Victorian Population Health Survey 2016

Selected survey findings

VICTORIA State Government | Health and Human Services

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Preface

The Victorian Population Health Survey is an important component of the population health surveillance undertaken by the Victorian Department of Health and Human Services. The department initiated the surveillance program in 1998, and the first survey of adult Victorians was conducted in 2001.

The Victorian Population Health Survey gives an annual assessment of the health status and wellbeing of adults living in Victoria and provides data for key health indicators such as the prevalence of type 2 diabetes, tobacco smoking and the levels of pre-obesity and obesity in the population.

The Victorian Population Health Survey is a valuable resource for guiding future policy development and assists all levels of government in informing planning, reporting and decision making. Important insights from the survey into the health and wellbeing of the population are currently being used to underpin and inform various frameworks and policy areas in the department. These include the *Victorian public health and wellbeing plan outcomes framework*, the *Mental health outcomes framework* and the *Chief Health Officer's report*.

With more people moving to mobile phone usage, in recent years survey respondents have become progressively older, with a marked decline in the proportion of respondents who are 55 years of age or younger. The proportion of the sample who are 18–34 years of age has been particularly affected, while the proportion of those who are 35–54 years of age has also declined. The proportion of those who are 55–64 or 65 years of age or older has increased over time.

Maintaining data quality in the face of technological change brought about by the uptake of mobile phones led to improvements to the sampling frame in 2015. An overlapping dual-frame ('mobile-only', 'landline-only' and 'landline or mobile' phone users) sampling methodology was introduced which resulted in a substantially larger proportion of respondents in the 18–44 age group and a decline in those 55 years of age or older. More information regarding this move to dual frame sampling may be found in Appendix 1 of this report.

This change to the survey methodology in 2015 means that the surveys conducted after 2015 are not comparable with those conducted prior to and including 2014. This has impacted on the time series analyses. However, in 2016 potential changes in the prevalence over time for selected key health indicators have been modelled from 2005 to 2016. These indicators may be found in Appendix 2 of this report.

A new time series has commenced from 2015 onwards. As such, time series data for 2015 and 2016 are included in this report.

Contents

Introduction

About the survey

The Victorian Population Health Survey is an important component of population health surveillance in Victoria. The annual survey series is an ongoing source of quality information on the health and wellbeing of adult Victorians.

The Victorian Population Health Survey has been conducted each year since 2001 and is based on a sample of 7,500 adults 18 years of age or older who are randomly selected from households from each of the nine Department of Health and Human Services regions. In 2008, 2011–12 and 2014, the sample size for the survey was expanded to include Victoria's 79 local government areas (LGAs). The next LGA-level survey will be conducted in 2017.

The aim of the survey is to provide quality, timely indicators of population health to inform evidence-based policy development and strategic planning across the department and wider community. The survey is based on core question modules to report on trends over time and to inform decisions about population health priorities. The survey findings fill a significant information gap and ensure public health programs remain relevant and responsive to current and emerging health issues.

The impact of information from the Victorian Population Health Survey is extensive across both the government and non-government sectors. The survey provides quality data for a range of indicators of public health importance at the state and departmental regional levels.

Improved sampling frame

In order to maintain a representative sample of adults, the Victorian Population Health Survey used a dual-frame (mobile and landline phone) sampling design for the first time in 2015 and again for the 2016 survey. The inclusion of mobile phone users was seen to be critical to improving the representativeness of the Victorian Population Health Survey sample, thus ensuring the quality and validity of the data and reducing the potential for bias in the survey estimates.

More details about including mobile phones in the sample for the Victorian Population Health Survey 2016 may be found in Appendix 1. Future surveys from 2017 onwards will continue to use a dual-frame design, and time series data have been reported from 2015 onwards in this report.

About the report

This report includes information on: smoking; fruit and vegetable consumption; body weight status; physical activity; alcohol consumption; psychological distress; hypertension; self-reported health and wellbeing; chronic disease prevalence; biomedical checks; oral health and social capital. The data are presented in tables by age, sex and geographic area.

In 2016 the department revised the structure of its operating model, which is now based on four health branches that focus on the health interests of local populations across the state.

The former regions map to the four divisions as listed below. The Victorian Population Health Survey 2016 report includes a breakdown of data by the regions and four divisions as featured below:

- West Division: Grampians Region, Barwon-South Western Region, Western Metropolitan area (subset of North and West Metropolitan Region)
- North Division: Loddon Mallee Region, North Metropolitan area (subset of North and West Metropolitan Region)

- East Division: Hume Region, Eastern Metropolitan Region
- South Division: Gippsland Region, Southern Metropolitan Region.

About the data

- The sample size for the Victorian Population Health Survey 2016 was 7,532 respondents.
- Estimates have been age-adjusted (age-standardised) throughout the report to eliminate the effect that differences in age structure may have on estimates from different population groups.
- When data are presented in the report by age group, the estimate for the state ('18+') is not age-adjusted and the crude prevalence (expressed as a percentage) is presented.
- The reliability of estimates has been determined using the relative standard error (standard error / estimate × 100). Tables and figures throughout the report indicate the reliability of estimates.
- *Time trends*: Time series data are presented in figures throughout the report, age-adjusted (age-standardised) estimates are presented for each year in which the survey was run, where the same question is asked each year. Where a question about a health topic has changed over time, the period reported reflects the period from where the question change occurred. Ordinary least squares regression was used to test trends over time. If estimates are described in the text as being 'constant' over time, then there is no (statistically) significant trend observed.
- *Statistical significance*: Individual estimates have been compared with the total Victorian estimate. Where subgroups of the population are presented (for example, males and females), the estimates have been compared with the total Victorian estimate for that population subgroup (all Victorian males, all Victorian females). Statistically significant differences have been determined by comparing the 95 per cent confidence intervals of estimates. Where the confidence interval for an estimate in a table does *not* overlap with the confidence interval of the corresponding estimate for Victoria (or subpopulation), then the font colour of the estimate in question is changed to red if the estimate is higher or blue if the estimate is lower, compared with the estimate for Victoria (or subpopulation). Notes to the tables and figures indicate the statistical significance of differences between estimates. If an estimate is described as being 'higher' or 'lower' than another in the text of the report it is (statistically) significantly higher or lower than the comparative estimate. If two estimates are described in the text as being 'similar', then there is no (statistically) significant difference between estimates.

How is government involved in public health?

The Victorian Government has long developed policies, programs and resources that encourage preventive health practices across all levels of government, non-government agencies and the private sector. The *Public Health and Wellbeing Act 2008* requires all government departments and levels of government in Victoria to be responsible for public health and wellbeing. This approach is necessary because the environment in which we live influences many of the factors that affect our health and wellbeing.

The Act requires the Minister for Health to prepare a state public health and wellbeing plan every four years. The *Victorian public health and wellbeing plan 2015–2019* outlines the government's current key priorities for improving the health and wellbeing of all Victorians, particularly the most disadvantaged. As many chronic diseases and injuries are preventable, the plan focuses on encouraging healthy living from the early years and throughout life.

How to read the tables in this report

The following sample table provides an example of how the survey data are presented in this report.

Sample table: Proportion (%) of females who were pre-obese or obese, by Department of Health and Human Services region, Victoria, 2016

Region	Pre-obese or obese			Not pre-obese or obese		
		95% CI			95% CI	
	%	LL	UL	%	LL	UL
Females						
Northern Metropolitan	**42.8**	38.5	47.2	**41.9**	37.5	46.6
Southern Metropolitan	**38.6**	34.8	42.6	**48.1**	44.1	52.1
Eastern Metropolitan	**37.7**	33.1	42.5	**52.0**	47.1	56.8
Western Metropolitan	**37.6**	32.9	42.6	**47.4**	42.5	52.4
All metropolitan regions	**39.1**	36.9	41.4	**47.6**	45.3	49.9
Barwon-South Western	**44.2**	37.9	50.8	**43.5**	37.0	50.4
Gippsland	**47.0**	38.8	55.4	**38.0**	30.2	46.5
Grampians	**53.2**	43.7	62.6	**33.3**	24.7	43.2
Hume	**41.6**	34.1	49.4	**37.9**	29.6	46.9
Loddon Mallee	**50.4**	42.7	58.1	**38.8**	30.7	47.7
All rural regions	**46.7**	43.1	50.4	**38.8**	35.0	42.8
Victoria	**41.0**	**39.1**	**42.9**	**45.6**	**43.6**	**47.6**

Metropolitan and rural regions are identified by colour as follows: metropolitan / rural.
Data were age-standardised to the 2011 Victorian population.
LL/UL 95% CI = lower/upper limit of 95 per cent confidence interval.
Estimates that are (statistically) significantly different from the corresponding estimate for Victoria are identified by colour as follows: above or below.
Estimates may not add to 100 per cent due to a proportion of 'don't know' or 'refused to say' responses, not reported here.

If the estimate of the region is coloured **red**, this indicates that it is (statistically) significantly **HIGHER** than the state estimate.

For example, the percentage of pre-obese or obese females in the Grampians Region is 53.2 per cent, and this is higher than the state estimate, which is 41.0 per cent.

If the estimate of the region is coloured **blue**, this indicates that it is (statistically) significantly **LOWER** than the state estimate.

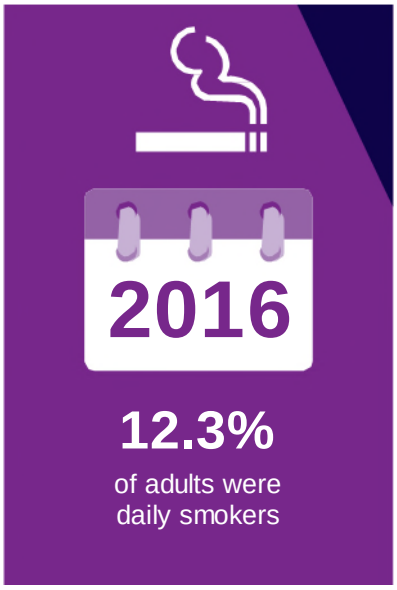
For example, the percentage of females who are not pre-obese or obese in the Grampians Region is 33.3 per cent, and this is lower than the state estimate, which is 45.6 per cent.

Summary of findings

Summary of findings

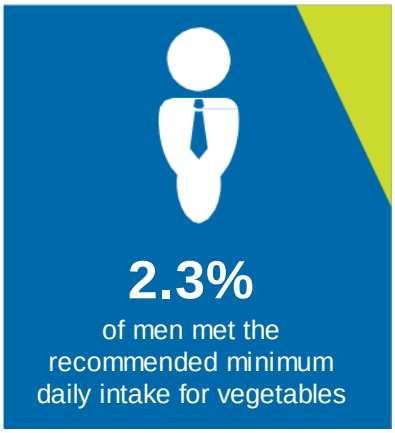
The following is a summary of results from the Victorian Population Health Survey 2016. Please note that only statistically significant differences are highlighted for the relevant indicators listed below.

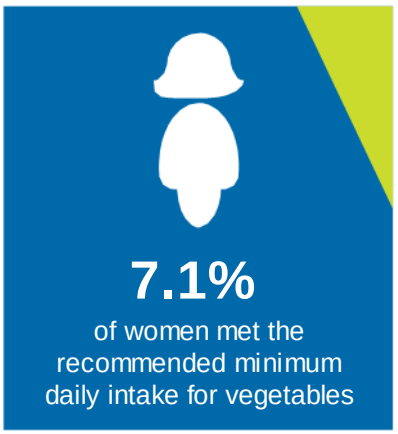
Smoking



The prevalence of daily smoking was significantly higher among men compared with the prevalence in women.

Vegetable intake





A significantly higher proportion of women met the recommended minimum daily intake for vegetables compared with the proportion in men.

A significantly higher proportion of women with a tertiary education and a total annual household income of $100,000 or more, met the physical activity and vegetable consumption guidelines, compared with the proportion in all Victorian women.

Fruit intake

2016

41.4%

of adults met the recommended minimum daily intake for fruit

38.6%

of men met the recommended minimum daily intake for fruit

44.0%

of women met the recommended minimum daily intake for fruit

A significantly higher proportion of women met the recommended minimum daily intake for fruit compared with the proportion in men.

A significantly higher proportion of women with a tertiary education who met the physical activity guidelines also met the fruit consumption guidelines, compared with the proportion in all Victorian women.

Pre-obesity

2016

30.6%

of Victorian adults were categorised as pre-obese according to their BMI

38.2%

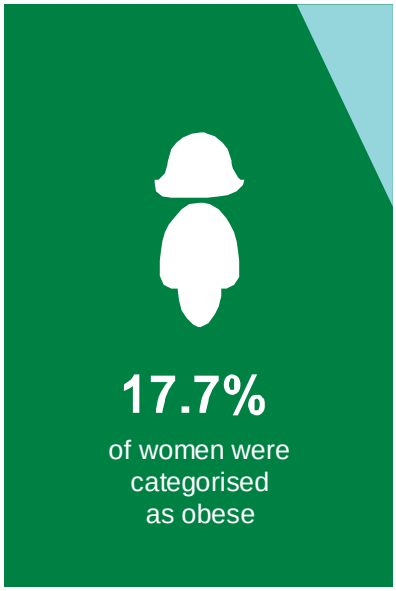
of men were categorised as pre-obese

23.3%

of women were categorised as pre-obese

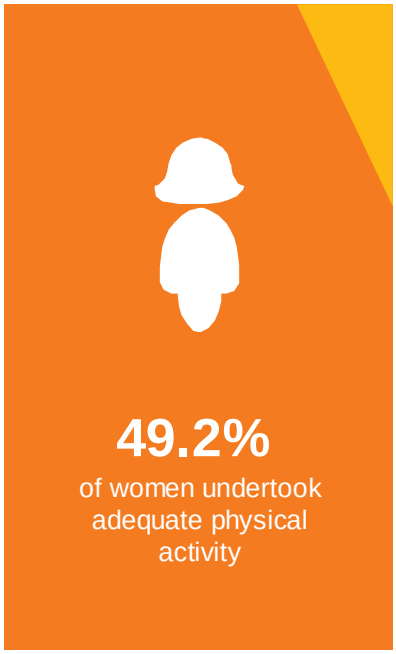
There was a significantly higher proportion of men who were pre-obese compared with the proportion in women.

Obesity



There was a significant decline in the prevalence of obesity with increasing total annual household income among women, but not men or all adults.

Meeting the physical activity guidelines



There was a significant increase in the proportion of those meeting physical activity guidelines with increasing total annual household income among men, women and all adults.

Time spent sitting

25.9%

of adults spent eight hours or more sitting on an average weekday during the preceding week

25.7%

of men spent eight hours or more sitting on an average weekday during the preceding week

26.4%

of women spent eight hours or more sitting on an average weekday during the preceding week

A significantly lower proportion of women 65–84 years of age and men 75–84 years of age sat for eight hours or more on a typical week day, compared with all Victorian women and men, respectively. The proportion of women resident in the Northern Metropolitan region, who sat for eight hours or more on a typical week day was significantly higher than the proportion among all women.

Lifetime risk of alcohol-related harm

57.7%

were at increased lifetime risk of alcohol-related harm based on National Health and Medical Research Council (2009) guidelines

67.7%

of men were at increased lifetime risk of alcohol-related harm

48.6%

of women were at increased lifetime risk of alcohol-related harm

The proportion in men at increased lifetime risk of alcohol-related harm was significantly higher than the proportion in women.

The proportion of men and women at increased lifetime risk of alcohol-related harm was significantly higher among those who were born in Australia, spoke English at home and had a total annual household income of $100,000 or more, compared with the proportion in all Victorian men and women, respectively.

Risk of alcohol-related injury on a single occasion

41.8%

of adults were at increased risk of alcohol-related injury on a single occasion

53.4%

of men were at increased risk of alcohol-related injury on a single occasion

31.0%

of women were at increased risk of alcohol-related injury on a single occasion

The proportion at increased risk of alcohol-related injury on a single occasion was significantly higher among men compared with women

Psychological distress

14.8%

reported high or very high levels of psychological distress, as determined by the Kessler 10 scale

13.2%

of men reported high or very high levels of psychological distress

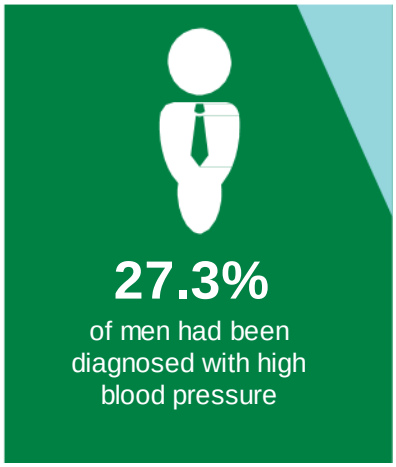
16.5%

of women reported high or very high levels of psychological distress

The proportion of women with high, or very high, levels of psychological distress was significantly higher than the proportion in men.

The proportion of men and women with high or very high levels of psychological distress was significantly higher in those who did not complete school, were not in the labour force, or had a total annual household income less than $40,000, compared with the proportion in all men and women, respectively.

Prevalence of hypertension

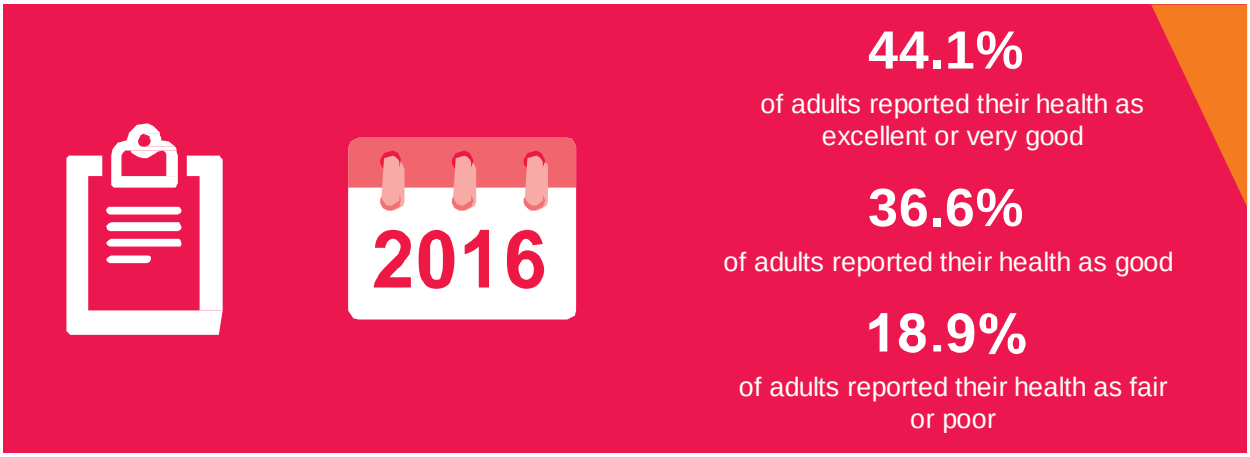


The prevalence of hypertension was statistically significantly higher in men compared with women

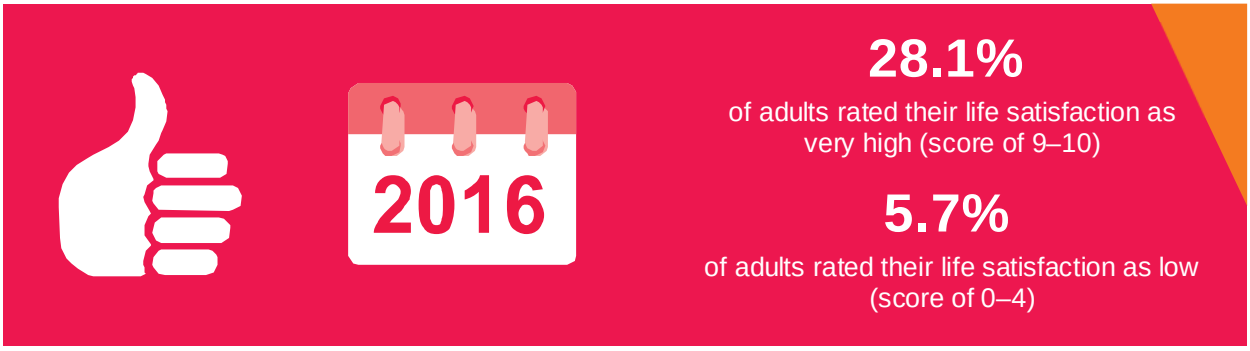
The prevalence of hypertension was significantly lower in men who were unemployed or who had a total annual household income of $100,000 or more, compared with the proportion in all Victorian men. However, the prevalence in women was only lower among those with a tertiary education, compared with all Victorian women.

Health and wellbeing

Self-reported health

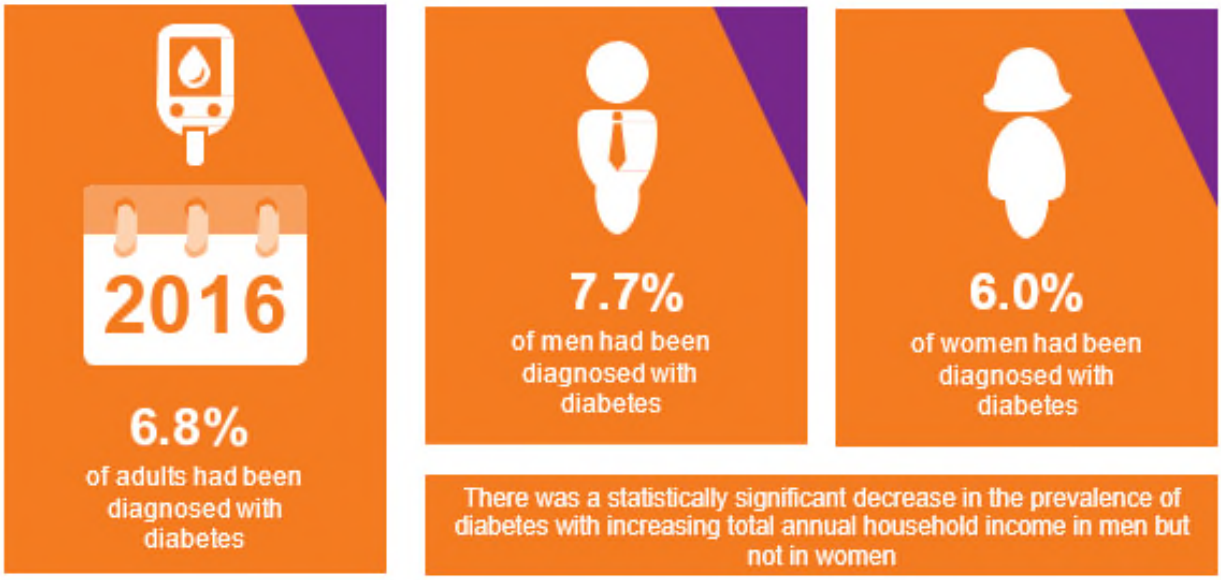


Satisfaction with life

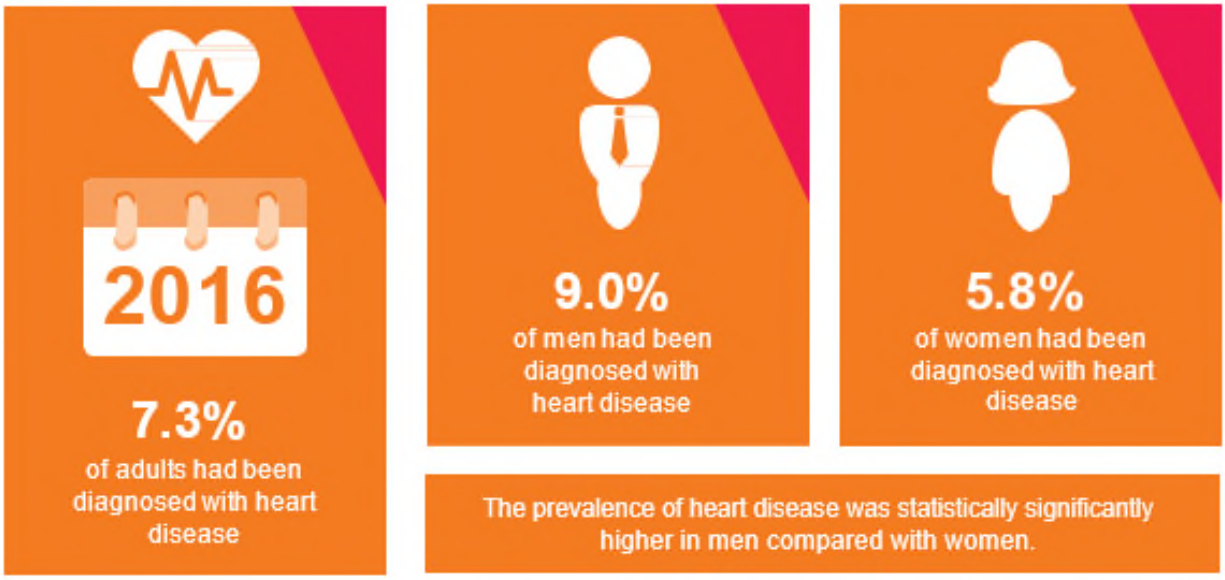


Feeling that life is worthwhile

Diabetes



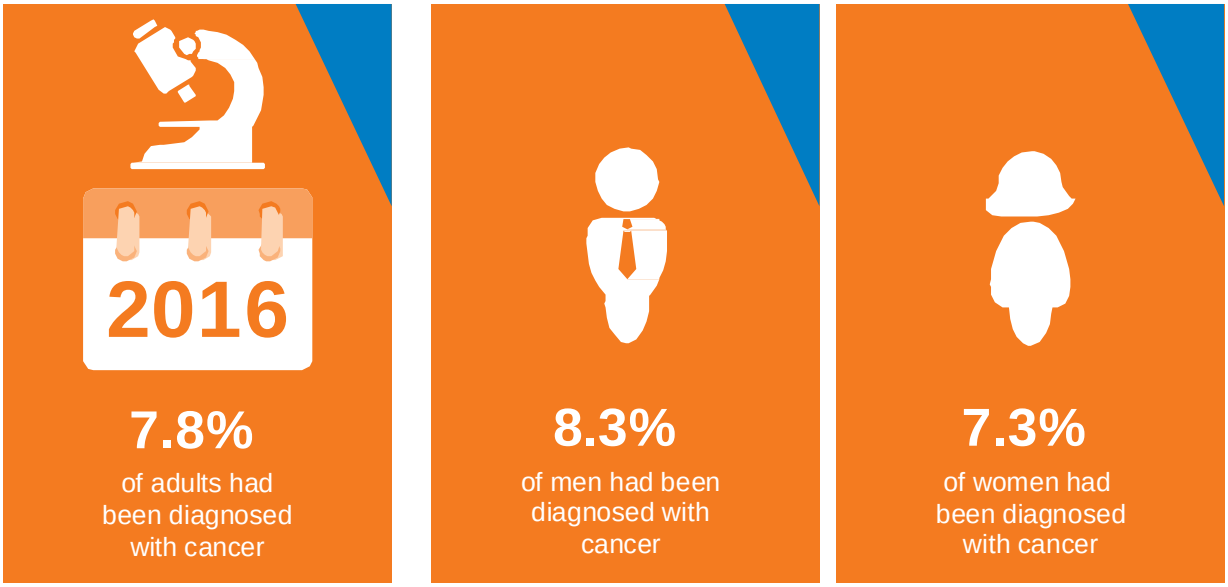
Heart disease



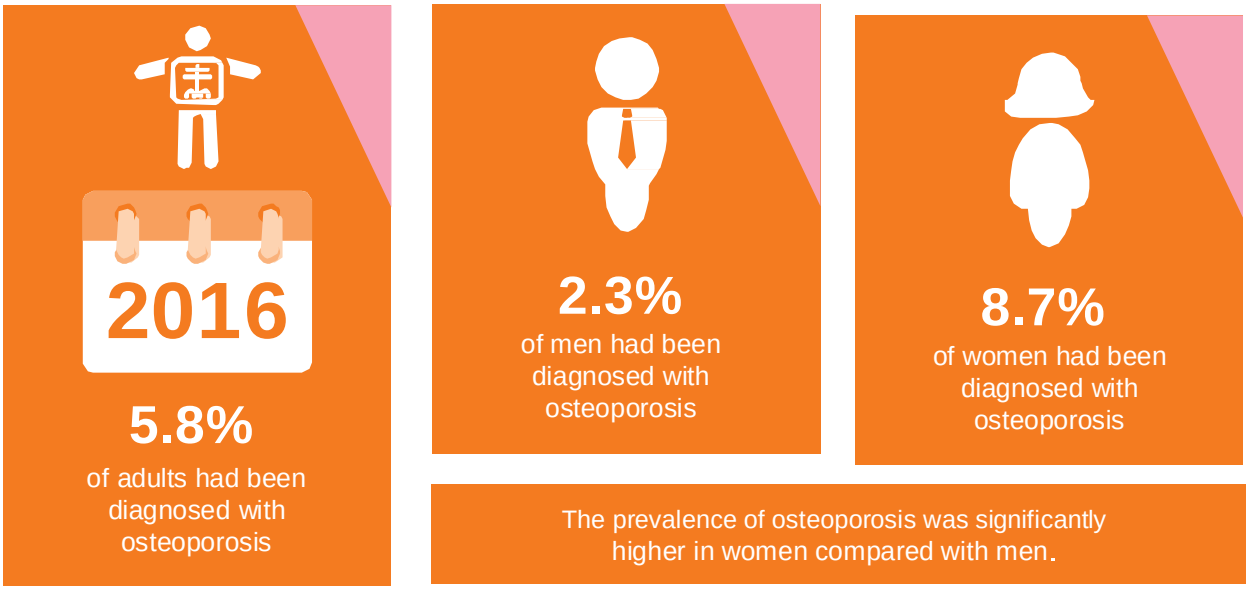
Stroke

There was a significant decline in the prevalence of stroke with increasing total annual household income among women, but not men or all adults.

Cancer



Osteoporosis



The prevalence of osteoporosis was significantly higher in women compared with men.

Arthritis

20.4%
of adults had been diagnosed with some type of arthritis

15.9%
of men had been diagnosed with arthritis

24.3%
of women had been diagnosed with arthritis

The prevalence of arthritis was significantly higher in women compared with men.

Anxiety or depression

24.5%
of adults had been diagnosed with anxiety or depression

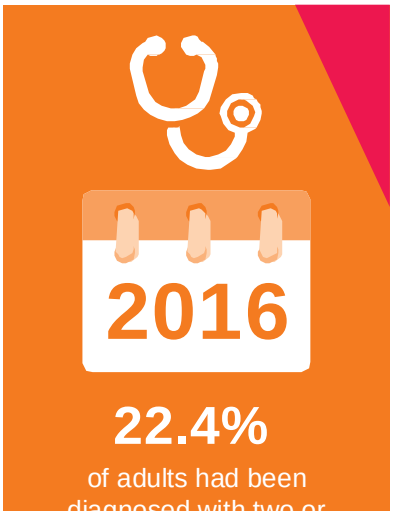
20.0%
of men had been diagnosed with anxiety or depression

28.7%
of women had been diagnosed with anxiety or depression

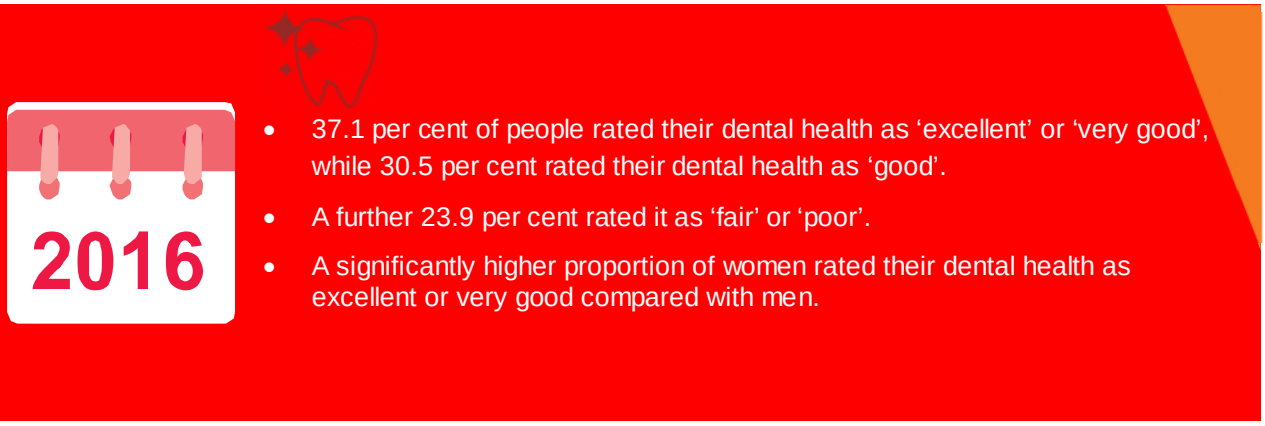
The prevalence of anxiety or depression was significantly higher in women compared with men.

There was a significant decline in the prevalence of anxiety or depression with increasing total annual household income in men, women and all adults.

Multiple chronic diseases

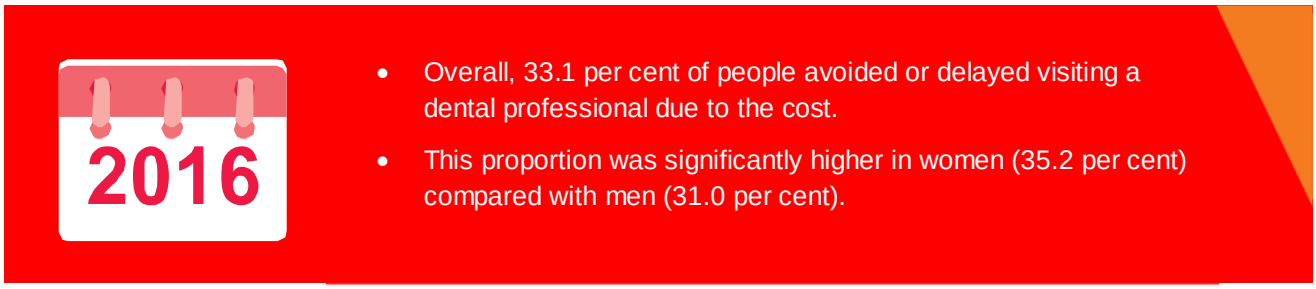


Self-reported dental health status



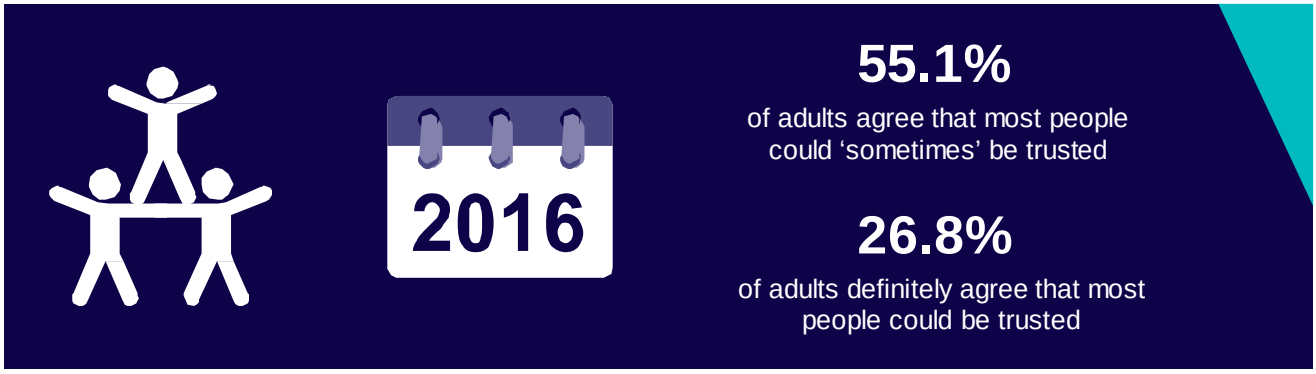
Visits to a dental professional

Avoidance or delaying a visit to a dental professional due to cost



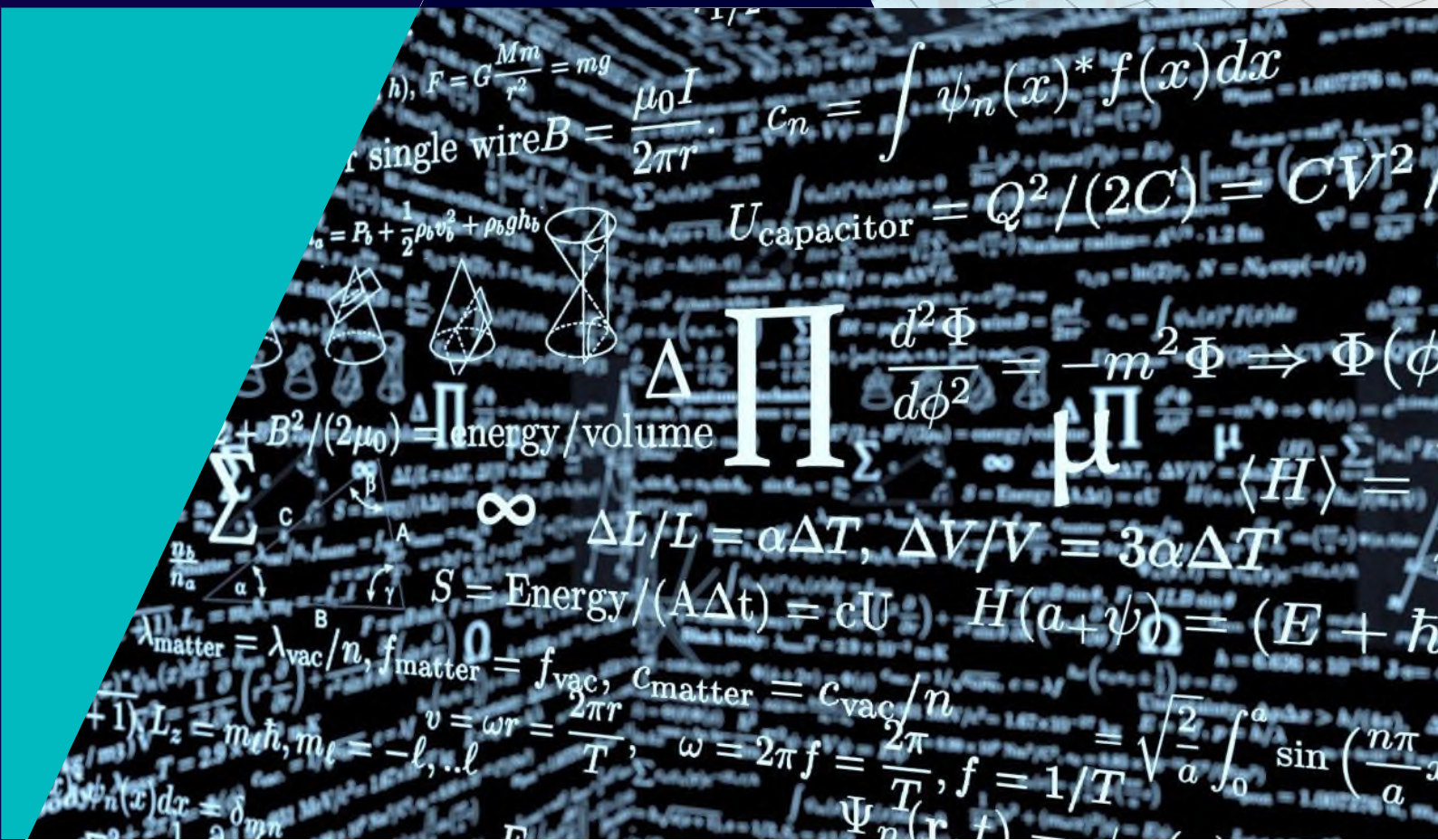
Social capital

Trusting others



Diversity

1. Methods



Background

Population health surveys based on computer-assisted telephone interviews (CATI) are used to collect key population health surveillance data because they provide time series data, collection procedures that are acceptable to respondents, an adequate sample size, quality data (especially through greater supervision of interviewers, computer data entry and question sequencing) and use current technology.

Further, they allow for data collection that is timely, cost-effective (especially in rural and metropolitan areas) and adaptable to changing and emerging information needs. CATI surveys also fill strategic information gaps – that is, they can be used to gather information not available from other sources – and provide data for further analysis and interpretation.

Survey methods

The Victorian Population Health Survey 2016 followed a method developed over several years to collect relevant, timely and valid health information for policy, planning and decision making. The survey team administered CATI on a representative sample of people 18 years of age or older who lived in private dwellings in Victoria. The Department of Health and 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.

Stratification

The survey sample for the statewide survey was 7,532 completed interviews, with a distribution across the nine departmental regions. Using an overlapping dual-frame design, the sample comprised 3,782 completed interviews via landline phone numbers and 3,750 interviews conducted using mobile phone numbers. The sample was split (60 per cent metropolitan and 40 per cent regional), with the target interviews by region within the metropolitan/regional strata set in approximate proportion to the population.

The Victorian Population Health Survey sample design

The landline telephone has been the primary mode of surveying the adult population in Victoria since 2001. However, more Victorians are now using mobile phones, including those who have given up their residential landline telephones entirely and now live in mobile-only households. Using a 50:50 overlapping dual-frame design ('mobile-only', 'landline-only' and 'landline or mobile' phone users), the 2015 and 2016 Victorian Population Health Surveys were able to improve coverage of people under 35 years of age, as this group is disproportionately more likely to be in the 'mobile-only' category. In 2014, 40 per cent of 18–24 year olds and 51 per cent of 25–34 year olds were mobile-only (ACMA 2014) and could no longer be reached via a residential landline telephone.

The dual-frame sample design used a randomly generated frame of landline telephone numbers and a randomly generated frame of mobile phone numbers to reach a representative sample of households. Adult Victorians were randomly selected via a landline telephone or mobile phone and invited to participate in the survey.

Table 1.1 shows that the 'mobile-only' respondents were predominantly younger, in contrast to the older 'landline-only' survey respondents.

Table 1.1: Proportion of the adult population, by type of phone used and age group, Victoria, 2016

Age group (years)	Phone owner		
	Landline-only	Mobile-only	Both
18–24	2.4	44.1	53.5
25–34	3.0	57.8	39.2
35–44	3.1	35.2	61.7
45–54	2.9	19.5	77.7
55–64	7.2	17.8	75.1
65+	24.4	8.4	67.2
Total	**7.6**	**30.4**	**61.9**

The size of the mobile-only population will continue to increase over time and the Victorian Population Health Survey dual-frame sample will be adjusted accordingly to accommodate the growth in the proportion of the population who live in mobile-only households.

Data collection

Almost two-thirds of all completed interviews were achieved within the first three calls. This proportion is consistent with national experience on similar surveys. Interviewing was conducted between August 2016 and November 2016.

Call routine

The call algorithm spreads call attempts over different times of the day and days of the week. Other features of the call regime included:

- call initiation on weekday evenings and weekends only (since these are proven to be the best times to establish initial contact with households)
- appointments made for any time the call centre was operational
- appointments set for five days' time after leaving the first answering machine message and eight days' time after leaving the second answering machine message
- retiring the landline sample after six consecutive non-contacts.

After establishing contact, interviewers could make calls, by appointment, outside the time block hours. After contacting a household with a landline phone, an interviewer would select for interview the person 18 years of age or older with the most recent birthday. The person selected for the interview with the mobile phone sample was the person 18 years of age or older who answered their phone.

