: Skin examination in previous two years, by age and sex**



**Table 2.23: Prostate check in previous two years, by age**

	18–49 years		50 years or over		Total	
	%	SE(%)	%	SE(%)	%	SE(%)
Males	11.0	1.0	55.3	1.9	27.4	1.1

*SE = standard error.*

### Survey results

In total, 27.4 per cent of males reported having had a prostate check (including blood tests) in the two years before the survey, with 11.0 per cent of males aged under 50 years and 55.3 per cent of males aged 50 years or over having been tested.

Table 2.24: Use of health check-ups and screening tests, by age and area of Victoria

	Urban				Rural				Total	
	18–49 years		50+ years		18–49 years		50+ years			
	%	SE(%)	%	SE(%)	%	SE(%)	%	SE(%)	%	SE(%)
Blood pressure check	71.1	1.2	92.5	0.9	69.3	1.1	92.5	0.6	79.0	0.7
Cholesterol check	34.8	1.2	70.5	1.6	28.4	1.0	68.3	1.1	47.2	0.8
Blood sugar check	34.7	1.2	59.1	1.7	34.4	1.1	61.8	1.2	44.3	0.8
Bowel examination	7.9	0.7	24.3	1.5	7.9	0.6	24.6	1.1	14.2	0.5
Skin examination	18.8	0.1	32.9	1.6	22.5	1.0	36.0	1.2	25.1	0.7
Prostate check*	11.3	1.3	56.3	2.6	9.9	1.1	53.1	1.9	27.4	1.1
Dental check	68.4	1.2	61.2	1.7	64.3	1.1	53.0	1.2	64.1	0.8

\* Males only

SE = Standard error.

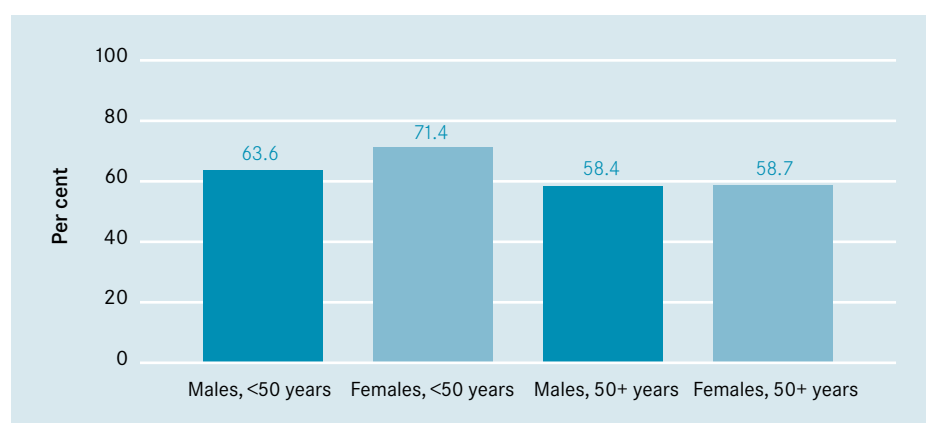
### Dental check-up

All age groups are recommended to have regular dental check-ups (at least every two years) to maintain healthy teeth and gums.

#### Survey results

In total, 64.2 per cent of persons reported having had a dental check-up in the two years before the survey, with females being more likely than males (66.6 per cent and 61.7 per cent respectively) to have used dental services (figure 2.15). Fewer persons aged 50 years or over than their younger counterparts reported having had a dental check in the previous two years.

Figure 2.15: Dental check-up in previous two years, by age and sex





## 2.8 Propensity to seek care

The survey included questions on propensity to seek care.<sup>27</sup> It collected information on the level of importance of consulting a doctor in response to a range of health conditions, specifically (i) weight loss, (ii) shortness of breath, (iii) chest pain when exercising, (iv) loss of consciousness, fainting or passing out, and (v) bleeding other than nosebleeds (and not caused by injury or accident).

### Survey results

Females were more likely than males to consider that seeing a doctor was somewhat or extremely important for most conditions (table 2.25).

Table 2.25: Propensity to seek care for selected conditions

Selected conditions	Level of importance placed on seeing a doctor							
	Extremely important		Somewhat important		A little important		Not at all important	
	%	SE(%)	%	SE(%)	%	SE(%)	%	SE(%)
<b>Weight loss of more than 5–6 kilograms in a month</b>								
Males	51.1	1.2	24.1	1.1	10.5	0.8	14.3	0.9
Females	60.9	1.0	20.7	0.8	8.6	0.6	9.8	0.6
<b>Shortness of breath with light exercise or light work</b>								
Males	44.3	1.2	30.9	1.1	14.4	0.9	10.4	0.8
Females	45.9	1.0	32.6	0.9	13.7	0.7	7.8	0.5
<b>Chest pain when exercising</b>								
Males	66.7	1.2	20.3	1.0	8.6	0.7	4.4	0.5
Females	75.4	0.9	17.5	0.8	5.0	0.4	2.1	0.3
<b>Loss of consciousness, fainting or passing out</b>								
Males	86.6	0.8	9.2	0.7	2.6	0.4	1.6	0.4
Females	87.6	0.7	9.1	0.6	2.3	0.3	1.0	0.2
<b>Bleeding other than nosebleeds and not caused by accident or injury</b>								
Males	76.9	0.1	15.8	0.9	4.4	0.5	2.8	0.4
Females	83.2	0.7	13.3	0.7	2.4	0.3	1.1	0.2

SE = Standard error.

Figure 2.16: Propensity to seek care for selected conditions – males

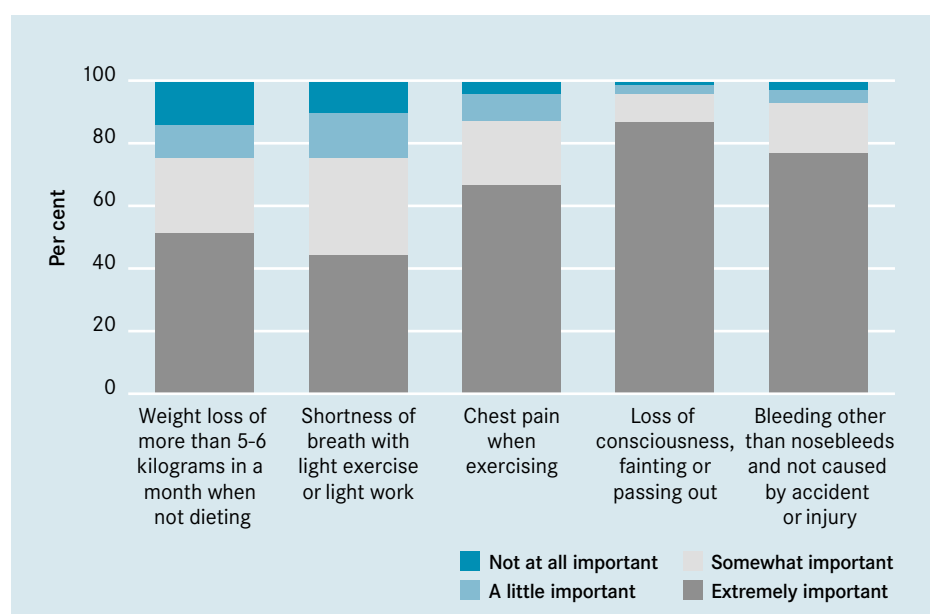
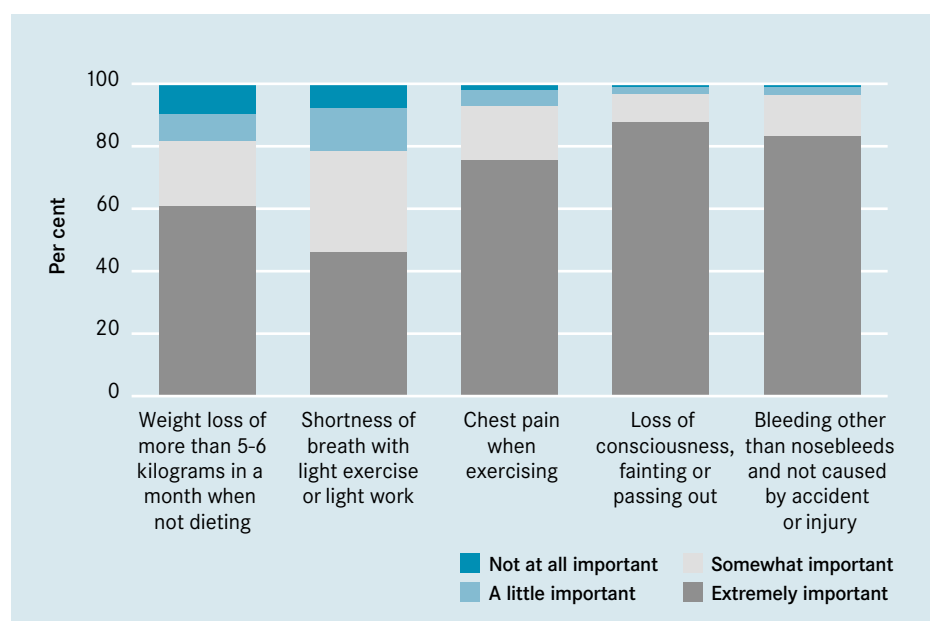


Figure 2.17: Propensity to seek care for selected conditions – females



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## 3. Self-reported health and selected health conditions

### 3.1 Introduction

A variety of Australian Bureau of Statistics surveys have used self-reported health ratings. These surveys have included the 1989-90, 1995 and 2002 National Health Surveys and the 1997 National Survey of Mental Health and Wellbeing of Adults. Generic measures of health status—such as the SF-12 and SF-36, and the US Centers for Disease Control measure of population health related quality of life—have also used self-reported health ratings, so as to facilitate comparisons of groups with different disease conditions.

Respondents to the Victorian Population Health Survey 2002 were asked to summarise their perceptions of their health status by indicating whether, in general, they would say that their health is *excellent*, *very good*, *good*, *fair* or *poor*. This measure of health status is simple and global. It has been increasingly used in studies that seek to understand the factors that contribute to (i) the level of health achieved and (ii) health inequalities, including differences that occur by gender, race or ethnicity, education or income, disability and geographic location.<sup>1-3</sup> Self-rated health assessments have been found to be a powerful predictor of future health care use and mortality independent of other medical, behavioural or psychosocial risk factors.<sup>4,5</sup>

### 3.2 Survey results

#### Self-reported health

A further 14.3 per cent reported fair health and 3.1 per cent reported poor health .

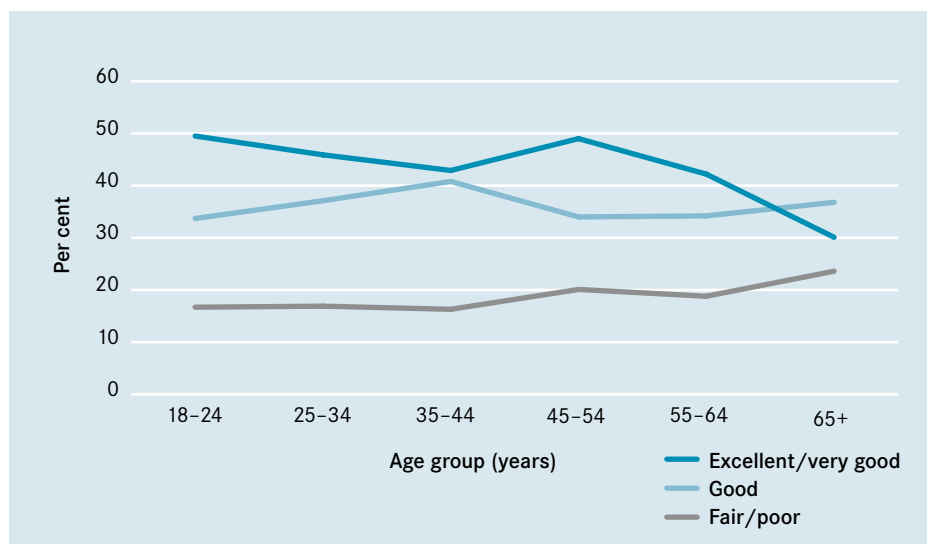
Figure 3.1: Self-reported health



Figure 3.2 shows that the proportion of persons who reported their health as being fair or poor increased from 16.7 per cent for respondents aged 18-24 years to 23.6 per cent for those aged 65 years or over. The proportion of those who reported their health as being excellent or very good declined with age, from a high of 49.5 per cent among respondents aged 18-24 years to 30.1 per cent among persons aged 65 years or over (table 3.1). The proportion of Victorians who reported their health as good decreased by about 3.1 per cent between the ages of 18-24 years and 65 years and over.

A slightly lower proportion of males (45.0 per cent) than females (49.2 per cent) reported their health as being very good or excellent (figures 3.3 and 3.4). Consistent with these data, a lower proportion of females (16.2 per cent) than males

Figure 3.2: Self-reported health, by age



(18.7 per cent) reported that their health was fair or poor.

About 8.2 per cent of females aged 18-24 years, compared with 17.1 per cent of males in this age group, reported their health as being excellent. A higher proportion of older females (14.4 per cent) than males (9.4 per cent) reported their health as being excellent. Females aged 45-54 years and 55-64 years reported the highest proportions of excellent health (16.8 per cent and 16.1 per cent respectively). Among males, reported excellent health was highest among those aged 25-34 years (16.9 per cent).

Figure 3.3: Self-reported health, by age-males

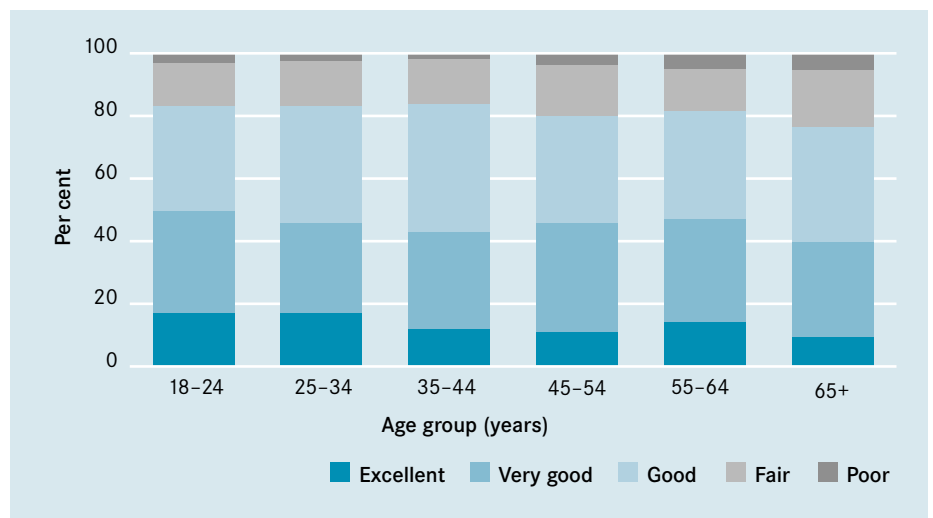
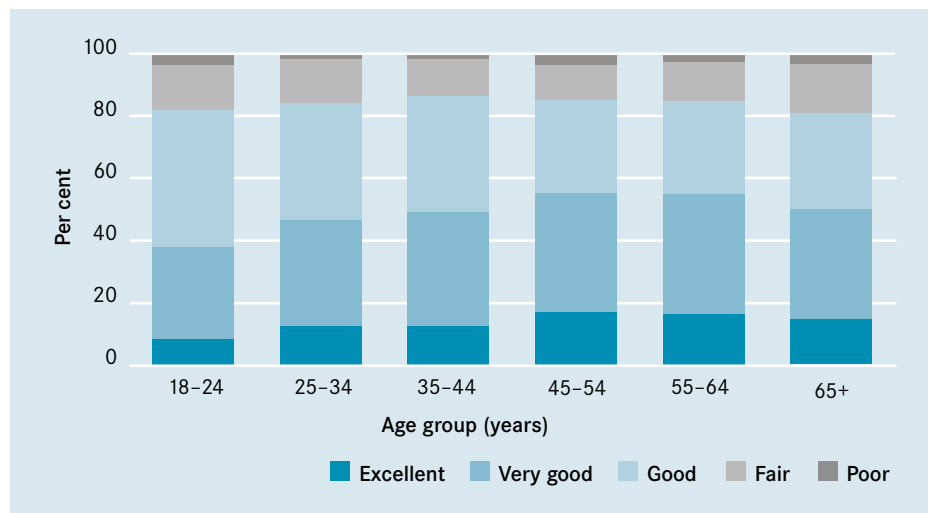


Figure 3.4: Self-reported health, by age-females



After adjusting for age and sex, those respondents more likely to report fair/poor health were those with lower education levels (primary or secondary), those in nonprofessional/other occupations, those who were unemployed or not in the labour force, smokers, those with high blood pressure, those in households with lower incomes, those without private health insurance and those living in rented dwellings (table 3.2).

### Selected health conditions

The survey collected information on arthritis, heart disease, stroke, cancer, osteoporosis (females only) and anxiety/depression. Table 3.3 shows the prevalence of selected conditions by age and sex.

#### Arthritis

More than six out of 10 females (60.4 per cent) aged 65 years or over reported that they had been told by a doctor that they had arthritis.

#### Heart disease

Over one-quarter of males aged 65 years or over (26.3 per cent) reported that they had been diagnosed with heart disease. Almost one in five (19.0 per cent) of females in this same age group had also been diagnosed with heart disease.

#### Stroke

Of males aged 65 years or over, 8.6 per cent reported that they had experienced a stroke. The proportion

**Table 3.1: Self-reported health, by age and sex**

Age group (years)	Self-reported health									
	Excellent		Very good		Good		Fair		Poor	
	%	SE(%)	%	SE(%)	%	SE(%)	%	SE(%)	%	SE(%)
<b>Males</b>										
18-24	17.1	3.2	32.4	3.7	33.7	3.7	13.6	2.5	3.1	1.5
25-34	16.9	2.5	29.0	2.6	37.1	2.8	14.4	1.9	2.5	0.8
35-44	11.8	1.7	31.1	2.3	40.8	2.5	14.5	1.7	1.8	0.7
45-54	11.1	1.7	34.7	2.6	34.0	2.5	16.4	2.0	3.7	1.0
55-64	14.3	2.6	32.8	3.0	34.2	3.0	13.6	2.0	5.2	1.3
65+	9.4	1.7	30.1	2.6	36.8	2.8	18.3	2.2	5.3	1.2
Total	13.4	0.9	31.6	1.1	36.4	1.2	15.2	0.8	3.5	0.4
<b>Females</b>										
18-24	8.2	2.0	29.6	3.1	44.0	3.4	14.6	2.6	3.7	1.2
25-34	12.4	1.5	34.1	2.1	37.5	2.2	14.4	1.7	1.7	0.4
35-44	12.3	1.3	36.6	1.9	37.5	1.9	11.9	1.3	1.8	0.5
45-54	16.8	1.9	38.3	2.4	29.8	2.2	11.4	1.4	3.6	0.9
55-64	16.1	2.4	38.8	2.7	29.8	2.5	12.5	1.8	2.9	0.8
65+	14.4	1.7	35.7	2.3	30.6	2.2	16.0	1.7	3.2	0.7
Total	13.5	0.7	35.7	1.0	34.7	1.0	13.5	0.7	2.7	0.3

SE = standard error.

was lower in females in the same age group, at 6.1 per cent.

### Cancer

Over one in five males (21.2 per cent) and 13.4 per cent of females aged 65 years or over reported that they had been told by a doctor that they had some form of cancer.

### Depression/anxiety

In all age groups, a higher proportion of females than males reported that they had been diagnosed with depression or anxiety.

### Osteoporosis

Of females aged 65 years or over, 18.2 per cent reported that they had been told by a doctor that they had osteoporosis.

**Table 3.2: Fair/poor health and risk factors**

	<i>p</i> value	Odds ratio	95% confidence interval	
<b>Area of Victoria</b>				
Urban	–	1.00	–	–
Rural	0.646	1.03	0.90	1.18
<b>Country of birth</b>				
Australia	–	1.00	–	–
Overseas	0.892	0.99	0.81	1.20
<b>Education level</b>				
Tertiary	–	1.00	–	–
Secondary	<0.001	1.53	1.29	1.82
Primary	<0.001	2.31	1.47	3.62
<b>Occupation</b>				
Professional	–	1.00	–	–
Nonprofessional	<0.001	1.51	1.27	1.80
Other	0.001	1.72	1.24	2.37
<b>Employment status</b>				
Employed	–	1.00	–	–
Unemployed	0.002	1.85	1.26	2.72
Not in the labour force	<0.001	1.51	1.21	1.90
<b>Smoking status</b>				
Nonsmoker	–	1.00	–	–
Ex-smoker	0.092	1.19	0.97	1.45
Smoker	<0.001	1.79	1.47	2.17
<b>High blood pressure ever</b>				
No	–	1.00	–	–
Yes	<0.001	1.78	1.48	2.12
<b>Private health insurance</b>				
Yes	–	1.00	–	–
No	<0.001	1.41	1.20	1.66
<b>Household income per year</b>				
Greater than or equal to \$60,000	–	1.00	–	–
From \$40,000 to less than \$60,000	0.075	1.27	0.98	1.67
From \$20,000 to less than \$40,000	<0.001	2.83	2.21	3.63
Less than \$20,000	0.006	1.54	1.31	2.09
<b>Dwelling ownership</b>				
Owned	–	1.00	–	–
Rented	0.003	1.36	1.11	1.66

– Not applicable.

Table 3.3: Selected health conditions

Males												
	18-24 years		25-34 years		35-44 years		45-54 years		55-64 years		65+ years	
	%	SE(%)	%	SE(%)	%	SE(%)	%	SE(%)	%	SE(%)	%	SE(%)
Arthritis	3.7	1.5	6.7	1.3	14.7	1.8	22.7	2.4	31.7	3.0	45.8	2.8
Heart disease	0.2	0.2	0.3	0.2	1.3	0.5	4.8	0.1	11.3	0.2	26.3	2.5
Stroke	-	..	-	..	-	..	0.6	0.3	3.2	1.0	8.6	1.6
Cancer	0.1	0.1	1.3	0.6	1.7	0.5	4.8	1.0	9.3	1.7	21.2	2.4
Depression or anxiety	5.2	1.4	11.8	1.9	14.6	1.8	18.0	2.2	12.2	2.0	12.2	1.8
Females												
	18-24 years		25-34 years		35-44 years		45-54 years		55-64 years		65+ years	
	%	SE(%)	%	SE(%)	%	SE(%)	%	SE(%)	%	SE(%)	%	SE(%)
Arthritis	2.3	0.9	5.7	0.9	11.0	1.2	27.1	2.1	50.1	2.8	60.4	2.4
Heart disease	-	..	1.3	0.5	1.3	0.4	1.6	0.5	7.1	1.4	19.0	1.8
Stroke	0.4	0.4	0.3	0.2	0.8	0.4	0.8	0.3	1.7	0.5	6.1	1.0
Cancer	0.5	0.4	2.2	0.5	3.7	0.7	7.2	1.2	12.3	1.7	13.4	1.4
Osteoporosis	0.1	0.1	0.7	0.5	1.0	0.3	4.7	0.9	12.4	1.7	18.2	1.9
Depression or anxiety	13.2	2.2	17.4	1.6	20.7	1.5	21.6	1.8	25.5	2.4	17.9	1.8

- Nil.

.. Not applicable.

SE = standard error.



Figure 3.6: Reported health conditions, by age-males

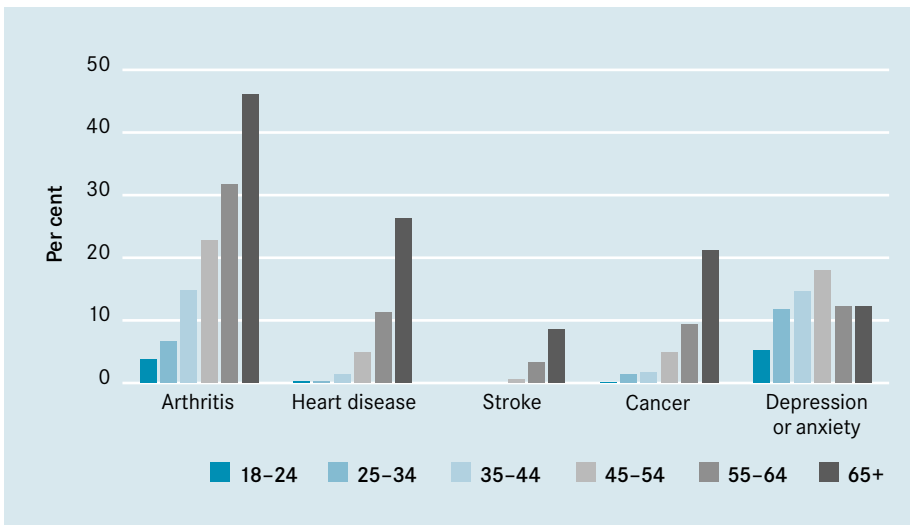
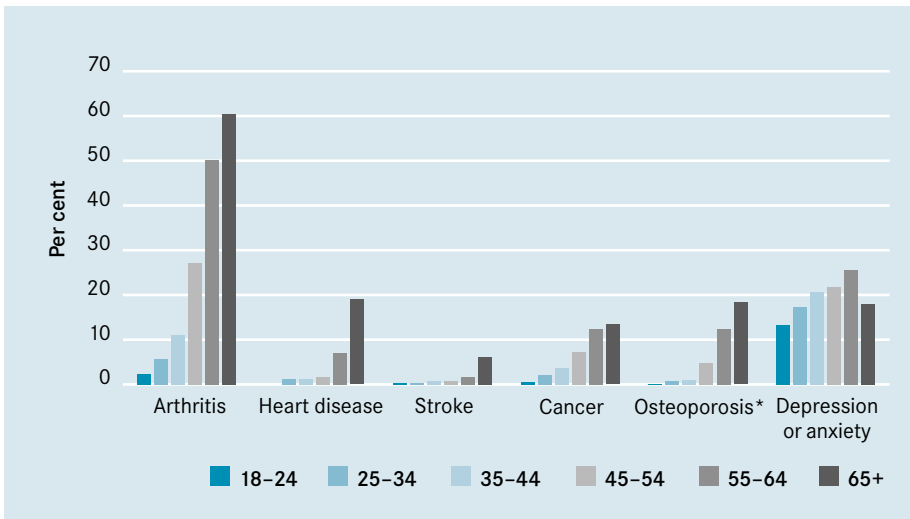


Figure 3.7: Reported health conditions, by age-females



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## 4. Obesity among adults

### 4.1 Introduction

The Body Mass Index (BMI) is a measurement that is widely used by researchers studying obesity. It uses a formula that accounts for both a person's height and their weight:

$BMI = \text{weight (kilograms)}/\text{height squared (m}^2\text{)}$

The Victorian Population Health Survey 2002 collected self-reported height and weight for the first time. The prevalence of obesity is known to be underestimated in data from self-reported telephone surveys compared with data from measurement surveys. A true prevalence of obesity is therefore likely to be underestimated. Self-reported data still have a place in health monitoring because such data are relatively inexpensive and easy to collect, and may be used for reporting trends over time.<sup>1</sup> A further note is that BMI calculations fail to consider lean body mass, such that the BMI formula may classify a healthy, muscular individual with very low body fat as obese.

The weight classifications according to the BMI are shown in table 4.<sup>2,3</sup>

**Table 4.1: Measurement of excess weight**

Classification	BMI (kg/m <sup>2</sup> )
Underweight	Less than 18.5
Normal weight	18.5 to less than 25
Overweight	25 or above, but less than 30
Obese	30 and above

The National Health Survey 2001 found that while 30 per cent of Australian males assessed themselves as being overweight, 58 per cent were categorised as being overweight. Among females, the self-assessed proportion (38 per cent) was similar to the proportion who were categorised as being overweight (42 per cent).<sup>4</sup> In Victoria, 54 per cent of males and 38 per cent of females aged 18 years or over were categorised as being overweight.

### 4.2 Survey results

For the Victorian Population Health Survey 2002, the BMI scores were categorised as per table 4.1. Overall:

- 45.4% of all persons were categorised as being either overweight or obese
- 52.6% of males were categorised as being overweight or obese
- 38.6% of females were categorised as being overweight or obese.

**Table 4.2: BMI scores**

BMI category	%	SE(%)
Underweight	3.4	0.3
Normal weight	48.2	0.8
Overweight	30.9	0.7
Obese	14.6	0.6

*SE = standard error.*

### Overweight/obese adults, by sex

The proportions of both males and females categorised as being either overweight or obese rose steadily with age until the age group 55-64 years (table 4.3). The highest proportion of overweight males was in the age group 45-54 years (64.2 per cent) (figure 4.1). The highest proportion of overweight females was in the age group 55-64 years (49.9 per cent) (figure 4.2).

### Overweight/obesity and associated factors

After adjusting for age and sex, those respondents more likely to be categorised as being overweight/obese were those who rated their health as good, fair or poor (as opposed to excellent or very good), those living in rural areas, nonprofessionals, nonsmokers, those with high blood pressure, those who reported doing less than 30 minutes per week of vigorous physical activity and those with a high level of psychological distress (as measured by the Kessler 10, or K10-see section 7) (table 4.4).

Figure 4.1: Overweight/obese males, by age

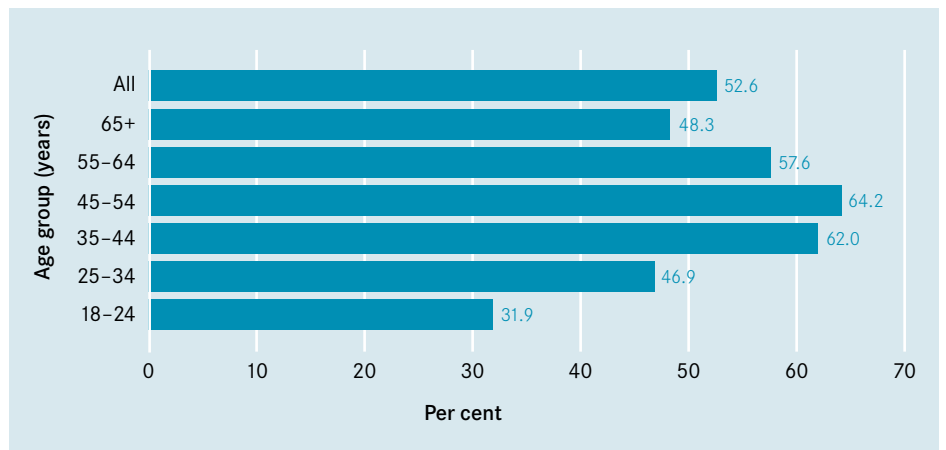


Figure 4.2: Overweight/obese females, by age

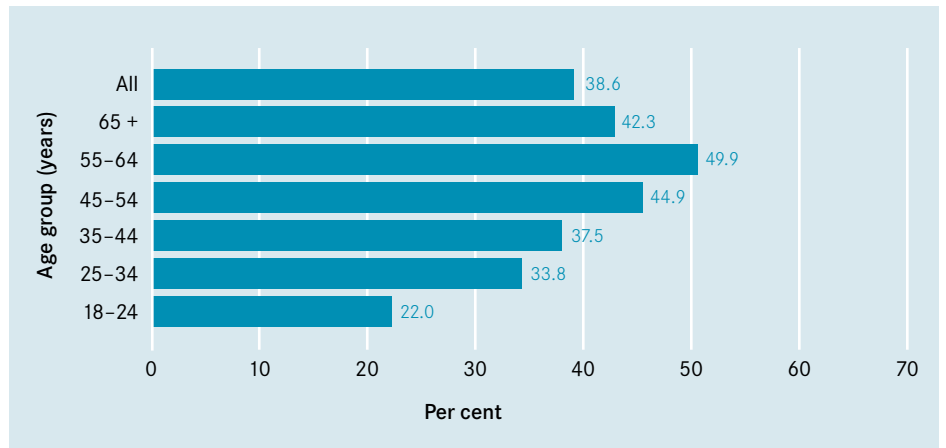


Table 4.3: Overweight/obese adults, by age and sex

Age group (years)	% males	SE(%)	% females	SE(%)
18-24	31.9	3.7	22.0	2.8
25-34	46.9	2.9	33.8	2.1
35-44	62.0	2.5	37.5	1.9
45-54	64.2	2.6	44.9	2.4
55-64	57.6	3.2	49.9	2.8
65+	48.3	2.9	42.3	2.4
All	52.6	1.2	38.6	1.0

SE = standard error.

Table 4.4: Overweight/obesity and associated factors

	<i>p</i> value	Odds ratio	95% confidence interval	
<b>Self-rated health</b>				
Excellent/very good	–	1.00	–	–
Good	<0.001	1.65	1.43	1.90
Fair/poor	<0.001	2.17	1.81	2.62
<b>Area of Victoria</b>				
Urban	–	1.00	–	–
Rural	0.016	1.14	1.03	1.28
<b>Country of birth</b>				
Australia	–	1.00	–	–
Overseas	0.180	0.90	0.76	1.05
<b>Education level</b>				
Tertiary	–	1.00	–	–
Primary	0.139	1.35	0.91	2.01
Secondary	0.280	1.08	0.94	1.23
<b>Occupation</b>				
Professional	–	1.00	–	–
Nonprofessional	0.022	1.17	1.02	1.34
Other	0.515	1.10	0.83	1.44
<b>Employment status</b>				
Employed	–	1.00	–	–
Unemployed	0.176	1.29	0.89	1.86
Not in the labour force	0.322	1.09	0.92	1.30
<b>Smoking status</b>				
Nonsmoker	–	1.00	–	–
Smoker	0.025	0.83	0.70	0.98
Ex-smoker	0.125	1.13	0.97	1.32
<b>High blood pressure ever</b>				
No	–	1.00	–	–
Yes	<0.001	2.18	1.86	2.55

Table 4.4: Overweight/obesity and risk factors (continued)

	<i>p</i> value	Odds ratio	95% confidence interval	
<b>Level of psychological distress (K10)</b>				
<16 (none)	-	1.00	-	-
16-21 (low)	0.105	1.14	0.97	1.34
22-29 (mild)	0.984	1.00	0.79	1.27
30 and over (high to severe)	0.004	1.80	1.20	2.70
<b>Time spent walking in the past week</b>				
<150 minutes	-	1.00	-	-
≥150 minutes	0.357	0.94	0.82	1.07
<b>Time spent doing vigorous physical activity in the past week</b>				
<30 minutes	-	1.00	-	-
≥30 minutes	0.001	0.78	0.67	0.90

- Not applicable.