1800 number operation

The department operated a survey hotline number during business hours throughout the data collection period to help establish survey bona fides, address sample member queries about the survey or survey process and set up appointment times with respondents for interview.

Interviewing in languages other than English

Interviews were conducted in nine community languages. As for previous surveys in the series, the department provided translated survey questionnaires in Italian, Greek, Mandarin, Cantonese, Vietnamese, Arabic, Turkish, Serbian and Croatian, with a view to achieving a more representative sample in those areas with a relatively high proportion of speakers of these languages. CATI interviewers were recruited to undertake the interviews in these other languages. The average interview length was 16.2 minutes.

Participation

The response rate, defined as the proportion of sample members contacted that were not identified as out of scope and an interview completed, was 76.5 per cent (68.4 per cent landline; 87.0 per cent mobile). There was

some variation in response rate by rural regions, ranging from 60.4 per cent in Western Metropolitan Region to 76.3 per cent in Gippsland Region.

Weighting

Prior to the analysis, a weighting review was undertaken to compare possible weighting strategies. The final data was weighted by telephone status, sex and age to lessen the variance introduced through weighting.

Target population statistics were based on 2015 Estimated Residential Population by telephone status, sex, age, education and country of birth.

Weighting for dual-frame telephone surveys is a two-stage process. A design weight (also sometimes called a pre-weight) is calculated to account for sampling bias, which is then post-stratified to conform to external benchmarks to adjust for non-response.

There are two main approaches that have been used in adjusting for the frame overlap: the so-called single-frame approach and composite weighting.

The single-frame approach involved calculating selection probabilities and using the inverse of these as the pre-weight. This approach allows for careful calibration of the relative chance of selection of every case in the survey to every other case; however, it relies on good information being available on the size of the sample frame and the telephone status of the population, which in Australia is questionable.

The chance of selection is calculated via the following formula:

$$p = \frac{S_{LL} LL}{U_{LL} AD_{LL}} + \frac{S_{MP} MP}{U_{MP}}$$

where:

S_{LL} is the number of survey respondents contacted by landline

U_{LL} is the population of the universe of landline numbers

LL indicates whether the respondent owns a landline

AD_{LL} is the number of in-scope adults in the respondent's household (limited to a maximum of 4)

S_{MP} is the number of survey respondents contacted by mobile

U_{MP} is the population of the universe of mobile numbers

MP indicates whether the respondent owns a mobile phone

Note that the $\frac{S}{U}$ term can be thought of as the probability that the respondent's telephone number will be used. *LL* and *MP* adjust for the number of chances the respondent gives themselves to have a number that is used, while the *AD* term adjusts for the possibility that the respondent will not be the one selected by the screening process.

LL, AD_{LL} and *MP* all came from the respondents' answers to survey questions.

The composite weights within frame pre-weights are calculated as the inverse of the within unit probability of selection. The frame overlap is then accounted for by selecting a compositing factor (lambda, λ) between 0 and 1 and multiplying the overlap cases from one frame by this value and the overlap cases from the second frame by 1 minus this value.

So:

$$pw = AD, for\ landline\ only\ cases$$

$$pw = AD * \lambda, for\ dual - user\ cases\ in\ the\ landline\ sample$$

$$pw = (1 - \lambda), for\ dual - user\ cases\ in\ the\ mobile\ sample$$

$$pw = AD, for\ mobile\ only\ cases$$

This will adjust for frame overlap, but it will leave the relative chance of selection of people only in one frame unadjusted for (though this can be adjusted for through post-stratification if appropriate benchmarks are available).

Statistical analysis

The survey data was analysed using the Stata statistical software package (Version 14.2, StatCorp LP, College Station Texas).

Crude and age-standardised (age-adjusted) rates

A crude rate is an estimate of a proportion of a population that experiences a specific event over a specified period of time. It is calculated by dividing the number of events recorded for a given period by the number at people in the population. Crude rates (expressed as a percentage) for Victoria are only presented in the report in tables where age-specific estimates (by age group) are reported. Crude rates are useful for service planning purposes because they indicate the absolute estimate of the indicator of interest.

However, in making comparisons of estimates over time, crude rates can be difficult to interpret because the age distribution of the population is also changing over time. If one does not take into account changes in the age distribution, any observed increases, or decreases, in the prevalence of the indicator of interest may just reflect changes in the age distribution. Bearing in mind that the risk of heart disease increases with age, an increase in the crude rate of heart disease over time could be due to (a) more people developing heart disease due to a change in the prevalence of a predisposing factor or (b) an increase in the proportion of older people. There is no way to distinguish between the two possible explanations. However, if we take into account (adjust for) the changing age distribution and still see an increase in the prevalence of heart disease, we can rule out explanation (b). To adjust for age, we calculated an age-standardised rate (described below). Only age-standardised rates are reported when making comparisons between different geographic areas. This is particularly pertinent for Victoria because rural areas tend to have populations characterised by larger proportions of older people compared with metropolitan areas.

Age standardisation

Age-standardised rates, also known as age-adjusted rates, were calculated using the direct method of standardisation. The direct age-standardised rates that are presented in this report are based on the weighted sum of age-specific rates applied to a standard population – the 2011 estimated resident population of Victoria, using 10-year age groups.

Standard error

The standard error is a measure of the variation in an estimate produced by sampling a population. The standard error can be used to calculate confidence intervals and relative standard errors, providing the likely range of the true value of an estimate and an indication of the reliability of an estimate.

Confidence interval (95 per cent)

A common confidence interval used in reporting survey results is the 95 per cent confidence interval. If we were to draw 20 random samples from the same population, 19 of every 20 (95 per cent) such confidence intervals would contain the true population estimate and one of every 20 (5 per cent) would not. Ninety-five per cent confidence intervals are reported for all estimates throughout the report and used to ascertain statistical significance (see below). The width of a confidence interval expresses the precision of an estimate; the wider the interval the less the precision.

95% confidence interval = point estimate ± (standard error × 1.96)

Confidence limits are the lower and upper boundaries/values of a confidence interval – that is, the values that define the range of a confidence interval. The upper and lower bounds of a 95 per cent confidence interval are the 95 per cent confidence limits. These limits may be taken for other confidence levels – for example, 90, 99 or 99.9 per cent.

Statistical significance

The term 'significance' is used to denote statistical significance. It is not used to describe clinical significance, the relative importance of a particular finding, or the actual magnitude of difference between two estimates.

Statistical significance provides an indication of how likely a result is due to chance. Statistically significant differences between estimates were deemed to exist where the 95 per cent confidence intervals for percentages did not overlap. Only statistically significant differences or trends are reported for the Victorian Population Health Survey 2016.

Relative standard error

A relative standard error (RSE) provides an indication of the reliability of an estimate. Estimates with RSEs less than 25 per cent are generally regarded as 'reliable' for general use. The percentages presented in tables and graphs in this report have RSEs less than 25 per cent, unless otherwise stated. Rates that have an RSE between 25 and 50 per cent have been marked with an asterisk (*) and should be interpreted with caution. For the purposes of this report, percentages with RSEs higher than 50 per cent were not considered reliable estimates and have not been presented. A double asterisk (**) has been included in tables and graphs where the percentage would otherwise appear, indicating the relevant RSE was higher than 50 per cent.

Relative standard error (%) = standard error / point estimate × 100

Testing for trends by socioeconomic status

Ordinary least squares linear regression of the logarithms of the age-standardised rates was used to test for trends by socioeconomic status. The 95 per cent confidence interval for the standard error of the slope is used to determine whether any observed increase or decrease by socioeconomic status is statistically significant at the $p < 0.05$ level. This is ascertained if the 95 per cent confidence interval for the regression coefficient does not include the value 0.

Profile of survey respondents

Known population benchmarks for selected data items may be used to assess the representativeness of the sample. Table 1.2 shows the profile of respondents in the 2016 survey and indicates the following:

- Women were more likely than men to participate in the survey.
- Adults 18–44 years of age were less likely to participate in the survey.
- Adults 55 years of age or older were more likely to participate in the survey.

Table 1.2: Profile of respondents in the Victorian Population Health Survey 2016

	Benchmark data[a] (%)	Unweighted survey sample (%)	Weighted survey sample (%)
Sex			
Males	48.9	42.8	49.0
Females	51.1	57.2	51.0
Age group (years)			
18–24	13.0	7.0	13.4
25–34	18.9	11.2	20
35–44	18.4	13.4	17.8
45–54	17.3	15.7	16.8
55–64	14.5	19.7	13.1
65+	18.0	33.0	18.8

[a] Service Planning, Department of Health, 2011, State Government of Victoria

Strengths and limitations of the Victorian Population Health Survey

Strengths:

- The data collected by the Victorian Population Health Survey is population representative because it is obtained by random sampling and weighted to correct for sample bias so that the population prevalence of any measured variable can be determined. This is in contrast to data collected through health services which is not population representative and therefore cannot estimate the population prevalence of a measured variable.
- The Victorian Population Health Survey is informed by a public health model of the social determinants of health which enables a holistic evaluation of the health and wellbeing of the Victorian population (Ansari et al, 2003).
- The survey can measure small changes over time at the state level, assuming the same survey methodology is used at each time point.
- The Victorian Population Health Survey meets the reporting needs of key internal program areas and is the only source of population representative data that meets the reporting needs of various frameworks used within the department (e.g. DHHS Outcome framework, Public Health and Wellbeing Outcomes framework, etc.) and the statutory requirement for a Chief Health Officer's report.
- A total of 7,532 telephone interviews (3,782 landline and 3,750 mobile) were completed in 2016, including 266 interviews in languages other than English (LOTE).
- The questionnaire was translated into Italian, Greek, Mandarin, Cantonese, Vietnamese, Arabic, Turkish, Serbian and Croatian, ensuring the LOTE community were able to participate.
- The Victorian Population Health Survey has a good response rate. In 2016, approximately 77 per cent of adults who were contacted and were eligible to participate, completed the survey. The inclusion of mobile phone owners in the 2016 Victorian Population Health Survey sample improved the representation of males, people in the younger age groups, those with an ATSI background, employed people, more transient people (renters and those with a length of tenure of less than five years), the proportion who are 'de-facto' or 'never married' along with those in 'group households'. The landline respondents were older people, along with other characteristics associated with being older (their labour force status, education and being a couple or single person household) and more financially stable such as owning their own home and length of tenure in their neighbourhood of 10 years or more.
- The rural areas of Victoria are oversampled to improve the accuracy and reliability of the estimates.

Limitations:

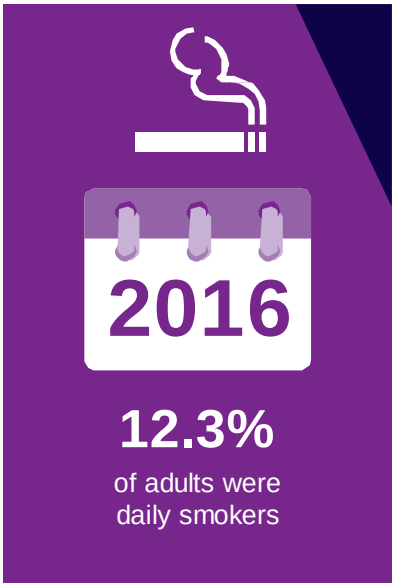
- The Victorian Population Health Survey 2016 excludes homeless, institutionalised people and people who do not have a landline or mobile phone.
- Since the data collected are self-reported, the accuracy of estimates may be an issue for some indicators. For example, people typically under-report their weight and over-report their height leading to lower estimates of their body mass index and therefore lower estimates of the prevalence of overweight and obesity. However, the cost of conducting a face-to-face survey where the interviewer measures the participant's height and weight is considerably more expensive than conducting a telephone survey.
- Causality and its direction cannot be determined because the data are cross-sectional.
- The Victorian Population Health Survey is not powered to measure small changes over time at the level of local government area level, unless the observed change is large. For example, for a variable that normally has a prevalence of between 30 and 50 per cent, there would need to be at least a 10 per cent change in its absolute prevalence for the change to be detectable.
- The change to the survey methodology from a single landline telephone frame to an overlapping dual-frame in 2015 means that the surveys conducted prior to 2015 are not comparable with those conducted after 2014. This has impacted on the time series analyses. However, in 2016 potential changes in the prevalence estimates over time have been modelled from 2005 to 2016 for selected key health indicators. These trends over time may be found in Appendix 2.

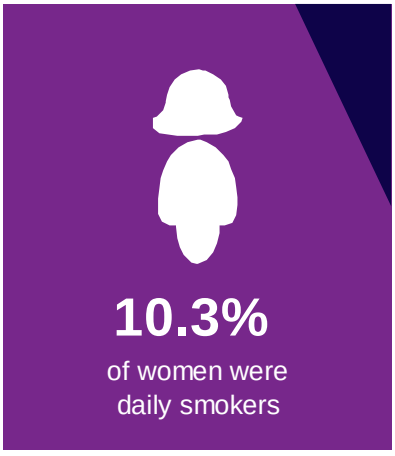
2. Smoking

2.Smoking

Key findings

Smoking





The prevalence of daily smoking was statistically significantly higher among men compared with women.

Introduction

There are several ways of classifying smoking status, depending on the question being asked. The Victorian Population Health Survey defines smokers as ‘daily’ or ‘occasional’ and combines the two to report on ‘current smokers’. A person is categorised as an ‘ex-smoker’ if he/she has smoked at least 100 cigarettes or a similar amount of tobacco in their lifetime. By contrast Cancer Council Victoria defines smokers as ‘regular smokers’ if they smoke daily or at least weekly, and ‘irregular smokers’ if they smoke less than weekly (Alexander, Hayes & Durkin 2012). The Cancer Council defines ‘former smokers’ in the same way as the Victorian Population Health Survey defines ‘ex-smokers’.

The Australian Bureau of Statistics (ABS) reports on both ‘current daily smokers’ and ‘current smokers’, which includes current daily, weekly and less-than-weekly smokers (ABS 2012).

Please note that the estimate for current smoking in 2016 cannot be reliably compared with the estimate in 2014 due to the change to the survey methodology with the inclusion of mobile phones for the Victorian Population Health Survey in 2015 and 2016. More details regarding the dual-frame sampling design and the impact on results for selected health indicators may be found in Appendix 1 and Appendix 2 of this report, respectively.

Smoking status in Victoria

Table 2.1 shows the prevalence of current smoking by departmental region. In Victoria in 2016, 19.5 per cent of men, 14.1 per cent of women and 16.7 per cent of adults reported being current smokers. There were no statistically significant differences in the prevalence of current smoking among men and women across departmental regions or between rural and metropolitan regions of Victoria.

Table 2.1: Proportion (%) of adults, by smoking status, Department of Health and Human Services region and sex, Victoria, 2016

	Current smoker			Ex-smoker			Non-smoker		
		95% CI			95% CI			95% CI	
Region	%	LL	UL	%	LL	UL	%	LL	UL
Males									
Northern Metropolitan	**21.9**	17.8	26.6	**27.9**	23.7	32.6	**50.0**	44.7	55.2
Southern Metropolitan	**19.3**	15.8	23.3	**28.6**	25.0	32.4	**51.9**	47.4	56.3
Eastern Metropolitan	**18.2**	14.1	23.3	**28.8**	24.3	33.7	**52.4**	46.9	57.9
Western Metropolitan	**21.1**	16.9	26.1	**31.0**	26.3	36.1	**47.6**	42.4	52.9
All metropolitan regions	**19.9**	17.9	22.2	**29.1**	27.0	31.4	**50.6**	48.1	53.1
Barw on-South Western	**14.2**	9.9	20.0	**29.8**	23.3	37.3	**55.7**	47.9	63.1
Gippsland	**14.3** *	8.4	23.2	**31.6**	23.2	41.4	**51.7**	42.3	60.9
Grampians	**22.0**	14.8	31.3	**30.2**	23.4	38.1	**47.3**	38.2	56.7
Hume	**17.6**	11.3	26.4	**23.5**	17.7	30.5	**58.4**	49.5	66.8
Loddon Mallee	**19.9**	12.2	30.7	**26.4**	21.2	32.3	**53.7**	43.6	63.5
All rural regions	**17.9**	14.4	22.0	**27.8**	24.6	31.2	**53.7**	49.3	58.0
Victoria	**19.5**	**17.7**	**21.5**	**29.0**	**27.2**	**30.9**	**51.0**	**48.9**	**53.2**
Females									
Northern Metropolitan	**12.6**	9.8	16.1	**21.3**	17.5	25.8	**65.7**	60.9	70.2
Southern Metropolitan	**14.6**	11.8	17.9	**24.3**	21.1	27.9	**59.7**	55.6	63.7
Eastern Metropolitan	**9.7**	6.8	13.6	**18.9**	15.5	22.8	**70.5**	65.8	74.8
Western Metropolitan	**15.9**	12.2	20.6	**19.5**	16.0	23.5	**64.0**	59.0	68.7
All metropolitan regions	**13.2**	11.6	15.0	**21.4**	19.6	23.4	**64.5**	62.2	66.7
Barw on-South Western	**17.6**	11.8	25.4	**21.4**	17.2	26.3	**60.7**	52.9	67.9
Gippsland	**20.0**	14.0	27.7	**18.8**	13.8	25.2	**61.0**	52.8	68.6
Grampians	**21.1**	14.1	30.2	**19.2**	14.3	25.3	**59.5**	50.5	67.9
Hume	**8.6**	5.6	13.0	**24.5**	18.5	31.7	**66.5**	59.5	72.8
Loddon Mallee	**19.4**	13.2	27.7	**24.3**	18.3	31.5	**55.9**	47.6	63.9
All rural regions	**16.8**	14.0	20.1	**21.8**	19.2	24.6	**61.1**	57.4	64.7
Victoria	**14.1**	**12.6**	**15.6**	**21.5**	**20.0**	**23.2**	**63.7**	**61.7**	**65.6**
People									
Northern Metropolitan	**17.5**	14.9	20.5	**23.8**	21.0	26.9	**58.3**	54.8	61.8
Southern Metropolitan	**16.8**	14.6	19.4	**26.4**	24.0	29.0	**55.9**	52.8	58.9
Eastern Metropolitan	**13.8**	11.2	17.0	**23.5**	20.6	26.8	**61.8**	58.1	65.4
Western Metropolitan	**18.4**	15.5	21.7	**24.9**	22.0	28.2	**56.2**	52.6	59.8
All metropolitan regions	**16.5**	15.2	18.0	**24.9**	23.5	26.4	**57.9**	56.2	59.6
Barw on-South Western	**15.0**	11.3	19.8	**25.3**	21.3	29.7	**59.4**	53.9	64.7
Gippsland	**16.8**	12.3	22.4	**25.0**	19.9	30.9	**56.9**	50.5	63.1
Grampians	**21.5**	15.9	28.3	**23.2**	19.0	27.9	**55.1**	48.3	61.6
Hume	**12.6**	8.9	17.6	**25.1**	20.3	30.5	**61.8**	56.2	67.2
Loddon Mallee	**20.1**	14.4	27.2	**24.8**	20.3	29.9	**54.9**	47.8	61.9
All rural regions	**17.0**	14.7	19.6	**24.7**	22.6	26.9	**57.8**	54.9	60.6
Victoria	**16.7**	**15.6**	**18.0**	**25.0**	**23.8**	**26.3**	**57.7**	**56.2**	**59.1**

Metropolitan and rural regions are identified by colour as follows: metropolitan / rural.

Data were age-standardised to the 2011 Victorian population.

LL/UL 95% CI = lower/upper limit of 95 per cent confidence interval.

Estimates that are (statistically) significantly different from the corresponding estimate for Victoria are identified by colour as follows: above or below.

Estimates may not add to 100 per cent due to a proportion of 'don't know' or 'refused to say' responses, not reported here.

Relative standard error (RSE) = standard error / point estimate * 100; interpretation below:

***** RSE between 25 and 50 per cent; point estimate (%) should be interpreted with caution.

Table 2.2 shows the prevalence of current smoking by departmental division. In Victoria in 2016, a significantly lower proportion of women from East Division were current smokers compared with all Victorian women.

Table 2.2: Proportion (%) of adults, by smoking status, Department of Health and Human Services division and sex, Victoria, 2016

	Current smoker			Ex-smoker			Non-smoker		
		95% CI			95% CI			95% CI	
Division	%	LL	UL	%	LL	UL	%	LL	UL
Males									
North	**21.3**	17.6	25.4	**28.8**	25.2	32.7	**49.7**	45.2	54.3
South	**18.8**	15.5	22.5	**29.0**	25.7	32.5	**51.7**	47.6	55.8
East	**18.3**	14.6	22.8	**27.7**	23.9	31.8	**53.4**	48.5	58.3
West	**19.8**	16.6	23.4	**30.4**	26.9	34.1	**49.5**	45.5	53.4
Victoria	**19.5**	**17.7**	**21.5**	**29.0**	**27.2**	**30.9**	**51.0**	**48.9**	**53.2**
Females									
North	**14.0**	11.3	17.2	**22.5**	19.0	26.5	**63.2**	58.9	67.2
South	**15.6**	13.0	18.6	**23.3**	20.4	26.5	**59.9**	56.2	63.5
East	**9.4**	6.9	12.5	**20.0**	17.0	23.4	**69.7**	65.8	73.5
West	**16.6**	13.7	20.0	**19.9**	17.4	22.7	**63.0**	59.3	66.6
Victoria	**14.1**	**12.6**	**15.6**	**21.5**	**20.0**	**23.2**	**63.7**	**61.7**	**65.6**
People									
North	**18.0**	15.6	20.7	**24.8**	22.2	27.5	**56.9**	53.7	60.1
South	**17.1**	14.9	19.4	**26.1**	23.9	28.5	**56.0**	53.2	58.7
East	**13.7**	11.4	16.4	**23.9**	21.4	26.7	**61.6**	58.4	64.7
West	**18.0**	15.8	20.4	**24.8**	22.7	27.2	**56.8**	54.1	59.5
Victoria	**16.7**	**15.6**	**18.0**	**25.0**	**23.8**	**26.3**	**57.7**	**56.2**	**59.1**

Data were age-standardised to the 2011 Victorian population.

LL/UL 95% CI = lower/upper limit of 95 per cent confidence interval.

Estimates that are (statistically) significantly different from the corresponding estimate for Victoria are identified by colour as follows: above or below.

Estimates may not add to 100 per cent due to a proportion of 'don't know' or 'refused to say' responses, not reported here.

Relative standard error (RSE) = standard error / point estimate * 100; interpretation below:

***** RSE between 25 and 50 per cent; point estimate (%) should be interpreted with caution.

Table 2.3 and Figure 2.1 show the smoking status in Victoria, by age group and sex. Compared with all Victorian men and women respectively, a significantly lower proportion of men and women 65–84 years of age were current smokers. Overall the prevalence of smoking was significantly higher among men compared with women.

Table 2.3: Proportion (%) of adults, by smoking status, age group and sex, Victoria, 2016

Sex	Current smoker			Ex-smoker			Non-smoker		
Age group (years)	%	95% CI LL	95% CI UL	%	95% CI LL	95% CI UL	%	95% CI LL	95% CI UL
Males									
18–24	**17.8**	13.3	23.6	**5.8** *	3.4	9.7	**75.9**	69.8	81.1
25–34	**25.5**	20.6	31.0	**18.2**	14.0	23.3	**56.2**	50.3	61.9
35–44	**25.3**	20.4	31.0	**25.7**	21.0	31.0	**48.9**	43.1	54.7
45–54	**22.3**	18.0	27.2	**30.2**	25.6	35.2	**47.4**	42.2	52.7
55–64	**16.6**	13.3	20.5	**37.2**	32.8	41.9	**46.0**	41.3	50.8
65–74	**9.5**	6.8	13.0	**52.8**	47.8	57.7	**37.4**	32.8	42.3
75–84	**6.4** *	3.6	11.0	**51.4**	43.9	58.9	**39.3**	32.2	46.9
85+	**			**55.0**	42.2	67.3	**37.1**	25.6	50.4
18+	**19.6**	**17.8**	**21.6**	**28.6**	**26.7**	**30.6**	**51.4**	**49.2**	**53.7**
Females									
18–24	**16.0**	12.0	21.0	**4.5** *	2.6	7.9	**79.4**	74.1	83.9
25–34	**16.5**	12.3	21.8	**16.6**	12.7	21.4	**66.9**	61.1	72.3
35–44	**15.5**	12.3	19.5	**24.4**	20.3	29.0	**59.6**	54.7	64.4
45–54	**17.7**	14.3	21.6	**27.3**	23.5	31.4	**53.9**	49.4	58.3
55–64	**12.3**	9.8	15.5	**30.5**	26.5	34.8	**56.3**	51.9	60.6
65–74	**9.1**	6.6	12.4	**28.9**	25.1	33.0	**60.1**	55.6	64.4
75–84	**4.5** *	2.1	9.4	**20.1**	16.0	25.0	**74.2**	68.5	79.1
85+	**			**21.3** *	12.2	34.5	**75.8**	62.8	85.3
18+	**13.9**	**12.5**	**15.4**	**22.4**	**20.8**	**24.0**	**63.0**	**61.0**	**64.9**
People									
18–24	**17.0**	13.8	20.7	**5.2**	3.5	7.6	**77.6**	73.6	81.2
25–34	**21.4**	18.1	25.2	**17.5**	14.5	20.9	**61.1**	56.9	65.1
35–44	**20.1**	17.1	23.4	**25.0**	21.9	28.4	**54.7**	50.8	58.4
45–54	**19.9**	17.1	23.0	**28.7**	25.7	31.9	**50.8**	47.3	54.2
55–64	**14.3**	12.2	16.7	**33.6**	30.6	36.8	**51.5**	48.2	54.7
65–74	**9.3**	7.4	11.6	**40.4**	37.2	43.8	**49.1**	45.8	52.5
75–84	**5.3**	3.3	8.4	**32.9**	28.6	37.5	**60.0**	55.2	64.6
85+	**			**37.1**	29.1	45.9	**57.6**	48.9	65.9
18+	**16.7**	**15.5**	**17.9**	**25.4**	**24.2**	**26.7**	**57.3**	**55.8**	**58.8**

Data are age-specific estimates, except for '18+', which are crude estimates (not age-standardised) for Victoria.

LL/UL 95% CI = lower/upper limit of 95 per cent confidence interval.

Estimates that are (statistically) significantly different from the corresponding estimate for Victoria are identified by colour as follows: above or below.

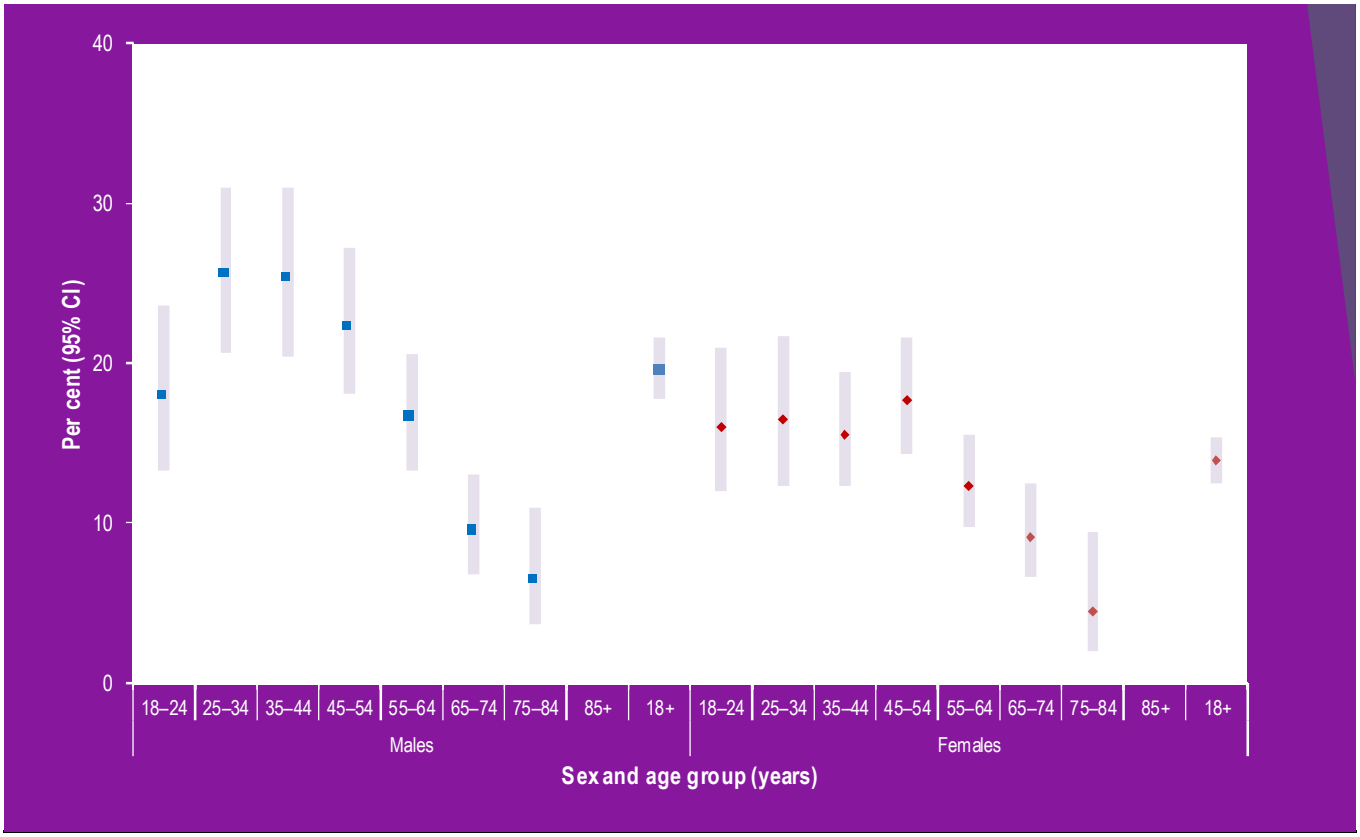
Estimates may not add to 100 per cent due to a proportion of 'don't know' or 'refused to say' responses, not reported here.

Relative standard error (RSE) = standard error/point estimate * 100; interpretation below:

***** Estimate has a RSE between 25 and 50 per cent and should be interpreted with caution.

****** Estimate has a RSE greater than 50 per cent and is not reported as it is unreliable for general use.

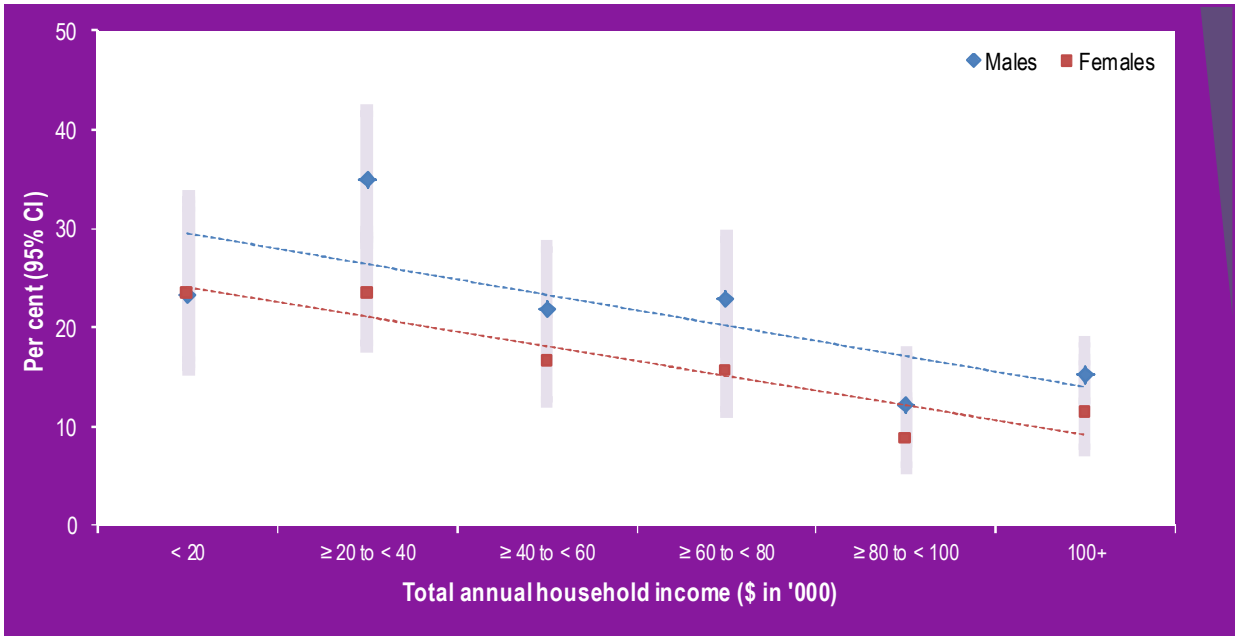
Figure 2.1: Proportion (%) of adults who were current smokers, by age group and sex, Victoria, 2016



Data are age group specific estimates, except for '18+', which are crude estimates (not age-standardised) for Victoria.
95% CI = 95 per cent confidence interval.

The relationship was investigated between socioeconomic status (SES) and the age-adjusted prevalence of smoking status using total annual household income as a measure of SES (Figure 2.2). The proportion of current smokers decreased with increasing total annual household income in women but not men.

Figure 2.2: Proportion (%) of current smokers,[a] by total annual household income and sex, Victoria, 2016



Data were age-standardised to the 2011 Victorian population.
95% CI = 95 per cent confidence interval.

Table 2.4 shows the prevalence of smoking among men according to selected socioeconomic determinants. When compared with all Victorian men, a significantly higher proportion of current smokers was reported among men with the following characteristics:

- did not complete a high school education
- not in the labour force
- total annual household income of less than $40,000.

Table 2.4: Proportion (%) of men, by smoking status and selected socioeconomic determinants, Victoria, 2016

	Current smoker			Ex-smoker			Non-smoker		
		95% CI			95% CI			95% CI	
	%	LL	UL	%	LL	UL	%	LL	UL
All males	**19.5**	**17.7**	**21.5**	**29.0**	**27.2**	**30.9**	**51.0**	**48.9**	**53.2**
Country of birth									
Australia	**19.3**	17.1	21.7	**29.4**	27.1	31.8	**51.0**	48.2	53.7
Overseas	**19.8**	16.8	23.2	**27.8**	25.0	30.9	**51.9**	48.2	55.5
Language spoken at home									
English	**18.8**	16.7	21.1	**31.1**	28.8	33.4	**49.7**	47.1	52.3
Language other than English	**21.6**	18.3	25.4	**24.2**	21.1	27.7	**53.8**	49.7	57.9
Education level									
Did not complete high school	**33.3**	27.4	39.8	**29.1**	24.5	34.2	**36.4**	30.5	42.7
Completed high school, or TAFE, or trade certificate, or diploma	**18.5**	16.2	21.2	**30.2**	27.6	32.9	**51.1**	48.1	54.2
University, or some other tertiary institute degree	**12.7**	10.5	15.3	**25.0**	22.3	28.0	**61.6**	58.1	64.9
Employment status									
Employed	**18.1**	16.1	20.4	**28.6**	25.8	31.7	**53.1**	49.9	56.4
Unemployed	**27.6**	20.2	36.5	**17.3**	11.7	24.8	**41.1**	33.4	49.2
Not in labour force	**28.6**	22.8	35.1	**23.7**	18.7	29.5	**47.3**	40.9	53.8
Total annual household income									
< $40,000	**31.3**	26.2	37.0	**23.0**	19.3	27.0	**45.3**	39.8	51.0
$40,000 to < $100,000	**18.9**	15.9	22.3	**26.7**	23.6	30.1	**54.3**	50.4	58.1
≥ $100,000	**15.2**	12.3	18.6	**33.6**	29.1	38.3	**51.1**	46.2	56.0

Data were age-standardised to the 2011 Victorian population.

LL/UL 95% CI = lower/upper limit of 95 per cent confidence interval.

Estimates that are (statistically) significantly different from the corresponding estimate for Victoria are identified by colour as follows: above or below.

Estimates may not add to 100 per cent due to a proportion of 'don't know' or 'refused to say' responses, not reported here.

Table 2.5 shows the prevalence of smoking among women according to selected socioeconomic determinants. When compared with all Victorian women, a significantly higher proportion of current smokers was reported among women with the following characteristics:

- did not complete a high school education
- total annual household income of less than $40,000.

Table 2.5: Proportion (%) of women, by smoking status and selected socioeconomic determinants, Victoria, 2016

	Current smoker			Ex-smoker			Non-smoker		
		95% CI			95% CI			95% CI	
	%	LL	UL	%	LL	UL	%	LL	UL
All females	**14.1**	**12.6**	**15.6**	**21.5**	**20.0**	**23.2**	**63.7**	**61.7**	**65.6**
Country of birth									
Australia	**15.7**	13.9	17.6	**24.7**	22.8	26.8	**59.0**	56.6	61.3
Overseas	**9.9**	7.9	12.3	**15.4**	12.9	18.2	**73.8**	70.5	76.8
Language spoken at home									
English	**15.2**	13.4	17.1	**25.5**	23.5	27.5	**58.6**	56.3	60.9
Language other than English	**10.7**	8.4	13.6	**10.0**	7.7	12.9	**78.6**	75.0	81.9
Education level									
Did not complete high school	**22.9**	17.4	29.5	**18.4**	14.4	23.2	**57.9**	51.1	64.4
Completed high school, or TAFE, or trade certificate, or diploma	**16.3**	14.2	18.7	**25.4**	23.0	28.1	**57.7**	54.7	60.6
University, or some other tertiary institute degree	**6.7**	5.2	8.6	**20.3**	17.9	22.9	**72.6**	69.7	75.3
Employment status									
Employed	**13.2**	11.4	15.1	**22.0**	19.7	24.4	**63.2**	59.9	66.3
Unemployed	**18.2**	12.1	26.3	**14.6**	9.1	22.6	**59.1**	49.9	67.6
Not in labour force	**14.8**	12.1	18.1	**19.8**	16.9	23.0	**64.4**	60.5	68.1
Total annual household income									
< $40,000	**23.4**	19.1	28.2	**18.9**	15.6	22.8	**57.1**	52.1	62.0
$40,000 to < $100,000	**14.1**	11.7	16.9	**22.7**	19.9	25.9	**62.2**	58.5	65.7
≥ $100,000	**11.4**	7.6	16.8	**24.3**	21.0	27.9	**63.9**	59.0	68.5

Data were age-standardised to the 2011 Victorian population.

LL/UL 95% CI = lower/upper limit of 95 per cent confidence interval.

Estimates that are (statistically) significantly different from the corresponding estimate for Victoria are identified by colour as follows: above or below.

Estimates may not add to 100 per cent due to a proportion of 'don't know' or 'refused to say' responses, not reported here.

Table 2.6 shows the prevalence of smoking among men according to selected modifiable risk factors and morbidity status. When compared with all Victorian men, a significantly higher proportion of current smokers was reported among men with the following characteristics:

- high or very high levels of psychological distress
- in fair or poor health
- underweight.

Table 2.6: Proportion (%) of men, by smoking status, selected modifiable risk factors and morbidity status, Victoria, 2016

	Current smoker			Ex-smoker			Non-smoker		
		95% CI			95% CI			95% CI	
	%	LL	UL	%	LL	UL	%	LL	UL
All males	**19.5**	**17.7**	**21.5**	**29.0**	**27.2**	**30.9**	**51.0**	**48.9**	**53.2**
Psychological distress [a]									
Low (K10 score < 16)	**15.6**	13.4	18.0	**29.2**	26.8	31.7	**54.9**	52.1	57.8
Moderate (K10 score 16–21)	**21.1**	17.6	25.1	**30.5**	26.7	34.6	**48.0**	43.6	52.4
High / very high (K10 score 22+)	**29.5**	24.2	35.4	**29.1**	24.1	34.6	**41.1**	35.1	47.4
Physical activity [b]									
Sedentary	**24.0**	15.5	35.2	**24.8**	18.2	32.8	**51.2**	39.8	62.5
Insufficient time (< 150 min) and/or sessions (< 2)	**21.6**	18.9	24.6	**28.7**	25.9	31.7	**49.1**	45.7	52.5
Sufficient time (≥ 150 min) and sessions (≥ 2)	**16.6**	14.1	19.4	**31.2**	28.4	34.1	**52.0**	48.8	55.2
Met fruit / vegetable guidelines [c]									
Both guidelines	**16.5** *	8.1	30.7	**15.0** *	9.0	24.2	**67.1**	52.7	78.9
Vegetable guidelines [d]	**22.3** *	13.0	35.5	**22.4**	14.3	33.3	**54.6**	40.6	67.8
Fruit guidelines [d]	**12.2**	9.9	14.9	**31.6**	28.5	34.9	**55.8**	52.3	59.3
Neither	**23.0**	20.5	25.7	**27.4**	25.1	29.8	**49.3**	46.4	52.2
Lifetime risk of alcohol-related harm [e]									
Abstainer / no longer drinks alcohol	**15.9**	12.0	20.8	**23.5**	19.8	27.5	**60.0**	54.8	65.0
Reduced risk	**15.5**	11.3	20.9	**21.4**	17.2	26.5	**62.9**	56.9	68.5
Increased risk	**20.6**	18.4	23.0	**31.3**	29.0	33.6	**47.8**	45.2	50.4
Self-reported health									
Excellent / very good	**14.0**	11.7	16.7	**27.9**	25.2	30.8	**57.8**	54.5	61.0
Good	**22.3**	19.3	25.6	**29.5**	26.5	32.6	**47.7**	44.2	51.2
Fair/poor	**27.3**	22.6	32.5	**30.4**	26.1	35.0	**41.8**	36.6	47.2
Body weight status based on BMI [f]									
Underweight (BMI < 18.5 kg/m^2)	**46.4**	31.0	62.4	**9.4** *	5.0	16.8	**44.3**	29.5	60.2
Normal range (18.5 ≥ BMI < 25 kg/m^2)	**20.4**	17.4	23.8	**23.7**	20.7	26.9	**55.5**	51.7	59.2
Pre-obese (25 ≥ BMI < 30 kg/m^2)	**20.4**	17.4	23.9	**30.9**	28.0	33.9	**48.6**	44.9	52.3
Obese (BMI ≥ 30 kg/m^2)	**17.9**	13.9	22.8	**33.7**	29.2	38.5	**48.1**	42.7	53.5
Blood pressure status									
Doctor diagnosed hypertension	**25.5**	20.1	31.8	**31.6**	27.6	36.0	**42.5**	36.6	48.6
Normal range	**19.0**	17.0	21.2	**27.4**	25.2	29.7	**53.2**	50.7	55.8
Morbidity status									
No chronic disease	**17.0**	14.8	19.5	**25.6**	23.0	28.3	**57.1**	54.0	60.1
One chronic disease	**24.1**	20.4	28.4	**29.3**	25.8	33.0	**46.3**	42.0	50.6
Two, or more chronic diseases	**21.6**	15.9	28.7	**36.6**	29.2	44.8	**41.4**	33.4	49.9

Data were age-standardised to the 2011 Victorian population.

LL/UL 95% CI = lower/upper limit of 95 per cent confidence interval.

Estimates that are (statistically) significantly different from the corresponding estimate for Victoria are identified by colour as follows: above or below.

Estimates may not add to 100 per cent due to a proportion of 'don't know' or 'refused to say' responses, not reported here.