## References

1. Flood, V., Webb, K., Lazarus, R. and Panf, G. 1999, 'Use of self-report to monitor overweight and obesity in populations: some issues for consideration', *Australian and New Zealand Journal of Public Health*, vol. 24, pp. 96-9.
2. Australian Institute of Health and Welfare and Commonwealth Department of Health and Family Services 1997, *First report on national health priority areas 1996*, Canberra.
3. World Health Organisation 1997, *Obesity: preventing and managing the global epidemic*, Geneva.
4. Australian Bureau of Statistics 2001, *National Health Survey 2001*, cat. no. 4364.0, AusInfo, Canberra.

## 5. Asthma prevalence

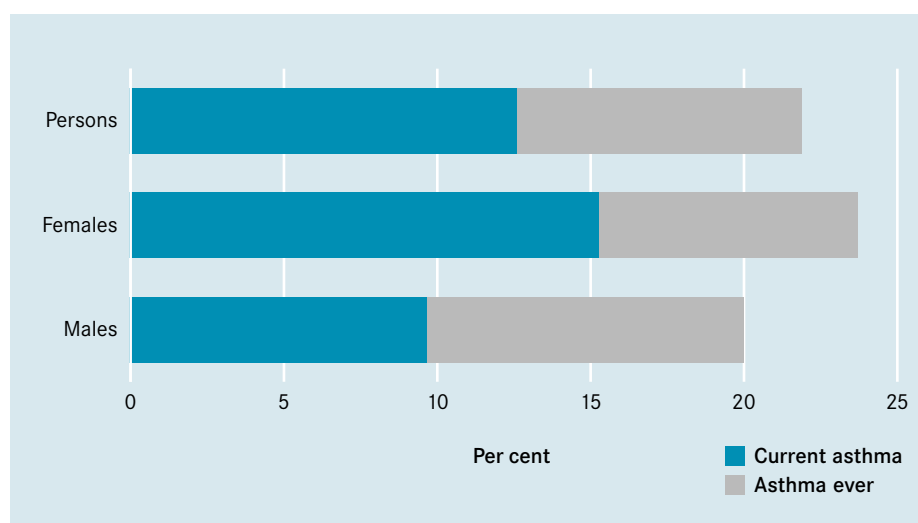
### 5.1 Introduction

Asthma is a common, chronic disorder affecting the airways of the lungs. Narrowing of these air passages (caused by the inflammation and swelling of the airway lining, and the overproduction of mucus) results in airway obstruction and difficulty with breathing, which may be reversed either spontaneously or with treatment. The disease affects all age groups, but particularly young persons, and it ranges in severity from intermittent mild symptoms to a severe, incapacitating and life-threatening disorder.<sup>1</sup>

Asthma was designated as one of six national health priority areas in 1999, in recognition that it is one of Australia's most serious chronic health problems. Across Australia, 159 deaths from asthma occurred in 2000;<sup>2</sup> in Victoria, the condition accounts for an estimated 2.3 per cent of the total disease burden for males and 2.9 per cent for females.<sup>3</sup>

Asthma prevalence may be measured in terms of different definitions of the condition. Self-reported measures, such as those collected by the survey, typically report prevalence in Australia at around 27 per cent in children and 17-29 per cent in adults.<sup>4</sup> These proportions are quite different from those found via objective measures of lung function, which typically observe the prevalence of current or persistent asthma (wheezing episodes with abnormal airway function between episodes) at 9-11 per cent in children and 5-6 per cent in adults.<sup>4</sup>

Figure 5.1: Asthma prevalence, by sex



### 5.2 Survey results

Respondents were asked whether a doctor had ever told them that they have asthma and, if so, whether they had had asthma symptoms (wheezing, coughing, shortness of breath, chest tightness) in the 12 months before the survey. Those persons who responded 'yes' to the first question are referred to as the population with asthma ever. Those persons who responded 'yes' to the question about still getting asthma at the time of the survey are referred to as the population with current asthma.

An estimated 22.0 per cent of persons aged 18 years or over had had asthma ever and 12.6 per cent reported having current asthma (figure 5.1).

(The comparative proportions in 2001 were 22.0 per cent and 12.3 per cent respectively.)

#### Asthma ever

Younger age groups were most likely to have been diagnosed with asthma ever, with 33.0 per cent of persons aged 18-24 years reporting that they had been told by a doctor that they had the condition (figure 5.2). Overall, 23.7 per cent of females and 20.1 per cent of males reported that they had been diagnosed with asthma ever (table 5.1). Asthma prevalence was higher among females in most age groups, but significantly different between males and females in the age groups 35-44 years and 65 years or over (figure 5.2).

Figure 5.2: Prevalence of asthma ever, by age and sex

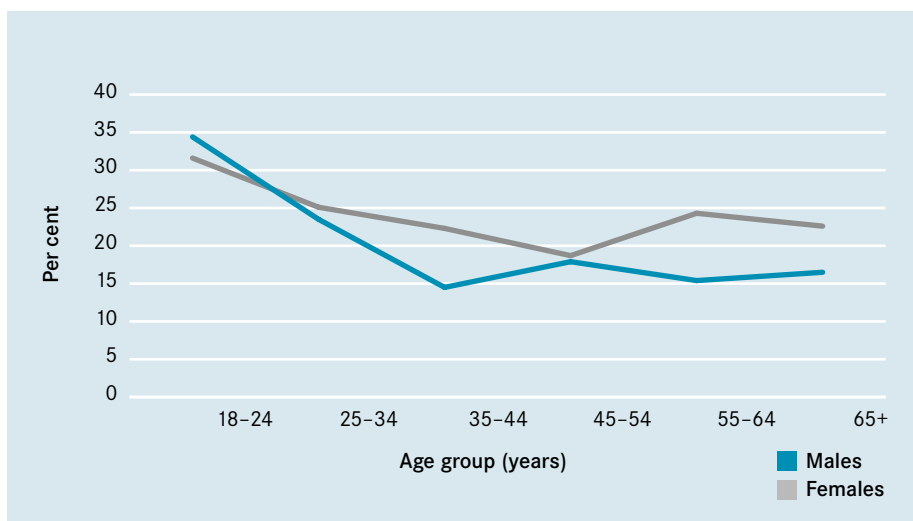


Table 5.1: Prevalence of asthma ever

Age group (years)	Asthma in the past					
	Males		Females		Persons	
	%	SE(%)	%	SE(%)	%	SE(%)
18-24	34.4	3.8	31.6	3.1	33.0	2.4
25-34	23.5	2.5	25.1	1.9	24.3	1.6
35-44	14.5	1.8	22.3	1.6	18.5	1.2
45-54	17.9	2.2	18.7	1.8	18.4	1.4
55-64	15.4	2.2	24.3	2.3	19.8	1.6
65+	16.5	2.1	22.6	2.0	20.0	1.5
Total	20.1	1.0	23.7	0.8	21.9	0.7

SE = standard error.

**Asthma ever and associated factors**

After adjusting for age and sex (table 5.3), those persons more likely to report having been diagnosed with asthma ever were those born in Australia and ex-smokers.

**Table 5.3: Doctor-diagnosed asthma ever associated associated factors**

	<i>p</i> value	Odds ratio	95% confidence interval	
<b>Area of Victoria</b>				
Rural	-	1.00	-	-
Urban	0.053	1.13	1.00	1.29
<b>Country of birth</b>				
Overseas	-	1.00	-	-
Australia	<0.001	1.78	1.45	2.18
<b>Education level</b>				
Tertiary	-	1.00	-	-
Secondary	0.774	0.97	0.84	1.14
Primary	0.806	0.94	0.58	1.53
<b>Occupation</b>				
Professional	-	1.00	-	-
Nonprofessional	0.827	0.98	0.84	1.15
Other	0.235	0.84	0.62	1.12
<b>Employment status</b>				
Employed	-	1.00	-	-
Unemployed	0.738	0.93	0.61	1.41
Not in the labour force	0.437	1.08	0.89	1.31
<b>Smoking status</b>				
Nonsmoker	-	1.00	-	-
Ex-smoker	0.041	1.21	1.01	1.46
Smoker	0.518	0.94	0.78	1.14
<b>Private health insurance</b>				
Yes	-	1.00	-	-
No	0.136	0.89	0.76	1.04
<b>Household income per year</b>				
Greater than or equal to \$60,000	-	1.00	-	-
\$40,000 to less than \$60,000	0.085	0.81	0.64	1.03
\$20,000 to less than \$40,000	0.279	0.88	0.71	1.11
Less than \$20,000	0.147	0.84	0.67	1.06
<b>Dwelling ownership</b>				
Owned	-	1.00	-	-
Rented	0.726	1.04	0.85	1.26

- Not applicable.



### Current asthma

Overall, 20 per cent per cent of males and 24 per cent of females reported having current asthma (table 5.4). Current asthma prevalence rates were significantly higher among females than males in the age groups 25-34 years and 65 years or over (figure 5.3).

Figure 5.3: Prevalence of current asthma, by age and sex

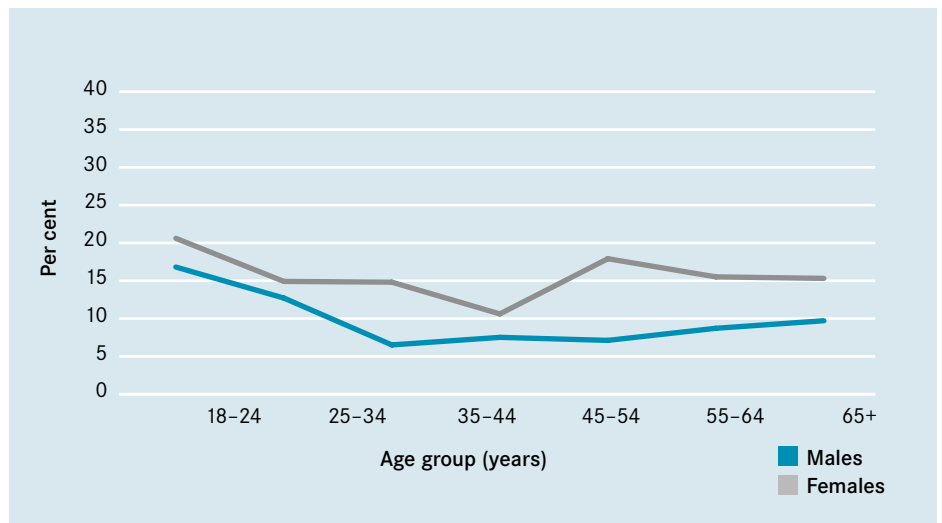


Table 5.4: Prevalence of current asthma, by age and sex

Age group (years)	Current asthma					
	Males		Females		Persons	
	%	SE(%)	%	SE(%)	%	SE(%)
18-24	16.8	2.9	20.6	2.7	18.6	2.0
25-34	12.7	2.0	14.9	1.6	13.8	1.3
35-44	6.5	1.3	14.8	1.4	10.7	0.9
45-54	7.5	1.5	10.6	1.4	9.0	1.0
55-64	7.1	1.6	17.9	2.2	12.5	1.4
65+	8.7	1.6	15.5	1.8	12.6	1.2
Total	9.7	0.8	15.3	0.7	12.6	0.5

SE = standard error.

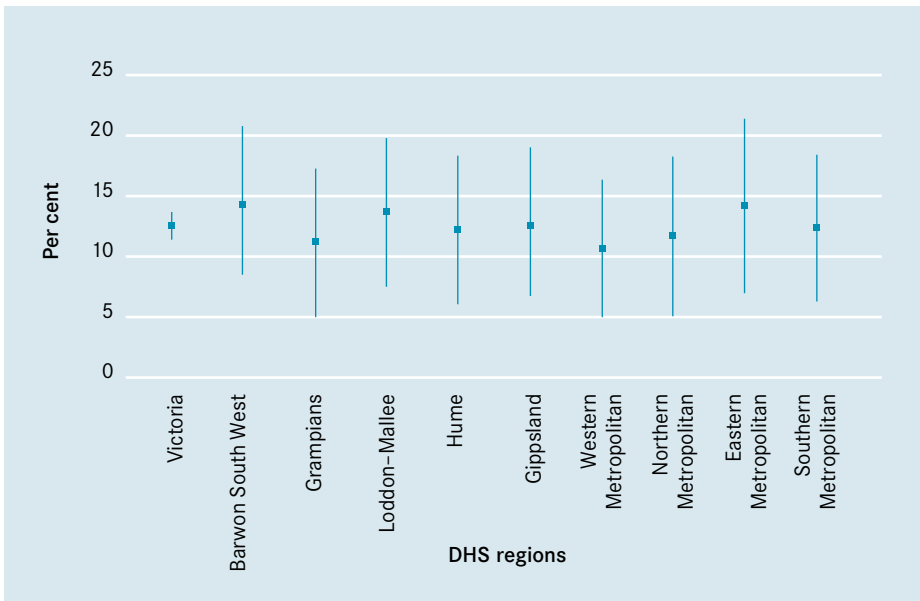
## Asthma action plans

Those persons aged 18 years or over who had had symptoms of asthma in the 12 months before the survey were asked 'Has your doctor given you written instructions or an asthma action plan, telling you what to do when you have asthma symptoms?'. Half (50.0 per cent) had been given written instructions or an asthma action plan by their doctor. These respondents were then asked 'In the past 12 months, how often have you used the written instructions?'. Over one-quarter (26.2 per cent) reported that they had never referred to their asthma action plan (table 5.7).

**Table 5.5: Prevalence of current asthma, by Department of Human Services region and sex**

Region	Sex	%	Doctor-diagnosed asthma	
			Lower 95% confidence interval	Upper 95% confidence interval
Victoria	Males	9.7	8.2	11.2
	Females	15.3	13.9	16.7
	Persons	12.6	11.6	13.6
Barwon south west	Males	11.6	2.5	20.9
	Females	16.8	7.7	26.0
	Persons	14.3	8.6	20.9
Grampians	Males	9.1	0.9	17.8
	Females	13.0	4.8	21.3
	Persons	11.1	5.0	17.2
Loddon-Mallee	Males	11.1	2.2	20.3
	Females	16.2	7.7	24.7
	Persons	13.7	7.3	20.1
Hume	Males	10.3	1.7	19.3
	Females	14.3	6.1	22.5
	Persons	12.3	6.2	18.5
Gippsland	Males	9.0	0.6	17.8
	Females	16.1	7.2	25.0
	Persons	12.6	6.2	19.0
Western	Males	6.8	0.7	13.1
	Females	14.4	5.2	23.7
	Persons	10.7	4.9	16.4
Northern metropolitan	Males	8.7	1.0	17.7
	Females	14.5	4.8	24.2
	Persons	11.7	5.0	18.3
Eastern metropolitan	Males	13.4	3.2	23.9
	Females	14.8	5.7	23.9
	Persons	14.2	7.0	21.3
Southern metropolitan	Males	8.1	0.7	16.2
	Females	16.2	7.1	25.3
	Persons	12.3	6.1	18.5

**Figure 5.6: Age-standardised rates for current asthma, by Department of Human Services region**



**Table 5.7: Frequency of using asthma action plans**

	%	SE(%)
Never	26.2	2.8
Sometimes	33.7	3.1
Occasionally	39.8	3.0
Don't know	0.3	0.2

SE = standard error.

Those respondents who had used the written instructions were asked 'Have they been helpful?'. Table 5.8 shows the breakdown of respondents according to how they used their asthma action plans.

**Table 5.8: Uses of asthma action plans**

	%	SE(%)
Helpful for managing an acute attack	71.3	3.2
Helpful for knowing when to seek medical advice	67.8	3.4
Helpful with day-to-day management	85.4	2.4

SE = standard error.

Note: Respondents could answer all, some or none of the above three responses.

## References

1. Australian Institute of Health and Welfare 1999, *National health priority areas*, Canberra.
2. Australian Bureau of Statistics 2000, *Causes of death*, AusInfo, Canberra.
3. Department of Human Services Victoria 1999, *The Victorian Burden of Disease Study: morbidity*, Melbourne.
4. Woolcock, B., Marks, G.B. and Keena, V.A. 2001, 'The burden of asthma in Australia', *Electronic Medical Journal of Australia*, [http://www.mja.com.au/public/issues/175\\_03\\_060801/woolcock/woolcock.html](http://www.mja.com.au/public/issues/175_03_060801/woolcock/woolcock.html)

## 6. Diabetes prevalence

### 6.1 Introduction

Diabetes mellitus is a common, chronic condition characterised by high blood glucose (sugar) levels. The two main types of diabetes are type 1 (insulin dependent) diabetes and type 2 (non-insulin dependent) diabetes. A third form is gestational diabetes, which is a condition that affects women during pregnancy.

Type 1 diabetes develops when the pancreas fails to effectively produce the hormone insulin, which stimulates the body's cells to use glucose as energy. Persons having Type 1 diabetes mellitus require insulin injections to regulate their blood sugar levels. This type occurs most frequently in those aged under 30 years and may be referred to as juvenile-onset diabetes.

Type 2 diabetes usually occurs in adults who are overweight or have a family history of the condition. Accounting for around 85 per cent of all cases of diabetes, it is caused by the body becoming resistant to high glucose levels in the blood. Appropriate diet and exercise can control type 2 diabetes in most cases. Left untreated, diabetes can cause kidney, eye and nerve damage, heart disease, stroke and impotence.

### 6.2 Survey results

Excluding females diagnosed with diabetes only during pregnancy, 4.5 per cent of respondents reported that they had been told by a doctor that they have diabetes (figure 6.1). Overall, the prevalence of diabetes among respondents increased with

age, and respondents aged 65 years or over reported the highest prevalence rate (13.1 per cent) (table 6.1).

#### Type of diabetes

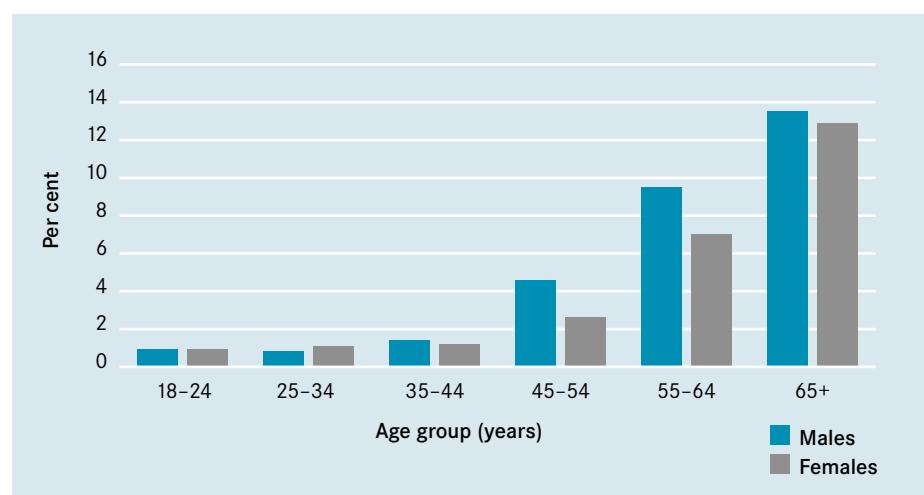
The reported prevalence of diagnosed type 2 diabetes among respondents was 3.5 per cent (table 6.2).

**Table 6.1: Diabetes prevalence, by age and sex**

Age group (years)	Diabetes					
	Males		Females		Persons	
	%	SE(%)	%	SE(%)	%	SE(%)
18-24	0.9	0.6	0.9	0.5	0.9	0.4
25-34	0.8	0.4	1.1	0.4	1.0	0.3
35-44	1.4	0.5	1.2	0.4	1.3	0.3
45-54	4.6	1.1	2.6	0.6	3.6	0.6
55-64	9.5	1.7	7.0	1.4	8.2	1.1
65+	13.5	2.0	12.9	1.7	13.1	1.3
Total	4.7	0.5	4.3	0.4	4.5	0.3

*SE = standard error.*

**Figure 6.1: Doctor-diagnosed diabetes, by age and sex**



### Visits to health professionals

Those respondents who had diabetes were asked about their condition related visits to health professionals in the 12 months before the survey. Most (88.4 per cent) reported that they had visited their general practitioner/doctor and over half (55.4 per cent) had visited an optometrist or ophthalmologist (table 6.3). Only 34.5 per cent had visited a podiatrist or chiropodist.

### Diabetes screening

Survey respondents were asked whether they had had a check or test for diabetes or high blood sugar levels in the two years before the survey. Overall, 44.3 per cent of respondents reported having had a test in the previous two years, with a higher proportion of females (46.8 per cent) than males (41.6 per cent) having done so.

Table 6.2: Type of diabetes

	Males		Females		Persons	
	%	SE(%)	%	SE(%)	%	SE(%)
Type 1	0.6	0.2	0.7	0.2	0.6	0.1
Type 2	3.9	0.4	3.0	0.3	3.5	0.3

Table 6.3: Visiting health professionals for diabetes in the last 12 months

	Males		Females		Persons	
	%	SE(%)	%	SE(%)	%	SE(%)
General practitioner/doctor	84.0	3.9	93.0	1.9	88.4	2.3
Podiatrist or chiropodist	31.7	4.6	37.3	4.5	34.5	3.3
Diabetes educator or nurse	38.6	4.8	33.8	4.2	36.2	3.2
Optometrist or ophthalmologist	56.4	5.1	54.3	4.6	55.4	3.5
Nutritionist or dietician	26.9	4.2	23.7	3.7	25.3	2.8
Specialist	37.0	5.0	31.2	4.5	34.2	3.4
None of the above	5.2	2.1	4.1	1.5	4.7	1.3

Table 6.4: Diabetes check in the previous two years, by age and sex

Age group (years)	Males		Females		Persons	
	%	SE(%)	%	SE(%)	%	SE(%)
18-24	12.6	2.5	24.6	2.9	18.5	1.9
25-34	24.9	2.7	42.3	2.2	33.6	1.8
35-44	38.3	2.5	39.6	1.9	38.9	1.6
45-54	53.2	2.7	48.8	2.4	51.0	1.8
55-64	58.9	3.2	57.8	2.8	58.4	2.1
65+	65.5	2.7	64.4	2.3	64.9	1.8
Total	41.6	1.2	46.8	1.0	44.3	0.8

SE = standard error

### Gestational diabetes

Gestational diabetes occurs during pregnancy in about 3-8 per cent of females (in Australia) not previously diagnosed with diabetes.<sup>1</sup> It is an indicator of greater risk of developing type 2 diabetes later in life.<sup>2</sup> Among female respondents to the survey, 1.9 per cent (95 per cent confidence interval = 1.4-2.4) reported that they had been diagnosed with diabetes during pregnancy.

### Factors associated with doctor-diagnosed diabetes

After adjusting for differences in age and sex, those persons more likely to report having been diagnosed with diabetes or high sugar levels in their blood were those born overseas, the unemployed, ex-smokers and those not having private health insurance (table 6.5).

Figure 6.2: Diabetes check in the previous two years, by age and sex

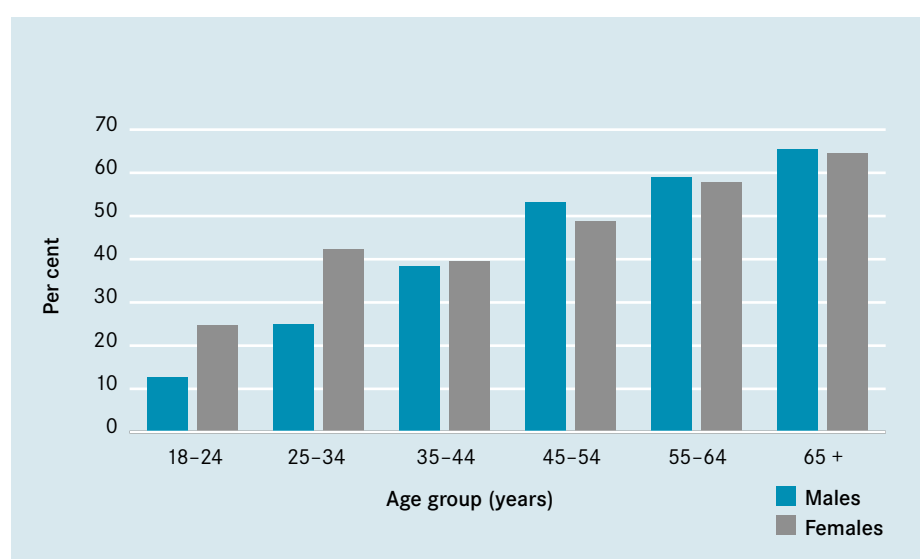


Table 6.5: Doctor-diagnosed diabetes and associated factors

	<i>p</i> value	Odds ratio	95% confidence interval	
<b>Area of Victoria</b>				
Urban	-	1.00	-	-
Rural	0.959	1.01	0.79	1.29
<b>Country of birth</b>				
Australia	-	1.00	-	-
Overseas	<0.001	1.88	1.38	2.56
<b>Education level</b>				
Tertiary	-	1.00	-	-
Secondary	0.216	1.22	0.89	1.65
Primary	0.196	1.56	0.80	3.04
<b>Occupation</b>				
Professional	-	1.00	-	-
Nonprofessional	0.227	1.21	0.89	1.64
Other	0.585	1.17	0.66	2.07

Table 6.5: Doctor-diagnosed diabetes and associated factors (continued)

	<i>p</i> value	Odds ratio	95% confidence interval	
<b>Employment status</b>				
Employed	-	1.00	-	-
Unemployed	0.044	2.09	1.02	4.27
Not in the labour force	0.134	1.32	0.92	1.89
<b>Smoking status</b>				
Nonsmoker	-	1.00	-	-
Ex-smoker	0.005	1.58	1.15	2.18
Smoker	0.410	1.18	0.79	1.75
<b>High blood pressure ever</b>				
No	-	1.00	-	-
Yes	<0.001	2.57	1.88	3.53
<b>Private health insurance</b>				
Yes	-	1.00	-	-
No	<0.001	1.93	1.43	2.59
<b>Household income per year</b>				
Greater than or equal to \$60,000	-	1.00	-	-
\$40,000 to less than \$60,000	0.114	1.62	0.89	2.93
\$20,000 to less than \$40,000	0.013	2.00	1.15	3.46
Less than \$20,000	<0.001	3.42	2.05	5.69
<b>Dwelling ownership</b>				
Owned	-	1.00	-	-
Rented	0.001	2.00	1.34	2.97

- Not applicable

## Diabetes, by Department of Human Services region

Table 6.6 shows the age- and sex-standardised prevalence rates of diabetes for each of the Department of Human Services regions. These rates varied from 2.7 per cent in the eastern metropolitan region to 6.7 per cent in the northern metropolitan region.

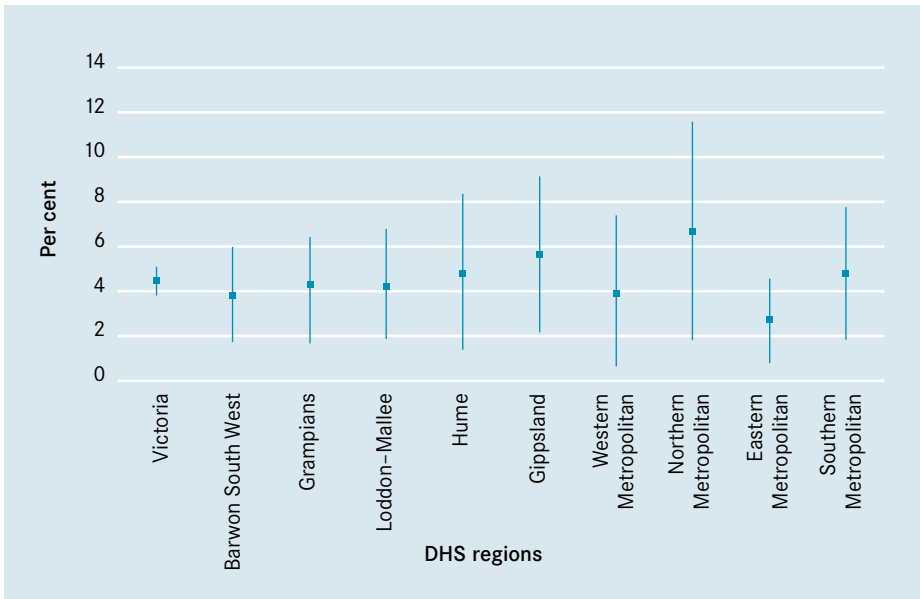
No significant differences were found among the diabetes prevalence rates across the departmental regions. The power of the survey to detect significant differences, however, was limited at the regional level by the sample size and the low prevalence of diabetes in each region.

Table 6.6: Doctor-diagnosed diabetes, by Department of Human Services region

Region	Sex	%	Lower 95% confidence interval	Upper 95% confidence interval
Victoria	Males	4.7	3.8	5.6
	Females	4.3	3.5	5.1
	Persons	4.5	3.9	5.1
Barwon south west	Males	3.1	0.6	5.9
	Females	4.5	2.3	11.8
	Persons	3.8	1.8	6.1
Grampians	Males	4.1	1.1	7.4
	Females	4.5	1.5	9.9
	Persons	4.3	1.7	6.5
Loddon-Mallee	Males	4.0	0.5	8.1
	Females	4.5	1.7	8.3
	Persons	4.2	1.9	6.8
Hume	Males	5.2	0.7	10.1
	Females	4.3	1.1	7.2
	Persons	4.8	1.4	8.4
Gippsland	Males	6.2	1.4	11.9
	Females	5.2	1.8	11.2
	Persons	5.6	2.1	9.2
Western metropolitan	Males	3.7	0.0	8.8
	Females	4.1	1.2	10.0
	Persons	3.9	0.7	7.4
Northern metropolitan	Males	8.7	1.2	16.8
	Females	4.8	1.2	8.9
	Persons	6.7	2.0	11.6
Eastern metropolitan	Males	2.4	0.2	4.9
	Females	3.1	0.7	8.1
	Persons	2.7	0.9	4.6
Southern metropolitan	Males	5.0	0.9	9.3
	Females	4.7	0.9	7.3
	Persons	4.8	1.9	7.8



Figure 6.3: Age-standardised rates of doctor-diagnosed diabetes, by Department of Human Services region



## References

1. Australian Institute of Health and Welfare 2002, *Australia's health 2002*, Canberra.
2. Department of Human Services Victoria, 'Diabetes explained', Better Health Channel website, [www.betterhealth.vic.gov.au](http://www.betterhealth.vic.gov.au).

## 7. Psychological distress

### 7.1 Introduction

Mental health problems and mental illness are a major cause of poor health in Australia. Almost one in five adults experience a mental disorder at some time in their lives.<sup>1</sup> Depression is the number one cause of the burden of disease in Victoria and the fourth cause Australia-wide.<sup>2,3</sup> The World Health Organisation and the World Bank estimate that the burden of disease associated with depression is increasing globally and will become the major cause of the disease burden in the next 20 years. In recognition of the importance of these issues, mental health has been designated one of six national health priority areas for Australia and is the subject of a National Strategy and Action Plan.<sup>4</sup>

Given the significance of mental health issues in Victoria, the Department of Human Services included a measure of psychological distress—the Kessler 10 (K10)—in the survey. The K10 is a set of 10 questions designed to categorise the level of psychological distress over a four-week period. It cannot be used to determine major mental illnesses (such as psychoses), but it has been validated as a simple measure of anxiety, depression and worry (psychological distress).<sup>5</sup> The K10 scale was developed for use in the US National Health Interview Survey and formed part of the national Survey of Mental Health and Well Being conducted by the Australian Bureau of Statistics in 1997 and 2001.

### 7.2 Method

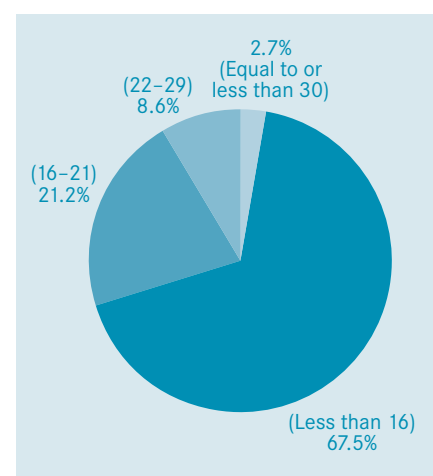
The K10 includes questions that cover dimensions of depression and anxiety, such as nervousness, hopelessness, restlessness, sadness and worthlessness. It consists of 10 questions that all have the same response categories: all of the time, most of the time, some of the time, a little of the time and none of the time (which are scored from 1 to 5). To calculate a K10 score, the ordering of these values is reversed before being assigned to the responses given for each question, and the 10 items are summed to yield scores ranging from 10 to 50.

Subject to qualifications about the use of the K10 as a screening tool, the maximum score of 50 indicates severe distress and the minimum score of 10 indicates no distress. In general, the higher the K10 score, the greater is the likelihood that a person suffers from a mental disorder.

### 7.3 Survey results

Almost 3 per cent of persons aged 18 years or over had scores of 30 or greater on the K10 and were classified as likely to be at high risk of having a mental disorder (figure 7.1). For reporting purposes, the middle-risk level was divided into an upper range (K10 scores of 16–21) and a lower range (scores of 22–29). Almost 9 per cent of respondents had scores in the upper range of the middle-risk category and 21.2 per cent had scores in the lower range. Over two-thirds of respondents had low K10 scores and were regarded as being at low risk of having a mental disorder.

Figure 7.1: K10 scores, persons aged 18 years and over



For both males and females, the prevalence of higher K10 scores was generally lower among persons in older age groups (table 7.1). Persons aged 65 years or over were also more likely to have K10 scores in the low-risk category, with 81.6 per cent of males and 76.9 per cent of females in this age group achieving such scores. The proportion of females with scores in the high-risk category was greatest in the age group 18–24 years (5.4 per cent). The proportion of males with scores in the high risk category was also highest (3.2 per cent) in the 18–24 year age group.