Relative standard error (RSE) = standard error / point estimate * 100; interpretation below:

***** RSE between 25 and 50 per cent; point estimate (%) should be interpreted with caution.

[a] Based on the Kessler 10 scale for psychological distress.

[b] DoH (2014) guidelines.

[c] NHMRC (2013) guidelines.

[d] Includes those meeting both guidelines.

[e] NHMRC (2009) guidelines.

[f] Body mass index (BMI) = Weight (kg) / Height (m^2).

Table 2.7 shows the prevalence of smoking among women according to selected modifiable risk factors contributing to chronic disease. When compared with all Victorian women, a significantly higher proportion of current smokers was reported among women with the following characteristics:

- high or very high levels of psychological distress
- did not meet either guideline for fruit or vegetable consumption
- in fair or poor health
- two or more chronic diseases.

Table 2.7: Proportion (%) of women, by smoking status, selected modifiable risk factors and morbidity status, Victoria, 2016

	Current smoker			Ex-smoker			Non-smoker		
		95% CI			95% CI			95% CI	
	%	LL	UL	%	LL	UL	%	LL	UL
All females	**14.1**	**12.6**	**15.6**	**21.5**	**20.0**	**23.2**	**63.7**	**61.7**	**65.6**
Psychological distress [a]									
Low (K10 score < 16)	**10.5**	8.8	12.4	**22.2**	20.0	24.5	**66.7**	64.0	69.2
Moderate (K10 score 16–21)	**14.5**	11.7	17.8	**21.2**	18.3	24.5	**63.6**	59.7	67.3
High / very high (K10 score 22+)	**24.5**	20.5	29.1	**20.9**	17.2	25.0	**54.1**	49.1	59.0
Physical activity [b]									
Sedentary	**12.8** *	4.8	29.9	**18.6**	12.5	26.7	**67.7**	53.0	79.6
Insufficient time (< 150 min) and/or sessions (< 2)	**16.6**	14.5	19.1	**19.8**	17.6	22.3	**62.9**	59.9	65.7
Sufficient time (≥ 150 min) and sessions (≥ 2)	**11.4**	9.5	13.6	**24.1**	21.8	26.7	**63.7**	60.8	66.5
Met fruit / vegetable guidelines [c]									
Both guidelines	**5.3** *	2.8	9.9	**24.8**	18.6	32.4	**69.6**	61.8	76.4
Vegetable guidelines[d]	**5.0** *	3.1	8.2	**23.4**	18.0	29.8	**71.3**	64.8	77.1
Fruit guidelines[d]	**9.9**	8.1	12.0	**20.8**	18.6	23.2	**68.6**	65.8	71.3
Neither	**17.8**	15.7	20.2	**22.5**	20.3	24.9	**58.9**	56.1	61.7
Lifetime risk of alcohol-related harm [e]									
Abstainer / no longer drinks alcohol	**11.2**	8.7	14.3	**13.7**	11.2	16.8	**74.8**	71.0	78.2
Reduced risk	**11.1**	8.3	14.7	**18.4**	15.5	21.7	**69.3**	65.0	73.3
Increased risk	**16.4**	14.4	18.7	**27.8**	25.4	30.4	**54.9**	52.0	57.7
Self-reported health									
Excellent / very good	**10.4**	8.7	12.4	**23.2**	20.8	25.7	**65.9**	63.1	68.6
Good	**14.7**	12.3	17.5	**21.4**	18.9	24.2	**62.9**	59.6	66.1
Fair/poor	**23.9**	19.7	28.7	**18.0**	14.9	21.6	**57.3**	52.3	62.2
Body weight status based on BMI [f]									
Underweight (BMI < 18.5 kg/m^2)	**15.9** *	8.8	26.8	**6.1** *	3.0	12.3	**77.5**	66.8	85.5
Normal range (18.5 ≥ BMI < 25 kg/m^2)	**13.0**	11.0	15.2	**19.4**	17.3	21.8	**66.6**	63.8	69.4
Pre-obese (25 ≥ BMI < 30 kg/m^2)	**13.8**	10.6	17.9	**21.7**	18.7	24.9	**64.0**	59.6	68.3
Obese (BMI ≥ 30 kg/m^2)	**17.7**	13.5	22.9	**26.6**	22.5	31.1	**55.1**	49.6	60.5
Blood pressure status (including pregnancy induced hyperte									
Doctor diagnosed hypertension	**14.7**	11.2	19.1	**25.4**	20.9	30.4	**59.0**	53.6	64.1
Normal range	**13.8**	12.3	15.6	**21.3**	19.5	23.2	**64.2**	62.0	66.4
Morbidity status									
No chronic disease	**10.3**	8.5	12.4	**19.8**	17.4	22.4	**69.2**	66.3	72.0
One chronic disease	**16.3**	13.6	19.5	**22.6**	19.8	25.7	**60.7**	57.0	64.3
Two, or more chronic diseases	**20.7**	16.6	25.4	**22.9**	19.3	27.0	**54.9**	49.8	59.8

Data were age-standardised to the 2011 Victorian population.

LL/UL 95% CI = lower/upper limit of 95 per cent confidence interval.

Estimates that are (statistically) significantly different from the corresponding estimate for Victoria are identified by colour as follows: above or below.

Estimates may not add to 100 per cent due to a proportion of 'don't know' or 'refused to say' responses, not reported here.

Relative standard error (RSE) = standard error / point estimate * 100; interpretation below:

***** RSE between 25 and 50 per cent; point estimate (%) should be interpreted with caution.

[a] Based on the Kessler 10 scale for psychological distress.

[b] DoH (2014) guidelines.

[c] NHMRC (2013) guidelines.

[d] Includes those meeting both guidelines.

[e] NHMRC (2009) guidelines.

[f] Body mass index (BMI) = Weight (kg) / Height (m^2).

Comparison with previous survey

The trend over time of the age-adjusted prevalence of current smokers was investigated as part of the Victorian Population Health Survey (Table 2.8 and Figure 2.3). This is the first time that trend over time data has been reported after the introduction of dual-frame sampling in 2015. There was no statistically significant difference between 2015 and 2016 in the proportions of males, females or people who were current smokers.

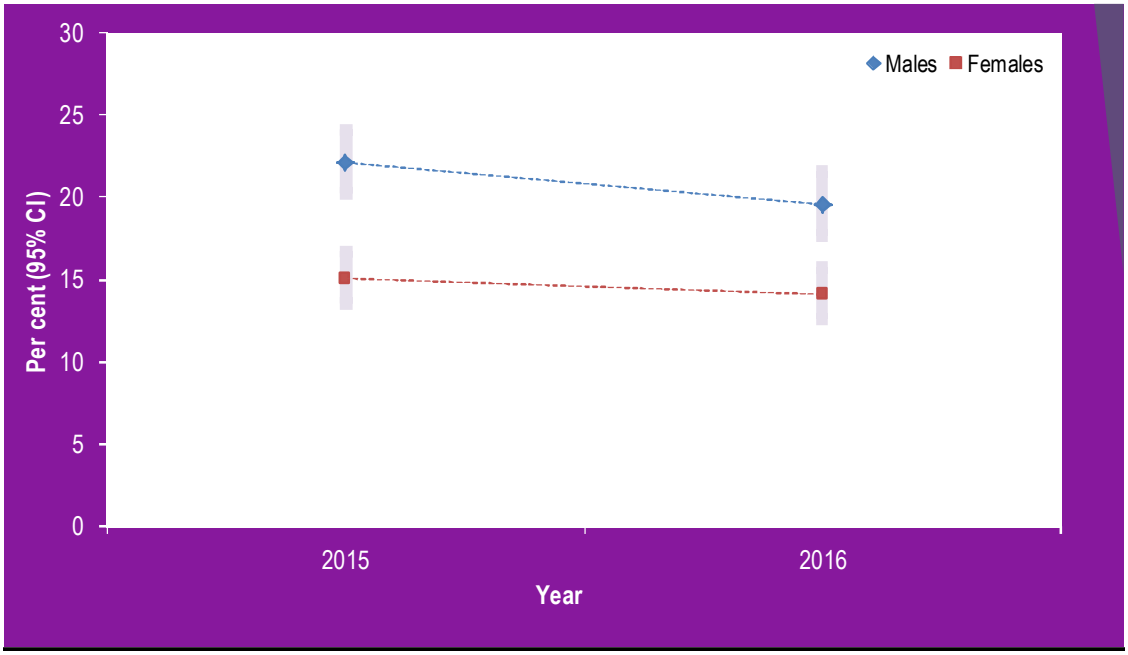
Table 2.8: Proportion (%) of adults who were current smokers, by survey year and sex, Victoria, 2015–2016

	Males			Females			People		
		95% CI			95% CI			95% CI	
Year	%	LL	UL	%	LL	UL	%	LL	UL
2015	**22.1**	20.2	24.1	**15.0**	13.5	16.7	**18.5**	17.2	19.8
2016	**19.5**	17.7	21.5	**14.1**	12.6	15.6	**16.7**	15.6	18.0

Data are age-standardised to the 2011 Victorian population.

LL/UL 95% CI = low er/upper limit of 95 per cent confidence interval.

Figure 2.3: Proportion (%) of adults who were current smokers, by survey year and sex, Victoria, 2015–2016



Data are age-standardised to the 2011 Victorian population.

95% CI = 95 per cent confidence interval.

Smoking frequency

Some people who smoke do so only occasionally. For most purposes, the Victorian Population Health Survey combines daily and occasional smoking to report on ‘current’ smoking. However, Table 2.9 reports the prevalence of daily and occasional smoking by departmental region and sex.

There were no statistically significant differences in the prevalence of ‘daily’ smoking among men across departmental regions or between rural and metropolitan regions of Victoria. There was a significantly higher prevalence of ‘daily’ smoking among women who lived in Grampians Region compared with all Victorian women. Overall, there was a significantly higher prevalence of ‘daily’ smoking among women who lived in rural Victoria compared with their metropolitan counterparts.

Table 2.9: Proportion (%) of adults, by smoking frequency, Department of Health and Human Services region and sex, Victoria, 2016

	Daily smoker			Occasional smoker		
		95% CI			95% CI	
Region	%	LL	UL	%	LL	UL
Males						
Northern Metropolitan	**14.5**	11.1	18.7	**7.4**	5.0	10.8
Southern Metropolitan	**14.4**	11.3	18.2	**4.9**	3.2	7.3
Eastern Metropolitan	**14.6**	11.0	19.3	**3.6** *	1.8	6.9
Western Metropolitan	**15.2**	11.6	19.7	**5.9**	3.9	8.9
All metropolitan regions	**14.5**	12.7	16.6	**5.4**	4.3	6.7
Barwon-South Western	**12.0**	8.0	17.6	**2.3** *	0.9	5.4
Gippsland	**13.4** *	7.5	22.6	**		
Grampians	**15.3**	9.2	24.3	**6.6** *	3.2	13.1
Hume	**16.7**	10.5	25.6	**		
Loddon Mallee	**11.4** *	6.8	18.4	**		
All rural regions	**13.9**	11.0	17.4	**4.0** *	2.2	7.3
Victoria	**14.4**	**12.8**	**16.1**	**5.1**	**4.1**	**6.3**
Females						
Northern Metropolitan	**9.2**	6.8	12.3	**3.5** *	2.0	5.8
Southern Metropolitan	**9.5**	7.3	12.3	**5.1**	3.4	7.6
Eastern Metropolitan	**7.0**	4.6	10.3	**2.7** *	1.3	5.6
Western Metropolitan	**12.2**	8.9	16.6	**3.7** *	2.1	6.5
All metropolitan regions	**9.3**	7.9	10.8	**3.9**	3.0	5.1
Barwon-South Western	**16.2**	10.5	24.0	**1.5** *	0.6	3.7
Gippsland	**13.1**	8.8	19.1	**6.8** *	3.1	14.4
Grampians	**20.0**	13.2	29.1	**		
Hume	**7.5**	4.7	11.6	**		
Loddon Mallee	**15.5**	9.9	23.5	**3.9** *	1.8	8.4
All rural regions	**14.1**	11.4	17.2	**2.8**	1.7	4.3
Victoria	**10.3**	**9.1**	**11.7**	**3.8**	**3.0**	**4.8**
People						
Northern Metropolitan	**11.9**	9.7	14.4	**5.7**	4.1	7.7
Southern Metropolitan	**11.9**	9.9	14.2	**4.9**	3.7	6.5
Eastern Metropolitan	**10.6**	8.4	13.4	**3.2** *	2.0	5.3
Western Metropolitan	**13.6**	11.0	16.6	**4.8**	3.4	6.8
All metropolitan regions	**11.9**	10.7	13.1	**4.7**	3.9	5.5
Barwon-South Western	**13.2**	9.6	17.9	**1.8** *	0.9	3.4
Gippsland	**13.0**	9.3	18.0	**3.8** *	1.8	7.8
Grampians	**17.5**	12.4	24.1	**4.0** *	2.0	7.6
Hume	**11.5**	7.8	16.5	**1.1** *	0.5	2.6
Loddon Mallee	**13.3**	9.4	18.4	**6.8** *	3.1	14.5
All rural regions	**13.7**	11.7	16.0	**3.4**	2.2	5.1
Victoria	**12.3**	**11.3**	**13.4**	**4.4**	**3.8**	**5.2**

Metropolitan and rural regions are identified by colour as follows: metropolitan / rural.

Data were age-standardised to the 2011 Victorian population.

LL/UL 95% CI = lower/upper limit of 95 per cent confidence interval.

Estimates that are (statistically) significantly different from the corresponding estimate for Victoria are identified by colour as follows: above or below.

Relative standard error (RSE) = standard error / point estimate * 100; interpretation below:

* RSE between 25 and 50 per cent; point estimate (%) should be interpreted with caution.

** RSE greater than, or equal to, 50 per cent; point estimate (%) is unreliable, hence not reported.

Table 2.10 shows the prevalence of daily and occasional smoking by departmental Division. There were no statistically significant differences in the prevalence of 'daily' smoking among men and women across the departmental divisions of Victoria.

Table 2.10: Proportion (%) of adults, by smoking frequency, Department of Health and Human Services division and sex, Victoria, 2016

	Daily smoker			Occasional smoker		
		95% CI			95% CI	
Division	%	LL	UL	%	LL	UL
Males						
North	**13.7**	10.8	17.2	**7.6**	5.2	10.9
South	**14.4**	11.5	17.9	**4.4**	2.9	6.5
East	**15.0**	11.7	19.1	**3.3** *	1.7	6.2
West	**14.6**	11.8	18.0	**5.2**	3.6	7.4
Victoria	**14.4**	**12.8**	**16.1**	**5.1**	**4.1**	**6.3**
Females						
North	**10.5**	8.2	13.4	**3.5**	2.3	5.5
South	**10.1**	8.1	12.6	**5.5**	3.9	7.7
East	**7.0**	5.0	9.7	**2.4** *	1.2	4.7
West	**13.4**	10.8	16.6	**3.2** *	1.9	5.3
Victoria	**10.3**	**9.1**	**11.7**	**3.8**	**3.0**	**4.8**
People						
North	**12.2**	10.2	14.4	**5.8**	4.3	7.9
South	**12.2**	10.3	14.3	**4.9**	3.7	6.3
East	**10.8**	8.8	13.2	**2.9**	1.8	4.6
West	**13.8**	11.8	16.0	**4.2**	3.1	5.6
Victoria	**12.3**	**11.3**	**13.4**	**4.4**	**3.8**	**5.2**

Data were age-standardised to the 2011 Victorian population.

LL/UL 95% CI = lower/upper limit of 95 per cent confidence interval.

Relative standard error (RSE) = standard error / point estimate * 100; interpretation below:

***** RSE between 25 and 50 per cent; point estimate (%) should be interpreted with caution.

Table 2.11 shows the prevalence of daily and occasional smoking by age group and sex, with '18+' not adjusted for age. A higher proportion of women and adults 45–54 years of age were daily smokers compared with all Victorian women and adults, respectively. A lower proportion of men and adults 65–84 years of age were daily smokers compared with all Victorian men and adults, respectively.

Table 2.11: Proportion (%) of adults, by smoking frequency, age group and sex, Victoria, 2016

Sex	Daily smoker			Occasional smoker		
Age group		95% CI			95% CI	
(years)	%	LL	UL	%	LL	UL
Males						
18–24	**10.0**	6.7	14.6	**7.9**	4.8	12.6
25–34	**15.5**	11.7	20.2	**10.0**	6.8	14.3
35–44	**19.8**	15.3	25.2	**5.5** *	3.4	9.0
45–54	**18.5**	14.5	23.3	**3.8**	2.4	6.1
55–64	**14.4**	11.2	18.2	**2.2** *	1.3	3.8
65–74	**8.0**	5.6	11.4	**1.4** *	0.7	3.2
75–84	**6.4** *	3.6	11.0	**0.0**	.	.
85+	**			**0.0**	.	.
18+	**14.3**	**12.8**	**16.1**	**5.2**	**4.2**	**6.5**
Females						
18–24	**9.2**	6.3	13.3	**6.8**	4.3	10.6
25–34	**9.9**	6.7	14.5	**6.6**	4.1	10.5
35–44	**11.6**	8.8	15.1	**3.9** *	2.4	6.5
45–54	**15.2**	12.0	19.0	**2.5** *	1.4	4.2
55–64	**10.5**	8.1	13.4	**1.9** *	1.0	3.4
65–74	**8.0**	5.6	11.1	**1.1** *	0.5	2.8
75–84	**4.3** *	1.9	9.3	**		
85+	**0.0** #	.	.	**		
18+	**10.4**	**9.2**	**11.7**	**3.5**	**2.8**	**4.4**
People						
18–24	**9.6**	7.3	12.6	**7.4**	5.3	10.2
25–34	**13.0**	10.3	16.2	**8.4**	6.3	11.3
35–44	**15.4**	12.7	18.5	**4.7**	3.3	6.6
45–54	**16.8**	14.2	19.7	**3.1**	2.2	4.4
55–64	**12.3**	10.3	14.6	**2.0**	1.3	3.0
65–74	**8.0**	6.2	10.2	**1.3** *	0.7	2.3
75–84	**5.2**	3.2	8.3	**		
85+	**			**		
18+	**12.3**	**11.3**	**13.4**	**4.4**	**3.7**	**5.1**

Data are age-specific estimates, except for '18+', which are crude estimates (not age-standardised) for Victoria.

LL/UL 95% CI = lower/upper limit of 95 per cent confidence interval.

Estimates that are (statistically) significantly different from the corresponding estimate for Victoria are identified by colour as follows: above or below.

Relative standard error (RSE) = standard error/point estimate * 100; interpretation below:

***** Estimate has a RSE between 25 and 50 per cent and should be interpreted with caution.

****** Estimate has a RSE greater than 50 per cent and is not reported as it is unreliable for general use.

3. Fruit and vegetable consumption

Key findings

Vegetable intake

2016

4.8%
of adults met the recommended minimum daily intake for vegetables

2.3%
of men met the recommended minimum daily intake for vegetables

7.1%
of women met the recommended minimum daily intake for vegetables

A statistically significantly higher proportion of women met the recommended minimum daily intake for vegetables compared with men

Fruit intake

2016

41.4%
of adults met the recommended minimum daily intake for fruit

38.6%
of men met the recommended minimum daily intake for fruit

44.0%
of women met the recommended minimum daily intake for fruit

A statistically significantly higher proportion of women met the recommended minimum daily intake for fruit compared with men

3. Fruit and vegetable consumption

Introduction

Daily intake of fruit and vegetables is used as a proxy measure of the quality of a person's diet in Australia and internationally. New Australian dietary guidelines were introduced in 2013, altering some of the serving sizes and recommendations for fruit and vegetable consumption based on age and sex. Analysis of the Victorian Population Health Survey 2016 data has been undertaken using the 2013 Australian guidelines (Table 3.1).

Australian dietary guidelines

The 2013 Australian guidelines recommend a minimum daily vegetable intake of 5½ serves for men 18 years of age or 51–70 years of age, six serves for men 19–50 years of age and five serves for men 71 years of age or older. The recommended minimum daily intake of vegetables for women 18 years of age or older is five serves. A serve is defined as half a cup of cooked vegetables or a cup of green leafy or raw salad vegetables or legumes (NHMRC 2013). In the Victorian Population Health Survey 2016, respondents were not explicitly asked about legume consumption as part of their vegetable intake (this includes cooked, dried or canned beans, peas or lentils). Therefore caution should be exercised in interpreting the results presented.

The recommended minimum daily intake of fruit is two serves for people who are 18 years of age or older, where a serve is defined as one medium piece or two small pieces of fruit or one cup of diced pieces (NHMRC 2013).

Table 3.1: Australian adult dietary guidelines for fruit and vegetable consumption, by age group and sex, 2013[a]

	NHMRC guidelines (serves/day)		
	Age group (years)	Vegetables and legumes (75g/serve)	Fruit (150g/serve)
Men	18	5.5	2
	19-50	6	2
	51-70	5.5	2
	70+	5	2
Women	18	5	2
	19-50	5	2
	51-70	5	2
	70+	5	2

[a] NHMRC (2013) guidelines

Daily vegetable consumption

Daily vegetable consumption by geographic location and sex

Table 3.2 shows daily vegetable consumption in serves per day by departmental region and sex. The proportion of adults who consumed ‘less than one serve’ of vegetables daily was 8.9 per cent among all Victorian adults but was significantly higher among men (10.8 per cent) compared with women (7.0 per cent). The proportion of men and adults who consumed ‘less than one serve’ of vegetables daily was similar across all departmental regions. The proportion of women who reported consuming ‘less than one serve’ of vegetables daily was significantly lower among adults who lived in Gippsland Region compared with all Victorian adults.

The proportion of adults who consumed ‘five or more serves’ of vegetables daily was significantly higher among women compared with men. A significantly higher proportion of women who lived in the rural regions reported consuming ‘five or more serves’ of vegetables daily compared with women who lived in the metropolitan regions.

Table 3.2: Proportion (%) of adults consuming vegetables (serves per day), Department of Health and Human Services region and sex, Victoria, 2016

Region	< 1 serve/day			1–2 serves/day			3–4 serves/day			5+ serves/day		
		95% CI			95% CI			95% CI			95% CI	
	%	LL	UL	%	LL	UL	%	LL	UL	%	LL	UL
Males												
Northern Metropolitan	**12.4**	9.4	16.3	**66.4**	61.4	71.1	**15.0**	11.7	19.0	**3.9** *	2.3	6.5
Southern Metropolitan	**11.5**	8.9	14.7	**64.0**	59.6	68.2	**16.2**	13.4	19.6	**4.8**	3.0	7.5
Eastern Metropolitan	**7.2**	4.8	10.9	**61.9**	56.2	67.2	**22.5**	18.0	27.8	**5.1**	3.2	8.1
Western Metropolitan	**15.1**	11.6	19.4	**62.3**	57.1	67.2	**16.5**	13.0	20.7	**4.1** *	2.4	6.9
All metropolitan regions	**11.4**	9.9	13.2	**63.1**	60.6	65.6	**18.0**	16.1	20.1	**4.5**	3.5	5.7
Barw on-South Western	**6.8** *	4.1	11.1	**69.2**	61.2	76.1	**20.6**	14.7	28.0	**2.7** *	1.0	7.0
Gippsland	**10.6** *	6.1	17.7	**67.6**	58.6	75.5	**15.3**	10.1	22.5	**3.3** *	1.5	7.1
Grampians	**11.4** *	6.7	18.5	**67.3**	58.5	75.0	**16.4**	11.2	23.3	**4.6** *	1.8	11.1
Hume	**7.7** *	3.2	17.3	**67.1**	55.7	76.8	**19.8**	12.2	30.4	**5.2** *	2.0	12.4
Loddon Mallee	**7.1** *	3.9	12.7	**76.1**	68.5	82.4	**11.7**	7.9	17.0	**2.9** *	1.1	7.4
All rural regions	**8.5**	6.3	11.3	**70.8**	66.8	74.5	**16.3**	13.6	19.4	**3.4**	2.3	4.9
Victoria	**10.8**	**9.5**	**12.2**	**64.9**	**62.7**	**67.0**	**17.6**	**16.0**	**19.3**	**4.2**	**3.4**	**5.2**
Females												
Northern Metropolitan	**8.5**	6.2	11.6	**54.9**	50.1	59.5	**29.7**	25.6	34.2	**5.4**	3.7	7.7
Southern Metropolitan	**7.5**	5.8	9.8	**56.5**	52.4	60.5	**27.0**	23.5	30.8	**6.7**	5.1	8.9
Eastern Metropolitan	**7.0**	4.7	10.3	**54.2**	49.3	59.0	**30.1**	25.8	34.8	**7.5**	5.2	10.7
Western Metropolitan	**6.8**	4.9	9.6	**58.6**	53.7	63.4	**27.4**	23.1	32.1	**5.4**	3.8	7.7
All metropolitan regions	**7.5**	6.4	8.8	**56.2**	53.8	58.5	**28.4**	26.3	30.5	**6.3**	5.3	7.4
Barw on-South Western	**6.4** *	3.8	10.7	**57.4**	50.3	64.2	**25.7**	20.0	32.3	**9.9**	7.1	13.6
Gippsland	**3.5** *	2.0	6.0	**57.0**	49.1	64.5	**32.3**	25.4	40.1	**6.3**	4.2	9.3
Grampians	**8.7** *	5.3	14.1	**52.9**	44.6	61.0	**30.2**	23.1	38.5	**7.6**	5.0	11.5
Hume	**3.5** *	1.7	7.1	**53.4**	44.5	62.0	**33.0**	25.2	41.9	**9.6**	6.3	14.2
Loddon Mallee	**3.9** *	1.8	8.0	**50.4**	41.8	59.0	**33.0**	25.4	41.7	**10.8**	6.9	16.5
All rural regions	**5.2**	4.0	6.8	**54.5**	50.6	58.4	**30.2**	26.7	33.9	**9.1**	7.5	11.1
Victoria	**7.0**	**6.0**	**8.1**	**55.4**	**53.4**	**57.4**	**29.0**	**27.2**	**30.8**	**7.1**	**6.2**	**8.1**
People												
Northern Metropolitan	**10.4**	8.4	12.7	**59.9**	56.5	63.3	**23.0**	20.2	26.0	**4.7**	3.5	6.3
Southern Metropolitan	**9.5**	7.9	11.4	**60.1**	57.1	63.0	**21.6**	19.3	24.1	**5.9**	4.6	7.6
Eastern Metropolitan	**7.1**	5.3	9.4	**58.0**	54.3	61.6	**26.3**	23.1	29.8	**6.5**	4.9	8.5
Western Metropolitan	**10.8**	8.8	13.3	**60.1**	56.5	63.6	**22.3**	19.4	25.6	**4.9**	3.6	6.6
All metropolitan regions	**9.5**	8.5	10.5	**59.5**	57.7	61.1	**23.3**	21.8	24.7	**5.5**	4.8	6.3
Barw on-South Western	**6.1**	4.3	8.6	**63.5**	58.2	68.4	**23.3**	19.1	28.1	**6.3**	4.7	8.5
Gippsland	**7.1**	4.6	10.7	**61.9**	55.6	67.7	**24.4**	19.6	29.9	**4.6**	3.2	6.7
Grampians	**10.8**	7.4	15.6	**59.1**	53.0	65.0	**23.6**	19.0	29.0	**6.0**	3.9	8.9
Hume	**5.8** *	3.0	10.9	**61.4**	54.2	68.2	**25.4**	19.6	32.2	**7.0**	4.7	10.3
Loddon Mallee	**5.6**	3.4	8.9	**62.9**	56.9	68.6	**22.0**	17.6	27.2	**7.5**	4.8	11.5
All rural regions	**6.8**	5.6	8.3	**62.2**	59.5	64.9	**23.6**	21.3	26.0	**6.3**	5.3	7.5
Victoria	**8.9**	**8.1**	**9.8**	**59.9**	**58.4**	**61.4**	**23.4**	**22.2**	**24.7**	**5.8**	**5.2**	**6.5**

Metropolitan and rural regions are identified by colour as follows: metropolitan / rural.

Data were age-standardised to the 2011 Victorian population.

LL/UL 95% CI = lower/upper limit of 95 per cent confidence interval.

Estimates that are (statistically) significantly different from the corresponding estimate for Victoria are identified by colour as follows: above or below.

Estimates may not add to 100 per cent due to a proportion of 'don't know' or 'refused to say' responses, not reported here.

Relative standard error (RSE) = standard error / point estimate * 100; interpretation below:

* RSE between 25 and 50 per cent; point estimate (%) should be interpreted with caution.

Table 3.3 shows daily vegetable consumption in serves per day by departmental division. There were no significant differences by departmental division in the proportions of daily vegetable consumption in serves per day.

Table 3.3: Proportion (%) of adults consuming vegetables (serves per day), Department of Health and Human Services division and sex, Victoria, 2016

	< 1 serve/day			1–2 serves/day			3–4 serves/day			5+ serves/day		
		95% CI			95% CI			95% CI			95% CI	
Division	%	LL	UL	%	LL	UL	%	LL	UL	%	LL	UL
Males												
North	**10.9**	8.5	14.0	**68.3**	64.0	72.3	**14.6**	11.9	17.9	**3.8**	2.4	5.9
South	**11.4**	9.0	14.3	**64.3**	60.3	68.1	**16.3**	13.7	19.4	**4.5**	3.0	6.9
East	**7.6**	5.1	11.0	**63.2**	58.2	67.9	**21.5**	17.5	26.0	**5.1**	3.4	7.5
West	**12.6**	10.1	15.5	**64.9**	61.0	68.6	**17.1**	14.4	20.2	**3.9**	2.5	5.9
Victoria	**10.8**	**9.5**	**12.2**	**64.9**	**62.7**	**67.0**	**17.6**	**16.0**	**19.3**	**4.2**	**3.4**	**5.2**
Females												
North	**7.5**	5.6	10.0	**53.3**	49.1	57.5	**30.6**	26.8	34.6	**6.9**	5.1	9.1
South	**6.9**	5.4	8.9	**56.4**	52.7	60.0	**27.9**	24.8	31.3	**6.7**	5.2	8.5
East	**6.3**	4.4	9.0	**54.0**	49.7	58.3	**30.7**	26.8	34.8	**7.9**	5.9	10.6
West	**7.1**	5.6	9.2	**56.9**	53.2	60.5	**27.4**	24.2	30.9	**7.1**	5.8	8.8
Victoria	**7.0**	**6.0**	**8.1**	**55.4**	**53.4**	**57.4**	**29.0**	**27.2**	**30.8**	**7.1**	**6.2**	**8.1**
People												
North	**9.2**	7.6	11.1	**60.2**	57.1	63.2	**23.0**	20.5	25.6	**5.5**	4.3	7.0
South	**9.2**	7.7	10.9	**60.2**	57.5	62.8	**22.1**	20.0	24.4	**5.7**	4.6	7.2
East	**6.9**	5.3	8.9	**58.6**	55.3	61.8	**26.1**	23.3	29.2	**6.6**	5.2	8.3
West	**9.8**	8.3	11.5	**60.5**	57.8	63.2	**22.7**	20.5	25.0	**5.6**	4.6	6.8
Victoria	**8.9**	**8.1**	**9.8**	**59.9**	**58.4**	**61.4**	**23.4**	**22.2**	**24.7**	**5.8**	**5.2**	**6.5**

Data were age-standardised to the 2011 Victorian population.

LL/UL 95% CI = lower/upper limit of 95 per cent confidence interval.

Estimates that are (statistically) significantly different from the corresponding estimate for Victoria are identified by colour as follows: above or below.

Estimates may not add to 100 per cent due to a proportion of 'don't know' or 'refused to say' responses, not reported here.

Daily vegetable consumption by age and sex

Table 3.4 shows daily vegetable consumption in serves per day by age group and sex, with '18+' not adjusted for age. The proportion of men and women who consumed 'less than one serve' of vegetables daily was not significantly different across all age groups. A significantly lower proportion of 35–44-year-old people reported consuming 'less than one serve' of vegetables daily compared with all Victorian people. A significantly higher proportion of 65–74-year-old women and adults reported consuming 'five or more serves' of vegetables daily compared with all women and adults, respectively. A significantly lower proportion of 18–24-year-old women reported consuming 'five or more serves' of vegetables daily compared with all Victorian women.

Table 3.4: Proportion (%) of adults consuming vegetables (serves per day), by age group and sex, Victoria, 2016

Sex / Age group (years)	< 1 serve/day			1–2 serves/day			3–4 serves/day			5+ serves/day		
	%	95% CI LL	95% CI UL	%	95% CI LL	95% CI UL	%	95% CI LL	95% CI UL	%	95% CI LL	95% CI UL
Males												
18–24	**11.8**	8.4	16.5	**59.9**	53.4	66.1	**19.1**	14.5	24.7	**5.9** *	3.4	10.0
25–34	**11.7**	8.5	15.9	**63.5**	57.8	68.9	**16.9**	13.1	21.5	**5.2** *	3.1	8.6
35–44	**6.7**	4.6	9.8	**70.1**	64.5	75.1	**17.8**	13.8	22.8	**3.8** *	2.2	6.6
45–54	**13.1**	9.7	17.4	**66.3**	61.0	71.1	**15.8**	12.4	19.9	**2.5** *	1.3	4.6
55–64	**8.6**	6.3	11.5	**68.6**	64.3	72.7	**16.4**	13.5	19.8	**4.2**	2.7	6.4
65–74	**10.8**	7.9	14.5	**61.7**	56.7	66.4	**21.0**	17.2	25.5	**4.4**	2.8	6.9
75–84	**10.7**	6.8	16.2	**62.5**	54.9	69.6	**20.1**	14.7	26.8	**3.7** *	2.0	6.9
85+	**20.7** *	11.8	33.8	**53.8**	41.0	66.0	**14.7** *	8.1	25.1	**		
18+	**10.7**	**9.4**	**12.1**	**64.9**	**62.7**	**67.0**	**17.7**	**16.1**	**19.4**	**4.3**	**3.5**	**5.3**
Females												
18–24	**7.3**	4.8	11.0	**61.5**	55.2	67.5	**27.2**	21.8	33.4	**1.8** *	0.7	4.3
25–34	**5.1** *	3.0	8.7	**60.1**	54.4	65.5	**29.0**	24.2	34.4	**4.7**	2.9	7.4
35–44	**5.3**	3.4	8.1	**58.5**	53.7	63.2	**27.9**	23.8	32.3	**7.2**	5.1	10.0
45–54	**7.6**	5.5	10.3	**55.6**	51.2	60.0	**27.5**	23.6	31.7	**8.3**	6.4	10.8
55–64	**6.2**	4.5	8.6	**53.5**	49.1	57.9	**28.8**	25.2	32.7	**10.2**	7.7	13.3
65–74	**9.7**	7.3	12.8	**41.6**	37.2	46.1	**33.6**	29.6	38.0	**12.1**	9.4	15.3
75–84	**11.4**	8.1	15.9	**43.1**	37.0	49.3	**34.8**	28.8	41.3	**7.8**	5.5	10.9
85+	**9.9** *	5.4	17.4	**61.5**	49.9	71.9	**22.6**	13.9	34.5	**4.5** *	1.8	10.8
18+	**7.0**	**6.1**	**8.1**	**54.9**	**52.9**	**56.9**	**29.1**	**27.4**	**30.9**	**7.4**	**6.5**	**8.3**
People												
18–24	**9.7**	7.4	12.6	**60.7**	56.1	65.0	**23.0**	19.3	27.1	**3.9**	2.5	6.2
25–34	**8.7**	6.6	11.4	**62.0**	57.9	65.8	**22.4**	19.3	25.9	**4.9**	3.4	7.0
35–44	**6.0**	4.5	7.9	**63.9**	60.2	67.4	**23.2**	20.3	26.5	**5.7**	4.2	7.5
45–54	**10.2**	8.2	12.7	**60.7**	57.3	64.0	**21.9**	19.2	24.8	**5.5**	4.3	7.0
55–64	**7.3**	5.9	9.1	**60.6**	57.4	63.6	**23.0**	20.6	25.6	**7.4**	5.8	9.3
65–74	**10.2**	8.3	12.5	**51.3**	47.9	54.6	**27.6**	24.7	30.6	**8.4**	6.7	10.4
75–84	**11.1**	8.5	14.4	**51.0**	46.2	55.8	**28.8**	24.5	33.6	**6.1**	4.5	8.3
85+	**15.0**	9.8	22.2	**57.9**	49.2	66.0	**18.8**	12.9	26.6	**4.2** *	1.7	9.8
18+	**8.8**	**8.0**	**9.7**	**59.8**	**58.3**	**61.2**	**23.5**	**22.3**	**24.8**	**5.9**	**5.2**	**6.5**

Data are age-specific estimates, except for '18+', which are crude estimates (not age-standardised) for Victoria.

LL/UL 95% CI = lower/upper limit of 95 per cent confidence interval.

Estimates that are (statistically) significantly different from the corresponding estimate for Victoria are identified by colour as follows: above or below.

Estimates may not add to 100 per cent due to a proportion of 'don't know' or 'refused to say' responses, not reported here.

Relative standard error (RSE) = standard error/point estimate * 100; interpretation below:

* Estimate has a RSE between 25 and 50 per cent and should be interpreted with caution.

** Estimate has a RSE greater than 50 per cent and is not reported as it is unreliable for general use.

Daily fruit consumption

Daily fruit consumption by geographic location and sex

Table 3.5 shows daily fruit consumption in serves per day by departmental region and sex. The proportion of adults who reported consuming ‘less than two serves’ of fruit daily was 57.4 per cent among all Victorian adults but was significantly higher among men (59.8 per cent) compared with women (55.1 per cent). There were no significant differences between the regions in the proportions of men or women who reported consuming ‘less than two serves’ of fruit daily.

Table 3.5: Proportion (%) of adults consuming fruit (serves per day), by Department of Health and Human Services region and sex, Victoria, 2016

	< 2 serves/day			2+ serves/day		
		95% CI			95% CI	
Region	%	LL	UL	%	LL	UL
Males						
Northern Metropolitan	**61.4**	56.3	66.3	**36.3**	31.5	41.4
Southern Metropolitan	**61.9**	57.5	66.1	**36.6**	32.4	41.0
Eastern Metropolitan	**57.3**	51.6	62.7	**42.3**	36.8	47.9
Western Metropolitan	**59.9**	54.5	65.0	**38.3**	33.2	43.6
All metropolitan regions	**59.9**	57.4	62.4	**38.5**	36.1	41.0
Barwon-South Western	**58.8**	50.5	66.6	**39.6**	31.9	47.9
Gippsland	**65.7**	55.8	74.4	**31.0**	22.8	40.6
Grampians	**61.1**	52.1	69.4	**37.5**	29.2	46.5
Hume	**57.3**	47.3	66.8	**41.3**	32.0	51.2
Loddon Mallee	**53.8**	43.4	63.8	**44.9**	34.8	55.4
All rural regions	**59.1**	54.4	63.6	**39.3**	34.7	44.0
Victoria	**59.8**	**57.6**	**62.0**	**38.6**	**36.4**	**40.8**
Females						
Northern Metropolitan	**51.0**	46.2	55.8	**47.8**	43.0	52.6
Southern Metropolitan	**55.5**	51.4	59.5	**43.1**	39.2	47.2
Eastern Metropolitan	**57.0**	52.2	61.7	**42.6**	37.9	47.4
Western Metropolitan	**56.6**	51.6	61.4	**42.2**	37.5	47.2
All metropolitan regions	**55.3**	53.0	57.6	**43.7**	41.4	46.0
Barwon-South Western	**48.4**	40.5	56.4	**50.4**	42.4	58.3
Gippsland	**53.3**	45.0	61.3	**46.0**	37.9	54.2
Grampians	**53.8**	44.5	62.8	**46.0**	37.0	55.3
Hume	**60.5**	52.6	68.0	**38.8**	31.4	46.8
Loddon Mallee	**57.8**	48.9	66.2	**41.8**	33.3	50.7
All rural regions	**54.9**	50.9	58.9	**44.4**	40.5	48.4
Victoria	**55.1**	**53.1**	**57.1**	**44.0**	**42.0**	**46.0**
People						
Northern Metropolitan	**56.1**	52.6	59.6	**42.1**	38.7	45.6
Southern Metropolitan	**58.6**	55.6	61.5	**40.0**	37.1	43.0
Eastern Metropolitan	**57.1**	53.4	60.8	**42.5**	38.9	46.2
Western Metropolitan	**57.8**	54.2	61.4	**40.6**	37.1	44.3
All metropolitan regions	**57.5**	55.8	59.2	**41.2**	39.5	42.9
Barwon-South Western	**53.0**	47.0	59.0	**45.8**	39.9	51.9
Gippsland	**59.1**	52.4	65.4	**38.8**	32.5	45.4
Grampians	**57.4**	51.0	63.6	**41.8**	35.6	48.2
Hume	**60.3**	53.7	66.6	**38.7**	32.5	45.3
Loddon Mallee	**55.2**	47.9	62.2	**43.8**	36.8	51.2
All rural regions	**56.6**	53.5	59.6	**42.2**	39.2	45.3
Victoria	**57.4**	**55.9**	**58.8**	**41.4**	**39.9**	**42.9**

Metropolitan and rural regions are identified by colour as follows: metropolitan / rural.

Data were age-standardised to the 2011 Victorian population.

LL/UL 95% CI = lower/upper limit of 95 per cent confidence interval.

Estimates may not add to 100 per cent due to a proportion of 'don't know' or 'refused to say' responses, not reported here.

Table 3.6 shows daily fruit consumption in serves per day by departmental division and sex. There were no significant differences by departmental division in the proportions of daily fruit consumption in serves per day.

Table 3.6: Proportion (%) of adults consuming fruit (serves per day), by Department of Health and Human Services division and sex, Victoria, 2016

	< 2 serves/day			2+ serves/day		
		95% CI			95% CI	
Division	%	LL	UL	%	LL	UL
Males						
North	**58.8**	54.0	63.5	**39.1**	34.5	43.9
South	**62.1**	58.1	66.0	**36.1**	32.3	40.1
East	**57.9**	52.9	62.8	**41.5**	36.6	46.5
West	**60.0**	56.0	63.9	**38.3**	34.4	42.3
Victoria	**59.8**	**57.6**	**62.0**	**38.6**	**36.4**	**40.8**
Females						
North	**52.3**	48.0	56.6	**46.6**	42.4	50.9
South	**55.3**	51.6	58.9	**43.5**	39.8	47.2
East	**57.7**	53.5	61.8	**41.9**	37.8	46.1
West	**54.5**	50.7	58.2	**44.6**	40.9	48.3
Victoria	**55.1**	**53.1**	**57.1**	**44.0**	**42.0**	**46.0**
People						
North	**55.9**	52.7	59.1	**42.5**	39.4	45.7
South	**58.6**	55.9	61.3	**39.9**	37.2	42.6
East	**57.8**	54.5	61.0	**41.7**	38.5	45.0
West	**56.7**	53.9	59.5	**42.0**	39.3	44.7
Victoria	**57.4**	**55.9**	**58.8**	**41.4**	**39.9**	**42.9**

Data were age-standardised to the 2011 Victorian population.

LL/UL 95% CI = lower/upper limit of 95 per cent confidence interval.

Estimates that are (statistically) significantly different from the corresponding estimate for Victoria are identified by colour as follows: above or below.

Estimates may not add to 100 per cent due to a proportion of 'don't know' or 'refused to say' responses, not reported here.

Daily fruit consumption by age and sex

Table 3.7 shows daily fruit consumption in serves per day, by age group and sex. The proportion of adults who consumed 'less than two serves' of fruit daily was significantly lower among 65–74-year-old men and women compared with all Victorian men and women, respectively.

Table 3.7: Proportion (%) of adults consuming fruit (serves per day), by age group and sex, Victoria, 2016

Sex	< 2 serves/day			2+ serves/day		
Age group		95% CI			95% CI	
(years)	%	LL	UL	%	LL	UL
Males						
18–24	**52.4**	45.8	58.9	**45.8**	39.4	52.5
25–34	**67.2**	61.6	72.4	**31.4**	26.4	37.0
35–44	**63.1**	57.3	68.6	**35.5**	30.1	41.3
45–54	**60.2**	54.9	65.3	**37.9**	32.9	43.1
55–64	**59.0**	54.3	63.6	**39.3**	34.8	44.1
65–74	**51.6**	46.6	56.6	**46.6**	41.6	51.6
75–84	**57.3**	49.6	64.7	**41.5**	34.2	49.2
85+	**56.3**	43.4	68.4	**41.7**	29.8	54.8
18+	**59.8**	**57.6**	**62.0**	**38.6**	**36.4**	**40.8**
Females						
18–24	**54.4**	48.0	60.6	**44.0**	37.9	50.4
25–34	**60.8**	55.2	66.1	**38.7**	33.4	44.2
35–44	**57.1**	52.2	61.9	**42.4**	37.6	47.3
45–54	**55.8**	51.4	60.2	**43.2**	38.8	47.7
55–64	**55.4**	50.9	59.7	**44.1**	39.7	48.5
65–74	**45.4**	40.9	50.0	**53.3**	48.7	57.8
75–84	**49.5**	43.2	55.8	**48.7**	42.5	55.0
85+	**43.6**	32.5	55.3	**55.0**	43.3	66.1
18+	**54.8**	**52.8**	**56.8**	**44.3**	**42.3**	**46.2**
People						
18–24	**53.3**	48.7	57.9	**45.0**	40.5	49.6
25–34	**64.3**	60.4	68.1	**34.7**	31.0	38.6
35–44	**59.9**	56.1	63.5	**39.2**	35.6	43.0
45–54	**57.9**	54.5	61.3	**40.7**	37.3	44.1
55–64	**57.1**	53.8	60.2	**41.8**	38.7	45.1
65–74	**48.4**	45.1	51.8	**50.0**	46.7	53.4
75–84	**52.7**	47.9	57.5	**45.8**	41.0	50.6
85+	**49.6**	41.1	58.1	**48.8**	40.3	57.3
18+	**57.2**	**55.8**	**58.7**	**41.5**	**40.0**	**43.0**

Data are age-specific estimates, except for '18+', which are crude estimates (not age-standardised) for Victoria.

LL/UL 95% CI = lower/upper limit of 95 per cent confidence interval.

Estimates that are (statistically) significantly different from the corresponding estimate for Victoria are identified by colour as follows: above or below.

Estimates may not add to 100 per cent due to a proportion of 'don't know' or 'refused to say' responses, not reported here.

Compliance with the 2013 Australian fruit and vegetable consumption guidelines

Compliance with Australian fruit and vegetable consumption guidelines by geographic location and sex

Table 3.8 shows the proportion of adults who met the 2013 Australian fruit and vegetable consumption guidelines, by departmental region and sex. The proportion of adults who did not comply with both fruit and vegetable consumption guidelines was 54.7 per cent among all Victorian adults. A significantly higher proportion of men did not comply with both guidelines (57.9 per cent) compared with women (51.9 per cent). The proportion of adults who did not meet both fruit and vegetable consumption guidelines was similar across all regions among men, women and adults.

Table 3.8: Proportion (%) of adults complying with fruit and vegetable consumption guidelines,[a] by Department of Health and Human Services region and sex, Victoria, 2016

Region	Met fruit and vegetable consumption guidelines				Met vegetable consumption guidelines only				Met fruit consumption guidelines only				Did not meet fruit and vegetable consumption guidelines			
			95% CI				95% CI			95% CI				95% CI		
	%		LL	UL	%		LL	UL	%	LL	UL		%	LL	UL	
Males																
Northern Metropolitan		**			**1.4**	*	0.6	3.2	**36.3**	31.5	41.4		**59.7**	54.5	64.7	
Southern Metropolitan	**2.8**	*	1.5	5.3	**3.5**	*	2.0	6.1	**36.6**	32.4	41.0		**59.4**	55.0	63.7	
Eastern Metropolitan	**2.5**	*	1.2	4.9	**2.9**	*	1.5	5.5	**42.3**	36.8	47.9		**54.6**	48.9	60.1	
Western Metropolitan		**			**1.2**	*	0.5	2.8	**38.3**	33.2	43.6		**58.6**	53.3	63.8	
All metropolitan regions	**1.7**		1.2	2.6	**2.3**		1.6	3.3	**38.5**	36.1	41.0		**57.8**	55.2	60.3	
Barwon-South Western		**			**1.4**	*	0.5	3.6	**39.6**	31.9	47.9		**57.7**	49.4	65.6	
Gippsland	**0.8**	*	0.3	2.0	**0.8**	*	0.3	2.0	**31.0**	22.8	40.6		**65.1**	55.2	73.8	
Grampians		**			**4.3**	*	1.6	10.9	**37.5**	29.2	46.5		**58.2**	49.8	66.2	
Hume		**			**1.7**	*	0.6	4.3	**41.3**	32.0	51.2		**56.2**	46.1	65.8	
Loddon Mallee		**			**2.9**	*	1.1	7.3	**44.9**	34.8	55.4		**51.6**	41.4	61.7	
All rural regions	**0.9**	*	0.5	1.6	**2.1**		1.3	3.4	**39.3**	34.7	44.0		**57.7**	53.0	62.2	
Victoria	**1.6**		**1.1**	**2.2**	**2.3**		**1.7**	**3.1**	**38.6**	**36.4**	**40.8**		**57.9**	**55.7**	**60.1**	
Females																
Northern Metropolitan	**3.1**		1.9	5.0	**5.4**		3.7	7.7	**47.8**	43.0	52.6		**48.0**	43.3	52.8	
Southern Metropolitan	**4.3**		3.1	6.1	**6.7**		5.1	8.9	**43.1**	39.2	47.2		**51.6**	47.5	55.7	
Eastern Metropolitan	**4.4**		2.9	6.7	**7.5**		5.2	10.7	**42.6**	37.9	47.4		**53.2**	48.4	58.0	
Western Metropolitan	**4.1**		2.7	6.3	**5.4**		3.8	7.7	**42.2**	37.5	47.2		**54.2**	49.3	59.1	
All metropolitan regions	**4.1**		3.3	5.0	**6.3**		5.3	7.4	**43.7**	41.4	46.0		**52.0**	49.7	54.3	
Barwon-South Western	**7.9**		5.3	11.5	**9.9**		7.1	13.6	**50.4**	42.4	58.3		**45.8**	37.9	53.9	
Gippsland	**4.8**		3.0	7.6	**6.3**		4.2	9.3	**46.0**	37.9	54.2		**51.7**	43.5	59.8	
Grampians	**7.3**		4.7	11.2	**7.6**		5.0	11.5	**46.0**	37.0	55.3		**53.1**	43.8	62.1	
Hume	**7.0**		4.3	11.3	**9.6**		6.3	14.2	**38.8**	31.4	46.8		**57.4**	49.4	65.1	
Loddon Mallee	**5.9**		3.7	9.2	**10.8**		6.9	16.5	**41.8**	33.3	50.7		**52.8**	43.8	61.6	
All rural regions	**6.8**		5.5	8.3	**9.1**		7.5	11.1	**44.4**	40.5	48.4		**52.2**	48.2	56.2	
Victoria	**4.8**		**4.1**	**5.6**	**7.1**		**6.2**	**8.1**	**44.0**	**42.0**	**46.0**		**51.9**	**49.9**	**53.9**	
People																
Northern Metropolitan	**2.1**		1.4	3.2	**3.5**		2.5	5.0	**42.1**	38.7	45.6		**53.7**	50.1	57.2	
Southern Metropolitan	**3.7**		2.6	5.1	**5.3**		4.1	6.9	**40.0**	37.1	43.0		**55.3**	52.3	58.3	
Eastern Metropolitan	**3.6**		2.5	5.1	**5.4**		4.0	7.3	**42.5**	38.9	46.2		**53.9**	50.1	57.5	
Western Metropolitan	**2.5**		1.7	3.6	**3.4**		2.4	4.7	**40.6**	37.1	44.3		**56.0**	52.3	59.6	
All metropolitan regions	**3.0**		2.5	3.6	**4.4**		3.8	5.2	**41.2**	39.5	42.9		**54.8**	53.1	56.5	
Barwon-South Western	**4.3**		3.0	6.1	**5.8**		4.3	7.8	**45.8**	39.9	51.9		**51.2**	45.2	57.1	
Gippsland	**2.8**		1.8	4.2	**3.5**		2.4	5.1	**38.8**	32.5	45.4		**58.1**	51.4	64.5	
Grampians	**4.7**		3.0	7.2	**5.8**		3.8	8.8	**41.8**	35.6	48.2		**56.0**	49.7	62.2	
Hume	**3.9**	*	2.3	6.6	**5.7**		3.8	8.6	**38.7**	32.5	45.3		**58.3**	51.6	64.7	
Loddon Mallee	**4.0**		2.5	6.2	**7.4**		4.8	11.4	**43.8**	36.8	51.2		**51.4**	44.1	58.6	
All rural regions	**3.9**		3.2	4.8	**5.7**		4.8	6.8	**42.2**	39.2	45.3		**54.5**	51.5	57.6	
Victoria	**3.3**		**2.8**	**3.8**	**4.8**		**4.3**	**5.4**	**41.4**	**39.9**	**42.9**		**54.7**	**53.3**	**56.2**	

Metropolitan and rural regions are identified by colour as follows: metropolitan / rural.

Data were age-standardised to the 2011 Victorian population.

LL/UL 95% CI = lower/upper limit of 95 per cent confidence interval.

Estimates that are (statistically) significantly different from the corresponding estimate for Victoria are identified by colour as follows: above or below.

Estimates may not add to 100 per cent due to a proportion of 'don't know' or 'refused to say' responses, not reported here.

Relative standard error (RSE) = standard error / point estimate * 100; interpretation below:

* RSE between 25 and 50 per cent; point estimate (%) should be interpreted with caution.

** RSE greater than, or equal to, 50 per cent; point estimate (%) is unreliable, hence not reported.

[a] NHMRC (2013) guidelines.

Table 3.9 shows the proportion of adults who met the 2013 Australian fruit and vegetable consumption guidelines, by departmental division and sex. The proportion of adults who did not meet both fruit and vegetable consumption guidelines was similar across all departmental divisions among men, women and adults.

Table 3.9: Proportion (%) of adults complying with fruit and vegetable consumption guidelines, by Department of Health and Human Services division and sex, Victoria, 2016

	Met fruit and vegetable consumption guidelines			Met vegetable consumption guidelines only			Met fruit consumption guidelines only			Did not meet fruit and vegetable consumption guidelines		
		95% CI			95% CI			95% CI			95% CI	
Division	%	LL	UL	%	LL	UL	%	LL	UL	%	LL	UL
Males												
North	**1.0** *	0.5	2.1	**1.8** *	1.0	3.4	**39.1**	34.5	43.9	**57.0**	52.2	61.6
South	**2.5** *	1.4	4.7	**3.2** *	1.8	5.4	**36.1**	32.3	40.1	**60.0**	55.9	63.9
East	**2.1** *	1.1	4.1	**2.7** *	1.5	4.8	**41.5**	36.6	46.5	**55.4**	50.3	60.4
West	**0.7** *	0.4	1.4	**1.7** *	1.0	2.9	**38.3**	34.4	42.3	**58.5**	54.5	62.5
Victoria	**1.6**	**1.1**	**2.2**	**2.3**	**1.7**	**3.1**	**38.6**	**36.4**	**40.8**	**57.9**	**55.7**	**60.1**
Females												
North	**3.9**	2.8	5.4	**6.9**	5.1	9.1	**46.6**	42.4	50.9	**48.7**	44.5	53.0
South	**4.4**	3.3	5.9	**6.7**	5.2	8.5	**43.5**	39.8	47.2	**51.7**	47.9	55.4
East	**5.0**	3.5	6.9	**7.9**	5.9	10.6	**41.9**	37.8	46.1	**54.1**	49.8	58.3
West	**5.8**	4.5	7.4	**7.1**	5.8	8.8	**44.6**	40.9	48.3	**52.2**	48.5	55.9
Victoria	**4.8**	**4.1**	**5.6**	**7.1**	**6.2**	**8.1**	**44.0**	**42.0**	**46.0**	**51.9**	**49.9**	**53.9**
People												
North	**2.6**	1.9	3.6	**4.6**	3.5	6.0	**42.5**	39.4	45.7	**53.1**	49.9	56.2
South	**3.6**	2.7	4.8	**5.1**	4.0	6.4	**39.9**	37.2	42.6	**55.7**	52.9	58.4
East	**3.6**	2.7	4.9	**5.4**	4.2	7.0	**41.7**	38.5	45.0	**54.7**	51.4	58.0
West	**3.4**	2.7	4.2	**4.5**	3.7	5.5	**42.0**	39.3	44.7	**54.9**	52.1	57.6
Victoria	**3.3**	**2.8**	**3.8**	**4.8**	**4.3**	**5.4**	**41.4**	**39.9**	**42.9**	**54.7**	**53.3**	**56.2**

Data were age-standardised to the 2011 Victorian population.

LL/UL 95% CI = lower/upper limit of 95 per cent confidence interval.

Estimates may not add to 100 per cent due to a proportion of 'don't know' or 'refused to say' responses, not reported here.

Compliance with Australian fruit and vegetable consumption guidelines by age and sex

Table 3.10 and Figure 3.1 show the proportion of adults who met the 2013 Australian guidelines for fruit and vegetable consumption, by age group and sex. The proportion who did not meet both fruit and vegetable consumption guidelines was significantly lower among 65–74-year-old men and women compared with all Victorian men and women, respectively. The proportion who did not meet both fruit and vegetable consumption guidelines was significantly higher among 25–34-year-old adults compared with all Victorian adults.

Table 3.10: Proportion (%) of adults complying with fruit and vegetable consumption guidelines, by age group and sex, Victoria, 2016

Sex	Met fruit and vegetable consumption guidelines			Met vegetable consumption guidelines only			Met fruit consumption guidelines only			Did not meet fruit and vegetable consumption guidelines		
Age group		95% CI			95% CI			95% CI			95% CI	
(years)	%	LL	UL	%	LL	UL	%	LL	UL	%	LL	UL
Males												
18–24	**2.7** *	1.2	6.0	**2.7** *	1.2	6.0	**45.8**	39.4	52.5	**50.6**	44.0	57.1
25–34	**2.1** *	0.9	5.0	**2.7** *	1.3	5.6	**31.4**	26.4	37.0	**64.9**	59.2	70.1
35–44	**			**1.9** *	0.9	4.3	**35.5**	30.1	41.3	**60.7**	54.9	66.3
45–54	**			**			**37.9**	32.9	43.1	**58.9**	53.6	64.0
55–64	**1.4** *	0.7	2.8	**1.5** *	0.8	2.9	**39.3**	34.8	44.1	**57.8**	53.1	62.5
65–74	**2.6** *	1.3	4.9	**3.4** *	2.0	5.8	**46.6**	41.6	51.6	**49.5**	44.6	54.5
75–84	**2.5** *	1.2	5.0	**3.7** *	2.0	6.9	**41.5**	34.2	49.2	**55.4**	47.7	62.8
85+	**			**			**41.7**	29.8	54.8	**52.4**	39.7	64.8
18+	**1.6**	**1.1**	**2.3**	**2.3**	**1.7**	**3.1**	**38.6**	**36.4**	**40.8**	**57.9**	**55.7**	**60.1**
Females												
18–24	**			**1.8** *	0.7	4.3	**44.0**	37.9	50.4	**52.6**	46.3	58.9
25–34	**3.3** *	1.9	5.7	**4.7**	2.9	7.4	**38.7**	33.4	44.2	**58.7**	53.1	64.1
35–44	**5.0**	3.5	7.3	**7.2**	5.1	10.0	**42.4**	37.6	47.3	**54.1**	49.2	59.0
45–54	**5.3**	3.8	7.3	**8.3**	6.4	10.8	**43.2**	38.8	47.7	**52.1**	47.6	56.5
55–64	**5.3**	3.9	7.1	**10.2**	7.7	13.3	**44.1**	39.7	48.5	**50.1**	45.7	54.5
65–74	**9.7**	7.4	12.8	**12.1**	9.4	15.3	**53.3**	48.7	57.8	**41.8**	37.4	46.4
75–84	**5.5**	3.7	8.2	**7.8**	5.5	10.9	**48.7**	42.5	55.0	**46.1**	39.8	52.5
85+	**			**4.5** *	1.8	10.8	**55.0**	43.3	66.1	**41.3**	30.4	53.2
18+	**5.0**	**4.3**	**5.8**	**7.4**	**6.5**	**8.3**	**44.3**	**42.3**	**46.2**	**51.6**	**49.6**	**53.5**
People												
18–24	**2.1** *	1.1	4.0	**2.3** *	1.2	4.2	**45.0**	40.5	49.6	**51.6**	47.0	56.1
25–34	**2.7** *	1.6	4.3	**3.6**	2.4	5.4	**34.7**	31.0	38.6	**62.1**	58.1	65.9
35–44	**2.9**	2.0	4.2	**4.8**	3.5	6.5	**39.2**	35.6	43.0	**57.2**	53.4	60.9
45–54	**3.0**	2.1	4.1	**4.8**	3.7	6.3	**40.7**	37.3	44.1	**55.3**	51.9	58.7
55–64	**3.5**	2.6	4.6	**6.1**	4.7	7.9	**41.8**	38.7	45.1	**53.7**	50.5	56.9
65–74	**6.3**	4.8	8.1	**7.9**	6.2	9.9	**50.0**	46.7	53.4	**45.5**	42.2	48.9
75–84	**4.3**	3.0	6.0	**6.1**	4.5	8.3	**45.8**	41.0	50.6	**49.9**	45.1	54.7
85+	**			**4.2** *	1.7	9.8	**48.8**	40.3	57.3	**46.5**	38.1	55.1
18+	**3.3**	**2.9**	**3.8**	**4.9**	**4.3**	**5.5**	**41.5**	**40.0**	**43.0**	**54.6**	**53.2**	**56.1**

Data are age-specific estimates, except for '18+', which are crude estimates (not age-standardised) for Victoria.

LL/UL 95% CI = lower/upper limit of 95 per cent confidence interval.

Estimates that are (statistically) significantly different from the corresponding estimate for Victoria are identified by colour as follows: above or below.

Estimates may not add to 100 per cent due to a proportion of 'don't know' or 'refused to say' responses, not reported here.

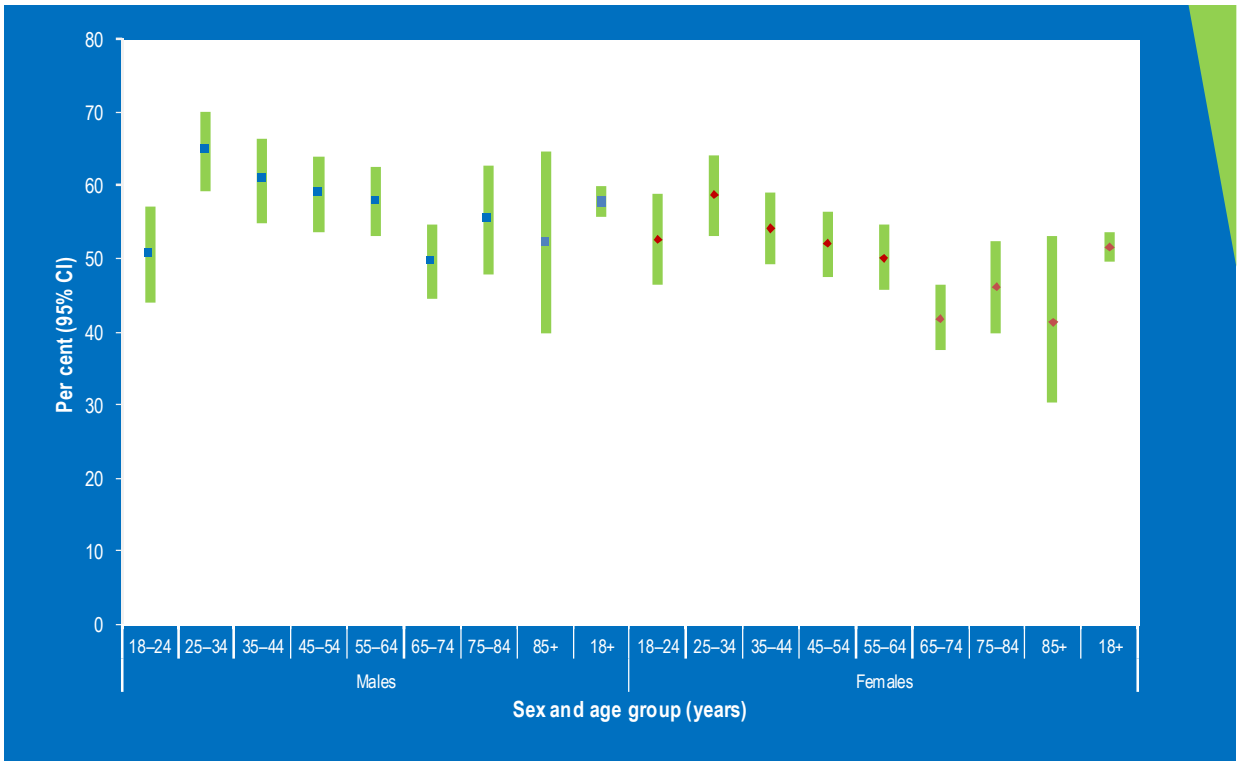
Relative standard error (RSE) = standard error/point estimate * 100; interpretation below:

* Estimate has a RSE between 25 and 50 per cent and should be interpreted with caution.

** Estimate has a RSE greater than 50 per cent and is not reported as it is unreliable for general use.

[a] NHMRC (2013) guidelines.

Figure 3.1: Proportion (%) of adults who did not meet both fruit and vegetable consumption guidelines,[a] by age group and sex, Victoria, 2016



Data are age group specific estimates, except for '18+', which are crude estimates (not age-standardised) for Victoria.

95% CI = 95 per cent confidence interval.

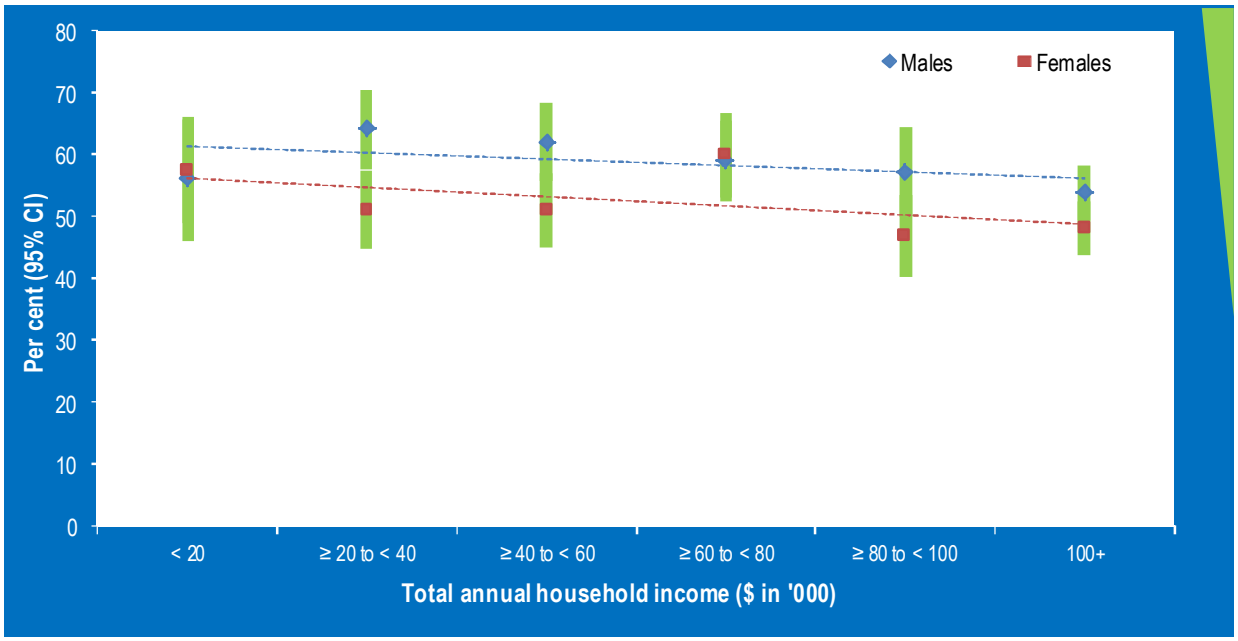
[a] NHMRC (2013) guidelines.

Compliance with Australian fruit and vegetable consumption guidelines by socioeconomic status

The relationship was investigated between SES and the proportion of males and females who did not meet both fruit and vegetable consumption guidelines, using total annual household income as a measure of SES (Figure 3.2). Total annual household income includes all sources of pre-tax income. The proportion of men and women who did not meet both fruit and vegetable consumption guidelines did not change with total annual household income.

.

Figure 3.2: Proportion (%) of adults who did not meet both fruit and vegetable consumption guidelines,[a] by total annual household income and sex, Victoria, 2016



Data were age-standardised to the 2011 Victorian population.

95% CI = 95 per cent confidence interval.

[a] NHMRC (2013) guidelines.

Compliance with Australian fruit and vegetable consumption guidelines by selected socioeconomic determinants

Table 3.11 shows the proportion of men who met the 2013 Australian fruit and vegetable consumption guidelines according to selected socioeconomic determinants. The proportion of men who did not comply with both fruit and vegetable consumption guidelines did not differ by selected socioeconomic determinants.

Table 3.11: Proportion (%) of men complying with fruit and vegetable consumption guidelines,[a] by selected socioeconomic determinants, Victoria, 2016

	Met fruit and vegetable consumption guidelines			Met vegetable consumption guidelines only			Met fruit consumption guidelines only			Did not meet fruit and vegetable consumption guidelines		
		95% CI			95% CI			95% CI			95% CI	
	%	LL	UL	%	LL	UL	%	LL	UL	%	LL	UL
All males	**1.6**	**1.1**	**2.2**	**2.3**	**1.7**	**3.1**	**38.6**	**36.4**	**40.8**	**57.9**	**55.7**	**60.1**
Country of birth												
Australia	**2.0**	1.3	3.0	**2.8**	2.0	3.9	**37.5**	34.9	40.2	**58.7**	56.0	61.4
Overseas	**0.8** *	0.4	1.7	**1.5** *	0.8	2.6	**40.7**	37.0	44.5	**56.2**	52.4	59.9
Language spoken at home												
English	**1.8**	1.2	2.8	**2.6**	1.9	3.7	**37.2**	34.7	39.8	**59.1**	56.5	61.7
Language other than English	**0.9** *	0.4	1.8	**1.4** *	0.7	2.5	**42.8**	38.7	47.0	**54.1**	49.9	58.3
Education level												
Did not complete high school	**			**2.1** *	0.8	5.1	**30.0**	24.7	35.9	**63.3**	56.8	69.3
Completed high school, or TAFE, or trade certificate, or diploma	**1.4** *	0.8	2.5	**2.3**	1.5	3.6	**39.3**	36.3	42.3	**57.3**	54.2	60.3
University, or some other tertiary institute degree	**2.1** *	1.2	3.4	**2.6**	1.7	4.0	**41.0**	37.6	44.5	**56.5**	53.0	59.9
Employment status												
Employed	**2.2** *	1.2	4.2	**2.8** *	1.6	4.7	**40.0**	36.9	43.3	**57.3**	54.0	60.5
Unemployed	**0.0**	.	.	**			**23.6**	17.2	31.4	**58.1**	50.5	65.4
Not in labour force	**0.8** *	0.4	1.4	**1.1**	0.7	1.7	**38.9**	33.0	45.2	**58.6**	52.3	64.6
Total annual household income												
< $40,000	**0.9** *	0.4	1.8	**1.4** *	0.8	2.6	**34.0**	28.9	39.4	**61.2**	55.6	66.5
$40,000 to < $100,000	**1.4** *	0.7	3.0	**1.9** *	1.0	3.5	**36.9**	33.2	40.8	**59.6**	55.7	63.4
≥ $100,000	**2.3** *	1.4	3.9	**3.1**	2.0	4.8	**44.7**	40.1	49.4	**53.8**	49.1	58.4

Data were age-standardised to the 2011 Victorian population.

LL/UL 95% CI = lower/upper limit of 95 per cent confidence interval.

Estimates that are (statistically) significantly different from the corresponding estimate for Victoria are identified by colour as follows: above or below.

Estimates may not add to 100 per cent due to a proportion of 'don't know' or 'refused to say' responses, not reported here.

Relative standard error (RSE) = standard error / point estimate * 100; interpretation below:

* RSE between 25 and 50 per cent; point estimate (%) should be interpreted with caution.

** RSE greater than, or equal to, 50 per cent; point estimate (%) is unreliable, hence not reported.

[a] NHMRC (2013) guidelines.

Table 3.12 shows the proportion of women who met the 2013 Australian fruit and vegetable consumption guidelines according to selected socioeconomic determinants. A significantly lower proportion of women who completed university or some other tertiary institution degree did not comply with both guidelines compared with all Victorian women.

Table 3.12: Proportion (%) of women complying with fruit and vegetable consumption guidelines,[a] by selected socioeconomic determinants, Victoria, 2016

	Met fruit and vegetable consumption guidelines			Met vegetable consumption guidelines only			Met fruit consumption guidelines only			Did not meet fruit and vegetable consumption guidelines		
		95% CI			95% CI			95% CI			95% CI	
	%	LL	UL	%	LL	UL	%	LL	UL	%	LL	UL
All females	**4.8**	**4.1**	**5.6**	**7.1**	**6.2**	**8.1**	**44.0**	**42.0**	**46.0**	**51.9**	**49.9**	**53.9**
Country of birth												
Australia	**5.2**	4.4	6.2	**7.9**	6.8	9.0	**43.8**	41.4	46.1	**52.0**	49.6	54.4
Overseas	**3.9**	2.8	5.3	**5.5**	4.0	7.4	**43.9**	40.3	47.5	**52.2**	48.5	55.8
Language spoken at home												
English	**5.6**	4.8	6.6	**8.3**	7.2	9.5	**43.1**	40.8	45.4	**52.7**	50.3	55.0
Language other than English	**2.4**	1.4	3.8	**3.3**	2.2	4.9	**47.2**	43.1	51.3	**49.4**	45.3	53.5
Education level												
Did not complete high school	**3.5**	2.2	5.4	**4.7**	3.2	6.7	**37.4**	31.4	43.9	**59.3**	52.8	65.4
Completed high school, or TAFE, or trade certificate, or diploma	**4.5**	3.6	5.7	**6.9**	5.6	8.5	**41.7**	38.8	44.7	**54.1**	51.1	57.1
University, or some other tertiary institute degree	**7.2**	5.8	9.0	**9.8**	8.1	11.7	**54.2**	51.1	57.2	**42.3**	39.4	45.4
Employment status												
Employed	**6.1**	4.4	8.4	**8.4**	6.5	10.7	**48.6**	45.1	52.1	**47.6**	44.1	51.1
Unemployed	**			**			**30.9**	22.6	40.6	**63.2**	53.6	71.8
Not in labour force	**4.5**	3.4	6.0	**6.8**	5.2	8.9	**41.6**	37.8	45.5	**54.4**	50.5	58.3
Total annual household income												
< $40,000	**2.8**	1.8	4.4	**4.8**	3.2	7.0	**41.5**	36.8	46.4	**53.7**	48.7	58.6
$40,000 to < $100,000	**4.7**	3.6	6.1	**7.7**	6.1	9.8	**43.4**	39.7	47.2	**52.7**	48.9	56.4
≥ $100,000	**8.7**	6.2	12.0	**11.4**	8.7	14.8	**48.4**	44.1	52.8	**48.1**	43.8	52.4

Data were age-standardised to the 2011 Victorian population.

LL/UL 95% CI = lower/upper limit of 95 per cent confidence interval.

Estimates that are (statistically) significantly different from the corresponding estimate for Victoria are identified by colour as follows: above or below.

Estimates may not add to 100 per cent due to a proportion of 'don't know' or 'refused to say' responses, not reported here.

Relative standard error (RSE) = standard error / point estimate * 100; interpretation below:

** RSE greater than, or equal to, 50 per cent; point estimate (%) is unreliable, hence not reported.

[a] NHMRC (2013) guidelines.

Compliance with Australian fruit and vegetable consumption guidelines by modifiable risk factors and morbidity status

Table 3.13 shows the proportion of men who met the 2013 Australian fruit and vegetable consumption guidelines according to modifiable risk factors and morbidity status. When compared with all Victorian men who did not meet the 2013 Australian fruit and vegetable consumption guidelines, a significantly higher proportion of men were reported with the following characteristics:

- high or very high levels of psychological distress
- sedentary lifestyle
- current smoker
- fair or poor health.

Table 3.13: Proportion (%) of men complying with fruit and vegetable consumption guidelines,[a] by selected modifiable risk factors and morbidity status, Victoria, 2016

	Met fruit and vegetable consumption guidelines			Met vegetable consumption guidelines only[b]			Met fruit consumption guidelines only[b]			Did not meet fruit and vegetable consumption guidelines		
		95% CI			95% CI			95% CI				
	%	LL	UL	%	LL	UL	%	LL	UL	%	LL	UL
All males	**1.6**	**1.1**	**2.2**	**2.3**	**1.7**	**3.1**	**38.6**	**36.4**	**40.8**	**57.9**	**55.7**	**60.1**
Psychological distress[c]												
Low (K10 score < 16)	**1.6**	1.0	2.4	**2.2**	1.6	3.1	**43.0**	40.1	46.0	**54.8**	51.8	57.7
Moderate (K10 score 16–21)	**1.9** *	0.8	4.1	**3.0** *	1.6	5.6	**35.7**	31.6	40.0	**60.1**	55.6	64.5
High / very high (K10 score 22+)	**			**1.6** *	0.7	3.5	**27.7**	22.8	33.2	**66.6**	60.8	72.0
Physical activity[d]												
Sedentary	**			**			**16.5**	10.6	24.9	**76.4**	66.6	83.9
Insufficient time (< 150 min) and/or sessions (< 2)	**0.7** *	0.4	1.2	**1.2** *	0.7	2.0	**32.6**	29.4	35.9	**63.5**	60.1	66.8
Sufficient time (≥ 150 min) and sessions (≥ 2)	**2.2**	1.4	3.4	**2.9**	2.0	4.2	**44.0**	40.8	47.2	**53.7**	50.5	56.8
Smoking status												
Current smoker	**1.7** *	0.8	3.9	**2.9** *	1.6	5.2	**24.3**	19.9	29.3	**68.5**	63.2	73.4
Ex-smoker	**0.7** *	0.3	1.5	**1.3** *	0.7	2.3	**42.8**	37.7	48.1	**54.3**	49.0	59.4
Non-smoker	**1.9**	1.2	2.9	**2.4**	1.6	3.6	**41.8**	38.8	44.9	**56.0**	53.0	59.0
Lifetime risk of alcohol-related harm[e]												
Abstainer / no longer drinks alcohol	**1.3** *	0.7	2.6	**1.7** *	0.9	3.0	**42.2**	37.0	47.7	**53.7**	48.3	59.0
Reduced risk	**			**0.9** *	0.3	2.3	**39.0**	33.2	45.1	**58.2**	51.9	64.2
Increased risk	**1.8**	1.2	2.7	**2.8**	2.0	3.9	**37.2**	34.6	39.8	**59.7**	57.1	62.3
Self-reported health												
Excellent / very good	**2.6**	1.6	4.0	**3.1**	2.1	4.6	**44.8**	41.5	48.2	**52.1**	48.7	55.4
Good	**1.0** *	0.6	1.9	**1.6** *	1.0	2.6	**36.7**	33.4	40.2	**60.1**	56.6	63.6
Fair/poor	**			**1.6** *	0.7	3.5	**27.6**	23.3	32.4	**66.9**	61.8	71.6
Body weight status based on BMI[f]												
Underweight (BMI < 18.5 kg/m^2)	**			**			**25.7** *	12.8	45.0	**62.9**	45.4	77.5
Normal range (18.5 ≥ BMI < 25 kg/m^2)	**2.0** *	1.2	3.4	**2.8**	1.8	4.4	**42.9**	39.2	46.7	**54.5**	50.7	58.2
Pre-obese (25 ≥ BMI < 30 kg/m^2)	**2.1** *	1.2	3.8	**2.5** *	1.5	4.2	**38.8**	35.2	42.5	**58.4**	54.6	62.0
Obese (BMI ≥ 30 kg/m^2)	**			**1.6** *	0.7	3.4	**32.2**	27.3	37.5	**63.0**	57.6	68.2
Blood pressure status												
Doctor diagnosed hypertension	**0.9** *	0.5	1.7	**1.2** *	0.7	2.0	**35.6**	30.0	41.6	**61.8**	55.7	67.5
Normal range	**1.5**	1.0	2.3	**2.3**	1.6	3.2	**39.1**	36.6	41.7	**57.5**	54.9	60.1
Morbidity status												
No chronic disease	**1.9**	1.2	3.0	**2.1**	1.4	3.3	**39.7**	36.7	42.7	**57.0**	53.9	60.0
One chronic disease	**1.2** *	0.5	2.7	**2.4** *	1.4	4.3	**35.6**	31.5	39.8	**60.4**	56.1	64.5
Two, or more chronic diseases	**0.5** *	0.3	0.9	**2.1** *	0.9	4.8	**37.8**	30.1	46.2	**58.2**	49.7	66.2

Data were age-standardised to the 2011 Victorian population.

LL/UL 95% CI = lower/upper limit of 95 per cent confidence interval.

Estimates that are (statistically) significantly different from the corresponding estimate for Victoria are identified by colour as follows: above or below.

Estimates may not add to 100 per cent due to a proportion of 'don't know' or 'refused to say' responses, not reported here.

Relative standard error (RSE) = standard error / point estimate * 100; interpretation below:

* RSE between 25 and 50 per cent; point estimate (%) should be interpreted with caution.

** RSE greater than, or equal to, 50 per cent; point estimate (%) is unreliable, hence not reported.

[a] NHMRC (2013) guidelines.

[b] Includes those meeting both guidelines.

[c] Based on the Kessler 10 scale for psychological distress.

[d] DoH (2014) guidelines.

[e] NHMRC (2009) guidelines.

[f] Body mass index (BMI) = Weight (kg) / Height (m^2).

Table 3.14 shows the proportion of women who met the 2013 Australian fruit and vegetable consumption guidelines according to modifiable risk factors and morbidity status. When compared with all Victorian women who did not meet the 2013 Australian fruit and vegetable consumption guidelines, a significantly higher proportion of women were reported with the following characteristics:

- high or very high levels of psychological distress
- current smoker
- in fair or poor health
- obese.

Table 3.14: Proportion (%) of women complying with fruit and vegetable consumption guidelines,[a] by selected modifiable risk factors and morbidity status, Victoria, 2016

	Met fruit and vegetable consumption guidelines			Met vegetable consumption guidelines only[b]			Met fruit consumption guidelines only[b]			Did not meet fruit and vegetable consumption guidelines		
		95% CI			95% CI			95% CI			95% CI	
	%	LL	UL	%	LL	UL	%	LL	UL	%	LL	UL
All females	**4.8**	**4.1**	**5.6**	**7.1**	**6.2**	**8.1**	**44.0**	**42.0**	**46.0**	**51.9**	**49.9**	**53.9**
Psychological distress[c]												
Low (K10 score < 16)	**5.6**	4.6	6.7	**8.1**	6.9	9.5	**46.2**	43.4	49.0	**50.0**	47.2	52.8
Moderate (K10 score 16–21)	**4.1**	3.0	5.7	**5.8**	4.4	7.6	**43.3**	39.4	47.3	**52.9**	48.9	56.9
High / very high (K10 score 22+)	**2.7** *	1.5	4.9	**5.2**	3.2	8.4	**37.2**	32.5	42.2	**57.8**	52.7	62.8
Physical activity[d]												
Sedentary	**			**			**19.8**	13.7	27.6	**79.6**	71.7	85.7
Insufficient time (< 150 min) and/or sessions (< 2)	**3.4**	2.6	4.6	**5.0**	3.9	6.3	**40.5**	37.6	43.4	**56.2**	53.2	59.1
Sufficient time (≥ 150 min) and sessions (≥ 2)	**6.7**	5.5	8.1	**10.0**	8.5	11.8	**49.2**	46.2	52.1	**46.2**	43.3	49.2
Smoking status												
Current smoker	**2.1** *	1.1	4.0	**3.2**	2.0	5.1	**28.9**	24.2	34.1	**67.9**	62.6	72.8
Ex-smoker	**5.8**	4.1	8.0	**7.9**	5.9	10.4	**42.2**	37.1	47.4	**54.4**	49.1	59.6
Non-smoker	**5.1**	4.2	6.2	**7.7**	6.6	9.0	**47.4**	44.9	49.9	**48.0**	45.5	50.5
Lifetime risk of alcohol-related harm[e]												
Abstainer / no longer drinks alcohol	**3.4**	2.4	4.7	**5.0**	3.6	7.0	**40.3**	36.4	44.3	**54.8**	50.7	58.9
Reduced risk	**6.5**	4.2	9.9	**8.2**	5.8	11.6	**48.7**	43.8	53.7	**48.1**	43.1	53.1
Increased risk	**5.1**	4.1	6.2	**8.2**	6.9	9.7	**43.9**	41.2	46.8	**51.9**	49.0	54.7
Self-reported health												
Excellent / very good	**6.1**	5.0	7.4	**9.3**	7.9	11.0	**45.7**	42.7	48.6	**49.6**	46.6	52.5
Good	**4.2**	3.2	5.4	**5.3**	4.2	6.6	**45.3**	41.9	48.7	**52.4**	49.0	55.8
Fair/poor	**3.2**	2.0	5.1	**5.2**	3.6	7.6	**36.6**	32.2	41.3	**57.1**	52.2	61.8
Body weight status based on BMI[f]												
Underweight (BMI < 18.5 kg/m^2)	**			**			**42.8**	32.8	53.5	**50.9**	40.3	61.4
Normal range (18.5 ≥ BMI < 25 kg/m^2)	**5.1**	4.1	6.3	**7.3**	6.1	8.8	**46.9**	43.9	49.9	**49.5**	46.6	52.5
Pre-obese (25 ≥ BMI < 30 kg/m^2)	**5.2**	3.8	7.0	**8.2**	6.3	10.6	**46.4**	41.8	51.2	**49.2**	44.5	54.0
Obese (BMI ≥ 30 kg/m^2)	**4.9** *	2.8	8.4	**6.7**	4.3	10.3	**40.3**	35.2	45.6	**55.6**	50.3	60.8
Blood pressure status (including pregnancy induced hypertension)												
Doctor diagnosed hypertension	**4.9**	3.0	7.7	**7.2**	5.1	10.2	**40.6**	35.7	45.8	**55.5**	50.3	60.5
Normal range	**4.8**	4.0	5.7	**7.0**	6.0	8.2	**44.4**	42.1	46.8	**51.4**	49.0	53.8
Morbidity status												
No chronic disease	**5.1**	4.1	6.4	**7.6**	6.2	9.3	**45.1**	42.0	48.2	**50.6**	47.4	53.7
One chronic disease	**5.2**	4.1	6.7	**7.8**	6.2	9.8	**42.6**	39.1	46.3	**53.0**	49.4	56.7
Two, or more chronic diseases	**4.6** *	2.8	7.7	**6.5**	4.4	9.5	**43.0**	38.0	48.2	**53.8**	48.6	58.9

Data were age-standardised to the 2011 Victorian population.