Table 7.1: K10 score, by age and sex

Age group (years)	K10 score							
	<16		16-21		22-39		≥30	
	%	SE(%)	%	SE(%)	%	SE(%)	%	SE(%)
<b>Males</b>								
18-24	57.6	3.9	29.4	3.6	9.8	2.1	3.2	1.4
25-34	64.0	2.8	23.3	2.5	10.0	1.8	2.7	0.7
35-44	71.7	2.3	19.0	1.9	8.2	1.5	1.2	0.5
45-54	73.3	2.5	17.8	2.2	5.7	1.2	3.1	0.9
55-64	76.1	2.7	17.5	2.4	5.1	1.3	1.3	0.5
65+	81.6	2.2	11.2	1.6	5.6	1.4	1.6	0.8
Total	70.6	1.1	19.7	1.0	7.5	0.7	2.2	0.3
<b>Females</b>								
18-24	46.9	3.4	30.3	3.1	17.4	2.7	5.4	1.6
25-34	56.9	2.2	28.2	2.0	11.9	1.4	3.0	0.7
35-44	65.2	1.8	22.4	1.6	8.8	1.1	3.7	0.7
45-54	68.7	2.2	17.2	1.7	10.3	1.4	3.9	0.9
55-64	68.8	2.6	22.7	2.4	5.5	1.0	3.0	1.0
65+	76.9	2.0	17.0	1.9	5.1	0.8	1.1	0.5
Total	64.5	1.0	22.6	0.8	9.6	0.6	3.2	0.4
<b>Persons</b>								
18-24	52.4	2.6	29.8	2.4	13.5	1.7	4.3	1.1
25-34	60.4	1.8	25.8	1.6	11.0	1.1	2.9	0.5
35-44	68.4	1.5	20.7	1.3	8.5	0.9	2.4	0.4
45-54	71.0	1.6	17.5	1.4	8.0	0.9	3.5	0.6
55-64	72.4	1.9	20.1	1.7	5.3	0.8	2.1	0.5
65+	79.0	1.5	14.4	1.3	5.3	0.8	1.3	0.5
Total	67.5	0.7	21.2	0.7	8.6	0.4	2.7	0.2

SE = standard error.

## Psychological distress and associated factors

After adjusting for age and sex (table 7.2), those persons more likely to be categorised as experiencing psychological distress (K10 score greater than or equal to 22) were those persons with lower education levels, those unemployed or not in the labour force, those in nonprofessional or other occupations, those having poorer self-reported health status, those not having private health insurance, those having lower household income levels and those persons living in rented dwellings.

The survey also collected information on whether a person had ever been told by a doctor that they had depression or an anxiety disorder. Overall, 12.7 per cent of males and 19.4 per cent of females had been told by a doctor in their lifetime that they had depression or anxiety. Persons who had been so diagnosed were found to be more likely to have higher levels of psychological distress.

Table 7.2: Psychological distress and associated factors

	<i>p</i> value	Odds ratio	95% confidence interval	
<b>Area of Victoria</b>				
Rural	–	1.00	–	–
Urban	0.289	1.09	0.93	1.29
<b>Country of birth</b>				
Australia	–	1.00	–	–
Overseas	0.142	1.19	0.94	1.51
<b>Education level</b>				
Tertiary	–	1.00	–	–
Secondary	0.003	1.36	1.11	1.68
Primary	0.002	2.38	1.37	4.14
<b>Employment status</b>				
Employed	–	1.00	–	–
Unemployed	<0.001	3.81	2.56	5.65
Not in the labour force	<0.001	1.76	1.36	2.26
<b>Occupation</b>				
Professional	–	1.00	–	–
Nonprofessional	<0.001	1.49	1.21	1.85
Other	0.003	1.76	1.22	2.55
<b>Self-reported health status</b>				
Excellent	–	1.00	–	–
Very good	0.154	1.45	0.87	2.41
Good	<0.001	3.81	2.36	6.14
Fair	<0.001	8.35	5.08	13.70
Poor	<0.001	22.59	12.60	40.49
<b>Told by a doctor that they have had depression or anxiety</b>				
No	–	1.00	–	–
Yes	<0.001	5.80	4.72	7.14
<b>Private health insurance</b>				
Yes	–	1.00	–	–
No	<0.001	1.61	1.31	1.97

Table 7.2: Psychological distress and associated factors (continued)

	<i>p</i> value	Odds ratio	95% confidence interval	
<b>Household income per year</b>				
Greater than or equal to \$60,000	–	1.00	–	–
From \$40,000 to less than \$60,000	0.006	1.59	1.15	2.22
From \$20,000 to less than \$40,000	<0.001	2.13	1.55	2.94
Less than \$20,000	<0.001	5.70	4.22	7.69
<b>Dwelling ownership</b>				
Owned	–	1.00	–	–
Rented	<0.001	1.82	1.45	2.28

– Not applicable.

### 7.3 Seeking professional help for mental health related problems

The survey also included a question on the use of mental health services, specifically: 'In the last year, have you sought professional help for a mental health related problem?'. An estimated 7.4 per cent of respondents accessed professional help for a mental health related problem at some point during the year before the survey (table 7.3).

Table 7.3: Seeking professional help for a mental health related problem, by sex

	%	SE(%)
Males	6.0	0.6
Females	8.7	0.5
Persons	7.4	0.4

SE = standard error

Of those who sought professional help for a mental health related problem, most (62.8 per cent) sought help from a general practitioner (table 7.4). A further 26.6 per cent had contact with a private counselling service or a psychologist, and 19.3 per cent had one or more visits with a private psychiatrist.

Table 7.4: Seeking help for a mental health related problem, by source of help

Sought help from	%	SE(%)
General practitioner	62.8	2.6
Private counselling service/psychologist	26.6	2.4
Private psychiatrist	19.3	2.2
Community health service	6.6	1.2

SE = standard error

## References

1. Australian Bureau of Statistics 1999, *National Survey of Mental Health and Wellbeing of Adults*, Canberra.
2. Mathers, C., Vos, T. and Stevenson, C. 1999, *The burden of injury and disease in Australia*, Australian Institute of Health and Welfare, Canberra.
3. Department of Human Service Victoria 1999, *The Victorian Burden of Disease Study: morbidity*, Melbourne.
4. Australian Institute of Health and Welfare 1996, *First report on national health priority areas*, Canberra.
5. Andrews, G. and Slade, T. 2001, 'Interpreting scores on the Kessler psychological distress scale (K10)', *Australian and New Zealand Journal of Public Health*, vol. 26, no. 6, pp. 494-7.

## 8. Social networks

### 8.1 Introduction

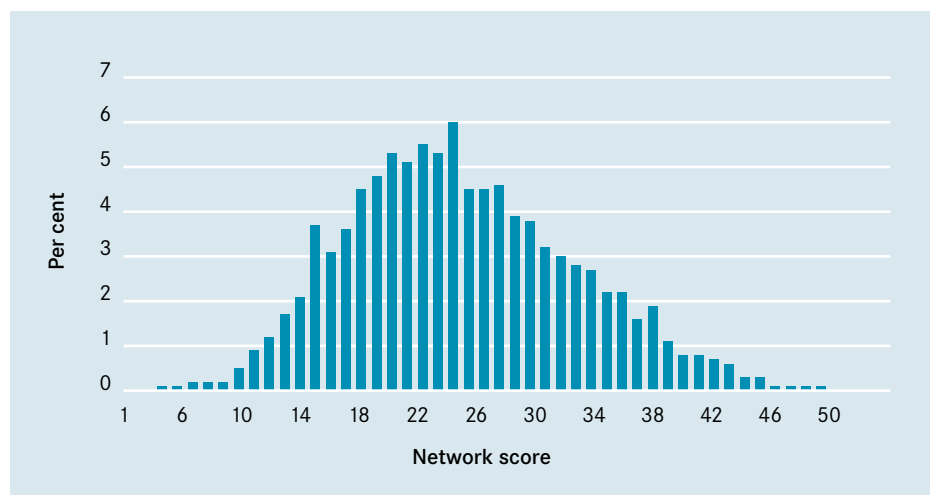
The Victorian Population Health Survey collected data on social networks for the first time in 2001. Social networks are defined as both close ties with family and friends, and broader membership of community and social groups. The results described in the 2001 survey report<sup>1</sup> represented the beginning of an exploration of appropriate population survey questions on social capital concepts, including social networks, community participation and social attitudes.

The 2002 survey has further developed the social network information collected in 2001. The 2002 survey maintained a core group of 11 questions (determining the size of networks) from the 2001 survey (table 8.3), while asking additional questions on network types, community participation and the 'benefits' of social networks (table 8.2).

### 8.2 Measuring social networks

The 2002 survey measured social networks using questions about informal social contacts (friends, family, neighbours) and membership or involvement with broader organisations such as sporting clubs, professional associations, community groups and working bees. It examined the benefits of networks by asking existing questions on health and social attitudes, and new questions on the capacity of individuals to draw resources from their networks.

Figure 8.1: Distribution of network scores

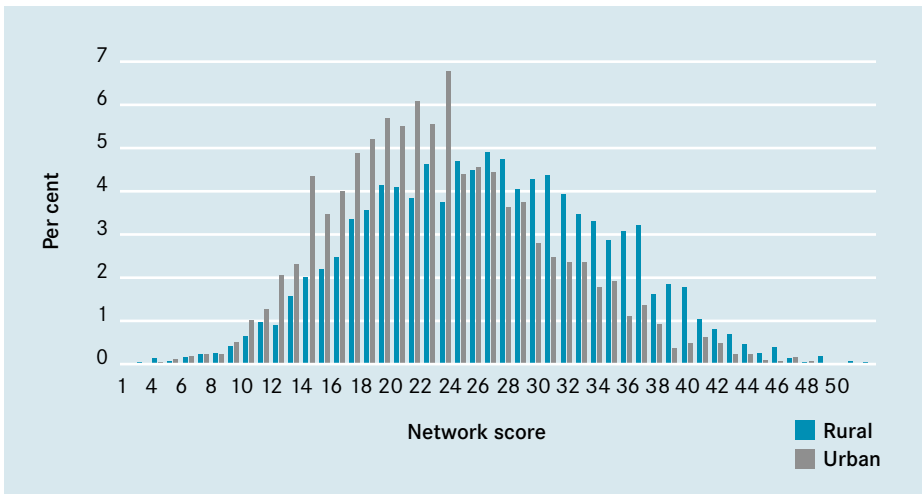


These resources included general help, money for emergencies, childcare and assistance from volunteer organisations.

#### Scoring survey questions

The response categories for the 17 questions relating to membership of social networks (table 8.2) were assigned a score. A total network score for each respondent was calculated by summing the values of their question responses. The minimum possible score was zero and the maximum was 51; the mean score was 23.5 (95 per cent confidence interval = 23.3-23.7). Higher scores represented increased social networks. The distribution of scores across the adult population (persons aged 18 years or over) is shown in figure 8.1.

Figure 8.2: Distribution of network score- urban versus rural



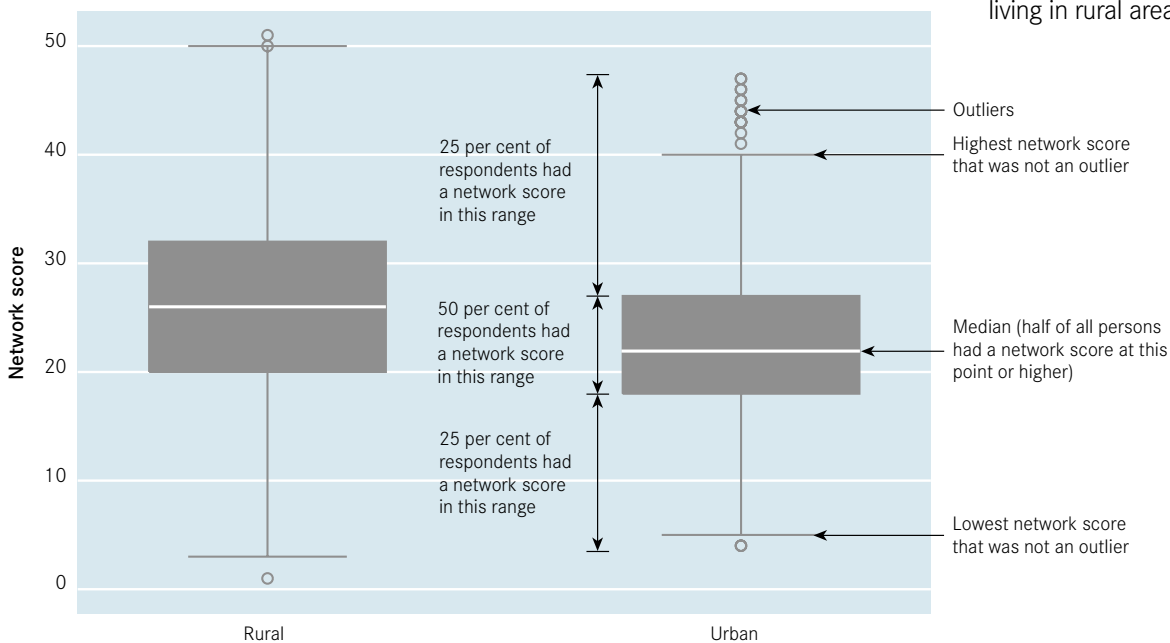
### 8.3 Survey results

#### Networks and areas of Victoria

##### Rural areas versus metropolitan areas

People living in rural areas had higher network scores than those of respondents in metropolitan areas (figures 8.2 and 8.3). The median score was 22 in metropolitan areas (mean = 22.7; 95 per cent confidence interval = 22.4-22.9) compared with 26 in rural areas (mean = 25.9; 95 per cent confidence interval = 25.6-26.2). Despite a significant difference in the network scores between rural areas and metropolitan areas, it is unclear what this represents in terms of a real difference in the magnitude of networks. Future analyses will investigate whether the increased networks in rural areas are associated with increased benefits to persons living in rural areas.

Figure 8.3: Network score and area of Victoria



For an example of use of and interpretation of box-plots as above, see *Applied Regression Analysis and Other Multivariable Methods, Second Edition*, p 190, Kleinbaum, Kupper, Muller, PWS-KENT Publishing Company, Boston, 1988.

## Networks and selected demographics

### Age group

Higher median network scores were associated with older age groups (figure 8.4).

### Sex

Males and females had similar network scores (figure 8.5).

Figure 8.4: Network score and age group

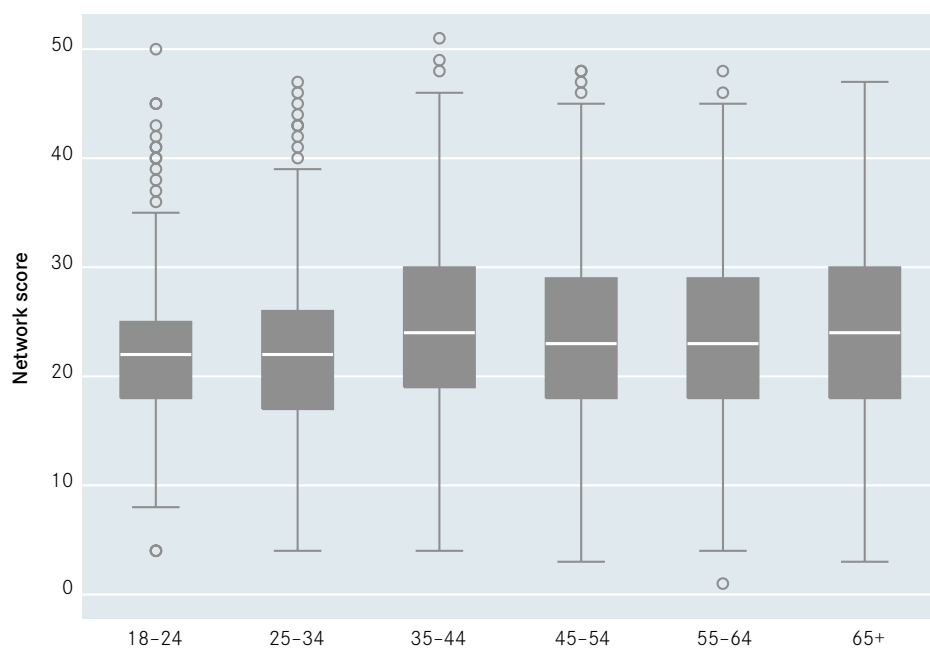
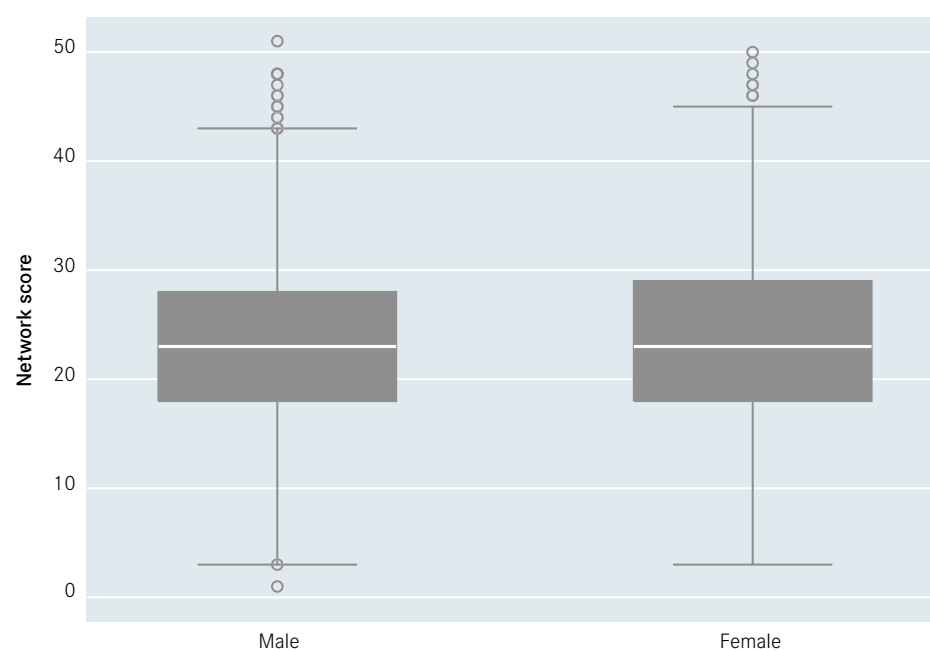