LL/UL 95% CI = lower/upper limit of 95 per cent confidence interval.

Estimates that are (statistically) significantly different from the corresponding estimate for Victoria are identified by colour as follows: above or below.

Estimates may not add to 100 per cent due to a proportion of 'don't know' or 'refused to say' responses, not reported here.

Relative standard error (RSE) = standard error / point estimate * 100; interpretation below:

* RSE between 25 and 50 per cent; point estimate (%) should be interpreted with caution.

** RSE greater than, or equal to, 50 per cent; point estimate (%) is unreliable, hence not reported.

[a] NHMRC (2013) guidelines.

[b] Includes those meeting both guidelines.

[c] Based on the Kessler 10 scale for psychological distress.

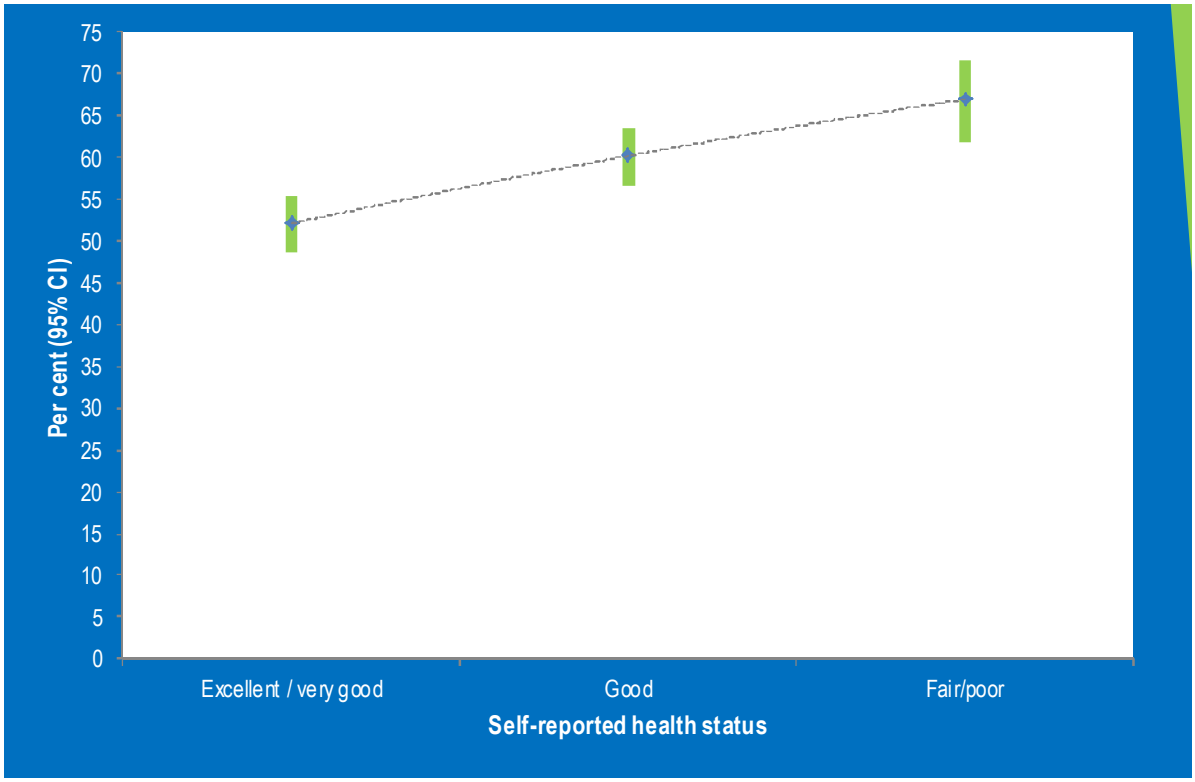
[d] DoH (2014) guidelines.

[e] NHMRC (2009) guidelines.

[f] Body mass index (BMI) = Weight (kg) / Height (m^2).

Figure 3.3 and Figure 3.4 show the relationship between the proportion of men and women respectively who did not meet both fruit and vegetable consumption guidelines and their self-reported health status. The proportion of the adult Victorian population who did not meet both fruit and vegetable consumption guidelines was highest among men and women with fair or poor health status.

Figure 3.3: Proportion (%) of men who did not meet both fruit and vegetable consumption guidelines,[a] by self-reported health status, Victoria, 2016

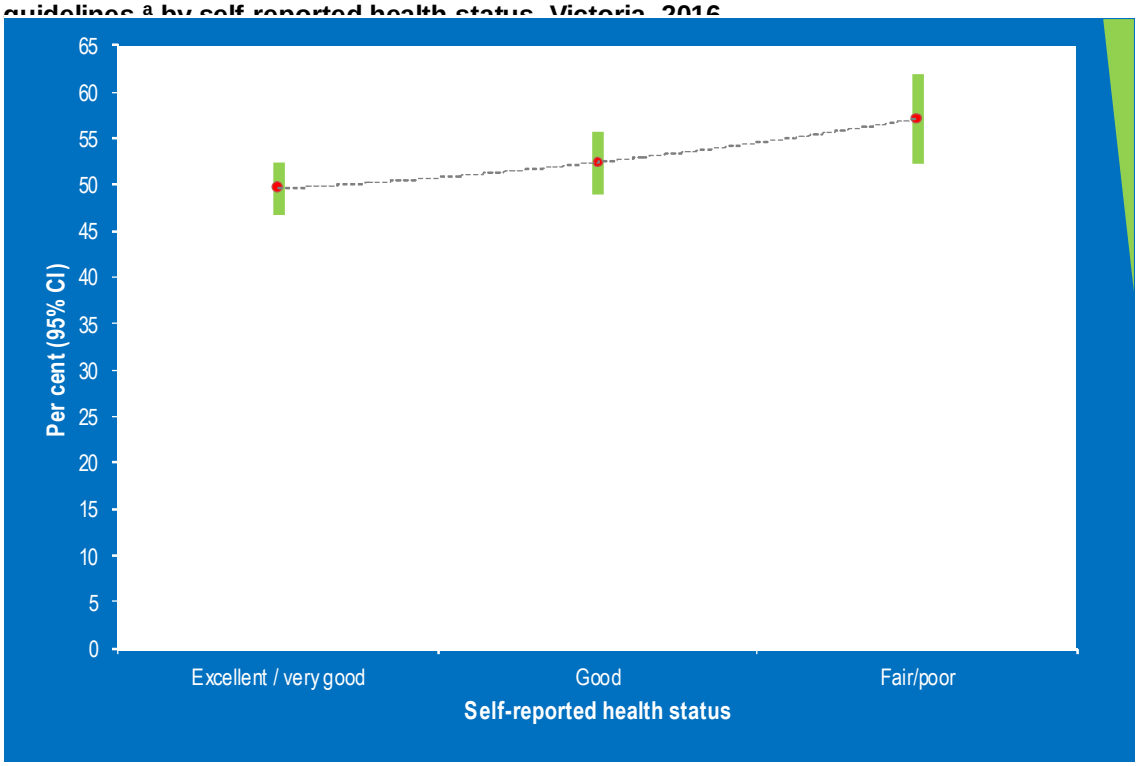


Data are age-adjusted to the 2011 population of Victoria.

95% CI = 95 per cent confidence interval.

[a] NHMRC (2013) guidelines.

Figure 3.4: Proportion (%) of women who did not meet both fruit and vegetable consumption guidelines [a] by self-reported health status, Victoria, 2016



Data are age-adjusted to the 2011 population of Victoria.

95% CI = 95 per cent confidence interval.

[a] NHMRC (2013) guidelines.

Comparison with previous survey

The trend over time of the age-adjusted prevalence of compliance with fruit and vegetable consumption guidelines was investigated as part of the Victorian Population Health Survey (Table 3.15, Figure 3.5 and Figure 3.6). This is the first time that trend over time data has been reported after the introduction of dual-frame sampling in 2015. There was no statistically significant difference between 2015 and 2016 in the proportions who did not meet both fruit and vegetable consumption guidelines.

Table 3.15: Proportion (%) of women complying with fruit and vegetable consumption guidelines,[a] by survey year and sex, Victoria, 2015–2016

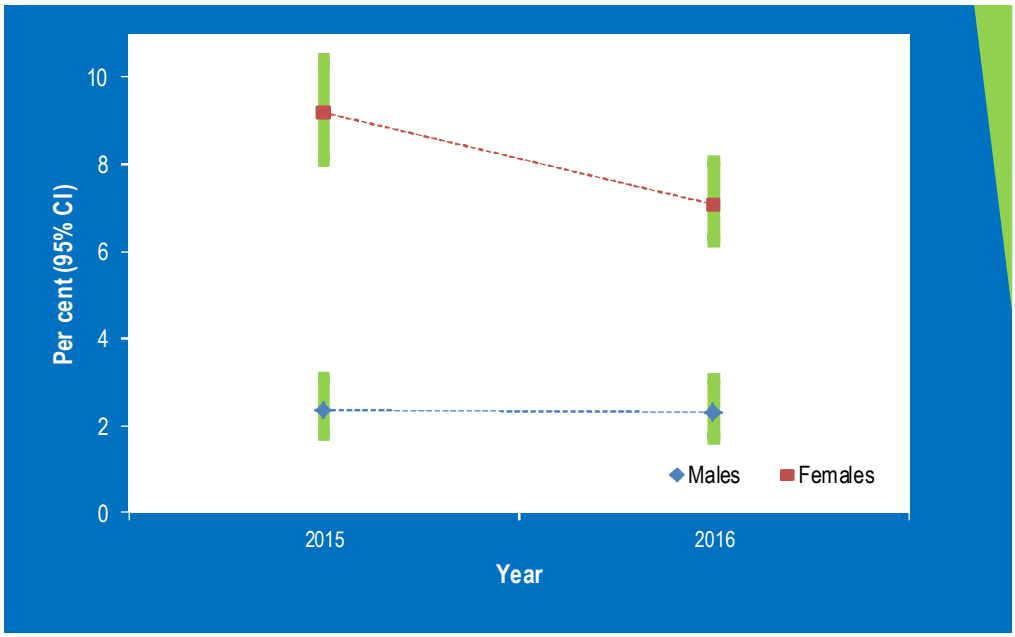
	Met both fruit and vegetable consumption guidelines			Met vegetable consumption guidelines only [b]			Met fruit consumption guidelines only [b]			Did not meet both fruit and vegetable consumption guidelines		
	%	95% CI		%	95% CI		%	95% CI		%	95% CI	
		LL	UL		LL	UL		LL	UL		LL	UL
Males												
2015	**1.7**	1.2	2.3	**2.3**	1.8	3.1	**39.7**	37.4	42.0	**55.5**	53.2	57.8
2016	**1.6**	1.1	2.2	**2.3**	1.7	3.1	**38.6**	36.4	40.8	**57.9**	55.7	60.1
Females												
2015	**6.5**	5.5	7.6	**9.2**	8.1	10.4	**46.9**	44.7	49.1	**48.1**	45.9	50.3
2016	**4.8**	4.1	5.6	**7.1**	6.2	8.1	**44.0**	42.0	46.0	**51.9**	49.9	53.9
Persons												
2015	**4.1**	3.6	4.7	**5.8**	5.2	6.6	**43.3**	**41.7**	**44.9**	**51.8**	50.2	53.4
2016	**3.3**	2.8	3.8	**4.8**	4.3	5.4	**41.4**	39.9	42.9	**54.7**	53.3	56.2

[a] NHMRC (2013) guidelines.

[b] Includes those meeting both guidelines.

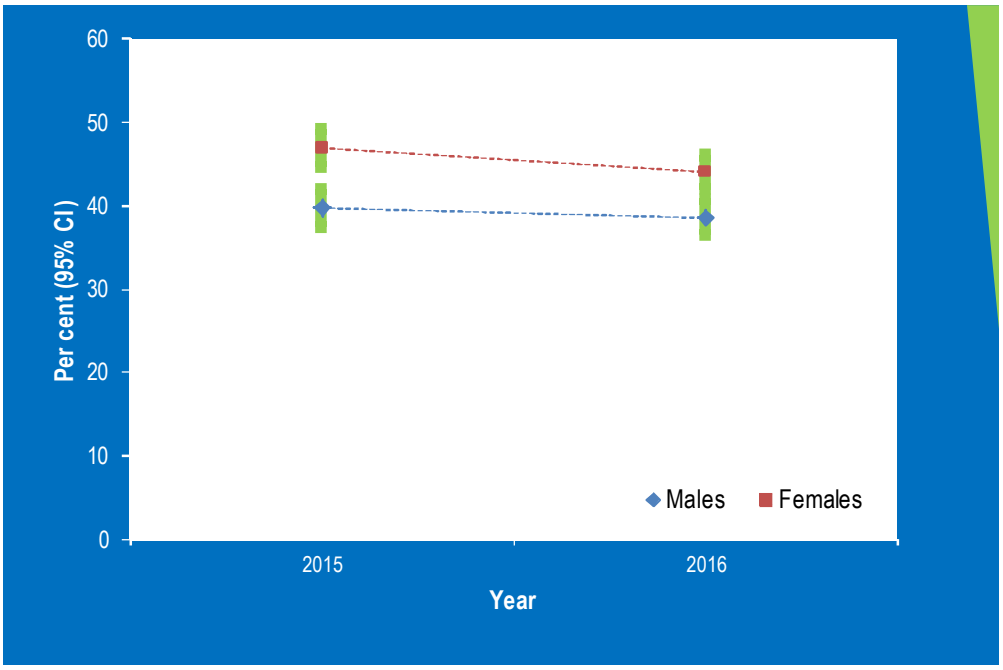
Data were age-standardised to the 2011 Victorian population.

Figure 3.5: Compliance with vegetable consumption guidelines[a], by survey year and sex, Victoria, 2015–2016



[a] NHMRC (2013) guidelines.
Data were age-standardised to the 2011 Victorian population.
LL/UL 95% CI = lower/upper limit of 95 per cent confidence interval.

Figure 3.6: Compliance with fruit consumption guidelines[a], by survey year and sex, Victoria, 2015–2016



[a] NHMRC (2013) guidelines.
Data were age-standardised to the 2011 Victorian population.
LL/UL 95% CI = lower/upper limit of 95 per cent confidence interval.

4. Body weight status

Key findings

Pre-obesity

30.6%
of Victorian adults were categorised as pre-obese according to their BMI

38.2%
of men were categorised as pre-obese

23.3%
of women were categorised as pre-obese

There was a statistically significantly higher proportion of men who were pre-obese compared with their female counterparts

Obesity

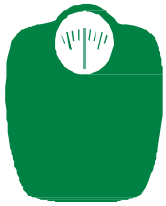
2016

19.1%
of Victorian adults were categorised as obese according to their BMI

20.6%
of men were categorised as obese

17.7%
of women were categorised as obese

A statistically significantly higher proportion of women who lived in rural Victoria were obese compared with their metropolitan counterparts



Introduction

Obesity is an excess accumulation of body fat and is a significant risk factor for hypertension, cardiovascular disease, type 2 diabetes, gallbladder disease, musculoskeletal disorders (especially osteoarthritis), some cancers (endometrial, breast and bowel), psychosocial disorders and breathing difficulties (WHO 2013). Ultimately, being obese can lead to disability and/or premature death. The Australian Burden of Disease Study (ABDS) 2011 modelled the impact of overweight and obesity and showed it is one of the leading risk factors for ill health and death (AIHW 2016). The enhanced analysis indicates that seven per cent of the total health burden in Australia in 2011 was due to overweight and obesity. Males experienced a greater proportion of burden from overweight and obesity and 53 per cent of diabetes burden and 45 per cent of osteoarthritis burden were due to overweight and obesity (AIHW 2017).

Measurement of excess body fat as a risk factor for chronic disease is not simple because both the amount of overall fat and its anatomical distribution contribute to chronic disease development and progression. At the population level, a common indicator of excess weight (approximating body fat) is the body mass index (BMI). However, BMI is a poor indicator of the percentage of body fat because it cannot distinguish between body fat and muscle. Therefore an individual who is very muscular with low body fat could have a high BMI estimate and be classified as obese. Nevertheless self-reported data still has a place in monitoring the health of a population because such data are relatively inexpensive and easy to collect, and can be used to track changes in obesity levels over time.

The BMI provides a measure of body weight in relation to height that can be used to estimate levels of unhealthy weight in a population. It is calculated as weight in kilograms divided by height in metres squared: BMI = weight (kg)/ height (m^2).

Table 4.1 shows the World Health Organization classifications for adult body weight status based on BMI scores. According to the BMI weight categories, anyone with a BMI between 25 and 29.9 is classified as overweight (pre-obese) and anyone with a BMI over 30 is classified as obese.

Table 4.1: World Health Organization classifications for adult body weight

BMI score	Weight category
<18.5	Underweight
18.5–24.9	Normal
25.0–29.9	Overweight
30.0–34.9	Obese class I
35–39.9	Obese class II
≥ 40.0	Obese class III

Sources: WHO 2000,2013

It is important to note that studies comparing self-reported height and weight with actual physical measurements have shown that people tend to underestimate their weight and overestimate their height, resulting in an overall underestimation of their BMI (Elgar & Stewart 2008). Therefore estimates of the

prevalence of pre-obesity (overweight) and obesity in a population that are based on self-reported data are likely to be an underestimate.

Body weight status

Body weight status by geographic location and sex

Table 4.2 shows the body weight status of Victoria's adult population by BMI category, departmental region and sex. In 2016, 38.2 per cent of Victorian men and 23.3 per cent of women were pre-obese, while 20.6 per cent of men and 17.7 per cent of women were obese. There was a significantly higher proportion of men who were pre-obese compared with their female counterparts. There were no significant differences in the proportion of pre-obese men and women whether they lived in rural or metropolitan Victoria. A significantly higher proportion of women who lived in rural Victoria were obese compared with their metropolitan counterparts. A significantly higher proportion of women who lived in Grampians Region were obese compared with all Victorian women.

Table 4.2: Proportion (%) of adults by BMI category,[a] Department of Health and Human Services region and sex, Victoria, 2016

Region	Underweight (BMI < 18.5)			Normal range (18.5 ≤ BMI < 25.0)			Pre-obese (25.0 ≤ BMI < 30.0)			Obese (BMI ≥ 30.0)		
		95% CI			95% CI			95% CI			95% CI	
	%	LL	UL	%	LL	UL	%	LL	UL	%	LL	UL
Males												
Northern Metropolitan	**2.2** *	1.0	4.5	**32.2**	27.6	37.2	**34.7**	29.9	39.9	**23.7**	19.5	28.5
Southern Metropolitan	**			**30.7**	26.9	34.9	**40.0**	35.7	44.4	**21.3**	17.9	25.2
Eastern Metropolitan	**			**39.2**	33.8	44.8	**36.6**	31.4	42.1	**17.6**	13.6	22.5
Western Metropolitan	**1.2** *	0.4	3.0	**32.4**	27.7	37.4	**38.1**	33.2	43.2	**22.9**	18.5	28.0
All metropolitan regions	**1.0** *	0.6	1.7	**33.6**	31.3	36.1	**37.6**	35.2	40.1	**21.1**	19.0	23.3
Barwon-South Western	**4.9** *	1.9	12.3	**33.5**	26.2	41.6	**36.7**	28.9	45.3	**18.8**	14.3	24.4
Gippsland	**0.0**	.	.	**39.5**	30.1	49.7	**34.4**	26.1	43.9	**16.5**	10.8	24.4
Grampians	**2.0** *	0.7	5.1	**28.7**	21.0	37.9	**43.8**	34.4	53.6	**19.5**	14.0	26.6
Hume	**			**23.1**	15.2	33.5	**49.1**	38.5	59.7	**14.5** *	8.7	23.1
Loddon Mallee	**			**30.7**	22.4	40.6	**34.5**	25.3	45.0	**25.1**	18.5	33.2
All rural regions	**3.0** *	1.4	6.4	**31.1**	26.9	35.5	**39.6**	35.0	44.3	**18.9**	16.1	22.1
Victoria	**1.5**	**0.9**	**2.3**	**32.9**	**30.8**	**35.0**	**38.2**	**36.0**	**40.3**	**20.6**	**18.9**	**22.5**
Females												
Northern Metropolitan	**1.5** *	0.7	3.3	**40.4**	36.0	45.1	**25.9**	22.1	30.1	**16.9**	13.8	20.6
Southern Metropolitan	**2.6** *	1.6	4.4	**45.5**	41.5	49.6	**21.3**	18.2	24.7	**17.3**	14.4	20.7
Eastern Metropolitan	**6.6**	4.5	9.6	**45.4**	40.6	50.3	**24.1**	20.1	28.5	**13.6**	10.6	17.4
Western Metropolitan	**2.9** *	1.7	4.9	**44.6**	39.7	49.6	**18.9**	15.3	22.9	**18.8**	15.1	23.0
All metropolitan regions	**3.5**	2.7	4.5	**44.1**	41.8	46.4	**22.6**	20.7	24.6	**16.5**	14.8	18.3
Barwon-South Western	**5.3** *	2.2	12.3	**38.2**	31.9	45.0	**24.6**	19.1	31.1	**19.6**	14.9	25.3
Gippsland	**			**37.4**	29.6	45.9	**26.7**	19.4	35.5	**20.4**	15.3	26.6
Grampians	**			**32.5**	23.9	42.5	**26.2**	20.2	33.3	**27.0**	19.8	35.7
Hume	**2.1** *	0.9	4.9	**35.8**	27.7	44.7	**21.4**	16.0	28.0	**20.1**	15.2	26.2
Loddon Mallee	**			**36.9**	28.6	46.0	**26.5**	19.8	34.4	**23.9**	17.6	31.6
All rural regions	**2.2** *	1.2	4.0	**36.6**	32.7	40.6	**25.1**	22.1	28.5	**21.6**	18.9	24.5
Victoria	**3.2**	**2.5**	**4.0**	**42.4**	**40.5**	**44.5**	**23.3**	**21.6**	**25.0**	**17.7**	**16.3**	**19.2**
People												
Northern Metropolitan	**1.9** *	1.1	3.3	**36.2**	32.9	39.6	**30.3**	27.2	33.6	**20.2**	17.5	23.1
Southern Metropolitan	**1.5**	0.9	2.5	**38.2**	35.3	41.1	**30.4**	27.7	33.3	**19.3**	17.0	21.8
Eastern Metropolitan	**3.6**	2.4	5.3	**42.4**	38.8	46.1	**30.2**	26.9	33.8	**15.3**	12.8	18.3
Western Metropolitan	**2.0**	1.3	3.2	**38.9**	35.4	42.5	**27.9**	24.8	31.3	**20.7**	17.8	24.0
All metropolitan regions	**2.2**	1.8	2.8	**39.0**	37.3	40.6	**29.9**	28.3	31.5	**18.7**	17.4	20.1
Barwon-South Western	**5.1** *	2.6	9.9	**36.3**	31.4	41.5	**30.6**	25.4	36.3	**19.1**	15.8	22.9
Gippsland	**			**38.5**	32.0	45.5	**30.1**	24.4	36.4	**18.5**	14.5	23.2
Grampians	**1.5** *	0.7	3.1	**30.9**	24.8	37.8	**37.1**	30.3	44.4	**21.2**	16.9	26.2
Hume	**			**29.7**	23.4	36.9	**34.6**	28.6	41.1	**17.3**	13.3	22.2
Loddon Mallee	**			**33.5**	27.0	40.5	**31.2**	24.7	38.6	**24.2**	19.3	30.0
All rural regions	**2.7** *	1.6	4.4	**33.9**	31.0	36.9	**32.4**	29.5	35.4	**20.1**	18.2	22.2
Victoria	**2.3**	**1.9**	**2.9**	**37.7**	**36.3**	**39.2**	**30.6**	**29.2**	**32.0**	**19.1**	**18.0**	**20.3**

Metropolitan and rural regions are identified by colour as follows: metropolitan / rural.

Data were age-standardised to the 2011 Victorian population.

LL/UL 95% CI = lower/upper limit of 95 per cent confidence interval.

Estimates that are (statistically) significantly different from the corresponding estimate for Victoria are identified by colour as follows: above or below.

Estimates may not add to 100 per cent due to a proportion of 'don't know' or 'refused to say' responses, not reported here.

Relative standard error (RSE) = standard error / point estimate * 100; interpretation below:

* RSE between 25 and 50 per cent; point estimate (%) should be interpreted with caution.

** RSE greater than, or equal to, 50 per cent; point estimate (%) is unreliable, hence not reported.

[a] Computed from self-reported height and weight [BMI = weight (kg) / height squared (m^2)]

Table 4.3 shows the body weight status of Victoria's adult population by BMI category, departmental division and sex. The proportion of adults who were pre-obese and obese was similar across all departmental divisions among men, women and adults.

Table 4.3: Proportion (%) of adults by BMI category,[a] Department of Health and Human Services division and sex, Victoria, 2016

	Underweight (BMI < 18.5)			Normal range (18.5 ≤ BMI < 25.0)			Pre-obese (25.0 ≤ BMI < 30.0)			Obese (BMI ≥ 30.0)		
		95% CI			95% CI			95% CI			95% CI	
Division	%	LL	UL	%	LL	UL	%	LL	UL	%	LL	UL
Males												
North	**2.1** *	1.0	4.1	**32.1**	28.0	36.5	**34.6**	30.4	39.2	**23.9**	20.3	28.0
South	**			**31.5**	27.8	35.4	**39.4**	35.5	43.5	**20.7**	17.6	24.2
East	**			**36.3**	31.7	41.2	**39.1**	34.4	43.9	**16.9**	13.4	21.1
West	**2.2** *	1.2	4.0	**31.9**	28.3	35.8	**38.5**	34.6	42.6	**21.6**	18.4	25.2
Victoria	**1.5**	**0.9**	**2.3**	**32.9**	**30.8**	**35.0**	**38.2**	**36.0**	**40.3**	**20.6**	**18.9**	**22.5**
Females												
North	**1.6** *	0.8	3.0	**39.5**	35.5	43.7	**26.3**	22.8	30.2	**18.6**	15.6	21.9
South	**2.4** *	1.4	3.9	**44.5**	40.9	48.2	**21.8**	19.0	25.0	**17.7**	15.1	20.7
East	**5.7**	3.9	8.1	**43.5**	39.3	47.9	**23.5**	20.1	27.3	**14.9**	12.2	18.1
West	**3.0**	1.9	4.7	**41.6**	37.9	45.4	**21.8**	19.0	24.9	**19.9**	17.1	23.0
Victoria	**3.2**	**2.5**	**4.0**	**42.4**	**40.5**	**44.5**	**23.3**	**21.6**	**25.0**	**17.7**	**16.3**	**19.2**
People												
North	**1.9** *	1.2	3.2	**35.3**	32.4	38.3	**30.7**	27.9	33.8	**21.3**	18.9	23.9
South	**1.4**	0.9	2.2	**38.1**	35.5	40.8	**30.4**	27.9	33.0	**19.2**	17.1	21.4
East	**3.4**	2.3	5.0	**40.0**	36.8	43.3	**31.2**	28.3	34.3	**15.7**	13.5	18.3
West	**2.6**	1.8	3.8	**37.1**	34.5	39.9	**29.9**	27.4	32.5	**20.6**	18.4	22.9
Victoria	**2.3**	**1.9**	**2.9**	**37.7**	**36.3**	**39.2**	**30.6**	**29.2**	**32.0**	**19.1**	**18.0**	**20.3**

Data were age-standardised to the 2011 Victorian population.

LL/UL 95% CI = lower/upper limit of 95 per cent confidence interval.

Estimates that are (statistically) significantly different from the corresponding estimate for Victoria are identified by colour as follows: above or below.

Estimates may not add to 100 per cent due to a proportion of 'don't know' or 'refused to say' responses, not reported here.

Relative standard error (RSE) = standard error / point estimate * 100; interpretation below:

* RSE between 25 and 50 per cent; point estimate (%) should be interpreted with caution.

** RSE greater than, or equal to, 50 per cent; point estimate (%) is unreliable, hence not reported.

[a] Computed from self-reported height and weight [BMI = weight (kg) / height squared (m^2)]

Body weight status by age and sex

Table 4.4 and Figure 4.1 show the proportion of the adult population by BMI category, age group and sex. A significantly lower proportion of 18–24-year-old men and women were pre-obese and obese compared with all men and women, respectively. A significantly higher proportion of 55−64-year-old women and people were pre-obese compared with all women and people, respectively. A significantly higher proportion of 45−54-year-old and 65−74-year-old men and people were obese compared with all Victorian men and people, respectively. A significantly higher proportion of 55−64-year-old women and people were obese compared with all Victorian women and people, respectively.

Table 4.4: Proportion (%) of adults by BMI category,[a] age group and sex, Victoria, 2016

Sex	Underweight (BMI < 18.5)				Normal range (18.5 ≤ BMI < 25.0)			Pre-obese (25.0 ≤ BMI < 30.0)			Obese (BMI ≥ 30.0)		
Age group (years)	%		95% CI LL	95% CI UL	%	95% CI LL	95% CI UL	%	95% CI LL	95% CI UL	%	95% CI LL	95% CI UL
Males													
18–24	4.5	*	2.4	8.2	56.8	50.2	63.2	21.2	16.1	27.3	6.8	4.1	10.9
25–34		**			34.9	29.8	40.5	37.9	32.3	43.7	17.6	13.4	22.7
35–44		**			30.9	25.8	36.5	42.9	37.2	48.7	20.0	15.7	25.2
45–54		**			28.1	23.7	33.1	39.2	34.1	44.4	27.0	22.7	31.9
55–64		**			26.2	22.2	30.7	42.7	38.0	47.5	26.4	22.4	30.8
65–74		**			21.7	18.1	25.8	42.7	37.9	47.7	28.6	24.2	33.5
75–84		**			30.6	23.9	38.3	43.4	36.1	50.9	18.4	13.0	25.3
85+	0.0		.	.	31.7	21.0	44.7	32.6	22.5	44.7	12.0	* 5.7	23.2
18+	**1.5**		**0.9**	**2.3**	**33.0**	**31.0**	**35.2**	**38.1**	**36.0**	**40.3**	**20.6**	**18.8**	**22.5**
Females													
18–24	7.6		4.8	11.6	57.7	51.3	63.8	13.5	9.6	18.7	8.1	5.3	12.1
25–34	4.0	*	2.3	6.9	52.3	46.5	57.9	17.9	13.8	22.9	12.4	9.1	16.7
35–44	2.3	*	1.4	4.0	44.1	39.3	49.1	22.2	18.3	26.6	18.5	14.8	22.8
45–54	1.2	*	0.5	2.8	37.2	33.0	41.6	27.5	23.7	31.7	20.3	16.9	24.1
55–64	2.1	*	1.2	3.8	29.8	26.2	33.8	30.3	26.1	34.7	27.5	23.7	31.6
65–74	1.4	*	0.7	3.1	33.9	29.6	38.4	29.3	25.5	33.4	23.1	19.6	27.1
75–84	2.5	*	1.1	5.5	31.3	25.8	37.4	29.1	23.7	35.1	18.8	14.4	24.2
85+		**			31.3	22.3	42.0	23.1	14.4	34.9	13.2	* 6.3	25.5
18+	**3.0**		**2.4**	**3.7**	**41.5**	**39.6**	**43.5**	**23.9**	**22.2**	**25.6**	**18.4**	**16.9**	**19.9**
People													
18–24	6.0		4.1	8.5	57.2	52.6	61.7	17.5	14.1	21.5	7.4	5.4	10.1
25–34	2.7	*	1.6	4.5	42.8	38.8	46.9	28.8	25.1	32.8	15.2	12.4	18.6
35–44	1.6	*	1.0	2.6	38.0	34.4	41.7	31.7	28.3	35.4	19.2	16.3	22.5
45–54	1.3	*	0.6	2.9	32.9	29.7	36.1	33.1	29.9	36.4	23.5	20.7	26.6
55–64	1.4	*	0.8	2.3	28.2	25.4	31.1	36.1	33.0	39.3	26.9	24.2	29.9
65–74	1.0	*	0.5	1.8	28.0	25.1	31.1	35.8	32.7	39.0	25.8	22.9	28.9
75–84	2.1	*	1.0	4.2	31.0	26.7	35.7	34.9	30.5	39.6	18.7	15.1	22.8
85+		**			31.5	24.3	39.7	27.6	20.7	35.7	12.6	* 7.5	20.4
18+	**2.2**		**1.8**	**2.8**	**37.4**	**35.9**	**38.8**	**30.8**	**29.5**	**32.2**	**19.5**	**18.3**	**20.6**

Data are age-specific estimates, except for '18+', which are crude estimates (not age-standardised) for Victoria.

LL/UL 95% CI = lower/upper limit of 95 per cent confidence interval.

Estimates that are (statistically) significantly different from the corresponding estimate for Victoria are identified by colour as follows: above or below.

Estimates may not add to 100 per cent due to a proportion of 'don't know' or 'refused to say' responses, not reported here.

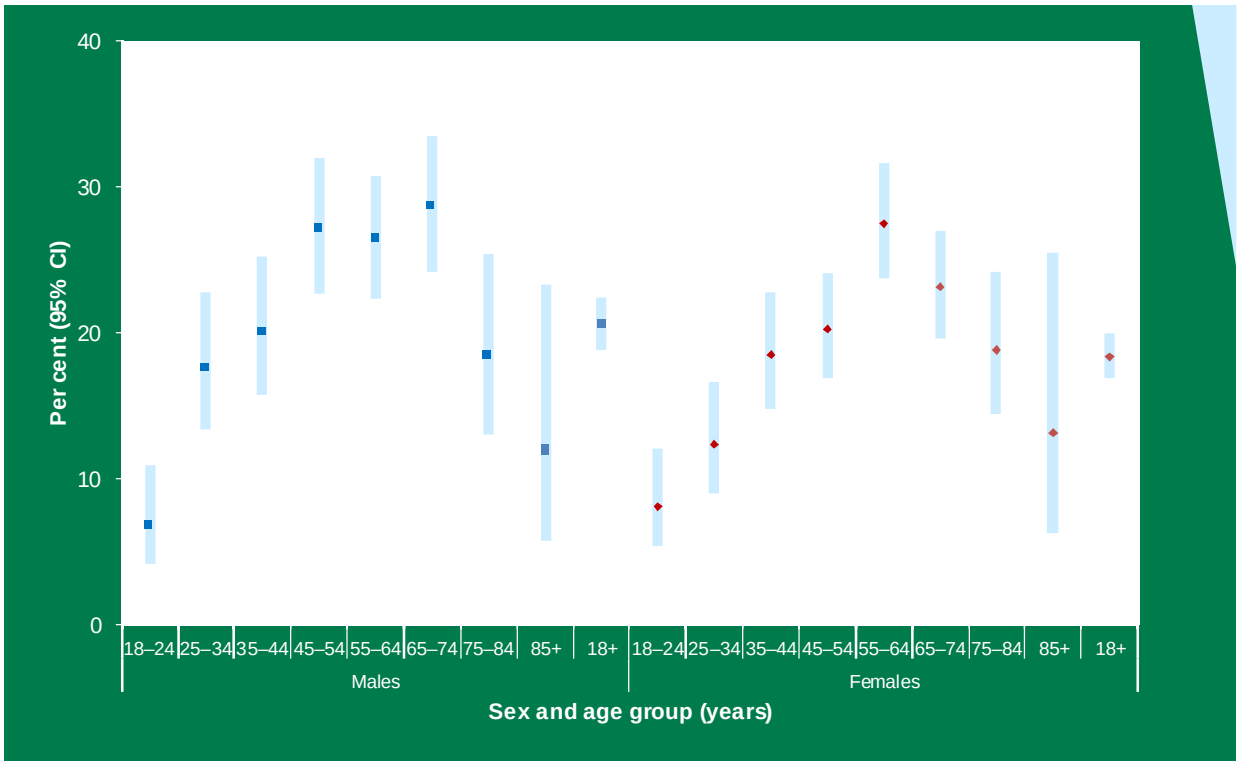
Relative standard error (RSE) = standard error/point estimate * 100; interpretation below:

* Estimate has a RSE between 25 and 50 per cent and should be interpreted with caution.

** Estimate has a RSE greater than 50 per cent and is not reported as it is unreliable for general use.

[a] Computed from self-reported height and weight [BMI = weight (kg) / height squared (m^2)]

Figure 4.1: Proportion (%) of adults who were obese (BMI ≥ 30 kg/m^2),[a] by age group and sex, Victoria, 2016



Data are age group specific estimates, except for '18+', which are crude estimates (not age-standardised) for Victoria.

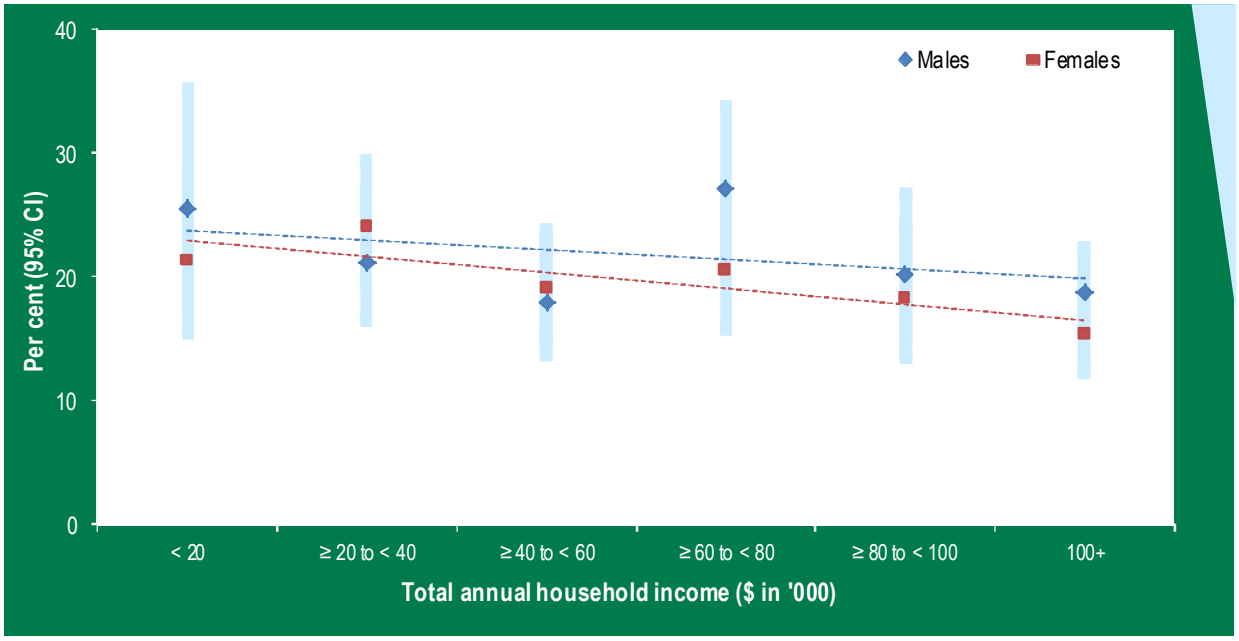
95% CI = 95 per cent confidence interval.

[a] Computed from self-reported height and weight [BMI = weight (kg) / height squared (m^2)]

Body weight status by socioeconomic status

The relationship was investigated between SES and the age-adjusted proportion (%) of the obese adult population using total annual household income as a measure of SES (Figure 4.2). Total annual household income includes all sources of pre-tax income. The proportion of men and adults who were obese did not change with increasing total annual household income. The proportion of women who were obese decreased with increasing total annual household income.

Figure 4.2: Proportion (%) of adults who were obese (BMI ≥ 30 kg/m^2),[a] by total annual household income and sex, Victoria, 2016



Data were age-standardised to the 2011 Victorian population.

95% CI = 95 per cent confidence interval.

[a] Computed from self-reported height and weight [BMI = weight (kg) / height squared (m^2)]

Body weight status by selected socioeconomic determinants and sex

Table 4.5 shows the body weight status of adult males by BMI category and selected socioeconomic determinants. When compared with all Victorian men, a significantly lower proportion of men with the following characteristics were pre-obese:

- born overseas
- completed a university or other tertiary education degree.

Table 4.5: Proportion (%) of men, by BMI category[a] and selected socioeconomic determinants, Victoria, 2016

	Underweight (BMI < 18.5)			Normal range (18.5 ≤ BMI < 25.0)			Pre-obese (25.0 ≤ BMI < 30.0)			Obese (BMI ≥ 30.0)		
		95% CI			95% CI			95% CI			95% CI	
	%	LL	UL	%	LL	UL	%	LL	UL	%	LL	UL
All males	**1.5**	**0.9**	**2.3**	**32.9**	**30.8**	**35.0**	**38.2**	**36.0**	**40.3**	**20.6**	**18.9**	**22.5**
Country of birth												
Australia	**1.4**	0.8	2.2	**31.5**	29.1	34.1	**37.4**	34.8	40.0	**23.1**	20.8	25.5
Overseas	**1.7** *	0.7	4.0	**35.4**	31.9	39.1	**39.7**	36.0	43.5	**16.0**	13.5	18.7
Language spoken at home												
English	**1.2** *	0.7	2.0	**31.6**	29.2	34.1	**37.7**	35.3	40.3	**22.2**	20.1	24.5
Language other than English	**2.2** *	1.0	4.5	**35.1**	31.3	39.0	**39.4**	35.3	43.7	**16.5**	13.6	19.8
Education level												
Did not complete high school	**			**24.3**	19.1	30.4	**32.5**	27.2	38.3	**26.3**	20.8	32.6
Completed high school, or TAFE, or trade certificate, or diploma	**1.5** *	0.9	2.5	**30.2**	27.5	33.2	**39.2**	36.2	42.3	**22.4**	20.0	25.0
University, or some other tertiary institute degree	**0.6** *	0.2	1.4	**44.5**	41.1	48.0	**37.7**	34.4	41.1	**13.2**	11.1	15.6
Employment status												
Employed	**1.2** *	0.7	2.1	**32.8**	29.7	36.0	**41.5**	38.2	44.9	**19.2**	17.1	21.5
Unemployed	**			**25.2**	18.5	33.3	**28.0**	20.8	36.4	**21.8**	15.1	30.4
Not in labour force	**1.5** *	0.6	3.6	**34.8**	28.3	41.9	**33.9**	27.4	40.9	**19.2**	14.6	24.7
Total annual household income												
< $40,000	**3.5** *	1.4	8.0	**35.1**	29.9	40.8	**29.0**	24.2	34.3	**22.6**	18.3	27.5
$40,000 to < $100,000	**1.5** *	0.7	3.1	**30.9**	27.4	34.7	**40.8**	37.0	44.8	**21.8**	18.5	25.4
≥ $100,000	**			**35.2**	30.9	39.8	**40.3**	36.1	44.6	**18.8**	15.6	22.3

Data were age-standardised to the 2011 Victorian population.

LL/UL 95% CI = lower/upper limit of 95 per cent confidence interval.

Estimates that are (statistically) significantly different from the corresponding estimate for Victoria are identified by colour as follows: above or below.

Estimates may not add to 100 per cent due to a proportion of 'don't know' or 'refused to say' responses, not reported here.

Relative standard error (RSE) = standard error / point estimate * 100; interpretation below:

***** RSE between 25 and 50 per cent; point estimate (%) should be interpreted with caution.

****** RSE greater than, or equal to, 50 per cent; point estimate (%) is unreliable, hence not reported.

[a] Computed from self-reported height and weight [BMI = weight (kg) / height squared (m^2)]

Table 4.6 shows the body weight status of adult females, by BMI category and selected socioeconomic determinants. When compared with all Victorian women, a significantly lower proportion of women with the following characteristics were obese:

- born overseas
- completed a university or other tertiary education degree.

Table 4.6: Proportion (%) of women, by BMI category[a] and selected socioeconomic determinants, Victoria, 2016

	Underweight (BMI < 18.5)			Normal range (18.5 ≤ BMI < 25.0)			Pre-obese (25.0 ≤ BMI < 30.0)			Obese (BMI ≥ 30.0)		
		95% CI			95% CI			95% CI			95% CI	
	%	LL	UL	%	LL	UL	%	LL	UL	%	LL	UL
All females	**3.2**	**2.5**	**4.0**	**42.4**	**40.5**	**44.5**	**23.3**	**21.6**	**25.0**	**17.7**	**16.3**	**19.2**
Country of birth												
Australia	**2.8**	2.1	3.9	**40.1**	37.8	42.5	**23.4**	21.5	25.5	**19.7**	17.9	21.6
Overseas	**4.1**	2.8	5.8	**47.8**	44.2	51.4	**22.7**	19.8	25.9	**13.4**	11.3	15.8
Language spoken at home												
English	**2.6**	1.9	3.6	**41.9**	39.6	44.3	**22.8**	20.9	24.8	**19.2**	17.5	21.0
Language other than English	**4.2**	2.9	6.0	**43.5**	39.5	47.5	**24.2**	20.8	28.0	**13.9**	11.2	17.0
Education level												
Did not complete high school	**3.9** *	1.8	8.1	**34.5**	28.5	41.2	**26.6**	21.1	32.9	**14.7**	11.4	18.7
Completed high school, or TAFE, or trade certificate, or diploma	**3.5**	2.5	4.8	**39.0**	36.1	41.9	**24.4**	21.9	27.0	**20.4**	18.1	22.9
University, or some other tertiary institute degree	**2.8**	2.0	4.0	**55.5**	52.4	58.6	**20.4**	18.0	23.1	**12.8**	11.0	14.9
Employment status												
Employed	**2.3**	1.6	3.2	**44.6**	41.1	48.2	**23.4**	20.9	26.1	**18.6**	15.5	22.1
Unemployed	**			**31.5**	23.6	40.6	**23.3**	16.0	32.6	**17.8**	11.8	26.0
Not in labour force	**4.6**	3.2	6.6	**41.2**	37.3	45.2	**20.8**	17.8	24.2	**18.8**	15.9	22.0
Total annual household income												
< $40,000	**5.1**	3.1	8.3	**37.4**	32.6	42.5	**20.7**	17.1	24.8	**22.8**	19.1	27.0
$40,000 to < $100,000	**2.5** *	1.4	4.2	**41.9**	38.3	45.7	**26.1**	22.9	29.7	**19.0**	16.3	22.1
≥ $100,000	**2.4** *	1.4	4.0	**44.9**	40.5	49.4	**25.4**	21.1	30.2	**15.4**	12.3	19.0

Data were age-standardised to the 2011 Victorian population.

LL/UL 95% CI = lower/upper limit of 95 per cent confidence interval.

Estimates that are (statistically) significantly different from the corresponding estimate for Victoria are identified by colour as follows: above or below.

Estimates may not add to 100 per cent due to a proportion of 'don't know' or 'refused to say' responses, not reported here.

Relative standard error (RSE) = standard error / point estimate * 100; interpretation below:

***** RSE between 25 and 50 per cent; point estimate (%) should be interpreted with caution.

****** RSE greater than, or equal to, 50 per cent; point estimate (%) is unreliable, hence not reported.

[a] Computed from self-reported height and weight [BMI = weight (kg) / height squared (m^2)]

Body weight status by modifiable risk factors and morbidity status

Table 4.7 shows the body weight status of adult males, by BMI category, selected modifiable risk factors and morbidity status. When compared with all Victorian men, a significantly higher proportion of men with the following characteristics were obese:

- high or very high level of psychological distress
- fair or poor self-reported health status
- doctor-diagnosed hypertension.

Table 4.7: Proportion (%) of men, by BMI category,[a] selected modifiable risk factors and morbidity status, Victoria, 2016

	Underweight (BMI < 18.5)			Normal range (18.5 ≤ BMI < 25.0)			Pre-obese (25.0 ≤ BMI < 30.0)			Obese (BMI ≥ 30.0)		
		95% CI			95% CI			95% CI			95% CI	
	%	LL	UL	%	LL	UL	%	LL	UL	%	LL	UL
All males	**1.5**	**0.9**	**2.3**	**32.9**	**30.8**	**35.0**	**38.2**	**36.0**	**40.3**	**20.6**	**18.9**	**22.5**
Psychological distress [b]												
Low (K10 score < 16)	**1.9** *	1.1	3.3	**35.3**	32.5	38.2	**36.5**	33.8	39.4	**19.4**	17.2	21.8
Moderate (K10 score 16–21)	**1.1** *	0.5	2.3	**30.6**	26.9	34.6	**39.8**	35.5	44.3	**21.9**	18.4	25.8
High / very high (K10 score 22+)	**			**26.1**	21.2	31.7	**38.2**	32.2	44.5	**29.8**	24.5	35.7
Physical activity [c]												
Sedentary	**0.0**	.	.	**36.0**	25.5	48.0	**14.1** *	8.3	22.9	**19.2**	13.3	26.8
Insufficient time (< 150 min) and/or sessions (< 2)	**2.1** *	1.1	3.7	**29.6**	26.6	32.9	**38.7**	35.4	42.2	**21.4**	18.8	24.3
Sufficient time (≥ 150 min) and sessions (≥ 2)	**0.6** *	0.3	1.2	**36.5**	33.5	39.6	**39.8**	36.7	43.0	**18.8**	16.4	21.5
Met fruit / vegetable guidelines [d]												
Both guidelines	**			**52.6**	39.3	65.6	**38.5**	26.0	52.6	**		
Vegetable guidelines[e]	**			**41.0**	27.8	55.6	**36.3**	24.8	49.6	**15.6** *	7.7	28.9
Fruit guidelines[e]	**1.2** *	0.6	2.8	**37.2**	33.8	40.7	**38.6**	35.2	42.1	**17.5**	15.0	20.4
Neither	**1.5** *	0.9	2.6	**30.7**	28.1	33.4	**38.4**	35.6	41.2	**22.1**	19.8	24.6
Smoking status												
Current smoker	**2.0** *	0.9	4.4	**33.6**	28.9	38.6	**37.2**	32.5	42.3	**17.4**	13.9	21.6
Ex-smoker	**			**26.5**	21.9	31.5	**40.0**	35.4	44.7	**25.6**	21.3	30.4
Non-smoker	**1.5** *	0.9	2.5	**35.8**	33.0	38.8	**36.5**	33.6	39.5	**19.4**	17.1	22.0
Lifetime risk of alcohol-related harm [f]												
Abstainer / no longer drinks alcohol	**2.8** *	1.3	6.0	**32.7**	27.9	38.0	**35.8**	30.8	41.0	**21.1**	17.3	25.5
Reduced risk	**			**31.4**	25.8	37.5	**39.2**	32.9	46.0	**17.7**	13.8	22.6
Increased risk	**1.2** *	0.7	2.2	**33.9**	31.5	36.5	**38.8**	36.3	41.5	**20.1**	18.0	22.3
Self-reported health												
Excellent / very good	**1.2** *	0.7	2.2	**40.5**	37.3	43.9	**41.7**	38.4	45.0	**11.8**	9.8	14.1
Good	**1.4** *	0.7	3.0	**28.4**	25.3	31.7	**40.9**	37.5	44.5	**21.9**	19.1	25.0
Fair/poor	**2.1** *	0.8	5.4	**24.4**	20.1	29.3	**25.0**	20.9	29.6	**37.9**	32.8	43.3
Blood pressure status												
Doctor diagnosed hypertension	**			**18.5**	14.4	23.4	**41.0**	35.2	47.0	**31.9**	26.5	37.9
Normal range	**1.6**	1.0	2.6	**36.6**	34.2	39.1	**37.6**	35.2	40.2	**16.9**	15.0	19.0
Morbidity status												
No chronic disease	**1.7** *	1.0	3.0	**37.0**	34.1	40.0	**37.4**	34.5	40.4	**17.1**	14.9	19.6
One chronic disease	**1.0** *	0.4	2.4	**31.5**	27.5	35.7	**39.1**	34.9	43.4	**21.7**	18.3	25.6
Two, or more chronic diseases	**			**23.9**	17.6	31.4	**36.6**	28.9	45.1	**26.9**	20.6	34.3

Data were age-standardised to the 2011 Victorian population.

LL/UL 95% CI = lower/upper limit of 95 per cent confidence interval.

Estimates that are (statistically) significantly different from the corresponding estimate for Victoria are identified by colour as follows: above or below.

Estimates may not add to 100 per cent due to a proportion of 'don't know' or 'refused to say' responses, not reported here.

Relative standard error (RSE) = standard error / point estimate * 100; interpretation below:

* RSE between 25 and 50 per cent; point estimate (%) should be interpreted with caution.

** RSE greater than, or equal to, 50 per cent; point estimate (%) is unreliable, hence not reported.

[a] Computed from self-reported height and weight [BMI = weight (kg) / height squared (m^2)]

[b] Based on the Kessler 10 scale for psychological distress.

[c] DoH (2014) guidelines.

[d] NHMRC (2013) guidelines.

[e] Includes those meeting both guidelines.

[f] NHMRC (2009) guidelines.

Table 4.8 shows the body weight status of adult females, by BMI category, selected modifiable risk factors and morbidity status. When compared with all Victorian women, a significantly higher proportion of women with the following characteristics were obese:

- high or very high level of psychological distress
- fair or poor self-reported health status
- doctor-diagnosed hypertension
- two or more chronic diseases.

Table 4.8: Proportion (%) of women, by BMI category,[a] selected modifiable risk factors and morbidity status, Victoria, 2016

	Underweight (BMI < 18.5)			Normal range (18.5 ≤ BMI < 25.0)			Pre-obese (25.0 ≤ BMI < 30.0)			Obese (BMI ≥ 30.0)		
		95% CI			95% CI			95% CI			95% CI	
	%	LL	UL	%	LL	UL	%	LL	UL	%	LL	UL
All females	**3.2**	**2.5**	**4.0**	**42.4**	**40.5**	**44.5**	**23.3**	**21.6**	**25.0**	**17.7**	**16.3**	**19.2**
Psychological distress[b]												
Low (K10 score < 16)	**2.8**	1.9	4.2	**46.0**	43.2	48.8	**24.2**	21.9	26.6	**15.0**	13.3	17.0
Moderate (K10 score 16–21)	**4.3**	2.9	6.3	**41.0**	37.2	45.0	**23.2**	20.1	26.6	**18.8**	16.0	21.9
High / very high (K10 score 22+)	**3.1** *	1.8	5.2	**35.0**	30.3	40.0	**22.0**	17.9	26.7	**25.6**	21.4	30.4
Physical activity[c]												
Sedentary	**			**36.2**	23.5	51.3	**28.3**	20.6	37.7	**16.7**	10.3	26.1
Insufficient time (< 150 min) and/or sessions (< 2)	**3.8**	2.7	5.2	**39.8**	36.9	42.7	**22.6**	20.4	25.0	**19.9**	17.7	22.3
Sufficient time (≥ 150 min) and sessions (≥ 2)	**2.5**	1.7	3.7	**46.6**	43.7	49.6	**24.0**	21.5	26.6	**15.0**	13.1	17.2
Met fruit / vegetable guidelines[d]												
Both guidelines	**			**43.9**	34.8	53.4	**25.1**	18.6	32.8	**17.9**	10.9	28.2
Vegetable guidelines[e]	**			**43.2**	35.1	51.7	**26.7**	20.6	33.8	**17.0**	10.8	26.0
Fruit guidelines[e]	**3.0**	2.1	4.4	**44.7**	41.7	47.6	**24.4**	21.9	27.0	**15.7**	13.8	17.8
Neither	**3.1**	2.2	4.2	**40.9**	38.2	43.7	**21.9**	19.7	24.3	**19.6**	17.5	21.9
Smoking status												
Current smoker	**2.8** *	1.5	5.2	**40.9**	35.2	46.8	**21.8**	17.3	27.2	**18.5**	14.6	23.2
Ex-smoker	**			**39.7**	34.7	44.9	**23.1**	19.8	26.8	**21.4**	17.8	25.6
Non-smoker	**3.7**	2.9	4.8	**44.4**	42.0	46.9	**23.1**	21.1	25.2	**15.8**	14.2	17.6
Lifetime risk of alcohol-related harm[f]												
Abstainer / no longer drinks alcohol	**5.5**	3.8	7.7	**36.2**	32.4	40.2	**24.0**	20.7	27.6	**18.7**	15.9	21.9
Reduced risk	**2.5** *	1.5	4.1	**40.1**	35.2	45.1	**22.2**	19.0	25.7	**16.6**	13.0	20.9
Increased risk	**2.3**	1.5	3.5	**47.0**	44.2	49.8	**22.5**	20.2	24.8	**18.5**	16.5	20.8
Self-reported health												
Excellent / very good	**2.5**	1.7	3.8	**52.0**	49.1	55.0	**23.8**	21.4	26.4	**11.0**	9.4	12.8
Good	**3.5**	2.4	5.0	**37.1**	33.8	40.4	**24.6**	21.9	27.5	**18.5**	16.1	21.2
Fair/poor	**3.7** *	2.2	6.0	**27.6**	23.3	32.4	**19.5**	16.0	23.6	**34.8**	30.2	39.8
Blood pressure status (including pregnancy induced hypertension)												
Doctor diagnosed hypertension	**1.3** *	0.5	3.3	**31.1**	26.3	36.3	**20.8**	17.2	24.8	**30.8**	26.4	35.7
Normal range	**3.6**	2.8	4.6	**46.1**	43.8	48.5	**24.1**	22.1	26.2	**13.0**	11.5	14.7
Morbidity status												
No chronic disease	**3.4**	2.5	4.7	**49.0**	46.0	52.1	**22.6**	20.2	25.3	**10.6**	8.9	12.5
One chronic disease	**2.7** *	1.7	4.4	**39.0**	35.5	42.7	**24.9**	21.8	28.3	**20.0**	17.2	23.1
Two, or more chronic diseases	**2.1** *	1.2	3.7	**32.9**	28.1	38.2	**21.3**	17.8	25.3	**29.8**	25.1	35.0

Data were age-standardised to the 2011 Victorian population.

LL/UL 95% CI = lower/upper limit of 95 per cent confidence interval.

Estimates that are (statistically) significantly different from the corresponding estimate for Victoria are identified by colour as follows: above or below.

Estimates may not add to 100 per cent due to a proportion of 'don't know' or 'refused to say' responses, not reported here.

Relative standard error (RSE) = standard error / point estimate * 100; interpretation below:

***** RSE between 25 and 50 per cent; point estimate (%) should be interpreted with caution.

****** RSE greater than, or equal to, 50 per cent; point estimate (%) is unreliable, hence not reported.

[a] Computed from self-reported height and weight [BMI = weight (kg) / height squared (m^2)]

[b] Based on the Kessler 10 scale for psychological distress.

[c] DoH (2014) guidelines.

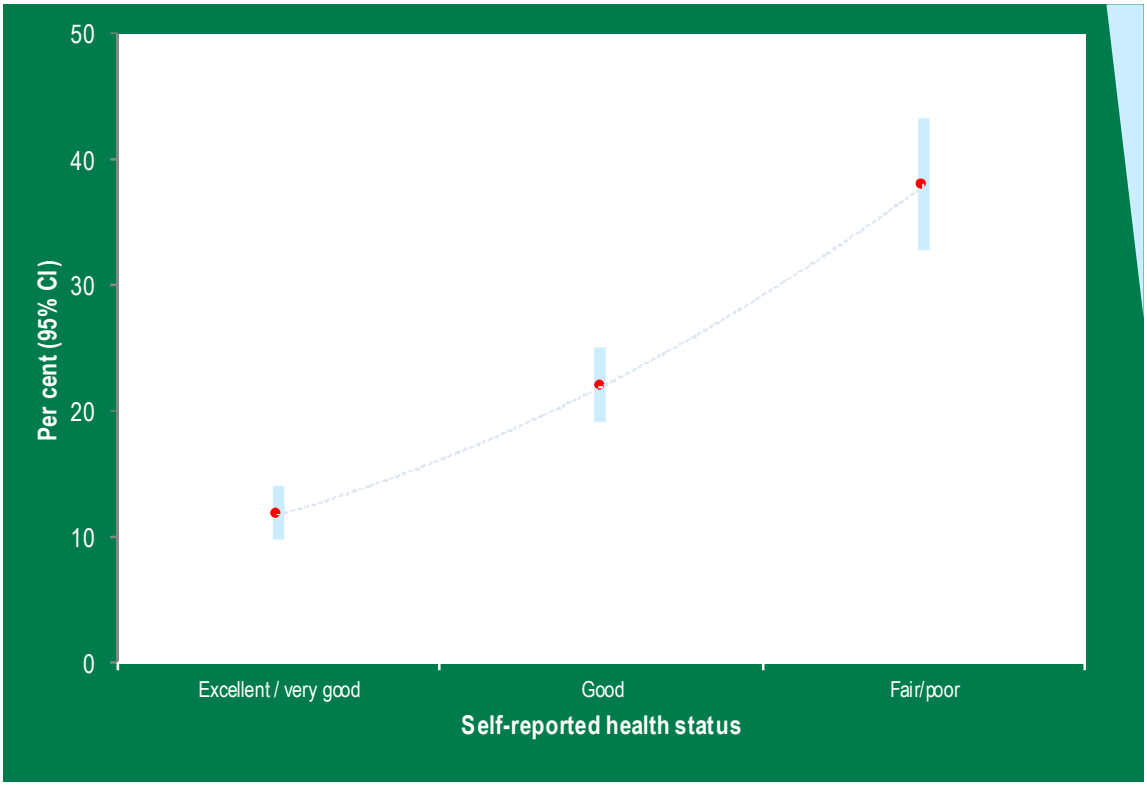
[d] NHMRC (2013) guidelines.

[e] Includes those meeting both guidelines.

[f] NHMRC (2009) guidelines.

The relationship was investigated between obesity and self-reported health status (Figure 4.3 and Figure 4.4). The proportion of the adult Victorian population who were obese was highest among men and women who had fair or poor health status. Men and women who were obese were significantly more likely to report being in only fair or poor health than those in good, very good or excellent health.

Figure 4.3: Proportion (%) of men who were obese,[a] by self-reported health status, Victoria, 2016

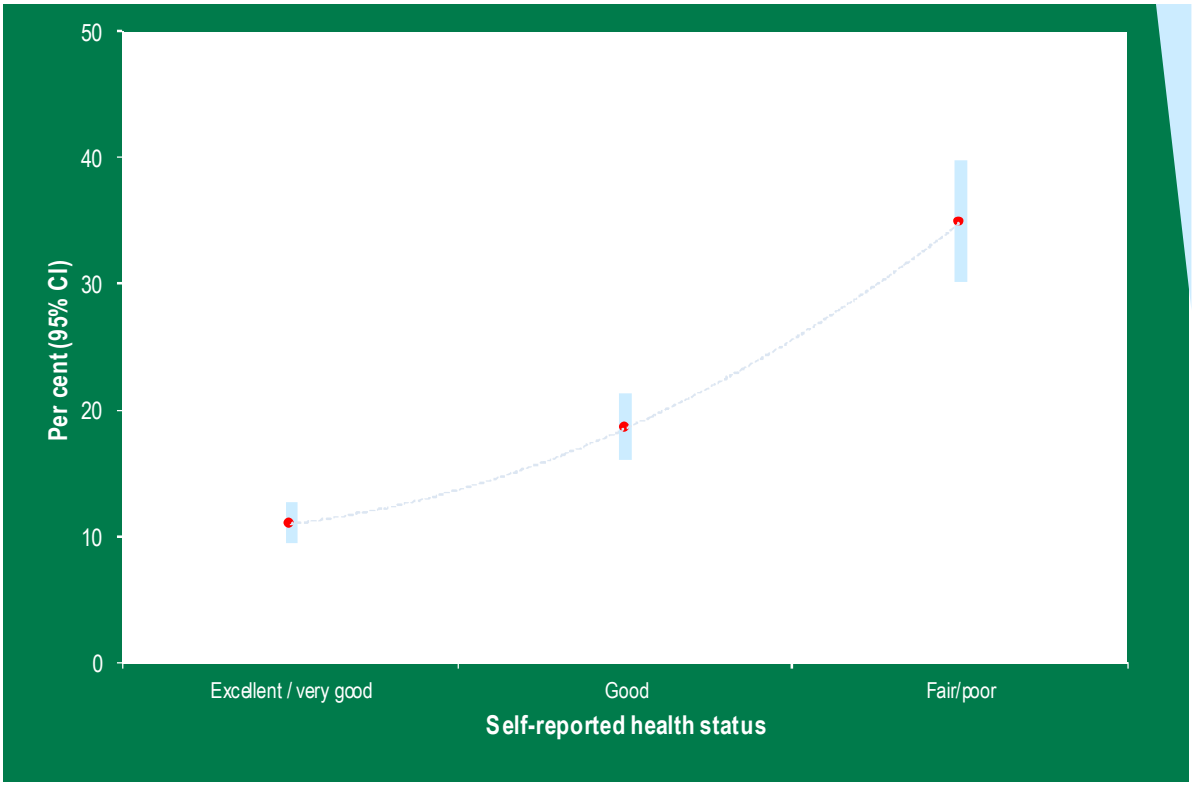


Data are age-adjusted to the 2011 population of Victoria.

95% CI = 95 per cent confidence interval.

[a] Computed from self-reported height and weight [BMI = weight (kg) / height squared (m^2)]

Figure 4.4: Proportion (%) of women who were obese,[a] by self-reported health status, Victoria, 2016



Data are age-adjusted to the 2011 population of Victoria.

95% CI = 95 per cent confidence interval.

[a] Computed from self-reported height and weight [BMI = weight (kg) / height squared (m^2)]

Comparison with previous survey

The trend over time of the age-adjusted prevalence of body weight status of adults, by BMI category was investigated as part of the Victorian Population Health Survey (Table 4.9, Figure 4.5 and Figure 4.6). This is the first time that trend over time data has been reported after the introduction of dual-frame sampling in 2015. There was no significant difference in the proportions of underweight, normal weight, pre-obese and obese men and women between 2015 and 2016.

Table 4.9: Proportion (%) of adults, by BMI category,[a] sex and survey year, Victoria, 2015–2016

		Underweight (< 18.5 kg/m^2)			Normal (18.5–24.9 kg/m^2)			Pre-obese (25.0–29.9 kg/m^2)			Obese (≥ 30.0 kg/m^2)		
			95% CI			95% CI			95% CI			95% CI	
	Year	%	LL	UL	%	LL	UL	%	LL	UL	%	LL	UL
Males													
	2015	**0.9**	0.6	1.5	**35.9**	33.8	38.1	**37.2**	34.9	39.4	20.1	18.3	22.0
	2016	**1.5**	0.9	2.3	**32.9**	30.8	35.0	**38.2**	**36.0**	40.3	20.6	18.9	22.5
Females													
	2015	**3.9**	3.1	4.9	**41.6**	39.5	43.8	**23.4**	21.6	25.4	**18.1**	16.5	19.9
	2016	**3.2**	2.5	4.0	**42.4**	40.5	44.5	**23.3**	**21.6**	**25.0**	**17.7**	16.3	19.2
People													
	2015	**2.4**	2.0	3.0	**38.9**	37.4	40.4	**30.1**	28.6	31.6	**19.1**	17.9	20.4
	2016	**2.3**	1.9	2.9	**37.7**	36.3	39.2	**30.6**	29.2	32.0	**19.1**	18.0	20.3

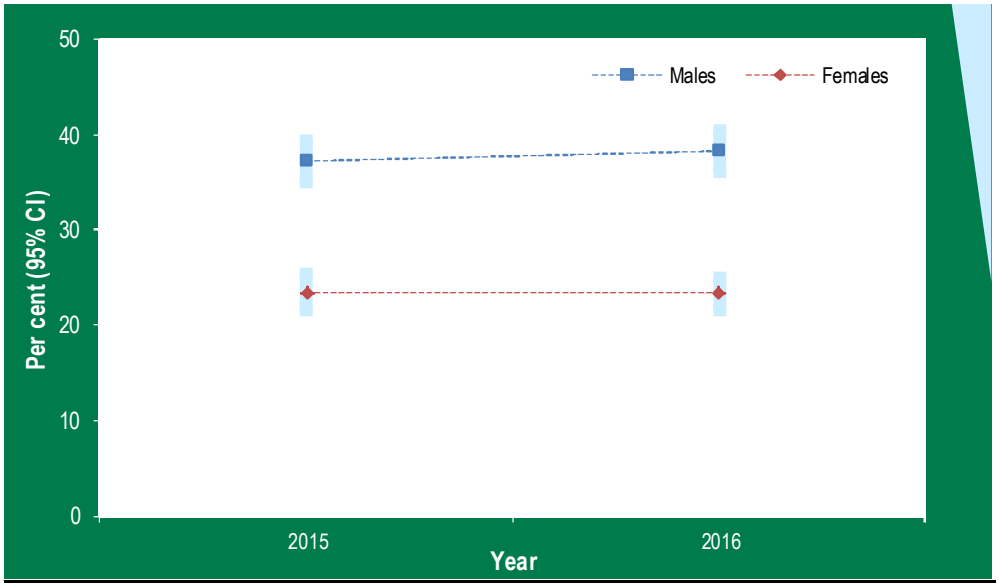
Data were age-standardised to the 2011 Victorian population.

LL/UL 95% CI = lower/upper limit of 95 per cent confidence interval.

Estimates may not add to 100 per cent due to a proportion of 'don't know' or 'refused to say' responses, not reported here.

[a] Computed from self-reported height and weight [BMI = weight (kg) / height squared (m^2)]

Figure 4.5: Proportion (%) of adults who were pre-obese[a], by sex, Victoria, 2015–2016

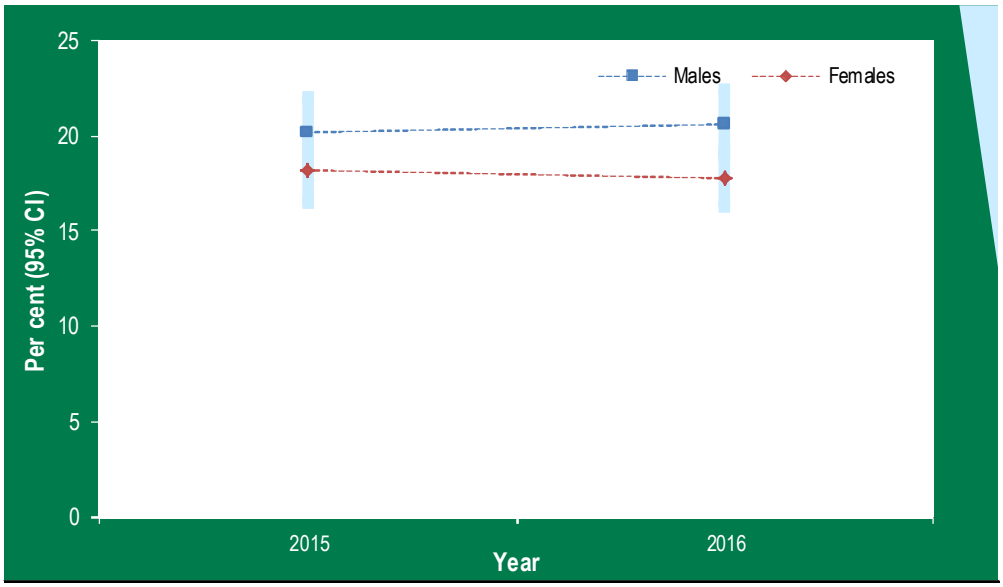


Data were age-standardised to the 2011 Victorian population.

LL/UL 95% CI = lower/upper limit of 95 per cent confidence interval.

[a] Computed from self-reported height and weight [BMI = weight (kg) / height squared (m^2)]

Figure 4.6: Proportion (%) of adults who were obese[a], by sex, Victoria, 2015–2016



Data were age-standardised to the 2011 Victorian population.

LL/UL 95% CI = lower/upper limit of 95 per cent confidence interval.

[a] Computed from self-reported height and weight [BMI = weight (kg) / height squared (m^2)]

Prevalence of pre-obesity and obesity by geographic location

Table 4.10 shows the proportion of the adult population who were pre-obese or obese, by departmental region and sex. In 2016, 58.8 per cent of Victorian men and 41.0 per cent of women were pre-obese or obese. There was a significantly higher proportion of men who were pre-obese or obese compared with their female counterparts. There was a significantly higher proportion of pre-obese or obese women and adults who lived in Grampians Region compared with all Victorian women and adults, respectively. There was a significantly higher proportion of pre-obese or obese women and adults who lived in rural regions compared with all Victorian women and adults, respectively. A significantly higher proportion of women who lived in rural Victoria were pre-obese or obese compared with women living in metropolitan Victoria.

Table 4.10: Proportion (%) of adults who were pre-obese or obese,[a] by Department of Health and Human Services region and sex, Victoria, 2016

	Pre-obese or obese			Not pre-obese or obese		
		95% CI			95% CI	
Region	%	LL	UL	%	LL	UL
Males						
Northern Metropolitan	**58.4**	53.2	63.4	**34.4**	29.7	39.4
Southern Metropolitan	**61.3**	57.1	65.4	**31.2**	27.4	35.4
Eastern Metropolitan	**54.2**	48.6	59.7	**39.5**	34.1	45.1
Western Metropolitan	**61.0**	55.9	65.8	**33.6**	28.9	38.6
All metropolitan regions	**58.7**	56.2	61.1	**34.7**	32.3	37.1
Barwon-South Western	**55.6**	47.4	63.5	**38.4**	30.7	46.7
Gippsland	**50.9**	41.5	60.3	**39.5**	30.1	49.7
Grampians	**63.3**	54.0	71.8	**30.7**	22.8	39.9
Hume	**63.6**	52.5	73.3	**27.1**	18.3	38.1
Loddon Mallee	**59.6**	49.9	68.6	**32.5**	24.1	42.2
All rural regions	**58.5**	53.8	63.0	**34.1**	29.7	38.7
Victoria	**58.8**	**56.6**	**60.9**	**34.3**	**32.3**	**36.5**
Females						
Northern Metropolitan	**42.8**	38.5	47.2	**41.9**	37.5	46.6
Southern Metropolitan	**38.6**	34.8	42.6	**48.1**	44.1	52.1
Eastern Metropolitan	**37.7**	33.1	42.5	**52.0**	47.1	56.8
Western Metropolitan	**37.6**	32.9	42.6	**47.4**	42.5	52.4
All metropolitan regions	**39.1**	36.9	41.4	**47.6**	45.3	49.9
Barwon-South Western	**44.2**	37.9	50.8	**43.5**	37.0	50.4
Gippsland	**47.0**	38.8	55.4	**38.0**	30.2	46.5
Grampians	**53.2**	43.7	62.6	**33.3**	24.7	43.2
Hume	**41.6**	34.1	49.4	**37.9**	29.6	46.9
Loddon Mallee	**50.4**	42.7	58.1	**38.8**	30.7	47.7
All rural regions	**46.7**	43.1	50.4	**38.8**	35.0	42.8
Victoria	**41.0**	**39.1**	**42.9**	**45.6**	**43.6**	**47.6**
People						
Northern Metropolitan	**50.4**	47.0	53.9	**38.1**	34.8	41.5
Southern Metropolitan	**49.7**	46.7	52.7	**39.7**	36.8	42.7
Eastern Metropolitan	**45.5**	41.9	49.2	**46.0**	42.3	49.7
Western Metropolitan	**48.7**	45.0	52.4	**40.9**	37.4	44.6
All metropolitan regions	**48.6**	46.9	50.4	**41.2**	39.5	42.9
Barwon-South Western	**49.7**	44.3	55.0	**41.4**	36.2	46.8
Gippsland	**48.5**	42.0	55.1	**38.9**	32.3	45.9
Grampians	**58.2**	51.3	64.8	**32.4**	26.3	39.2
Hume	**51.9**	45.2	58.5	**32.6**	25.9	40.1
Loddon Mallee	**55.4**	48.6	62.1	**35.6**	29.2	42.5
All rural regions	**52.5**	49.5	55.5	**36.6**	33.6	39.6
Victoria	**49.7**	**48.2**	**51.2**	**40.0**	**38.6**	**41.5**

Metropolitan and rural regions are identified by colour as follows: metropolitan / rural.

Data were age-standardised to the 2011 Victorian population.

LL/UL 95% CI = lower/upper limit of 95 per cent confidence interval.

Estimates that are (statistically) significantly different from the corresponding estimate for Victoria are identified by colour as follows: above or below.

Estimates may not add to 100 per cent due to a proportion of 'don't know' or 'refused to say' responses, not reported here.

[a] Computed from self-reported height and weight [BMI = weight (kg) / height squared (m^2)]

Table 4.11 shows the proportion of the adult population who were pre-obese or obese, by departmental division and sex. The proportion of adults who were pre-obese or obese was similar across all departmental divisions among men, women and adults.

Table 4.11: Proportion (%) of adults who were pre-obese or obese,[a] by Department of Health and Human Services division and sex, Victoria, 2016

	Pre-obese or obese			Not pre-obese or obese		
		95% CI			95% CI	
Division	%	LL	UL	%	LL	UL
Males						
North	**58.5**	54.0	62.9	**34.1**	30.0	38.6
South	**60.1**	56.1	64.0	**31.9**	28.2	35.8
East	**56.0**	51.1	60.8	**37.3**	32.6	42.2
West	**60.1**	56.1	63.9	**34.1**	30.4	38.0
Victoria	**58.8**	**56.6**	**60.9**	**34.3**	**32.3**	**36.5**
Females						
North	**44.9**	41.0	48.8	**41.1**	37.1	45.2
South	**39.5**	36.0	43.2	**46.9**	43.2	50.6
East	**38.4**	34.4	42.6	**49.2**	44.9	53.5
West	**41.7**	38.0	45.4	**44.6**	40.9	48.4
Victoria	**41.0**	**39.1**	**42.9**	**45.6**	**43.6**	**47.6**
People						
North	**52.0**	48.9	55.1	**37.2**	34.3	40.3
South	**49.6**	46.9	52.3	**39.5**	36.8	42.2
East	**46.9**	43.7	50.2	**43.4**	40.2	46.7
West	**50.5**	47.7	53.3	**39.7**	37.0	42.5
Victoria	**49.7**	**48.2**	**51.2**	**40.0**	**38.6**	**41.5**

Data were age-standardised to the 2011 Victorian population.

LL/UL 95% CI = lower/upper limit of 95 per cent confidence interval.

Estimates may not add to 100 per cent due to a proportion of 'don't know' or 'refused to say' responses, not reported here.

[a] Computed from self-reported height and weight [BMI = weight (kg) / height squared (m^2)]

Prevalence of pre-obesity and obesity by age group and sex

Table 4.12 and Figure 4.7 show the proportion of the adult population who were pre-obese or obese, by age group and sex. A significantly higher proportion of 45−74-year-old men were pre-obese or obese compared with all men. A significantly higher proportion of 55−74-year-old women were pre-obese or obese compared with all women.

Table 4.12: Proportion (%) of adults who were pre-obese or obese,[a] by age group and sex, Victoria, 2016

Sex	Pre-obese or obese			Not pre-obese or obese		
Age group (years)	%	95% CI LL	95% CI UL	%	95% CI LL	95% CI UL
Males						
18–24	**27.9**	22.3	34.4	**61.3**	54.7	67.5
25–34	**55.5**	49.6	61.1	**36.5**	31.2	42.2
35–44	**62.9**	57.2	68.3	**31.6**	26.5	37.2
45–54	**66.2**	61.0	71.1	**29.6**	25.0	34.7
55–64	**69.1**	64.5	73.3	**26.8**	22.7	31.2
65–74	**71.3**	66.8	75.5	**22.1**	18.5	26.2
75–84	**61.8**	54.1	68.9	**32.1**	25.3	39.8
85+	**44.6**	32.7	57.2	**31.7**	21.0	44.7
18+	**58.7**	**56.5**	**60.9**	**34.5**	**32.4**	**36.7**
Females						
18–24	**21.6**	16.8	27.4	**65.2**	58.9	71.1
25–34	**30.3**	25.2	35.9	**56.3**	50.5	61.9
35–44	**40.7**	35.9	45.6	**46.5**	41.6	51.4
45–54	**47.8**	43.3	52.3	**38.4**	34.1	42.8
55–64	**57.7**	53.4	62.0	**32.0**	28.2	36.0
65–74	**52.4**	47.8	57.0	**35.3**	31.0	39.9
75–84	**47.9**	41.7	54.2	**33.8**	28.2	40.0
85+	**36.3**	25.5	48.6	**36.7**	26.8	47.9
18+	**42.2**	**40.3**	**44.2**	**44.5**	**42.5**	**46.4**
People						
18–24	**24.9**	21.1	29.2	**63.2**	58.6	67.5
25–34	**44.0**	40.0	48.2	**45.5**	41.5	49.6
35–44	**50.9**	47.2	54.7	**39.6**	36.0	43.3
45–54	**56.6**	53.2	60.0	**34.2**	31.0	37.5
55–64	**63.0**	59.9	66.1	**29.5**	26.7	32.5
65–74	**61.6**	58.2	64.8	**28.9**	26.0	32.1
75–84	**53.6**	48.7	58.3	**33.1**	28.7	37.9
85+	**40.2**	32.1	48.9	**34.4**	26.9	42.7
18+	**50.3**	**48.8**	**51.8**	**39.6**	**38.1**	**41.1**

Data are age-specific estimates, except for '18+', which are crude estimates (not age-standardised) for Victoria.

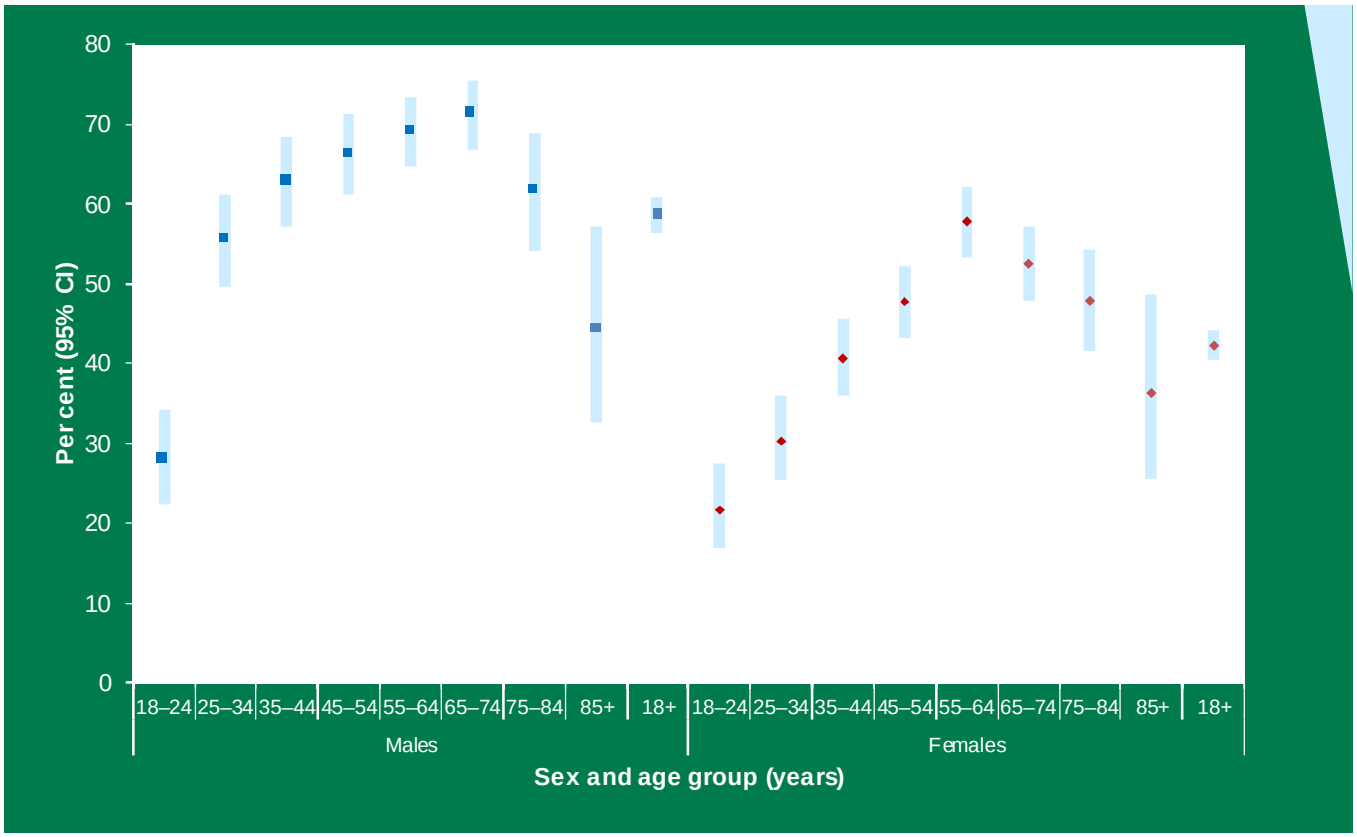
LL/UL 95% CI = lower/upper limit of 95 per cent confidence interval.

Estimates that are (statistically) significantly different from the corresponding estimate for Victoria are identified by colour as follows: above or below.

Estimates may not add to 100 per cent due to a proportion of 'don't know' or 'refused to say' responses, not reported here.

[a] Computed from self-reported height and weight [BMI = weight (kg) / height squared (m^2)]

Figure 4.7: Proportion (%) of adults who were pre-obese or obese,[a] by age group and sex, Victoria, 2016



Data are age group specific estimates, except for '18+', which are crude estimates (not age-standardised) for Victoria.

95% CI = 95 per cent confidence interval.