Figure 8.5: Network score and sex





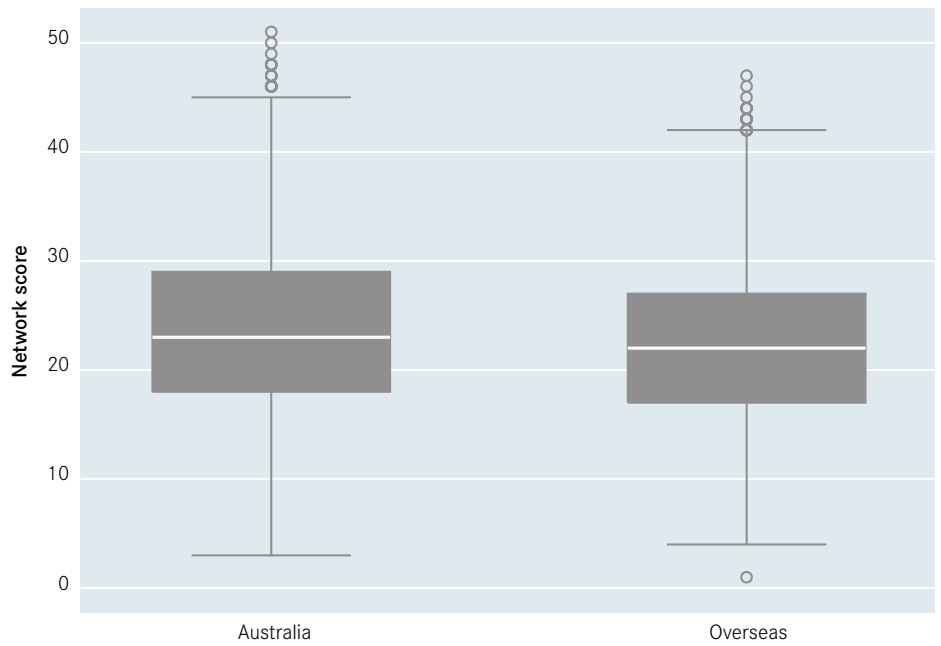
**Country of birth**

People born in Australia had higher median network scores than people born overseas (figure 8.6).

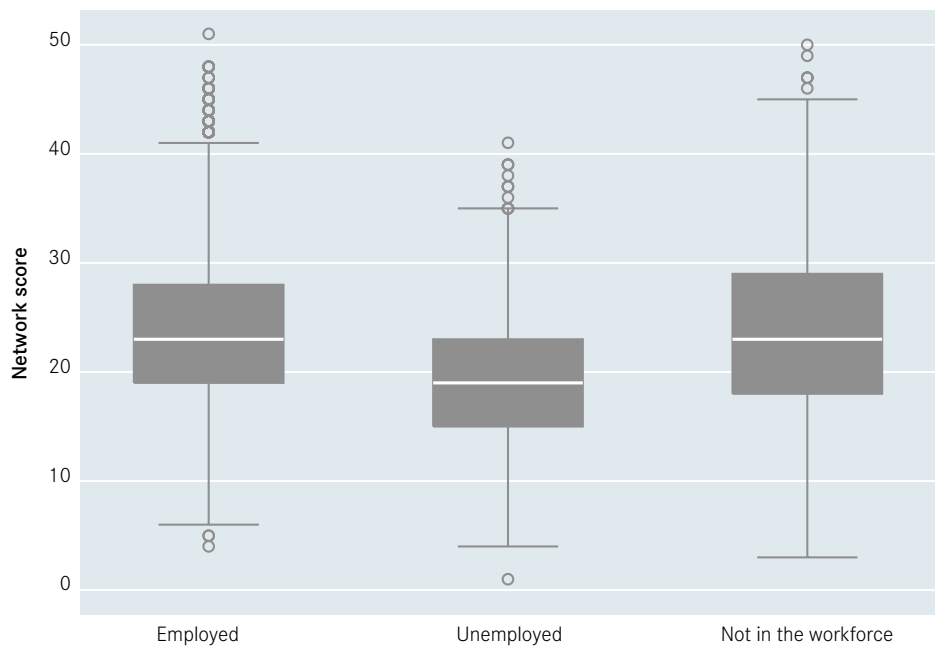
**Employment status**

The employed and those not in the labour force had higher median network scores than those of the unemployed (figure 8.7).

**Figure 8.6: Network score and country of birth**



**Figure 8.7: Network score and employment status**



### Friends/family in local areas

Of those persons who had contact with relatives living outside their home at least once a month (96.3 per cent of all persons), the majority (75.8 per cent) had fewer than five of these relatives living in their local area (table 8.2).

Almost all persons (98.4 per cent) had some form of contact with friends at least once a month. Over half (50.4 per cent) had fewer than five of these friends living in their local area (table 8.2).

### Networks and health status

The survey examined two types of health measure in relation to social networks. First, self-rated health status was used as an indicator of general physical health. Second, the Kessler 10 was used as a measure of psychological wellbeing (see section 7). Higher median network scores were associated with better self-reported health (figure 8.8) and lower levels of psychological distress (figure 8.9).

Figure 8.8: Network score and self-rated health

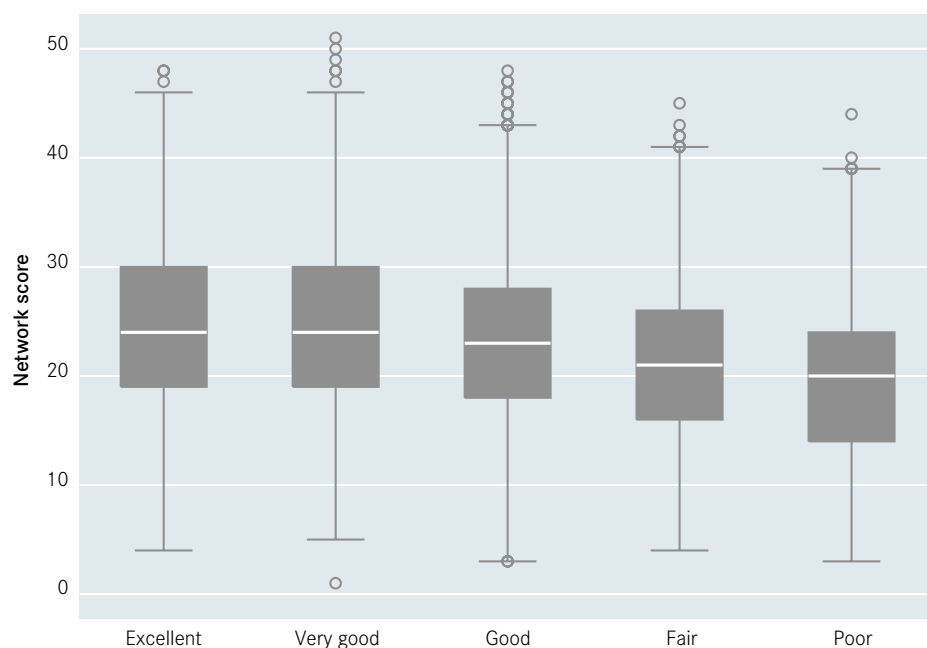
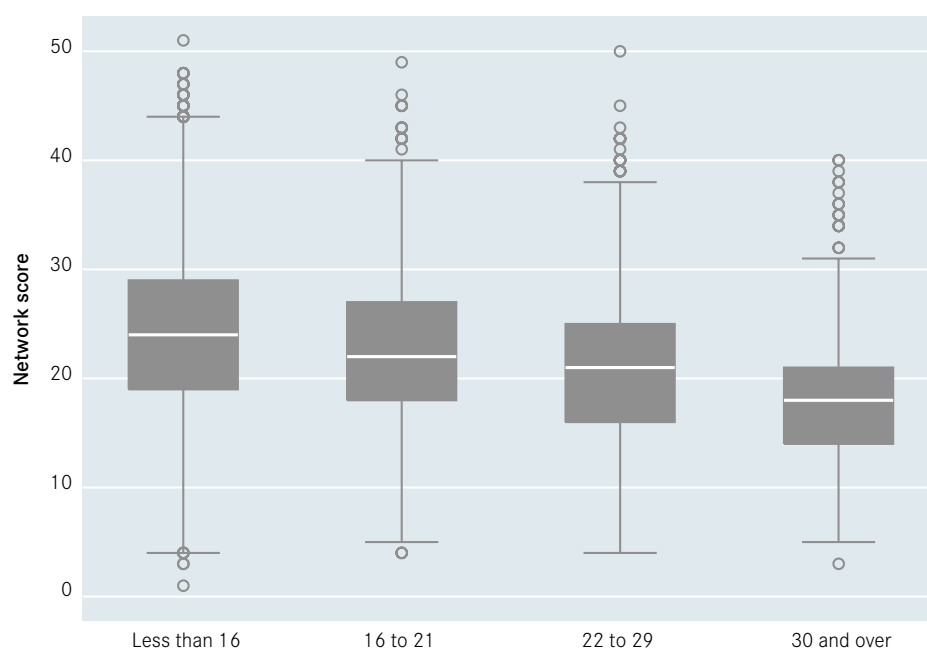


Figure 8.9: Network score and psychological distress



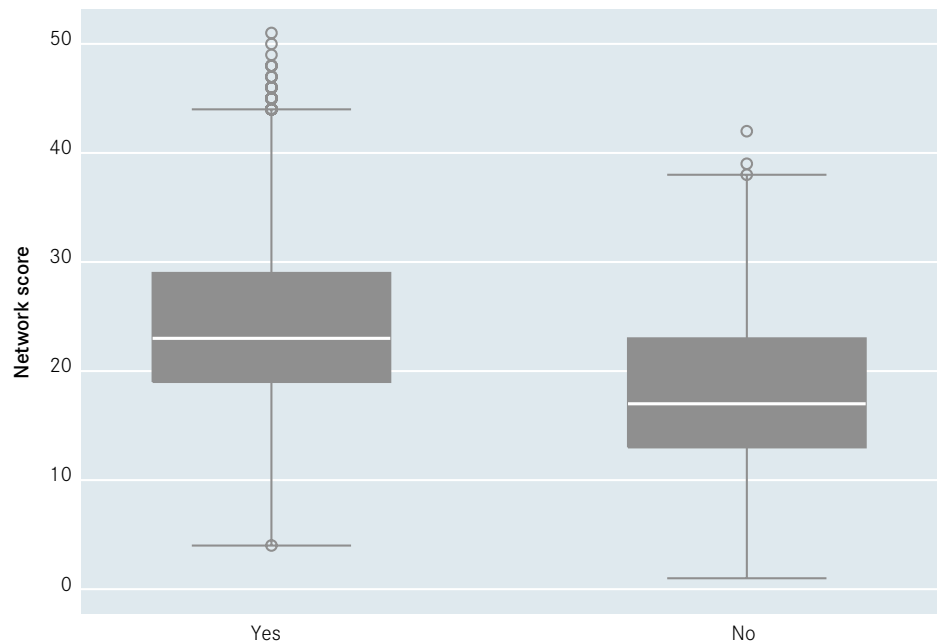
## Network benefits

A number of questions collected information on the benefits that respondents might have accrued from their social networks. The questions included whether respondents could 'get help from relatives or friends to care for self or child in an emergency', 'raise \$2,000 within two days in an emergency' and 'get help through volunteer organisations' (figures 8.10-8.13). Overall, these measures were designed to examine whether there were Victorians who could not rely on their own resources to deal with difficult social, health or economic circumstances. Not being able to raise \$2,000 in an emergency, for example, could disadvantage people in terms of the services or other resources that they could access (for example, emergency dental services).

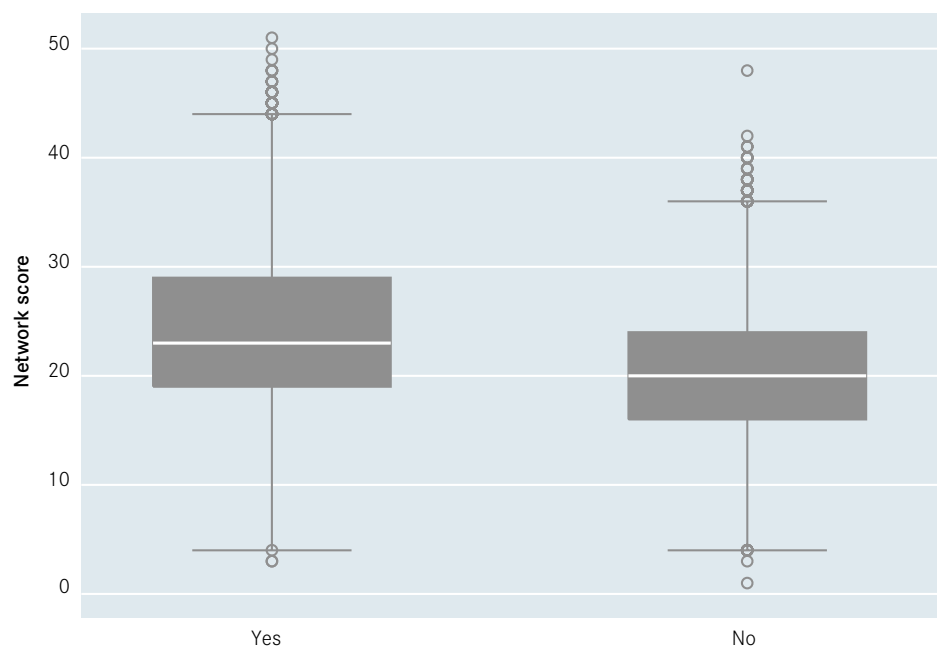
Higher median network scores were associated with being able to get a relative or friend to care for a child in an emergency (figure 8.10). Five per cent of respondents reported that they would be unable to obtain this help through their social networks (table 8.2).

Higher median network scores were associated with being able to raise \$2,000 within two days (figure 8.11). Seventeen per cent of respondents reported that they would be unable to obtain this help through their social networks (table 8.2).

**Figure 8.10: Network score and help-'relatives or friends caring for you or your child in an emergency'**



**Figure 8.11: Network score and help-'raising \$2000 within two days in an emergency'**



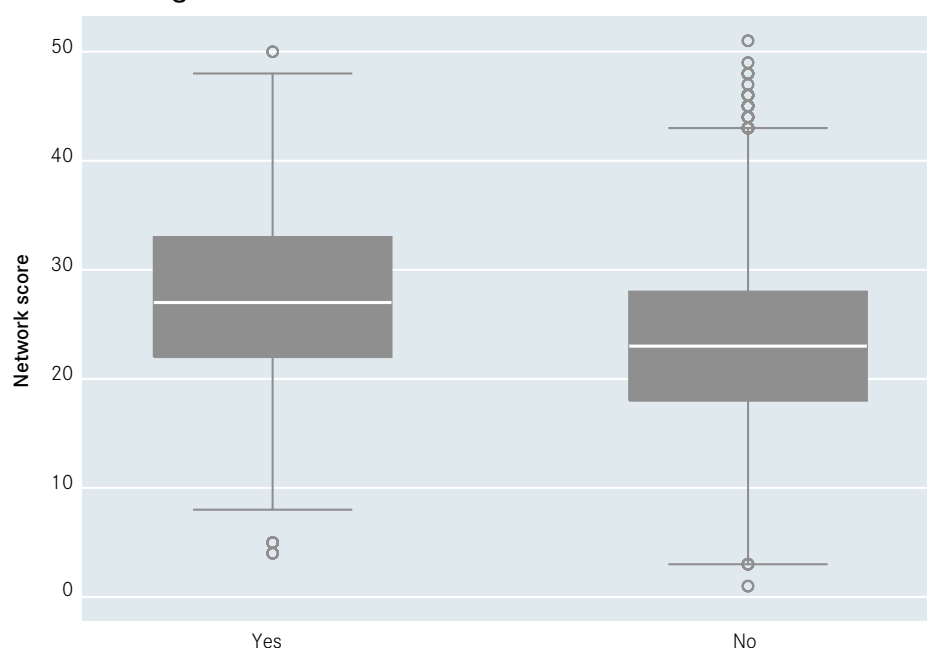
Higher median network scores were associated with being able to get help from a volunteer organisation (figure 8.12). Seven per cent of respondents were receiving help from a volunteer organisation and almost one-quarter were doing some kind of volunteer work (table 8.2).

### Networks and community participation

A number of survey questions were included as indicators of community participation. These included measures of membership of select groups and measures of whether people felt they could have a say in issues that affected them.

The membership-related questions focused on sporting, church, school, professional, academic, community and support groups, and were included in the network score. Sixty-eight per cent of respondents were members of the groups selected (table 8.1).