[a] Computed from self-reported height and weight [BMI = weight (kg) / height squared (m^2)]

Prevalence of obesity category by geographic location and sex

Table 4.13 shows the proportion of the obese adult population by category, departmental region and sex. In 2016, 2.2 per cent of Victorian men and 2.7 per cent of women were obese class III (very severe risk of co-morbidities).

Table 4.13: Proportion (%) of adults, by BMI category,[a] Department of Health and Human Services region and sex, Victoria, 2016

Region	Obese class I (30.0 ≤ BMI < 35.0)			Obese class II (35.0 ≤ BMI < 40.0)			Obese class III (BMI ≥ 40.0)		
		95% CI			95% CI			95% CI	
	%	LL	UL	%	LL	UL	%	LL	UL
Males									
Northern Metropolitan	**16.3**	12.7	20.7	**3.8** *	2.2	6.5	**3.6** *	2.1	6.1
Southern Metropolitan	**14.5**	11.7	18.0	**4.2**	2.7	6.5	**2.6** *	1.4	4.6
Eastern Metropolitan	**14.0**	10.4	18.6	**2.6** *	1.3	5.0	**		
Western Metropolitan	**15.6**	11.9	20.3	**4.7** *	2.8	7.6	**2.6** *	1.3	5.2
All metropolitan regions	**14.9**	13.1	16.9	**3.8**	2.9	4.9	**2.4**	1.7	3.3
Barw on-South Western	**15.2**	11.0	20.6	**3.1** *	1.5	6.2	**0.6** *	0.2	1.5
Gippsland	**13.0**	8.1	20.1	**3.5** *	1.3	8.7	**0.0**	.	.
Grampians	**14.6**	10.1	20.7	**2.1** *	0.8	5.6	**		
Hume	**10.2** *	5.4	18.7	**2.8** *	1.1	6.8	**		
Loddon Mallee	**16.3**	11.2	23.2	**5.5** *	2.6	11.1	**3.3** *	1.2	8.6
All rural regions	**13.8**	11.4	16.6	**3.4**	2.3	5.0	**1.7** *	0.9	3.2
Victoria	**14.8**	**13.2**	**16.4**	**3.7**	**2.9**	**4.6**	**2.2**	**1.6**	**3.0**
Females									
Northern Metropolitan	**11.7**	9.1	15.1	**2.6** *	1.5	4.4	**2.6** *	1.5	4.5
Southern Metropolitan	**11.3**	8.9	14.3	**2.7**	1.7	4.4	**3.3**	2.1	5.1
Eastern Metropolitan	**7.6**	5.5	10.3	**3.3** *	1.9	5.9	**2.7** *	1.3	5.4
Western Metropolitan	**13.4**	10.3	17.4	**3.7** *	2.3	6.1	**1.6** *	0.8	3.2
All metropolitan regions	**10.9**	9.6	12.5	**3.0**	2.3	4.0	**2.5**	1.9	3.4
Barw on-South Western	**10.7**	7.0	16.0	**5.9**	3.8	9.1	**3.0** *	1.6	5.4
Gippsland	**11.6**	8.2	16.1	**4.5** *	1.9	10.2	**4.3** *	2.6	7.0
Grampians	**15.1**	9.9	22.4	**6.4** *	2.8	14.1	**5.5** *	2.2	13.1
Hume	**11.6**	8.1	16.3	**6.8** *	3.8	11.8	**1.8** *	0.9	3.6
Loddon Mallee	**15.4**	10.3	22.5	**6.1** *	3.7	10.0	**		
All rural regions	**12.7**	10.6	15.2	**5.7**	4.4	7.5	**3.1**	2.2	4.4
Victoria	**11.3**	**10.2**	**12.6**	**3.7**	**3.0**	**4.5**	**2.7**	**2.1**	**3.4**
People									
Northern Metropolitan	**14.0**	11.7	16.6	**3.1**	2.1	4.6	**3.1**	2.1	4.5
Southern Metropolitan	**12.9**	11.0	15.1	**3.4**	2.5	4.7	**3.0**	2.1	4.2
Eastern Metropolitan	**10.6**	8.5	13.2	**3.0**	1.9	4.6	**1.7** *	1.0	3.1
Western Metropolitan	**14.5**	11.9	17.5	**4.2**	2.9	6.0	**2.0** *	1.2	3.4
All metropolitan regions	**12.9**	11.7	14.1	**3.4**	2.8	4.1	**2.5**	2.0	3.1
Barw on-South Western	**12.5**	9.8	15.9	**4.6**	3.1	6.6	**2.0** *	1.2	3.4
Gippsland	**12.1**	9.0	15.9	**4.0** *	2.1	7.5	**2.4** *	1.4	4.1
Grampians	**14.5**	11.1	18.7	**3.4** *	1.9	6.1	**3.2** *	1.6	6.2
Hume	**10.9**	7.7	15.2	**4.9** *	2.9	8.0	**1.5** *	0.8	3.0
Loddon Mallee	**15.7**	11.6	20.8	**5.8**	3.7	9.0	**2.8** *	1.4	5.6
All rural regions	**13.2**	11.6	15.0	**4.5**	3.6	5.6	**2.4**	1.8	3.2
Victoria	**13.0**	**12.1**	**14.1**	**3.7**	**3.2**	**4.2**	**2.4**	**2.0**	**2.9**

Metropolitan and rural regions are identified by colour as follows: metropolitan / rural.

Data were age-standardised to the 2011 Victorian population.

LL/UL 95% CI = lower/upper limit of 95 per cent confidence interval.

Estimates that are (statistically) significantly different from the corresponding estimate for Victoria are identified by colour as follows: above or below.

Estimates may not add to 100 per cent due to a proportion of 'don't know' or 'refused to say' responses, not reported here.

Relative standard error (RSE) = standard error / point estimate * 100; interpretation below:

***** RSE between 25 and 50 per cent; point estimate (%) should be interpreted with caution.

****** RSE greater than, or equal to, 50 per cent; point estimate (%) is unreliable, hence not reported.

[a] Computed from self-reported height and weight [BMI = weight (kg) / height squared (m^2)]

Table 4.14 shows the proportion of the obese adult population by category, departmental division and sex. The proportion of men and women who were obese was similar across all departmental divisions by obesity category.

Table 4.14: Proportion (%) of adults, by BMI category,[a] Department of Health and Human Services region and sex, Victoria, 2016

	Obese class I (30.0 ≤ BMI < 35.0)			Obese class II (35.0 ≤ BMI < 40.0)			Obese class III (BMI ≥ 40.0)		
		95% CI			95% CI			95% CI	
Division	%	LL	UL	%	LL	UL	%	LL	UL
Males									
North	**15.9**	12.9	19.4	**4.4**	2.7	7.1	**3.6**	2.2	5.8
South	**14.6**	12.0	17.7	**4.0**	2.7	6.0	**2.1** *	1.2	3.9
East	**13.2**	10.1	17.1	**2.6** *	1.5	4.4	**1.1** *	0.5	2.8
West	**15.6**	12.8	18.8	**3.9**	2.6	5.8	**2.2** *	1.2	3.8
Victoria	**14.8**	**13.2**	**16.4**	**3.7**	**2.9**	**4.6**	**2.2**	**1.6**	**3.0**
Females									
North	**12.6**	10.1	15.7	**3.4**	2.3	5.0	**2.5**	1.6	4.1
South	**11.4**	9.2	14.0	**2.9**	1.9	4.3	**3.5**	2.4	5.0
East	**8.4**	6.5	10.7	**4.0**	2.6	6.2	**2.5** *	1.3	4.6
West	**13.0**	10.7	15.8	**4.5**	3.3	6.2	**2.3**	1.5	3.4
Victoria	**11.3**	**10.2**	**12.6**	**3.7**	**3.0**	**4.5**	**2.7**	**2.1**	**3.4**
People									
North	**14.5**	12.4	16.8	**3.8**	2.8	5.1	**3.0**	2.1	4.2
South	**12.9**	11.2	14.9	**3.4**	2.5	4.6	**2.8**	2.1	3.9
East	**10.7**	8.8	12.9	**3.3**	2.4	4.7	**1.7** *	1.1	2.8
West	**14.1**	12.3	16.2	**4.3**	3.3	5.5	**2.2**	1.5	3.1
Victoria	**13.0**	**12.1**	**14.1**	**3.7**	**3.2**	**4.2**	**2.4**	**2.0**	**2.9**

Data were age-standardised to the 2011 Victorian population.

LL/UL 95% CI = lower/upper limit of 95 per cent confidence interval.

Estimates that are (statistically) significantly different from the corresponding estimate for Victoria are identified by colour as follows: above or below.

Estimates may not add to 100 per cent due to a proportion of 'don't know' or 'refused to say' responses, not reported here.

Relative standard error (RSE) = standard error / point estimate * 100; interpretation below:

***** RSE between 25 and 50 per cent; point estimate (%) should be interpreted with caution.

[a] Computed from self-reported height and weight [BMI = weight (kg) / height squared (m^2)]

Prevalence of obesity category by age and sex

Table 4.15 shows the proportion of the obese adult population by category, age group and sex. A significantly higher proportion of 55–64-year-old women and people were Class I obese compared with all Victorian women and people, respectively.

Table 4.15: Proportion (%) of obese adults, by category,[a] age group and sex, Victoria, 2016

Sex / Age group (years)	Obese class I (30.0 ≤ BMI < 35.0)			Obese class II (35.0 ≤ BMI < 40.0)			Obese class III (BMI ≥ 40.0)		
	%	95% CI LL	95% CI UL	%	95% CI LL	95% CI UL	%	95% CI LL	95% CI UL
Males									
18–24	5.4 *	3.1	9.2	**			**		
25–34	13.2	9.6	18.0	3.0 *	1.6	5.6	**		
35–44	13.7	10.0	18.3	3.7 *	2.1	6.5	2.7 *	1.3	5.6
45–54	18.5	14.8	22.8	5.3	3.3	8.2	3.3 *	1.8	6.0
55–64	18.9	15.4	23.0	4.7	3.1	7.1	2.8 *	1.6	4.8
65–74	19.9	16.3	24.1	5.8 *	3.4	9.7	2.9 *	1.7	5.1
75–84	14.6	9.7	21.3	2.7 *	1.1	6.3	**		
85+	11.8 *	5.6	23.1	0.0	.	.	**		
18+	**14.7**	**13.2**	**16.4**	**3.7**	**2.9**	**4.6**	**2.2**	**1.6**	**3.0**
Females									
18–24	4.6 *	2.7	8.0	2.3 *	1.1	5.1	**		
25–34	7.2	4.7	10.9	1.7 *	0.7	4.1	3.4 *	1.9	6.1
35–44	10.6	7.8	14.3	5.2	3.3	8.0	2.7 *	1.5	4.7
45–54	14.5	11.5	18.1	3.0	1.9	4.6	2.8	1.7	4.5
55–64	17.6	14.4	21.4	6.2	4.4	8.5	3.7	2.5	5.4
65–74	15.8	12.9	19.3	4.5	3.0	6.6	2.9 *	1.7	4.7
75–84	12.0	8.6	16.6	4.4 *	2.3	8.4	2.4 *	1.1	4.9
85+	11.6 *	5.0	24.4	**			**		
18+	**11.8**	**10.6**	**13.1**	**3.8**	**3.2**	**4.6**	**2.8**	**2.2**	**3.4**
People									
18–24	5.0	3.4	7.4	1.4 *	0.7	2.9	1.0 *	0.4	2.3
25–34	10.5	8.1	13.5	2.4 *	1.5	4.0	2.3 *	1.3	3.9
35–44	12.0	9.7	14.8	4.5	3.2	6.4	2.7	1.7	4.2
45–54	16.4	14.0	19.1	4.1	2.9	5.6	3.1	2.1	4.5
55–64	18.2	15.8	20.9	5.5	4.2	7.1	3.2	2.3	4.5
65–74	17.8	15.4	20.4	5.1	3.6	7.2	2.9	2.0	4.2
75–84	13.1	10.1	16.8	3.7 *	2.2	6.3	1.8 *	1.0	3.5
85+	11.7 *	6.7	19.6	**			**		
18+	**13.2**	**12.3**	**14.3**	**3.7**	**3.2**	**4.3**	**2.5**	**2.1**	**3.0**

Data are age-specific estimates, except for '18+', which are crude estimates (not age-standardised) for Victoria.

LL/UL 95% CI = lower/upper limit of 95 per cent confidence interval.

Estimates that are (statistically) significantly different from the corresponding estimate for Victoria are identified by colour as follows: above or below.

Estimates may not add to 100 per cent due to a proportion of 'don't know' or 'refused to say' responses, not reported here.

Relative standard error (RSE) = standard error/point estimate * 100; interpretation below:

***** Estimate has a RSE between 25 and 50 per cent and should be interpreted with caution.

****** Estimate has a RSE greater than 50 per cent and is not reported as it is unreliable for general use.

[a] Computed from self-reported height and weight [BMI = weight (kg) / height squared (m^2)]

5. Physical activity

Key findings

Meeting the physical activity guidelines

49.6%
of Victorian adults undertook adequate physical activity (measured in both sufficient time and sessions) to meet the national guidelines

50.0%
of men undertook adequate physical activity

49.2%
of women undertook adequate physical activity

The proportion of men and women who undertook adequate physical activity statistically significantly increased with increasing total annual household income.

5. Physical activity

Introduction

Physical inactivity is a major modifiable risk factor for a range of conditions including cardiovascular disease, type 2 diabetes, some cancers, osteoporosis, depression, anxiety and falls among older people. Moreover, physical activity improves cognitive function in older people, prevents weight gain and, in conjunction with a low-calorie diet, promotes weight loss. The evidence suggests that health benefits accrue with increasing levels of physical activity and that this protective effect occurs even if adopted in middle and later life. Therefore physical activity is an obvious target for health promotion. Monitoring physical activity levels at the population level is relevant for investigating the outcomes of health promotion efforts.

Information was collected on four types of physical activity to measure the extent to which the population is engaging in sufficient physical activity to achieve a health benefit and meet the current national guidelines:

- time spent walking (for more than 10 minutes at a time) for recreation or exercise, or to get to and from places
- time spent doing vigorous household chores and gardening
- time spent doing vigorous activities other than household chores and gardening (for example, tennis, jogging, cycling or keep-fit exercises)
- number of muscle-strengthening physical activities (for example, free weights, using weight machines, exercises like push-ups/sit-ups, lifting, carrying heavy parcels or digging).

Australia's physical activity and sedentary behaviour guidelines

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 or more minutes of moderate-intensity physical activity (such as walking) or 75 or more minutes of vigorous physical activity and doing muscle-strengthening activities on at least two days on a regular basis over one week is believed to be 'sufficient' for health benefits and is the recommended threshold of physical activity for adults between 18 and 64 years of age according to *Australia's physical activity and sedentary behaviour guidelines* (DoH 2014). These national guidelines also recommend minimising the amount of time spent in prolonged sitting and to break up long periods of sitting as often as possible. The guidelines recommend that people 65 years of age or older should accumulate at least 30 minutes of moderate-intensity physical activity on most days (Table 5.1).

Table 5.1: Australia's physical activity and sedentary behaviour guidelines, Department of Health, 2014

Physical activity guidelines
Age: 18–64 years
Doing any physical activity is better than doing none. If you currently do no physical activity, start by doing some, and gradually build up to the recommended amount. Be active on most, preferably all, days every week. Accumulate 150 to 300 minutes (2 ½ to 5 hours) of moderate intensity physical activity or 75 to 150 minutes (1 ¼ to 2 ½ hours) of vigorous intensity physical activity, or an equivalent combination of both moderate and vigorous activities, each week. Do muscle strengthening activities on at least 2 days each week.
Age: 65 years and older
Being physically active for 30 minutes every day is achievable and even a slight increase in activity can make a difference to your health and wellbeing.

The sufficient time and sessions measure of physical activity is regarded as the preferred indicator of the adequacy of physical activity for a health benefit because it takes into consideration both physical activity time (150 or more minutes of moderate-intensity or 75 minutes or more of vigorous physical activity) and muscle-strengthening sessions (two sessions).

A person who satisfied both criteria (time and number of muscle-strengthening sessions) was classified as doing 'sufficient' physical activity to achieve an added health benefit in the analysis that follows for adults between 18 and 64 years of age. For people 65 years of age or older 'sufficient' physical activity was defined as completing 30 minutes of moderate-intensity physical activity every day. The number of minutes spent on physical activity was calculated by adding the minutes of moderate-intensity activity to two times the minutes of vigorous activity (that is, the minutes of vigorous-intensity activity are weighted by a factor of two). Table 5.2 outlines the definitions of sufficient physical activity by age group, as applied to the Victorian Population Health Survey 2016.

Table 5.2: Definition of sufficient physical activity

Physical activity category	Age group (years)	
	18–64	65 or over
Sedentary	0 minutes of moderate or vigorous intensity physical activity and 0 muscle strengthening sessions	0 minutes
Insufficient	Less than 150 minutes of moderate intensity or 75 minutes of vigorous intensity physical activity, or an equivalent combination of both moderate and vigorous activities and/or less than 2 days muscle strengthening activities each week	Less than 30 minutes of moderate intensity physical activity every day
Sufficient	150 minutes of moderate intensity or 75 minutes of vigorous intensity physical activity, or an equivalent combination of both moderate and vigorous activities and muscle strengthening activities on at least 2 days each week	30 minutes of moderate intensity physical activity every day

Meeting the Australian physical activity guidelines by geographic location

Table 5.3 shows physical activity levels categorised by whether the level of physical activity met the 2014 Australian guidelines, by departmental region and sex. Overall, the proportion of men who undertook sufficient physical activity (50.0 per cent) was similar to the proportion in women (49.2 per cent). There were no significant differences between the regions in the proportions of men or women who engaged in sufficient physical activity compared with all Victorian men and women, respectively.

Table 5.3: Physical activity status,[a] by Department of Health and Human Services region and sex, Victoria, 2016

	Sedentary			Does not meet guidelines			Met guidelines		
		95% CI			95% CI			95% CI	
Region	%	LL	UL	%	LL	UL	%	LL	UL
Males									
Northern Metropolitan	**4.7**	2.9	7.4	**42.3**	37.5	47.3	**51.4**	46.3	56.5
Southern Metropolitan	**2.9** *	1.7	4.8	**46.6**	42.3	51.0	**48.1**	43.8	52.5
Eastern Metropolitan	**2.9** *	1.7	4.7	**48.7**	43.2	54.3	**47.3**	41.7	52.9
Western Metropolitan	**4.8** *	2.9	7.9	**40.7**	35.7	45.9	**52.7**	47.3	58.0
All metropolitan regions	**3.5**	2.8	4.5	**44.9**	42.4	47.4	**49.7**	47.2	52.3
Barwon-South Western	**			**45.2**	37.1	53.6	**51.2**	42.9	59.3
Gippsland	**1.0** *	0.4	2.4	**48.1**	38.8	57.6	**50.6**	41.2	60.0
Grampians	**1.8** *	0.8	4.0	**43.0**	33.8	52.7	**53.5**	43.9	62.8
Hume	**			**44.9**	35.3	54.9	**50.9**	40.5	61.2
Loddon Mallee	**			**46.4**	39.0	54.1	**47.4**	39.1	55.9
All rural regions	**1.8** *	1.0	3.5	**45.9**	41.5	50.4	**50.4**	45.9	54.9
Victoria	**3.1**	**2.5**	**4.0**	**45.0**	**42.9**	**47.2**	**50.0**	**47.8**	**52.2**
Females									
Northern Metropolitan	**2.4** *	1.4	4.0	**48.8**	44.0	53.6	**46.0**	41.3	50.8
Southern Metropolitan	**3.2**	1.9	5.2	**48.2**	44.2	52.3	**46.3**	42.3	50.3
Eastern Metropolitan	**2.0** *	1.1	3.6	**45.4**	40.6	50.2	**51.6**	46.8	56.4
Western Metropolitan	**3.8**	2.4	5.8	**42.4**	37.7	47.3	**49.8**	44.8	54.8
All metropolitan regions	**2.9**	2.2	3.8	**46.4**	44.1	48.7	**48.4**	46.0	50.7
Barwon-South Western	**			**42.5**	34.9	50.6	**53.7**	45.7	61.5
Gippsland	**			**39.8**	31.9	48.3	**52.4**	44.1	60.5
Grampians	**2.0** *	0.9	4.2	**55.0**	46.6	63.2	**39.6**	32.0	47.7
Hume	**1.9** *	1.0	3.5	**46.9**	38.4	55.5	**49.7**	41.0	58.3
Loddon Mallee	**0.9** *	0.5	1.6	**43.7**	35.3	52.4	**54.5**	45.7	63.1
All rural regions	**1.9** *	1.1	3.1	**44.9**	40.9	49.0	**51.0**	46.9	55.0
Victoria	**2.6**	**2.1**	**3.3**	**45.8**	**43.8**	**47.8**	**49.2**	**47.2**	**51.2**
People									
Northern Metropolitan	**3.2**	2.3	4.5	**45.6**	42.2	49.1	**48.9**	45.4	52.4
Southern Metropolitan	**3.1**	2.1	4.4	**47.5**	44.5	50.5	**47.1**	44.1	50.1
Eastern Metropolitan	**2.4**	1.6	3.5	**47.0**	43.3	50.7	**49.5**	45.8	53.2
Western Metropolitan	**4.3**	3.0	6.0	**41.6**	38.1	45.2	**51.1**	47.4	54.8
All metropolitan regions	**3.2**	2.7	3.8	**45.7**	44.0	47.4	**49.0**	47.3	50.7
Barwon-South Western	**2.3** *	1.0	5.2	**44.1**	38.2	50.1	**52.1**	46.1	58.0
Gippsland	**1.9** *	0.7	5.0	**43.8**	37.5	50.3	**51.7**	45.4	58.0
Grampians	**1.9** *	1.1	3.3	**46.8**	40.1	53.7	**48.7**	42.1	55.3
Hume	**1.4** *	0.7	2.5	**47.1**	40.0	54.3	**49.9**	42.8	57.0
Loddon Mallee	**1.7** *	0.7	4.3	**43.7**	37.8	49.7	**52.0**	45.6	58.4
All rural regions	**1.9**	1.2	2.9	**44.9**	41.9	48.0	**51.1**	48.0	54.2
Victoria	**2.9**	**2.4**	**3.4**	**45.4**	**43.9**	**46.9**	**49.6**	**48.1**	**51.1**

Metropolitan and rural regions are identified by colour as follows: metropolitan / rural.

Data were age-standardised to the 2011 Victorian population.

LL/UL 95% CI = lower/upper limit of 95 per cent confidence interval.

Estimates that are (statistically) significantly different from the corresponding estimate for Victoria are identified by colour as follows: above or below.

Estimates may not add to 100 per cent due to a proportion of 'don't know' or 'refused to say' responses, not reported here.

Relative standard error (RSE) = standard error / point estimate * 100; interpretation below:

* RSE between 25 and 50 per cent; point estimate (%) should be interpreted with caution.

** RSE greater than, or equal to, 50 per cent; point estimate (%) is unreliable, hence not reported.

[a] DoH (2014) guidelines.

Table 5.4 shows physical activity levels categorised by whether the level of physical activity met the 2014 Australian guidelines, by departmental division and sex. There were no significant differences between the divisions in the proportions of men or women who engaged in sufficient physical activity.

Table 5.4: Physical activity status,[a] by Department of Health and Human Services division and sex, Victoria, 2016

	Sedentary			Does not meet guidelines			Met guidelines		
		95% CI			95% CI			95% CI	
Division	%	LL	UL	%	LL	UL	%	LL	UL
Males									
North	**4.2**	2.7	6.6	**43.0**	38.7	47.3	**50.9**	46.4	55.4
South	**2.6**	1.6	4.2	**46.7**	42.8	50.7	**48.5**	44.5	52.5
East	**2.3**	1.5	3.6	**48.2**	43.4	53.1	**48.2**	43.3	53.1
West	**3.8**	2.5	6.0	**42.1**	38.2	46.1	**52.2**	48.1	56.3
Victoria	**3.1**	**2.5**	**4.0**	**45.0**	**42.9**	**47.2**	**50.0**	**47.8**	**52.2**
Females									
North	**2.0**	1.3	3.3	**47.2**	43.0	51.4	**48.5**	44.2	52.8
South	**3.1**	2.0	4.9	**46.9**	43.3	50.6	**47.3**	43.7	51.0
East	**2.0** *	1.2	3.2	**45.7**	41.5	50.0	**51.3**	47.0	55.5
West	**2.9**	2.0	4.3	**43.9**	40.2	47.7	**50.0**	46.2	53.8
Victoria	**2.6**	**2.1**	**3.3**	**45.8**	**43.8**	**47.8**	**49.2**	**47.2**	**51.2**
People									
North	**2.9**	2.1	4.1	**44.7**	41.7	47.8	**50.1**	47.0	53.2
South	**2.9**	2.1	4.1	**46.9**	44.2	49.6	**47.8**	45.1	50.5
East	**2.2**	1.5	3.0	**46.9**	43.6	50.2	**49.8**	46.5	53.0
West	**3.3**	2.5	4.4	**43.0**	40.3	45.7	**51.2**	48.4	54.0
Victoria	**2.9**	**2.4**	**3.4**	**45.4**	**43.9**	**46.9**	**49.6**	**48.1**	**51.1**

Data were age-standardised to the 2011 Victorian population.

LL/UL 95% CI = lower/upper limit of 95 per cent confidence interval.

Estimates that are (statistically) significantly different from the corresponding estimate for Victoria are identified by colour as follows: above or below.

Estimates may not add to 100 per cent due to a proportion of 'don't know' or 'refused to say' responses, not reported here.

Relative standard error (RSE) = standard error / point estimate * 100; interpretation below:

***** RSE between 25 and 50 per cent; point estimate (%) should be interpreted with caution.

[a] DoH (2014) guidelines.

Meeting the Australian physical activity guidelines by age and sex

Table 5.5 and Figure 5.1 show the physical activity levels of the Victorian population categorised by whether the level of physical activity met the 2014 Australian guidelines, by age group and sex. There was a significantly higher proportion of men, women and adults 65–84 years of age who undertook adequate physical activity compared with all Victorian men, women and adults, respectively.

Table 5.5: Physical activity status,[a] by age group and sex, Victoria, 2016

Sex	Sedentary			Does not meet guidelines			Met guidelines		
Age group		95% CI			95% CI			95% CI	
(years)	%	LL	UL	%	LL	UL	%	LL	UL
Males									
18–24	**			**38.9**	32.7	45.4	**57.5**	50.9	63.9
25–34	**1.9** *	0.9	4.0	**46.8**	41.0	52.6	**49.3**	43.5	55.1
35–44	**2.5** *	1.2	5.2	**54.9**	49.1	60.6	**40.9**	35.4	46.7
45–54	**2.6** *	1.4	4.8	**59.8**	54.6	64.8	**36.9**	32.0	42.1
55–64	**2.9** *	1.7	4.9	**57.3**	52.5	62.0	**38.4**	33.8	43.2
65–74	**6.5**	4.0	10.4	**13.7**	10.6	17.5	**78.5**	73.8	82.6
75–84	**5.8** *	3.3	9.8	**13.9**	9.7	19.5	**78.8**	72.4	84.0
85+	**14.8** *	7.5	27.2	**20.7**	12.5	32.5	**55.2**	42.4	67.5
18+	**3.0**	**2.4**	**3.9**	**44.8**	**42.6**	**47.1**	**50.4**	**48.1**	**52.6**
Females									
18–24	**			**43.0**	36.9	49.4	**53.8**	47.5	60.1
25–34	**1.0** *	0.4	2.4	**48.6**	42.9	54.3	**48.8**	43.1	54.5
35–44	**2.9** *	1.4	5.9	**56.0**	51.0	60.9	**39.8**	35.1	44.8
45–54	**2.2** *	1.2	3.9	**54.8**	50.3	59.2	**40.4**	36.1	44.8
55–64	**3.1** *	1.8	5.2	**56.1**	51.6	60.5	**38.4**	34.0	42.9
65–74	**3.4**	2.2	5.1	**17.3**	14.3	20.9	**76.9**	73.1	80.4
75–84	**6.9**	4.4	10.7	**19.0**	14.8	24.2	**67.9**	61.9	73.5
85+	**10.0** *	5.7	16.7	**28.9**	19.7	40.3	**54.0**	42.6	65.0
18+	**2.7**	**2.1**	**3.4**	**45.5**	**43.5**	**47.5**	**49.5**	**47.5**	**51.4**
People									
18–24	**1.0** *	0.4	2.6	**40.9**	36.5	45.4	**55.8**	51.2	60.2
25–34	**1.5** *	0.8	2.7	**47.6**	43.5	51.7	**49.1**	45.0	53.2
35–44	**2.7** *	1.6	4.6	**55.5**	51.7	59.3	**40.3**	36.7	44.1
45–54	**2.4**	1.6	3.7	**57.2**	53.8	60.5	**38.7**	35.4	42.1
55–64	**3.0**	2.0	4.4	**56.7**	53.4	59.9	**38.4**	35.2	41.6
65–74	**4.9**	3.4	6.9	**15.6**	13.3	18.1	**77.7**	74.8	80.4
75–84	**6.4**	4.5	9.1	**16.9**	13.8	20.6	**72.4**	68.0	76.4
85+	**12.2**	7.8	18.8	**25.1**	18.5	33.0	**54.6**	46.0	62.9
18+	**2.9**	**2.4**	**3.4**	**45.2**	**43.7**	**46.6**	**49.9**	**48.4**	**51.4**

Data are age-specific estimates, except for '18+', which are crude estimates (not age-standardised) for Victoria.

LL/UL 95% CI = lower/upper limit of 95 per cent confidence interval.

Estimates that are (statistically) significantly different from the corresponding estimate for Victoria are identified by colour as follows: above or below.

Estimates may not add to 100 per cent due to a proportion of 'don't know' or 'refused to say' responses, not reported here.

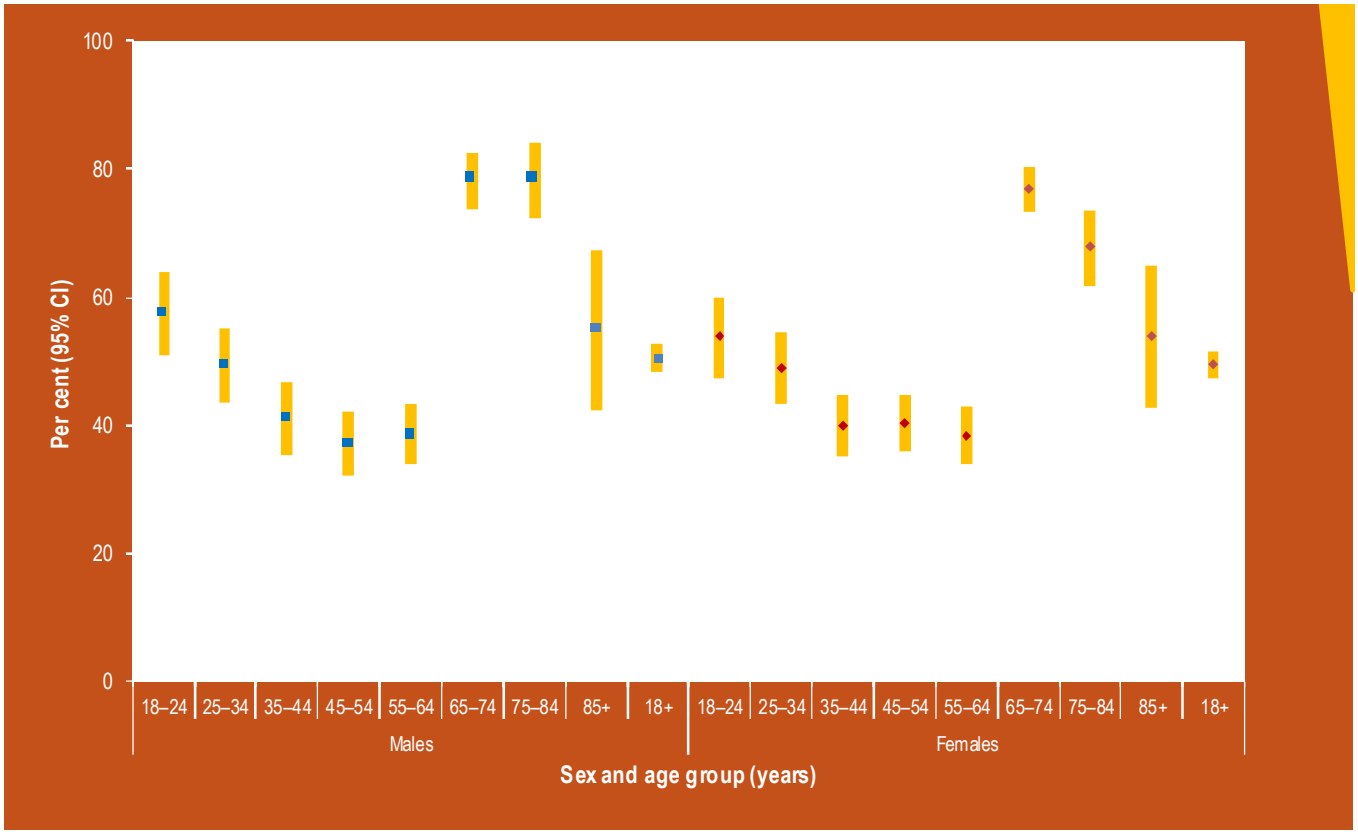
Relative standard error (RSE) = standard error/point estimate * 100; interpretation below:

* Estimate has a RSE between 25 and 50 per cent and should be interpreted with caution.

** Estimate has a RSE greater than 50 per cent and is not reported as it is unreliable for general use.

[a] DoH (2014) guidelines.

Figure 5.1: Proportion (%) of adults meeting physical activity guidelines,[a] by age group and sex, Victoria, 2016



Data are age group specific estimates, except for '18+', w hich are crude estimates (not age-standardised) for Victoria.

95% CI = 95 per cent confidence interval.

[a] DoH (2014) guidelines.

Meeting the Australian physical activity guidelines by selected socioeconomic determinants

Table 5.6 shows physical activity status among men by selected socioeconomic determinants. When compared with all Victorian men, there was a significantly lower proportion of men who undertook adequate physical activity with the following characteristics:

- spoke a language other than English at home
- did not complete high school.

Table 5.6: Physical activity status[a] in men, by selected socioeconomic determinants, Victoria, 2016

	Sedentary			Does not meet guidelines			Met guidelines		
		95% CI			95% CI			95% CI	
	%	LL	UL	%	LL	UL	%	LL	UL
All males	**3.1**	**2.5**	**4.0**	**45.0**	**42.9**	**47.2**	**50.0**	**47.8**	**52.2**
Country of birth									
Australia	**2.2**	1.5	3.1	**44.0**	41.3	46.7	**51.7**	49.0	54.4
Overseas	**4.8**	3.5	6.6	**47.3**	43.6	50.9	**46.6**	43.0	50.3
Language spoken at home									
English	**2.5**	1.8	3.5	**42.4**	39.9	45.0	**53.0**	50.4	55.6
Language other than English	**4.9**	3.5	6.8	**50.9**	47.0	54.8	**42.8**	38.9	46.8
Education level									
Did not complete high school	**4.3**	2.7	6.9	**53.4**	46.9	59.8	**38.7**	32.6	45.1
Completed high school, or TAFE, or trade certificate, or diploma	**2.5**	1.7	3.6	**43.7**	40.7	46.7	**51.9**	48.9	55.0
University, or some other tertiary institute degree	**2.3**	1.5	3.4	**44.4**	41.0	47.9	**52.7**	49.3	56.2
Employment status									
Employed	**1.8**	1.2	2.8	**44.5**	42.0	47.0	**51.8**	49.2	54.4
Unemployed	**6.6** *	3.3	12.7	**40.5**	32.2	49.4	**39.3**	31.0	48.2
Not in labour force	**3.8**	2.4	5.8	**51.4**	45.0	57.8	**43.7**	37.5	50.0
Total annual household income									
< $40,000	**4.6**	2.9	7.4	**48.8**	43.3	54.3	**43.7**	38.4	49.2
$40,000 to < $100,000	**2.3** *	1.4	3.9	**44.7**	41.0	48.5	**50.4**	46.5	54.3
≥ $100,000	**			**41.4**	37.8	45.2	**57.3**	53.5	61.0

Data were age-standardised to the 2011 Victorian population.

LL/UL 95% CI = lower/upper limit of 95 per cent confidence interval.

Estimates that are (statistically) significantly different from the corresponding estimate for Victoria are identified by colour as follows: above or below.

Estimates may not add to 100 per cent due to a proportion of 'don't know' or 'refused to say' responses, not reported here.

Relative standard error (RSE) = standard error / point estimate * 100; interpretation below:

* RSE between 25 and 50 per cent; point estimate (%) should be interpreted with caution.

** RSE greater than, or equal to, 50 per cent; point estimate (%) is unreliable, hence not reported.

[a] DoH (2014) guidelines.

Table 5.7 shows physical activity status among women by selected socioeconomic determinants. When compared with all Victorian women, there was a significantly lower proportion of women who undertook adequate physical activity with the following characteristics:

- born overseas
- spoke a language other than English at home
- unemployed
- total household income of less than $40,000.

Table 5.7: Physical activity status[a] in women, by selected socioeconomic determinants, Victoria, 2016

	Sedentary			Does not meet guidelines			Met guidelines		
		95% CI			95% CI			95% CI	
	%	LL	UL	%	LL	UL	%	LL	UL
All females	**2.6**	**2.1**	**3.3**	**45.8**	**43.8**	**47.8**	**49.2**	**47.2**	**51.2**
Country of birth									
Australia	**1.9**	1.3	2.7	**44.1**	41.7	46.5	**51.8**	49.4	54.2
Overseas	**4.1**	3.0	5.6	**50.1**	46.5	53.7	**43.3**	39.8	47.0
Language spoken at home									
English	**2.0**	1.4	2.8	**43.5**	41.1	45.8	**52.5**	50.1	54.8
Language other than English	**4.4**	3.1	6.2	**51.1**	47.2	55.1	**41.5**	37.6	45.6
Education level									
Did not complete high school	**3.3** *	2.0	5.5	**51.5**	44.8	58.1	**40.9**	34.6	47.5
Completed high school, or TAFE, or trade certificate, or diploma	**2.5**	1.8	3.7	**46.0**	43.1	49.0	**49.7**	46.7	52.6
University, or some other tertiary institute degree	**2.2** *	1.3	3.7	**43.7**	40.6	46.7	**53.0**	49.9	56.1
Employment status									
Employed	**1.4**	0.9	2.1	**44.5**	41.9	47.2	**52.7**	50.0	55.3
Unemployed	**			**53.9**	45.2	62.4	**34.9**	27.1	43.6
Not in labour force	**4.2**	2.6	6.6	**46.7**	42.7	50.7	**47.1**	43.2	51.1
Total annual household income									
< $40,000	**2.6**	1.6	4.1	**51.7**	46.6	56.7	**40.7**	35.9	45.7
$40,000 to < $100,000	**2.1** *	1.2	3.9	**47.0**	43.2	50.8	**49.8**	46.0	53.6
≥ $100,000	**			**38.4**	34.0	43.0	**59.8**	54.9	64.6

Data were age-standardised to the 2011 Victorian population.

LL/UL 95% CI = lower/upper limit of 95 per cent confidence interval.

Estimates that are (statistically) significantly different from the corresponding estimate for Victoria are identified by colour as follows: above or below.

Estimates may not add to 100 per cent due to a proportion of 'don't know' or 'refused to say' responses, not reported here.

Relative standard error (RSE) = standard error / point estimate * 100; interpretation below:

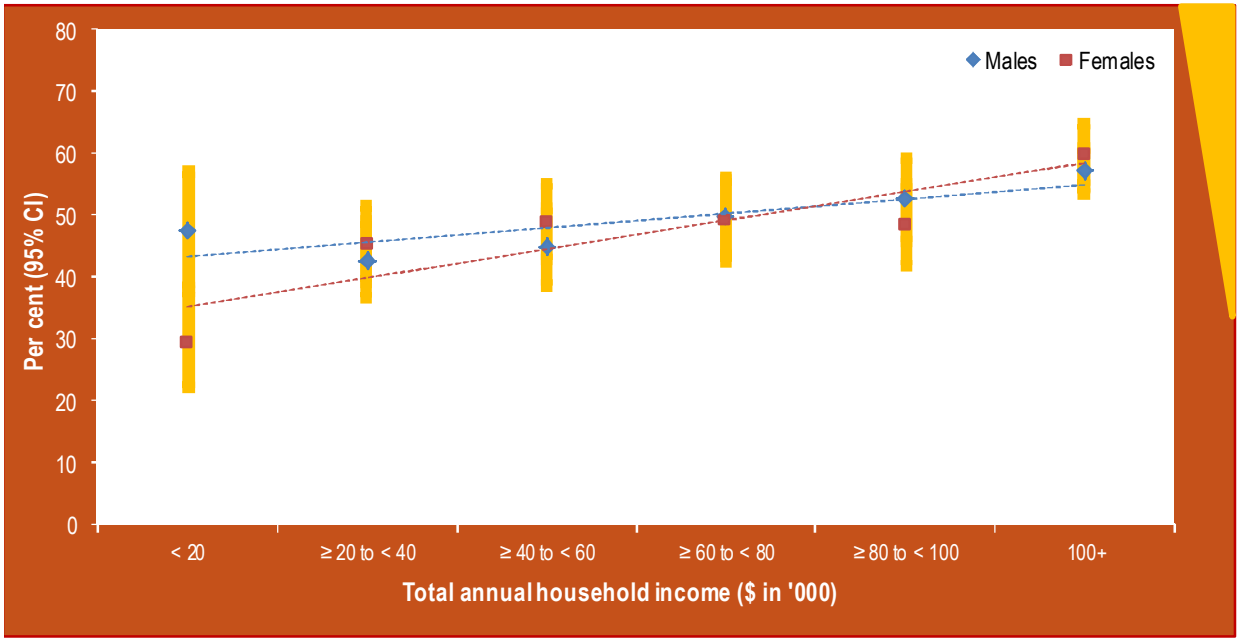
* RSE between 25 and 50 per cent; point estimate (%) should be interpreted with caution.

** RSE greater than, or equal to, 50 per cent; point estimate (%) is unreliable, hence not reported.

[a] DoH (2014) guidelines.

The relationship was investigated between SES and the age-adjusted prevalence of sedentary behaviour using total annual household income as a measure of SES (Figure 5.2). The proportion of men and women who undertook adequate physical activity significantly increased with increasing total annual household income.

Figure 5.2: Proportion (%) of adults who met physical activity guidelines,[a] by total annual household income and sex, Victoria, 2016



Data were age-standardised to the 2011 Victorian population.
95% CI = 95 per cent confidence interval.
[a] DoH (2014) guidelines.

Meeting the Australian physical activity guidelines by selected modifiable risk factors and morbidity status

Table 5.8 shows physical activity status among men, by selected modifiable risk factors and morbidity status. When compared with all Victorian men, there was a significantly higher proportion of men who undertook adequate physical activity with the following characteristics:

- met both fruit and vegetable consumption guidelines
- excellent or very good self-reported health status.