**Figure 8.12: Network score and help-'getting help from volunteer organisations'**



**Table 8.1: Questions relating to membership**

Age group (years)	Membership of any group*					
	Males		Females		Persons	
	%	SE(%)	%	SE(%)	%	SE(%)
18-24	71.3	3.5	64.6	3.2	68.0	2.4
25-34	63.5	2.9	62.1	2.2	62.8	1.8
35-44	70.1	2.3	71.2	1.8	70.6	1.5
45-54	69.2	2.5	64.2	2.3	66.7	1.7
55-64	68.9	3.0	65.7	2.8	67.3	2.1
65+	71.4	2.7	69.4	2.3	70.3	1.7
All	68.8	1.1	66.3	1.0	67.5	0.7

\* Includes membership of any sports group, church group, school group, other community group, professional group or academic society, and attendance at any support group meeting.

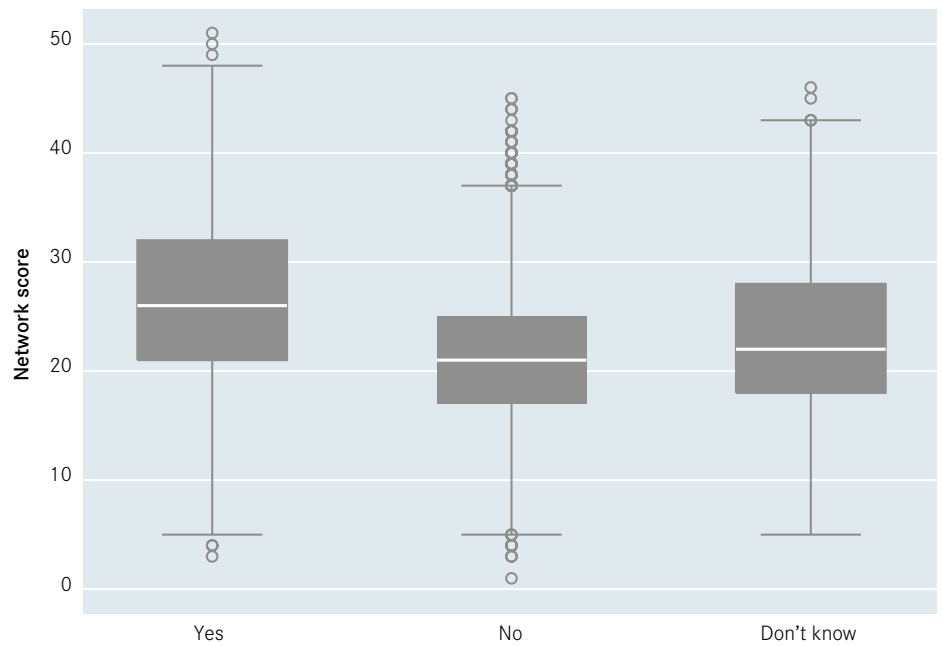
SE = standard error.

The second set of questions examined whether people felt they could have a say on issues in their communities. Higher median network scores were associated with feelings of preparedness to take action to make the community a better place (figure 8.13). Forty-three per cent of respondents felt prepared to take community action if it were needed (table 8.2).

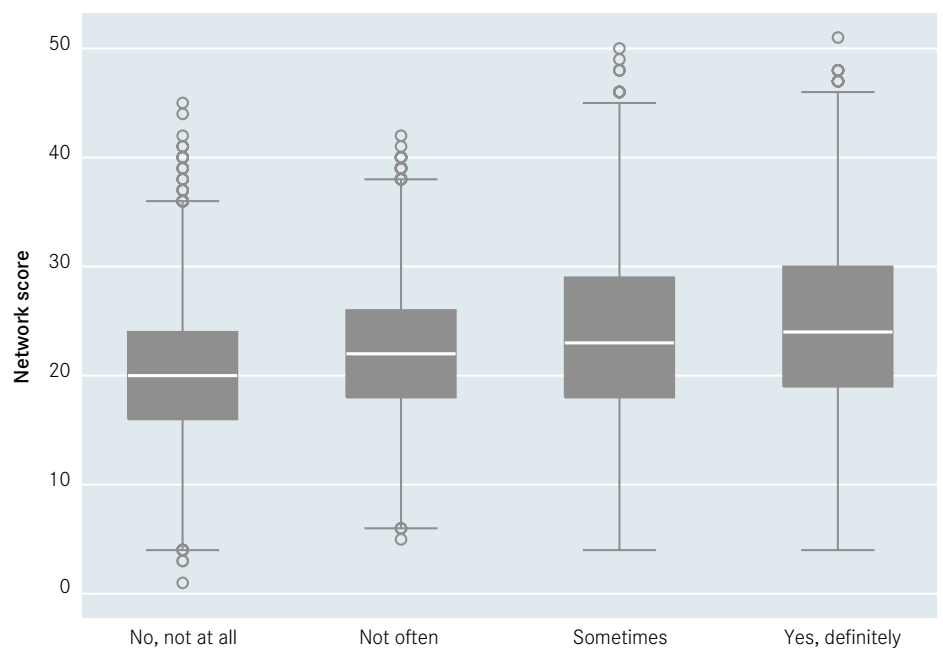
Higher median network scores were associated with the feeling of having opportunities to have a real say on issues that were important to the respondent (figure 8.14). Almost forty per cent of respondents felt they had opportunities to have a say on such issues (table 8.2).

Higher median network scores were associated with the feeling of being able to have an impact on making the community a better place (figure 8.15). Twenty per cent of respondents felt they could have a big impact on making their communities a better place to live (table 8.2).

**Figure 8.13: Network score and preparedness to take action to make the community a better place**



**Figure 8.14: Network score and the feeling of having opportunities to have a real say on issues that are important to respondent**



## Networks and attitudes

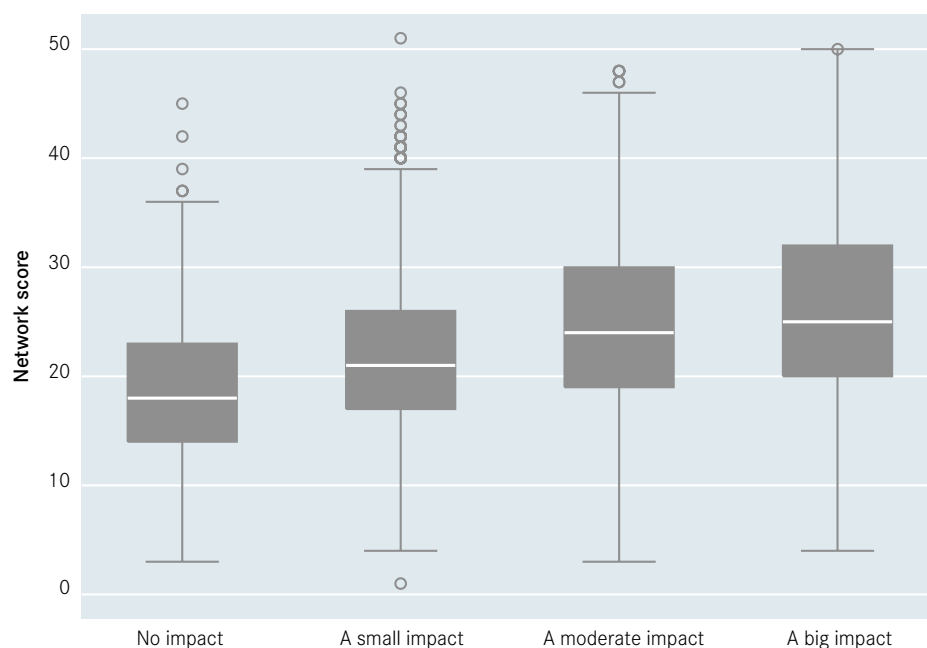
Several survey questions examined social attitudes. These included questions on whether respondents feared crime, felt trust, tolerated diversity and felt valued by society.

Higher median network scores were associated with feeling valued by society (figure 8.16). Around 15 per cent of respondents did not often feel valued (table 8.2).

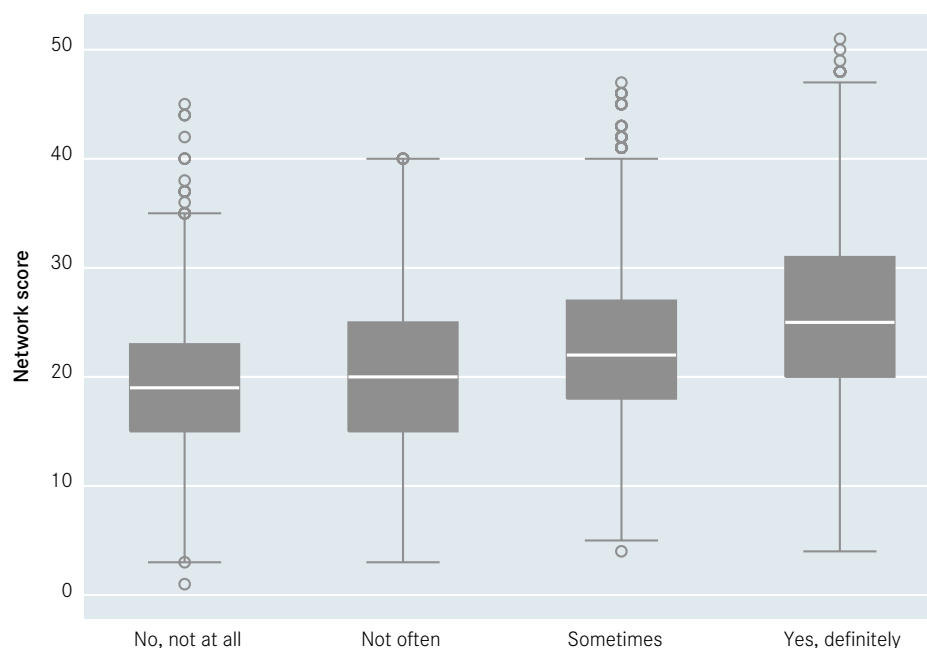
Higher median network scores were associated with feeling safe walking down the street after dark (figure 8.17). About 28 per cent of respondents did not often feel safe walking after dark (table 8.2).

Higher median network scores were associated with feeling that most people can be trusted (figure 8.18). Around one-quarter of respondents did not often feel most people could be trusted (table 8.2).

**Figure 8.15: Network score and the extent of the impact that the respondent felt they could have on making the community a better place to live**



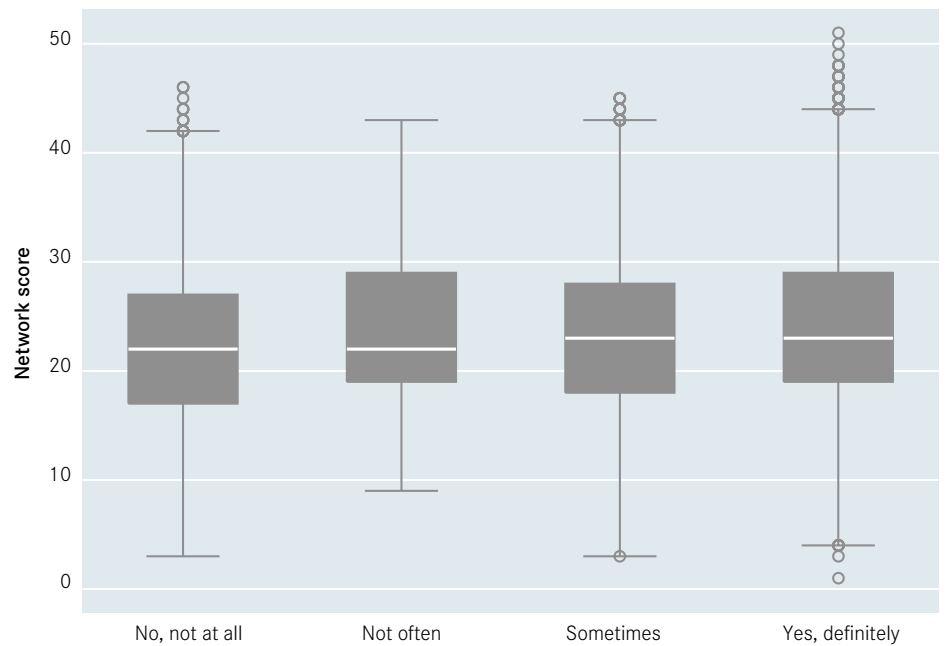
**Figure 8.16: Network score and feeling valued by society**



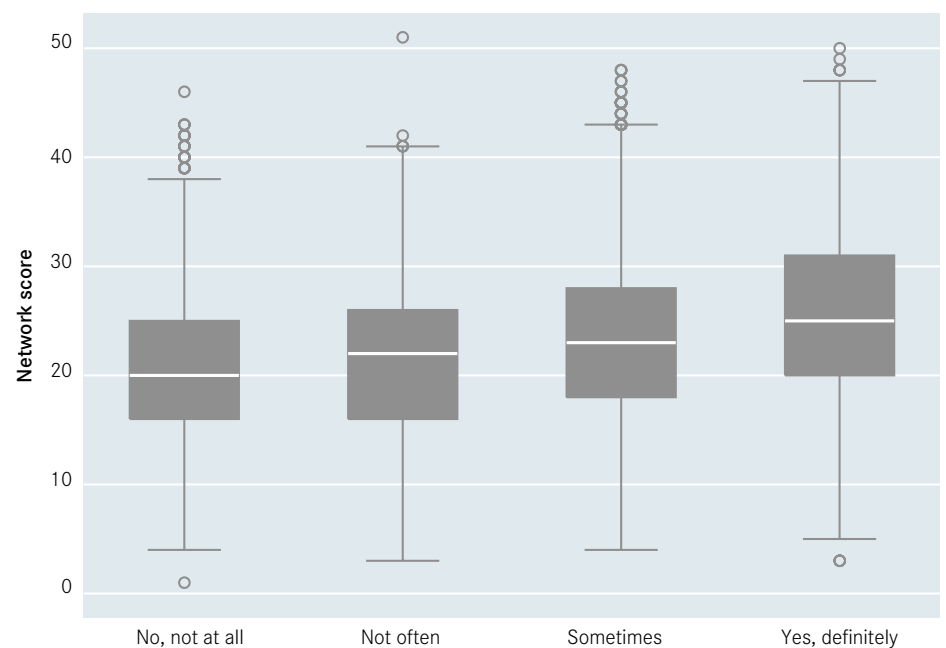
Higher median network scores were associated with feeling enjoyment in living among people of different lifestyles (figure 8.19). Around 8 per cent of respondents did not often enjoy this diversity (table 8.2).

Higher median network scores were associated with feeling that multiculturalism makes life in an area better (figure 8.20). Around 12 per cent of survey respondents did not often consider multiculturalism to be an improvement (table 8.2).

**Figure 8.17: Network score and feeling safe walking down the street after dark**



**Figure 8.18: Network score and agreement that most people can be trusted**

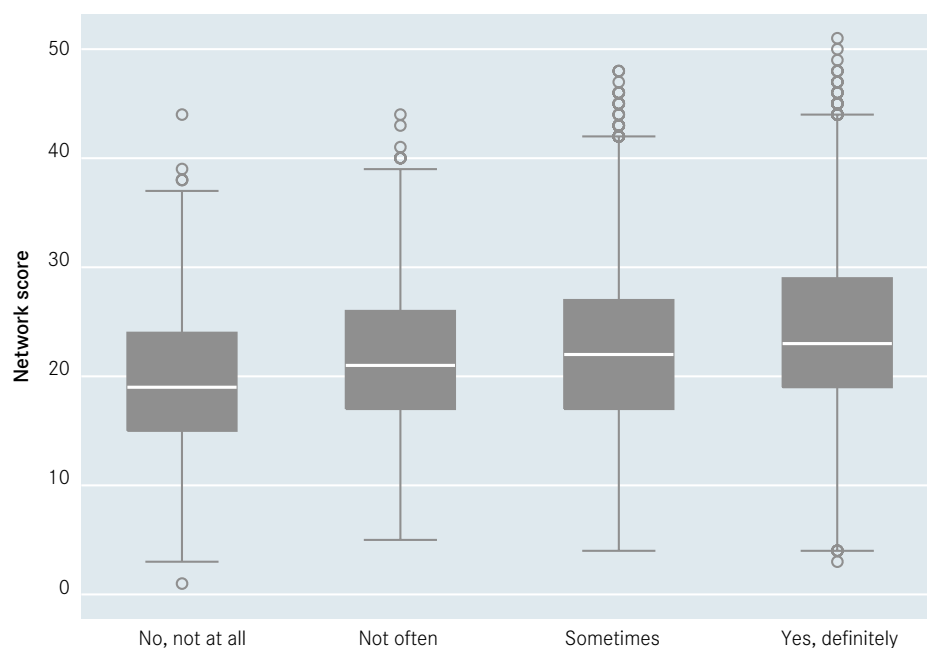


## 8.4 Discussion

Higher network scores were associated with those who lived in rural areas, older age groups, those who were Australian born and those who were employed. They were also associated with a range of benefits, including better health outcomes and an increased ability to get help in an emergency. Further, higher network scores were related to a range of positive attitudinal outcomes such as feeling there is the opportunity to have a say on important issues, feeling valued by society and accepting diversity.

Further analysis of these data will help to (i) describe how networks contribute benefits to Victorians and (ii) highlight potential disadvantage to citizens who cannot draw on network resources. The National Health Service Development Agency in Britain performed such analysis on data from the British Household Panel Survey.<sup>2</sup> It found that networks, while they contribute positively to health, are not the major contributors to health inequalities and play only minor roles in the onset of, and recovery from, mental illness and self-rated health.<sup>2</sup> Through the Victorian Population Health Survey, the Department of Human Services will continue to investigate these issues—particularly the key factors behind health inequalities and issues related to social inclusion/exclusion—by developing the survey content over the coming years.

**Figure 8.19: Network score and enjoyment of living among people of different lifestyles**



**Figure 8.20: Network score and attitude to multiculturalism making life in an area better**

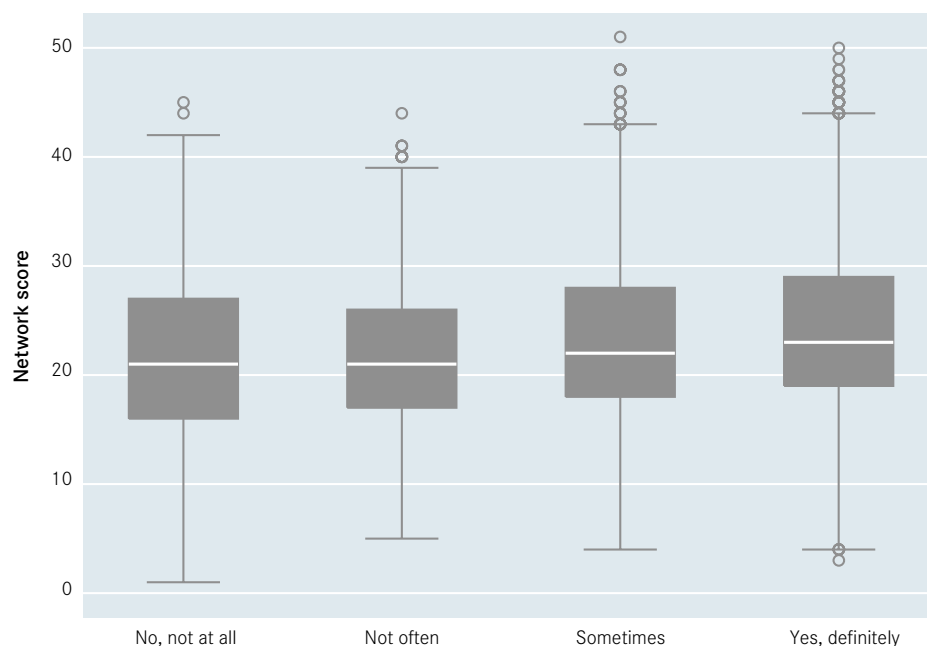




Table 8.2: Survey questions and response categories of Victorian Population Health Survey 2002

	None at all		Less than five		Five or more		Many, at least 10	
	%	SE(%)	%	SE(%)	%	SE(%)	%	SE(%)
<b>Social network questions</b>								
How many relatives outside your home do you have contact with (face-to-face, telephone, email, mail) at least once a month?*	3.7	0.3	31.7	0.7	36.2	0.8	28.4	0.7
How many of these relatives live in your local area/local government or council area?*	39.3	0.8	36.5	0.8	16.1	0.6	8.1	0.4
How many friends do you have contact with (face-to-face, telephone, email, mail) at least once a month?*	1.6	0.2	18.4	0.6	31.5	0.7	48.5	0.8
How many of these friends live in your local area/local government or council area?*	15.4	0.6	35.0	0.8	27.3	0.7	22.3	0.6
How many people did you talk to yesterday?*	0.9	0.2	16.9	0.6	26.5	0.7	55.6	0.8
	No, not at all		Not often		Sometimes		Yes, definitely	
	%	SE(%)	%	SE(%)	%	SE(%)	%	SE(%)
Can you get help from friends when you need it?*	2.9	0.3	3.0	0.3	14.1	0.6	79.9	0.6
Can you get help from family members when you need it?*	4.2	0.3	2.9	0.3	10.0	0.5	82.8	0.6
Can you get help from neighbours when you need it?*	18.8	0.7	9.4	0.5	20.1	0.6	51.7	0.8
Have you attended a local community event in the past six months (eg church fête, school concert, craft exhibition)?*	4.5	0.3	3.0	0.2	20.7	0.6	71.1	0.7
Do you help out a local group as a volunteer?*	62.7	0.7	3.3	0.3	9.6	0.5	24.4	0.6
Do you feel safe walking alone down your street after dark?	22.6	0.7	5.0	0.3	16.1	0.6	56.0	0.8
Do you agree that most people can be trusted?	16.4	0.6	8.5	0.4	43.3	0.8	31.7	0.7
Do you enjoy living among people of different lifestyles?	4.5	0.3	3.1	0.3	20.9	0.6	71.2	0.7
Do you think that multiculturalism makes life in your area better?	7.7	0.4	4.5	0.3	27.6	0.7	59.4	0.8
Do you feel valued by society?	8.6	0.4	6.6	0.4	32.2	0.7	51.6	0.8
Do you feel there are opportunities to have a real say on issues that are important to you?	13.6	0.5	12.7	0.5	34.1	0.8	39.3	0.8
If you needed to find a job, could you get one through a relative or friend?	51.5	0.9	35.0	0.8	13.3	0.6	0.1	0.0

Table 8.2: Survey questions and response categories of Victorian Population Health Survey 2002 (continued)

	No impact at all		A small impact		A moderate impact		A big impact	
	%	SE(%)	%	SE(%)	%	SE(%)	%	SE(%)
Overall, how much impact do you think PEOPLE LIKE YOU can have in making your community a better place to live?	7.1	0.4	34.1	0.8	39.6	0.8	18.5	0.6
			Yes		No		Don't know	
			%	SE(%)	%	SE(%)	%	SE(%)
Could you raise \$2,000 within two days in an emergency?			78.6	0.7	16.6	0.6	3.9	0.3
Are you a member of a sports group?*			28.9	0.7	71.0	0.7	0.1	0.1
Are you a member of a church group?*			18.7	0.6	81.3	0.6	0.0	-
Are you a member of a school group?*			15.1	0.5	84.8	0.5	0.1	0.0
Are you a member of any other community group?*			25.0	0.7	74.8	0.7	0.1	0.0
Are you a member of a professional group or academic society?*			21.2	0.7	78.5	0.7	0.3	0.1
If you needed to find a job, could you get one through a contact in one of these groups?* (Question of persons who belonged to any of the groups)			54.7	1.0	30.2	0.1	14.9	0.7
Have any of these groups you are involved with taken any LOCAL action on behalf of your community in the last 12 months?* (Question of persons who belonged to any of the groups)			33.4	0.9	53.7	0.9	12.8	0.7
Do you get any help from any volunteer organisations?			7.5	0.4	92.0	0.4	0.5	0.1
Have you been to any support group meetings over the last two years?*			11.9	0.5	88.0	0.5	0.1	0.0
Could one of your relatives or friends care for you or your children in an emergency?			94.8	0.3	5.2	0.3	0.0	0.0
Has anything in your life prepared you to take action to make your community a better place to live?			43.1	0.8	51.3	0.8	5.6	0.4

\* Questions used in social network scoring.

SE = standard error.

Table 8.3: Core social network questions used in Victorian Population Health Survey 2001

Social network questions	Yes, definitely		Sometimes		Not often		No, not at all	
	%	SE(%)	%	SE(%)	%	SE(%)	%	SE(%)
Can you get help from friends when you need it?	79.7	0.6	14.9	0.6	2.5	0.2	2.9	0.3
Can you get help from family members when you need it?	81.8	0.6	10.8	0.5	3.1	0.3	4.3	0.3
Can you get help from neighbours when you need it?	50.7	0.8	27.3	0.7	9.1	0.5	12.9	0.5
Have you attended a local community event in the past six months (e.g. church fête, school concert, craft exhibition)?	44.6	0.8	13.8	0.5	5.3	0.4	36.3	0.8
Do you help out a local group as a volunteer?	21.2	0.6	10.8	0.5	4.5	0.3	63.5	0.7
Do you feel safe walking alone down your street after dark?	55.2	0.8	17.5	0.6	5.9	0.4	21.4	0.6
Do you agree that most people can be trusted?	28.0	0.7	43.5	0.8	12.0	0.5	16.5	0.6
Do you enjoy living among people of different lifestyles?	69.5	0.7	22.0	0.7	2.9	0.2	5.6	0.4
Do you think that multiculturalism makes life in your area better?	57.0	0.8	28.7	0.75.6	0.4	8.7	0.4	
Do you feel valued by society?	42.1	0.8	36.6	0.8	9.0	0.5	12.4	0.5
Do you feel there are opportunities to have a real say on issues that are important to you?	36.1	0.7	34.2	0.7	14.9	0.6	14.7	0.6

SE = standard error.

## Reference

1. Department of Human Services Victoria 2001, *Victorian Population Health Survey 2001: selected findings*, Melbourne.
2. National Health Service Development Agency (UK) 2003, *Social Capital for Health: Investigating the Links Between Social capital and Health Using the British Household Panel Survey*, London.

## Appendix: Data items for the Victorian Population Health Survey 2002

### Demographics

Age

Sex

Marital status

Country of birth

Main language spoken at home

Country of birth of mother

Country of birth of father

Highest level of education

Employment status

Main field of occupation

Household income

Housing tenure

Whether has private health insurance

Indigenous status

Area of State (Department of Human Services region)

Silent telephone number status

Number of adults aged 18 years or over in household

### Health care use

Whether had blood pressure check in previous two years

Whether had cholesterol check in previous two years

Whether had a test for diabetes or high blood sugar levels in previous two years

Whether had a bowel examination in previous two years

Whether had a skin examination in previous two years

Whether had a mammogram test in previous two years

Whether had a pap smear test in previous two years

Whether had a prostate check in previous two years

Whether had a dental check in previous two years

Use of and level of satisfaction with:

- public hospital
- community health centre
- Meals on Wheels home nursing
- kindergarten
- maternal and child health centre
- mental health service

### Health service issues

Difficulty in getting medical care when needed

Types of difficulty experienced getting access to medical care

#### (Propensity to seek care)

Level of importance in seeing a doctor if had weight loss of more than 5-6 kilograms

Level of importance in seeing a doctor if had shortness of breath with light exercise or work

Level of importance in seeing a doctor if had chest pain when exercising

Level of importance in seeing a doctor if had loss of consciousness, fainted or passed out

Level of importance in seeing a doctor if had bleeding other than nosebleeds and not caused by accident or injury

### Self-reported height and weight

#### Nutrition

Number of serves of vegetables eaten each day

Number of serves of fruit eaten each day

Type of milk consumed

#### Alcohol

Whether had an alcoholic drink of any kind in previous 12 months

Frequency of having an alcoholic drink of any kind

Amount of standard drinks consumed when drinking

Level of frequency of high-risk drinking

#### Smoking

Smoking status

Frequency of smoking

#### Asthma

Asthma status

#### Blood pressure

High blood pressure status

Management of high blood pressure

#### Diabetes

Diabetes status

Type of diabetes

#### Social capital measures

Social networks and support structures

Social and community participation

Civic involvement and empowerment

Trust in people and social institutions

Tolerance of diversity

## Physical activity

Whether walked continuously for at least 10 minutes in previous week

Amount of time spent walking continuously in previous week

Whether did any vigorous physical activity in previous week

Amount of time spent doing vigorous activity

## Self-reported health status

### Kessler 10 measure of psychological distress

### Health conditions

Arthritis

Heart disease

Stroke

Cancer

Osteoporosis

Depression or anxiety

Gastroenteritis

### Falls in persons aged 65 years or over

### Attitude to storage of paracetamol

## Attachment 1: Falls among older persons

The survey included a question on falls for persons aged 65 years or over only, specifically: 'Have you had any falls in or around your home in the past 12 months?'

### Survey results

The survey estimates were weighted to population benchmarks for age/sex/area of Victoria.

- Of all persons aged 65 years or over, 18.1 per cent reported having had a fall in or around their home in the 12 months before the survey.
- In this age group, a higher proportion of females (19.6 per cent) than males (16.0 per cent) reported a fall in or around the house in the previous 12 months.

Table 1A shows the breakdown of the results of the falls question by sex and Department of Human Services region.

**Table 1A: Urban regions, Victoria**

Region	Persons aged 65 years or over					
	Males		Females		Persons	
	%	SE(%)	%	SE(%)	%	SE(%)
Barwon south west	13.5	4.3	18.9	3.7	16.6	2.8
Grampians	14.2	4.3	13.5	3.7	13.8	2.8
Loddon-Mallee	20.2	5.1	18.9	3.3	19.5	2.9
Hume	19.1	5.5	22.5	4.2	21.0	3.4
Gippsland	20.4	4.7	19.9	3.9	20.1	3.0
Western metropolitan	9.5	4.9	19.9	6.2	15.3	4.1
Northern metropolitan	10.1	5.5	28.6	7.4	20.4	5.0
Eastern metropolitan	12.8	4.9	17.9	4.4	15.7	3.3
Southern metropolitan	23.2	5.8	16.8	3.9	19.5	3.4
<b>Total</b>	<b>16.0</b>	<b>2.1</b>	<b>19.6</b>	<b>1.9</b>	<b>18.1</b>	<b>1.4</b>

*SE = standard error.*

## Attachment 2: Views on storage of paracetamol in the home

The survey included the following question for persons aged 18 years or over: 'Do you consider that paracetamol stored in your home should be locked away?'

### Survey results

The survey estimates were weighted to population benchmarks for age/sex/area of Victoria. Tables 2A, 2B and 2C show the breakdown of results by sex, age and Department of Human Services region.

**Table 2A: Views on storage of paracetamol in the home, by sex**

	Males		Females		Persons	
	%	SE(%)	%	SE(%)	%	SE(%)
<b>Consider paracetamol should be locked away</b>						
Yes	36.4	1.2	47.6	1.0	42.2	0.8
No	61.2	1.2	51.4	1.0	56.2	0.8
Don't know	1.1	0.2	0.5	0.1	0.8	0.1
Don't have paracetamol	1.2	0.3	0.4	0.1	0.8	0.2

*SE = standard error.*

Table 2B: Views on storage of paracetamol in the home, by age

	18–24 years		25–34 years		35–44 years		45–54 years		55–64 years		65 years or over	
	%	SE(%)	%	SE(%)	%	SE(%)	%	SE(%)	%	SE(%)	%	SE(%)
<b>Consider paracetamol should be locked away</b>												
<b>Males</b>												
Yes	32.9	3.7	47.0	2.9	43.3	2.5	30.5	2.5	30.7	2.9	28.4	2.5
No	64.2	3.8	51.6	2.9	55.4	2.5	66.9	2.5	66.7	3.0	67.7	2.6
Don't know	1.4	0.8	0.6	0.3	0.3	0.2	1.9	0.8	1.2	0.7	1.7	0.7
Don't have paracetamol	1.4	1.3	0.7	0.5	1.0	0.4	0.7	0.3	1.3	1.3	2.3	0.7
<b>Females</b>												
Yes	38.4	3.2	61.6	2.2	50.9	1.9	37.7	2.3	47.2	2.8	45.4	2.5
No	61.3	3.21	37.7	2.2	48.0	1.9	62.0	2.3	51.2	2.8	53.0	2.4
Don't know	-	-	0.2	0.1	0.9	0.5	-	-	0.9	0.5	0.9	0.5
Don't have paracetamol	0.3	0.2	0.5	0.3	0.2	0.1	0.2	0.1	0.7	0.4	0.7	0.2
<b>Persons</b>												
Yes	35.6	2.5	54.3	1.8	47.1	1.6	34.1	1.7	39.0	2.1	38.0	1.8
No	62.8	2.5	44.6	1.8	51.6	1.6	64.4	1.7	58.9	2.1	59.4	1.8
Don't know	0.7	0.4	0.4	0.2	0.6	0.3	1.0	0.4	1.1	0.4	1.2	0.4
Don't have paracetamol	0.9	0.6	0.6	0.3	0.6	0.2	0.4	0.2	1.0	0.7	1.4	0.4

SE = standard error.



Table 2C: Views on storage of paracetamol in the home, by Department of Human Service region

	Region – Rural									
	Barwon S/W		Grampians		Loddon-Mallee		Hume		Gippsland	
	%	SE(%)	%	SE(%)	%	SE(%)	%	SE(%)	%	SE(%)
<b>Consider paracetamol should be locked away</b>										
Yes	42.7	1.8	45.9	2.0	45.3	1.8	43.8	2.0	43.7	1.9
No	55.7	1.8	51.7	2.0	52.6	1.8	55.2	2.0	54.9	1.9
Don't know	0.3	0.2	1.7	0.6	1.3	0.5	0.5	0.3	0.4	0.2
Don't have paracetamol	1.3	0.4	0.8	0.3	0.8	0.3	0.5	0.3	1.1	0.4
	Region – Metro									
	Western		Northern		Eastern		Southern			
	%	SE(%)	%	SE(%)	%	SE(%)	%	SE(%)	%	SE(%)
Yes			43.2	2.1	44.8	2.1	36.8	1.9	42.2	1.9
No			55.3	2.1	53.4	2.1	60.9	1.9	56.8	1.9
Don't know			0.4	0.2	1.0	0.4	1.0	0.4	0.9	0.3
Don't have paracetamol			1.2	0.7	0.8	0.4	1.3	0.5	0.1	0.1

SE = standard error.