Table 5.8: Physical activity status[a] in men, by selected modifiable risk factors and morbidity status, Victoria, 2016

	Sedentary			Does not meet guidelines			Met guidelines		
		95% CI			95% CI			95% CI	
	%	LL	UL	%	LL	UL	%	LL	UL
All males	**3.1**	**2.5**	**4.0**	**45.0**	**42.9**	**47.2**	**50.0**	**47.8**	**52.2**
Psychological distress[b]									
Low (K10 score < 16)	**2.6**	1.8	3.8	**43.4**	40.5	46.3	**52.2**	49.3	55.1
Moderate (K10 score 16–21)	**2.2**	1.4	3.5	**45.0**	40.7	49.4	**50.8**	46.3	55.2
High / very high (K10 score 22+)	**5.3**	3.4	8.3	**50.8**	44.9	56.7	**42.0**	36.2	47.9
Met fruit / vegetable guidelines[c]									
Both guidelines	**			**15.9** *	8.7	27.4	**83.2**	71.7	90.7
Vegetable guidelines[d]	**			**28.6**	18.5	41.5	**68.7**	55.7	79.3
Fruit guidelines[d]	**1.8** *	1.1	3.1	**39.1**	35.7	42.5	**57.7**	54.2	61.2
Neither	**3.9**	2.9	5.1	**48.7**	45.9	51.6	**45.8**	42.9	48.6
Smoking status									
Current smoker	**5.8**	3.5	9.3	**49.8**	44.9	54.7	**41.9**	36.7	47.4
Ex-smoker	**2.9** *	1.5	5.6	**40.7**	36.1	45.5	**54.7**	49.6	59.7
Non-smoker	**3.1**	2.2	4.4	**44.0**	41.0	47.0	**51.2**	48.2	54.2
Lifetime risk of alcohol-related harm[e]									
Abstainer / no longer drinks alcohol	**7.7**	5.2	11.3	**48.0**	42.9	53.2	**42.9**	38.0	48.0
Reduced risk	**4.8**	3.1	7.5	**47.5**	41.0	54.0	**45.7**	39.3	52.2
Increased risk	**1.5**	1.0	2.2	**44.4**	41.8	47.0	**52.5**	49.9	55.1
Self-reported health									
Excellent / very good	**1.6** *	0.9	2.6	**37.3**	34.1	40.6	**59.6**	56.2	62.9
Good	**2.5**	1.6	3.8	**48.8**	45.4	52.3	**46.8**	43.4	50.3
Fair/poor	**6.7**	4.8	9.4	**56.1**	50.9	61.1	**35.1**	30.3	40.2
Body weight status based on BMI[f]									
Underweight (BMI < 18.5 kg/m^2)	**0.0**	.	.	**75.8**	67.0	82.8	**18.4**	11.4	28.3
Normal range (18.5 ≥ BMI < 25 kg/m^2)	**3.8**	2.6	5.5	**40.2**	36.7	43.9	**55.1**	51.4	58.7
Pre-obese (25 ≥ BMI < 30 kg/m^2)	**1.2** *	0.7	2.0	**45.1**	41.4	48.9	**52.2**	48.5	55.9
Obese (BMI ≥ 30 kg/m^2)	**3.2**	2.0	5.1	**47.1**	41.8	52.5	**46.4**	41.0	51.9
Blood pressure status									
Doctor diagnosed hypertension	**2.0** *	1.2	3.5	**48.5**	42.7	54.3	**46.7**	40.8	52.6
Normal range	**3.8**	2.8	5.1	**43.5**	41.0	46.0	**51.2**	48.6	53.7
Morbidity status									
No chronic disease	**1.8**	1.1	2.9	**43.6**	40.8	46.5	**52.3**	49.3	55.3
One chronic disease	**4.1**	2.7	6.3	**43.9**	39.7	48.2	**51.1**	46.8	55.5
Two, or more chronic diseases	**4.8** *	2.9	8.0	**53.2**	45.2	61.1	**39.7**	32.2	47.6

Data were age-standardised to the 2011 Victorian population.

LL/UL 95% CI = lower/upper limit of 95 per cent confidence interval.

Estimates that are (statistically) significantly different from the corresponding estimate for Victoria are identified by colour as follows: above or below.

Estimates may not add to 100 per cent due to a proportion of 'don't know' or 'refused to say' responses, not reported here.

Relative standard error (RSE) = standard error / point estimate * 100; interpretation below:

***** RSE between 25 and 50 per cent; point estimate (%) should be interpreted with caution.

****** RSE greater than, or equal to, 50 per cent; point estimate (%) is unreliable, hence not reported.

[a] DoH (2014) guidelines.

[b] Based on the Kessler 10 scale for psychological distress.

[c] NHMRC (2013) guidelines.

[d] Includes those meeting both guidelines.

[e] NHMRC (2009) guidelines.

[f] Body mass index (BMI) = Weight (kg) / Height (m^2).

Table 5.9 shows physical activity status among women, by selected modifiable risk factors and morbidity status. When compared with all Victorian women, there was a significantly higher proportion of women who undertook adequate physical activity with the following characteristics:

- met both fruit and vegetable consumption guidelines
- increased lifetime risk of alcohol-related harm
- excellent or very good self-reported health status
- normal body weight status.

Table 5.9: Physical activity status[a] in women, by selected modifiable risk factors and morbidity status, Victoria, 2016

	Sedentary			Does not meet guidelines			Met guidelines		
		95% CI			95% CI			95% CI	
	%	LL	UL	%	LL	UL	%	LL	UL
All females	**2.6**	**2.1**	**3.3**	**45.8**	**43.8**	**47.8**	**49.2**	**47.2**	**51.2**
Psychological distress[b]									
Low (K10 score < 16)	**2.2**	1.5	3.2	**43.4**	40.7	46.2	**52.3**	49.5	55.1
Moderate (K10 score 16–21)	**2.5**	1.6	3.7	**46.9**	43.1	50.9	**48.6**	44.7	52.6
High / very high (K10 score 22+)	**3.5** *	2.2	5.8	**50.2**	45.1	55.4	**43.4**	38.4	48.6
Met fruit / vegetable guidelines[c]									
Both guidelines	**0.8** *	0.3	2.2	**30.4**	22.9	39.2	**68.1**	59.4	75.6
Vegetable guidelines[d]	**0.6** *	0.3	1.5	**30.1**	23.5	37.8	**68.6**	61.0	75.3
Fruit guidelines[d]	**1.5**	1.1	2.0	**41.8**	38.9	44.8	**54.8**	51.8	57.7
Neither	**3.7**	2.8	5.0	**49.7**	46.9	52.5	**44.3**	41.5	47.1
Smoking status									
Current smoker	**1.2** *	0.5	2.8	**54.6**	48.8	60.3	**40.9**	35.4	46.8
Ex-smoker	**2.3**	1.5	3.6	**42.7**	37.5	48.1	**54.0**	48.6	59.3
Non-smoker	**2.9**	2.1	3.9	**45.4**	43.0	47.9	**49.3**	46.9	51.7
Lifetime risk of alcohol-related harm[e]									
Abstainer / no longer drinks alcohol	**5.5**	3.8	7.9	**52.6**	48.6	56.6	**38.2**	34.4	42.1
Reduced risk	**1.3**	0.8	2.0	**50.1**	45.1	55.0	**47.1**	42.1	52.1
Increased risk	**1.8**	1.1	2.8	**41.5**	38.7	44.3	**55.1**	52.2	57.8
Self-reported health									
Excellent / very good	**1.3** *	0.8	2.2	**38.2**	35.4	41.1	**58.3**	55.4	61.2
Good	**2.9**	1.8	4.6	**51.1**	47.8	54.4	**44.3**	41.1	47.6
Fair/poor	**4.9**	3.5	6.8	**56.5**	51.7	61.2	**34.3**	29.9	39.0
Body weight status based on BMI[f]									
Underweight (BMI < 18.5 kg/m^2)	**			**52.5**	41.9	62.9	**41.2**	31.3	51.8
Normal range (18.5 ≥ BMI < 25 kg/m^2)	**2.0**	1.4	2.9	**42.5**	39.6	45.4	**54.3**	51.4	57.2
Pre-obese (25 ≥ BMI < 30 kg/m^2)	**2.8**	1.8	4.4	**43.4**	39.0	47.9	**52.1**	47.6	56.5
Obese (BMI ≥ 30 kg/m^2)	**3.0** *	1.7	5.3	**51.4**	46.0	56.8	**43.0**	37.8	48.4
Blood pressure status (including pregnancy induced hypertension)									
Doctor diagnosed hypertension	**2.4**	1.5	3.8	**47.6**	42.4	52.8	**47.2**	42.1	52.5
Normal range	**2.6**	1.9	3.5	**45.0**	42.7	47.3	**50.2**	47.9	52.6
Morbidity status									
No chronic disease	**1.4**	0.8	2.2	**47.0**	44.0	50.1	**49.5**	46.4	52.6
One chronic disease	**3.7**	2.4	5.6	**44.8**	41.1	48.4	**49.7**	46.0	53.4
Two, or more chronic diseases	**2.2**	1.5	3.1	**41.8**	36.9	46.8	**52.8**	47.8	57.7

Data were age-standardised to the 2011 Victorian population.

LL/UL 95% CI = lower/upper limit of 95 per cent confidence interval.

Estimates that are (statistically) significantly different from the corresponding estimate for Victoria are identified by colour as follows: above or below.

Estimates may not add to 100 per cent due to a proportion of 'don't know' or 'refused to say' responses, not reported here.

Relative standard error (RSE) = standard error / point estimate * 100; interpretation below:

***** RSE between 25 and 50 per cent; point estimate (%) should be interpreted with caution.

****** RSE greater than, or equal to, 50 per cent; point estimate (%) is unreliable, hence not reported.

[a] DoH (2014) guidelines.

[b] Based on the Kessler 10 scale for psychological distress.

[c] NHMRC (2013) guidelines.

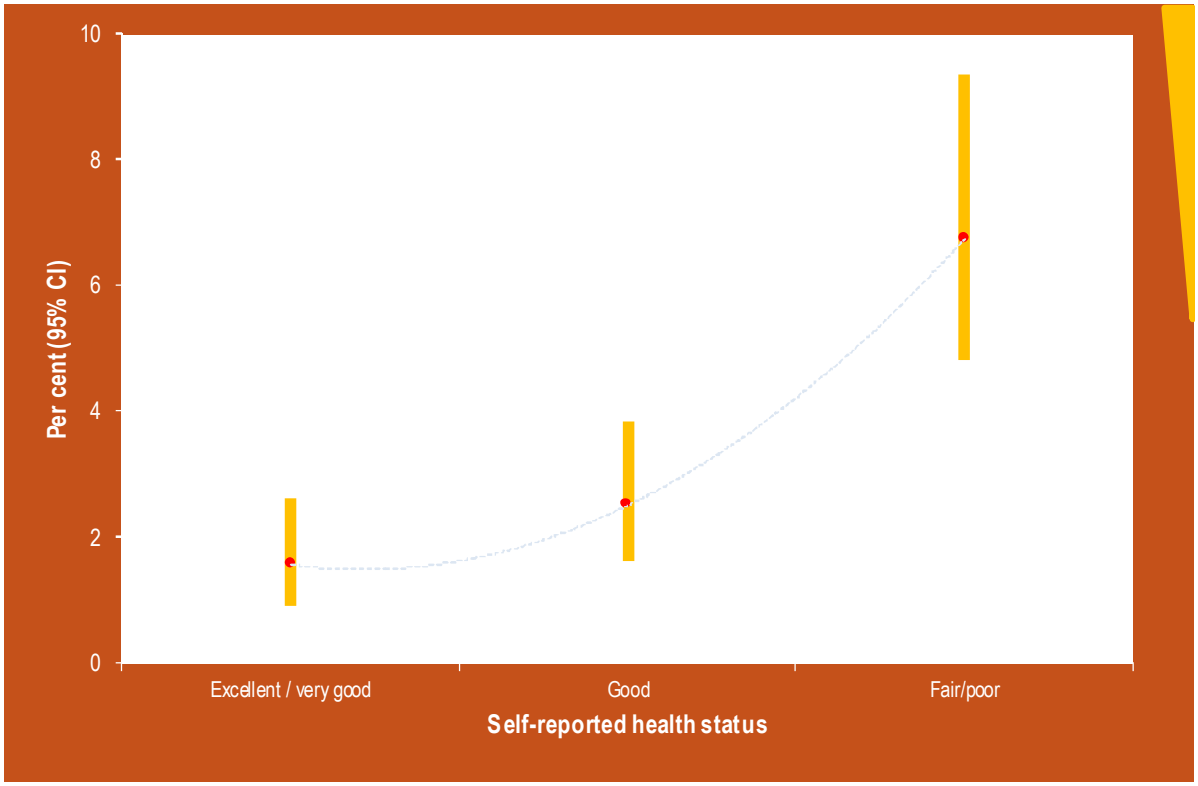
[d] Includes those meeting both guidelines.

[e] NHMRC (2009) guidelines.

[f] Body mass index (BMI) = Weight (kg) / Height (m^2).

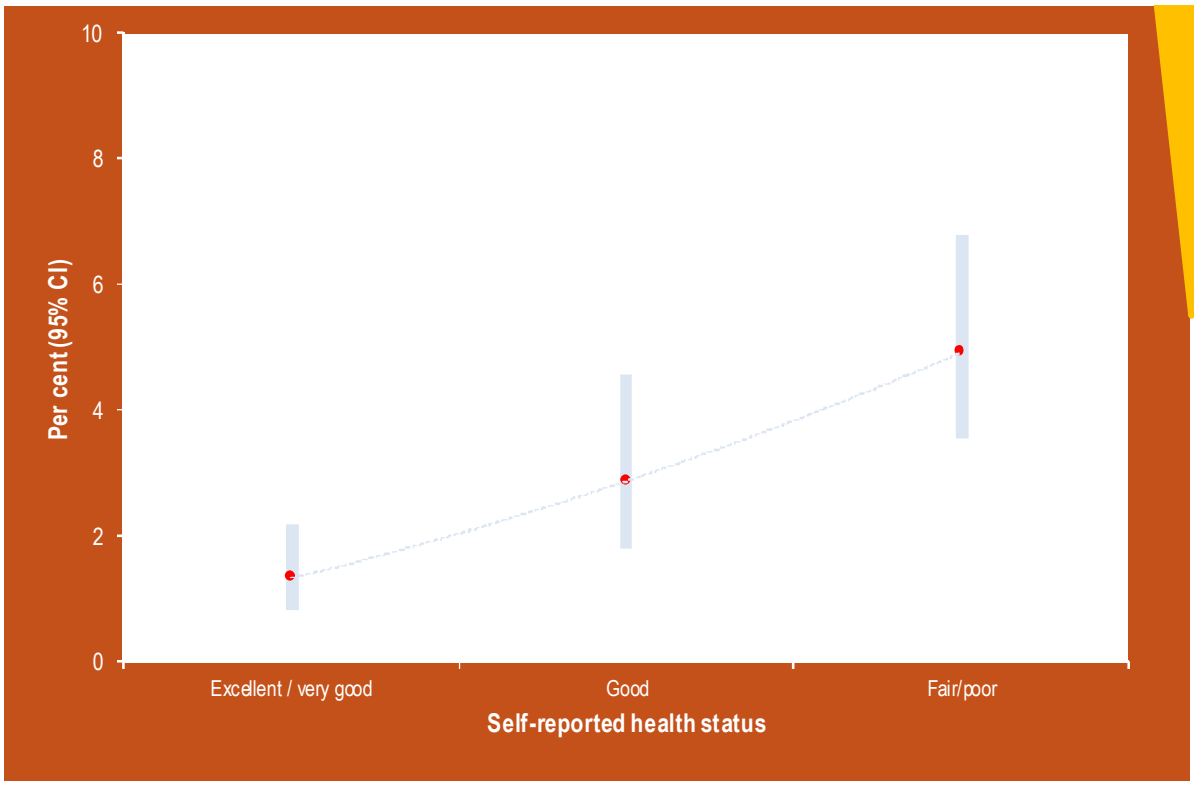
The relationship was investigated between sedentary behaviour and the age-adjusted prevalence of self-reported health status (Figure 5.3 and Figure 5.4). The proportion of the adult Victorian population who reported sedentary behaviour was highest among men and women with fair or poor health status.

Figure 5.3: Proportion (%) of sedentary men[a], by self-reported health status, Victoria, 2016



Data are age-adjusted to the 2011 population of Victoria.
95% CI = 95 per cent confidence interval.
[a] DoH (2014) guidelines.

Figure 5.4: Proportion (%) of sedentary women[a], by self-reported health status, Victoria, 2016



Data are age-adjusted to the 2011 population of Victoria.
95% CI = 95 per cent confidence interval.
[a] DoH (2014) guidelines.

Key findings

Time spent sitting

25.9%
of adults spent eight hours or more sitting on an average weekday during the preceding week

25.7%
of men spent eight hours or more sitting on an average weekday during the preceding week

26.4%
of women spent eight hours or more sitting on an average weekday during the preceding week

A statistically significantly lower proportion of 75–84-year-old men and women spent eight hours or more sitting compared with all Victorian men and women, respectively.

A statistically significantly higher proportion of adults in the metropolitan regions spent eight hours or more sitting on an average weekday compared with their rural counterparts

Time spent sitting on an average weekday

Respondents were asked about the time they spent sitting while at work, while at home, while doing study and during leisure time on the weekdays. This included time spent sitting at a desk, in the car, reading or sitting or lying down to watch television.

Time spent sitting on an average weekday by geographic location

Table 5.10 shows the time spent sitting on an average weekday during the preceding week, by duration, departmental region and sex. About 26 per cent of adults spent eight hours or more sitting on an average weekday during the preceding week A significantly higher proportion of adults who lived in the metropolitan regions spent eight hours or more sitting on an average weekday during the preceding week compared with their rural counterparts. A significantly higher proportion of women who lived in Northern Metropolitan Region spent eight hours or more sitting on an average weekday during the preceding week compared with all Victorian women. A significantly lower proportion of women who lived in Loddon Mallee Region spent eight hours or more sitting on an average weekday during the preceding week compared with all Victorian women.

Table 5.10: Proportion (%) of adults sitting on an average weekday, by duration, Department of Health and Human Services region and sex, Victoria, 2016

Region	< 2 hours/day			2 to < 4 hours/day			4 to < 6 hours/day			6 to < 8 hours/day			8+ hours/day		
		95% CI			95% CI			95% CI			95% CI			95% CI	
	%	LL	UL	%	LL	UL	%	LL	UL	%	LL	UL	%	LL	UL
Males															
Northern Metropolitan	**5.7**	3.6	8.7	**31.4**	26.6	36.6	**22.1**	18.1	26.8	**15.4**	12.1	19.3	**25.5**	21.4	30.1
Southern Metropolitan	**7.2**	5.1	10.1	**21.7**	18.3	25.6	**29.5**	25.6	33.8	**14.7**	11.9	17.9	**26.9**	23.1	31.0
Eastern Metropolitan	**4.5** *	2.5	7.8	**19.2**	15.1	24.1	**32.2**	27.0	37.9	**16.7**	13.0	21.1	**27.4**	22.6	32.7
Western Metropolitan	**5.3**	3.3	8.5	**26.9**	22.2	32.2	**27.7**	23.3	32.6	**13.5**	10.3	17.3	**26.7**	22.3	31.6
All metropolitan regions	**5.7**	4.6	7.1	**24.3**	22.1	26.6	**28.3**	26.1	30.7	**15.0**	13.3	16.8	**26.7**	24.5	29.0
Barwon-South Western	**4.4** *	2.5	7.6	**28.6**	21.9	36.4	**29.2**	21.8	37.9	**15.9**	10.2	23.8	**21.9**	15.5	30.0
Gippsland	**5.1** *	2.4	10.4	**30.6**	21.3	41.9	**29.7**	20.0	41.6	**15.3**	9.8	23.0	**19.3**	13.0	27.8
Grampians	**7.3** *	3.7	13.7	**29.5**	22.0	38.4	**34.5**	27.1	42.8	**14.1** *	8.5	22.7	**14.5**	9.8	21.0
Hume	**			**37.7**	27.4	49.3	**26.4**	17.6	37.6	**10.6** *	5.6	19.0	**21.1**	14.1	30.3
Loddon Mallee	**4.1** *	2.0	8.4	**40.1**	31.5	49.3	**21.9**	15.7	29.6	**7.5** *	4.5	12.3	**26.5**	18.6	36.2
All rural regions	**4.7**	3.4	6.4	**33.8**	29.4	38.5	**27.4**	23.4	31.7	**12.7**	10.0	16.0	**21.4**	17.9	25.4
Victoria	**5.4**	**4.5**	**6.6**	**26.5**	**24.5**	**28.6**	**27.8**	**25.9**	**29.9**	**14.6**	**13.1**	**16.1**	**25.7**	**23.8**	**27.7**
Females															
Northern Metropolitan	**8.2**	6.0	11.1	**21.5**	18.0	25.5	**22.4**	18.6	26.6	**14.4**	11.3	18.2	**33.6**	29.1	38.3
Southern Metropolitan	**7.7**	5.6	10.5	**28.6**	25.1	32.3	**22.6**	19.3	26.2	**13.0**	10.6	16.0	**28.1**	24.5	31.9
Eastern Metropolitan	**5.6**	3.8	8.3	**31.5**	27.1	36.2	**25.5**	21.6	29.9	**13.8**	10.8	17.4	**23.6**	19.7	28.1
Western Metropolitan	**9.0**	6.3	12.7	**27.7**	23.4	32.4	**23.7**	19.8	28.1	**15.6**	12.3	19.5	**24.1**	20.1	28.6
All metropolitan regions	**7.6**	6.4	9.1	**27.6**	25.6	29.7	**23.4**	21.5	25.4	**14.0**	12.5	15.7	**27.4**	25.3	29.5
Barwon-South Western	**7.1** *	4.1	12.1	**35.8**	28.4	44.0	**24.9**	19.5	31.2	**10.0**	6.7	14.8	**22.2**	16.2	29.7
Gippsland	**9.6** *	5.6	15.9	**26.5**	20.1	34.0	**25.3**	18.7	33.3	**8.6** *	5.1	13.9	**30.0**	22.5	38.8
Grampians	**8.1** *	3.7	16.8	**32.1**	24.0	41.5	**23.5**	16.9	31.7	**15.6**	9.6	24.2	**20.7**	14.5	28.6
Hume	**9.8** *	5.0	18.3	**26.7**	20.8	33.5	**21.2**	16.3	27.0	**13.9**	9.4	20.0	**28.5**	21.0	37.4
Loddon Mallee	**8.0** *	4.3	14.4	**33.0**	25.7	41.2	**32.0**	24.1	41.1	**14.5**	9.6	21.3	**12.6**	8.6	18.0
All rural regions	**8.4**	6.3	11.1	**31.0**	27.4	34.9	**25.2**	22.0	28.6	**12.2**	10.0	14.7	**23.2**	19.7	27.2
Victoria	**7.7**	**6.7**	**9.0**	**28.1**	**26.4**	**30.0**	**24.1**	**22.4**	**25.8**	**13.7**	**12.4**	**15.1**	**26.4**	**24.6**	**28.2**
People															
Northern Metropolitan	**7.1**	5.5	9.2	**26.3**	23.2	29.6	**22.1**	19.3	25.2	**14.8**	12.5	17.4	**29.7**	26.6	33.0
Southern Metropolitan	**7.5**	5.9	9.4	**25.4**	22.9	28.1	**25.8**	23.2	28.6	**13.9**	12.0	16.1	**27.4**	24.8	30.2
Eastern Metropolitan	**4.9**	3.5	6.9	**25.1**	22.0	28.4	**29.1**	25.8	32.7	**15.0**	12.6	17.8	**25.9**	22.7	29.4
Western Metropolitan	**7.3**	5.4	9.7	**27.1**	23.9	30.6	**25.8**	22.8	29.1	**14.7**	12.3	17.4	**25.1**	22.1	28.4
All metropolitan regions	**6.7**	5.8	7.7	**26.1**	24.5	27.6	**25.7**	24.2	27.3	**14.5**	13.4	15.7	**27.0**	25.5	28.6
Barwon-South Western	**6.0**	4.0	8.9	**31.8**	26.3	37.8	**27.4**	22.5	32.8	**13.3**	9.6	18.1	**21.6**	16.9	27.2
Gippsland	**7.1**	4.6	10.9	**28.3**	22.6	34.9	**27.7**	21.5	34.9	**12.0**	8.6	16.5	**24.7**	19.5	30.9
Grampians	**8.0** *	4.8	13.2	**32.3**	26.1	39.1	**27.5**	22.4	33.3	**15.2**	10.4	21.5	**17.0**	13.2	21.7
Hume	**7.1** *	3.9	12.6	**31.1**	25.1	37.9	**22.6**	17.7	28.5	**12.2**	8.8	16.7	**26.9**	20.6	34.3
Loddon Mallee	**5.4**	3.4	8.5	**37.5**	31.1	44.4	**27.3**	21.4	34.0	**10.2**	7.4	13.9	**19.6**	14.7	25.7
All rural regions	**6.6**	5.3	8.2	**32.5**	29.6	35.6	**26.4**	23.8	29.2	**12.6**	10.8	14.7	**21.9**	19.4	24.6
Victoria	**6.6**	**5.9**	**7.5**	**27.4**	**26.1**	**28.8**	**25.9**	**24.6**	**27.2**	**14.1**	**13.1**	**15.2**	**25.9**	**24.6**	**27.3**

Metropolitan and rural regions are identified by colour as follows: metropolitan / rural.

Data were age-standardised to the 2011 Victorian population.

LL/UL 95% CI = lower/upper limit of 95 per cent confidence interval.

Estimates that are (statistically) significantly different from the corresponding estimate for Victoria are identified by colour as follows: above or below.

Estimates may not add to 100 per cent due to a proportion of 'don't know' or 'refused to say' responses, not reported here.

Relative standard error (RSE) = standard error / point estimate * 100; interpretation below:

* RSE between 25 and 50 per cent; point estimate (%) should be interpreted with caution.

** RSE greater than, or equal to, 50 per cent; point estimate (%) is unreliable, hence not reported.

Table 5.11 shows the time spent sitting on an average weekday during the preceding week, by duration, departmental division and sex. There were no significant differences between the divisions in the proportions of men or women who spent eight hours or more sitting on an average weekday during the preceding week.

Table 5.11: Proportion (%) of adults sitting on an average weekday, by duration, Department of Health and Human Services region and sex, Victoria, 2016

	< 2 hours/day			2 to < 4 hours/day			4 to < 6 hours/day			6 to < 8 hours/day			8+ hours/day		
		95% CI			95% CI			95% CI			95% CI			95% CI	
Division	%	LL	UL	%	LL	UL	%	LL	UL	%	LL	UL	%	LL	UL
Males															
North	**5.1**	3.5	7.5	**33.0**	28.7	37.6	**22.1**	18.6	26.1	**13.8**	11.0	17.1	**26.0**	22.2	30.1
South	**6.7**	4.8	9.3	**23.2**	19.9	27.0	**29.1**	25.4	33.1	**14.7**	12.2	17.7	**26.2**	22.7	30.0
East	**4.2** *	2.5	6.9	**22.4**	18.5	26.9	**30.6**	26.1	35.6	**15.7**	12.5	19.5	**27.1**	22.8	31.8
West	**5.4**	3.8	7.5	**28.4**	24.8	32.3	**28.1**	24.6	31.8	**14.1**	11.4	17.2	**24.1**	20.8	27.7
Victoria	**5.4**	**4.5**	**6.6**	**26.5**	**24.5**	**28.6**	**27.8**	**25.9**	**29.9**	**14.6**	**13.1**	**16.1**	**25.7**	**23.8**	**27.7**
Females															
North	**7.8**	5.9	10.2	**23.8**	20.4	27.5	**24.8**	21.1	29.0	**14.7**	11.9	18.0	**28.9**	25.2	32.9
South	**8.0**	6.1	10.5	**28.1**	25.0	31.5	**23.1**	20.1	26.4	**12.4**	10.2	15.0	**28.3**	25.1	31.8
East	**6.4**	4.5	9.0	**30.7**	26.9	34.7	**24.6**	21.3	28.3	**13.8**	11.2	16.8	**24.6**	20.9	28.6
West	**8.4**	6.3	11.1	**30.0**	26.6	33.6	**24.0**	21.0	27.2	**14.2**	11.8	17.0	**23.4**	20.4	26.8
Victoria	**7.7**	**6.7**	**9.0**	**28.1**	**26.4**	**30.0**	**24.1**	**22.4**	**25.8**	**13.7**	**12.4**	**15.1**	**26.4**	**24.6**	**28.2**
People															
North	**6.6**	5.3	8.2	**28.6**	25.7	31.6	**23.4**	20.8	26.3	**14.1**	12.1	16.4	**27.3**	24.6	30.1
South	**7.4**	6.0	9.2	**25.9**	23.5	28.4	**25.9**	23.5	28.5	**13.6**	11.9	15.5	**27.2**	24.7	29.7
East	**5.3**	3.9	7.1	**26.2**	23.4	29.2	**27.8**	24.9	30.9	**14.6**	12.5	16.9	**26.1**	23.2	29.2
West	**7.0**	5.7	8.8	**29.1**	26.5	31.7	**26.2**	23.9	28.7	**14.3**	12.4	16.4	**23.3**	21.1	25.8
Victoria	**6.6**	**5.9**	**7.5**	**27.4**	**26.1**	**28.8**	**25.9**	**24.6**	**27.2**	**14.1**	**13.1**	**15.2**	**25.9**	**24.6**	**27.3**

Data were age-standardised to the 2011 Victorian population.

LL/UL 95% CI = lower/upper limit of 95 per cent confidence interval.

Estimates that are (statistically) significantly different from the corresponding estimate for Victoria are identified by colour as follows: above or below.

Estimates may not add to 100 per cent due to a proportion of 'don't know' or 'refused to say' responses, not reported here.

Relative standard error (RSE) = standard error / point estimate * 100; interpretation below:

***** RSE between 25 and 50 per cent; point estimate (%) should be interpreted with caution.

Time spent sitting on an average weekday by age and sex

Table 5.12 and Figure 5.5 show the time spent sitting on an average weekday during the week preceding the survey, by duration, age group and sex. A significantly lower proportion of 75–84-year-old men and women spent eight hours or more sitting compared with all Victorian men and women, respectively.

Table 5.12: Proportion (%) of adults sitting on an average weekday, by duration, age group and sex, Victoria, 2016

Sex	< 2 hours/day			2 to < 4 hours/day			4 to < 6 hours/day			6 to < 8 hours/day			8+ hours/day		
Age group		95% CI			95% CI			95% CI			95% CI			95% CI	
(years)	%	LL	UL	%	LL	UL	%	LL	UL	%	LL	UL	%	LL	UL
Males															
18–24	**6.0** *	3.6	9.7	**25.7**	20.1	32.3	**27.9**	22.5	34.0	**20.2**	15.5	25.7	**20.3**	15.6	26.0
25–34	**5.6**	3.5	8.8	**24.1**	19.3	29.6	**25.4**	20.6	30.9	**14.6**	11.0	19.1	**30.3**	25.3	35.8
35–44	**5.5** *	3.3	9.1	**27.8**	22.8	33.5	**23.9**	19.2	29.3	**12.1**	9.0	16.1	**30.7**	25.6	36.3
45–54	**6.3**	4.2	9.5	**23.7**	19.5	28.6	**29.2**	24.4	34.4	**12.1**	9.1	15.8	**28.7**	24.3	33.5
55–64	**4.3**	2.7	7.0	**26.3**	22.2	30.8	**29.9**	25.7	34.5	**15.9**	12.8	19.6	**23.5**	19.8	27.7
65–74	**3.3** *	2.0	5.3	**29.0**	24.8	33.6	**33.2**	28.7	38.0	**14.4**	11.3	18.0	**20.2**	16.2	25.0
75–84	**7.0** *	4.1	11.9	**36.9**	29.6	44.9	**28.8**	22.6	35.9	**13.7**	9.4	19.5	**13.5**	9.6	18.6
85+	**			**26.5**	17.0	38.9	**29.6**	19.8	41.8	**16.0** *	8.9	27.0	**20.0** *	11.5	32.5
18+	**5.4**	**4.5**	**6.5**	**26.4**	**24.4**	**28.4**	**27.9**	**25.9**	**29.9**	**14.7**	**13.2**	**16.2**	**25.7**	**23.8**	**27.7**
Females															
18–24	**4.6** *	2.6	7.9	**18.1**	13.8	23.4	**29.3**	23.9	35.3	**17.2**	13.1	22.3	**30.8**	25.1	37.2
25–34	**10.1**	6.9	14.6	**28.2**	23.2	33.8	**18.9**	14.7	23.8	**12.9**	9.7	16.9	**30.0**	25.2	35.2
35–44	**11.0**	8.1	14.8	**29.9**	25.6	34.6	**18.4**	15.0	22.3	**15.0**	11.9	18.7	**25.7**	21.5	30.3
45–54	**7.0**	5.0	9.6	**30.1**	26.1	34.4	**24.5**	20.8	28.5	**12.2**	9.7	15.4	**26.2**	22.5	30.4
55–64	**5.9**	4.3	8.2	**30.4**	26.4	34.8	**25.7**	22.0	29.7	**12.8**	10.3	15.8	**25.2**	21.5	29.2
65–74	**6.3**	4.5	8.7	**32.9**	28.8	37.4	**29.3**	25.3	33.7	**12.4**	9.8	15.6	**19.0**	15.7	22.9
75–84	**8.1** *	4.8	13.2	**31.8**	26.3	37.8	**30.5**	24.9	36.8	**11.8**	8.5	16.3	**17.8**	13.8	22.7
85+	**6.9** *	2.9	15.2	**18.9**	11.7	29.3	**23.8**	16.0	33.8	**15.0** *	7.8	26.7	**35.5**	25.1	47.3
18+	**7.8**	**6.7**	**9.0**	**28.6**	**26.9**	**30.5**	**24.1**	**22.4**	**25.8**	**13.6**	**12.3**	**14.9**	**25.9**	**24.2**	**27.7**
People															
18–24	**5.3**	3.7	7.6	**22.1**	18.4	26.3	**28.6**	24.7	32.8	**18.7**	15.5	22.4	**25.3**	21.5	29.6
25–34	**7.6**	5.7	10.2	**26.0**	22.4	29.8	**22.4**	19.1	26.1	**13.8**	11.3	16.8	**30.1**	26.6	33.9
35–44	**8.5**	6.5	11.0	**28.9**	25.6	32.5	**20.9**	18.0	24.2	**13.7**	11.4	16.3	**28.0**	24.7	31.5
45–54	**6.7**	5.1	8.6	**27.0**	24.1	30.2	**26.7**	23.7	30.0	**12.2**	10.2	14.5	**27.4**	24.5	30.5
55–64	**5.2**	3.9	6.8	**28.5**	25.6	31.6	**27.7**	24.8	30.7	**14.3**	12.2	16.6	**24.4**	21.8	27.3
65–74	**4.8**	3.6	6.3	**31.0**	28.0	34.2	**31.2**	28.1	34.4	**13.4**	11.3	15.7	**19.6**	16.9	22.6
75–84	**7.7**	5.2	11.1	**33.9**	29.4	38.7	**29.8**	25.6	34.5	**12.6**	9.8	16.0	**16.1**	13.1	19.5
85+	**7.3** *	3.5	14.7	**22.5**	16.3	30.3	**26.5**	20.1	34.2	**15.4**	10.0	23.0	**28.2**	21.0	36.7
18+	**6.6**	**5.9**	**7.4**	**27.5**	**26.2**	**28.9**	**25.9**	**24.6**	**27.3**	**14.1**	**13.1**	**15.1**	**25.8**	**24.5**	**27.1**

Data are age-specific estimates, except for '18+', which are crude estimates (not age-standardised) for Victoria.

LL/UL 95% CI = lower/upper limit of 95 per cent confidence interval.

Estimates that are (statistically) significantly different from the corresponding estimate for Victoria are identified by colour as follows: above or below.

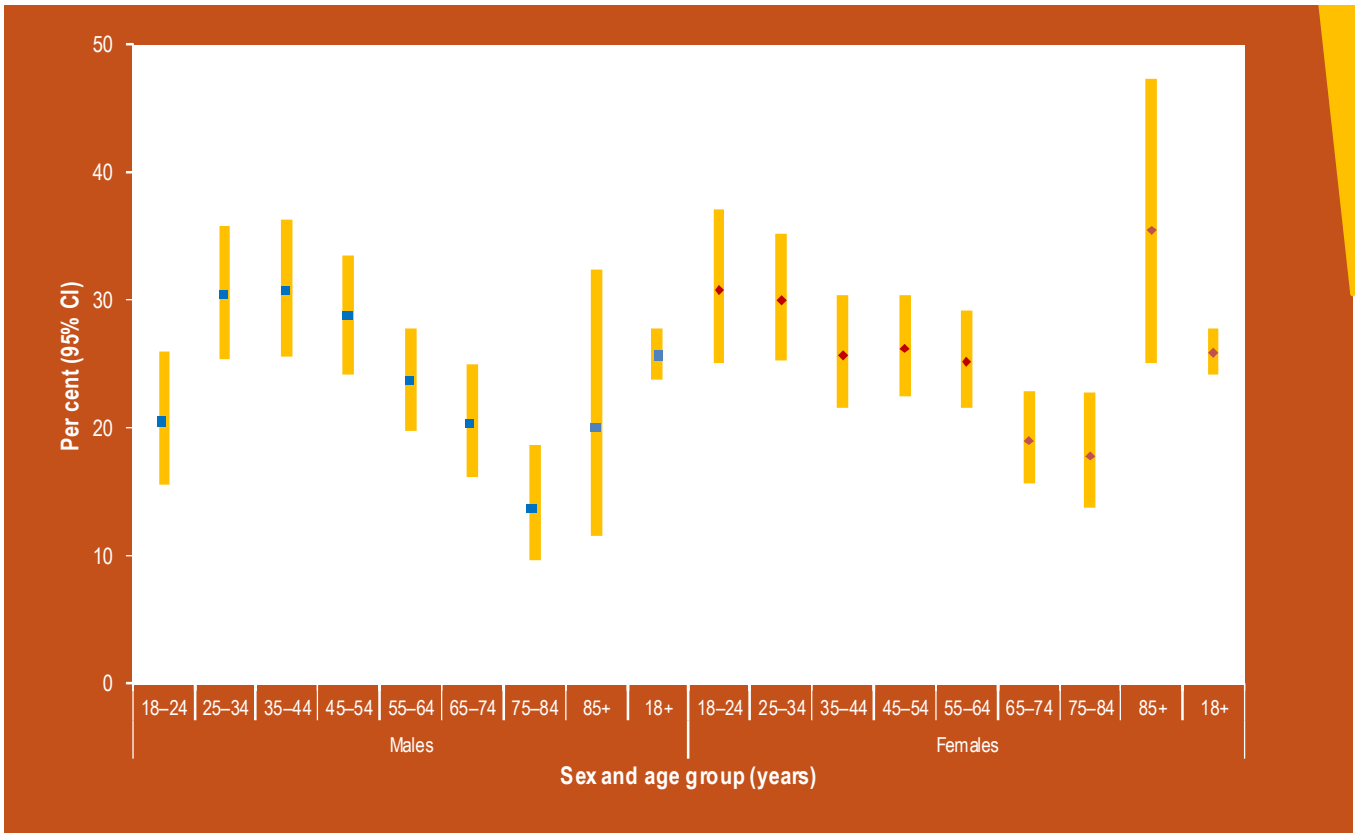
Estimates may not add to 100 per cent due to a proportion of 'don't know' or 'refused to say' responses, not reported here.

Relative standard error (RSE) = standard error/point estimate * 100; interpretation below:

***** Estimate has a RSE between 25 and 50 per cent and should be interpreted with caution.

****** Estimate has a RSE greater than 50 per cent and is not reported as it is unreliable for general use.

Figure 5.5: Proportion (%) of adults sitting for eight hours a day or more during weekdays, by age group and sex, Victoria, 2016



Data are age group specific estimates, except for '18+', w hich are crude estimates (not age-standardised) for Victoria.
95% CI = 95 per cent confidence interval.

Time spent sitting on a weekend day

Respondents were asked about the time they spent sitting on weekend days. This included time spent sitting at a desk, in the car, reading or sitting or lying down to watch television.

Time spent sitting on a weekend by geographic location

Table 5.13 shows the time spent sitting on a weekend day during the preceding week, by duration, departmental region and sex. About 17 per cent of adults spent eight hours or more sitting on a weekend day during the preceding week. A significantly lower proportion of women who lived in Eastern Metropolitan Region spent eight hours or more sitting on an average weekend day during the preceding week compared with all Victorian women.

Table 5.13: Proportion (%) of adults sitting on an average weekend day, by duration, Department of Health and Human Services region and sex, Victoria, 2016

	< 2 hours/day			2 to < 4 hours/day			4 to < 6 hours/day			6 to < 8 hours/day			8+ hours/day		
		95% CI			95% CI			95% CI			95% CI			95% CI	
Region	%	LL	UL	%	LL	UL	%	LL	UL	%	LL	UL	%	LL	UL
Males															
Northern Metropolitan	**6.5**	4.4	9.7	**35.7**	30.8	40.9	**29.4**	24.9	34.4	**12.2**	9.2	16.1	**16.1**	12.7	20.3
Southern Metropolitan	**5.1**	3.6	7.3	**32.9**	28.9	37.2	**33.0**	29.0	37.4	**11.9**	9.3	15.0	**17.1**	13.8	20.9
Eastern Metropolitan	**6.9**	4.4	10.9	**32.9**	27.7	38.5	**32.4**	27.3	37.9	**12.3**	9.2	16.4	**15.5**	11.7	20.2
Western Metropolitan	**8.8**	5.9	13.0	**29.7**	25.0	34.9	**33.2**	28.3	38.4	**9.7**	7.1	13.0	**18.7**	14.9	23.2
All metropolitan regions	**6.5**	5.3	8.0	**32.9**	30.5	35.3	**32.3**	29.9	34.7	**11.5**	10.0	13.1	**16.8**	15.0	18.9
Barwon-South Western	**4.6** *	2.7	7.8	**37.7**	30.9	45.1	**27.7**	21.1	35.4	**14.3**	9.6	20.8	**15.7**	10.1	23.6
Gippsland	**9.5** *	5.2	16.9	**36.5**	26.5	47.8	**18.5**	12.6	26.3	**17.1** *	9.9	27.9	**18.4**	12.1	27.0
Grampians	**11.5** *	6.2	20.2	**37.2**	29.2	45.9	**29.6**	22.4	38.0	**7.5** *	4.4	12.6	**14.2** *	8.2	23.6
Hume	**10.7** *	5.7	19.2	**36.7**	27.2	47.4	**23.0**	15.2	33.2	**7.2** *	3.6	13.8	**22.3**	14.5	32.8
Loddon Mallee	**8.4** *	3.9	17.3	**32.0**	24.1	41.2	**27.3**	19.8	36.5	**11.9** *	6.4	21.0	**20.3**	14.3	28.0
All rural regions	**8.7**	6.3	11.9	**36.1**	31.7	40.7	**25.5**	21.7	29.6	**12.2**	9.4	15.7	**17.5**	14.3	21.3
Victoria	**6.9**	**5.8**	**8.2**	**33.6**	**31.5**	**35.7**	**30.7**	**28.7**	**32.8**	**11.6**	**10.3**	**13.1**	**17.2**	**15.5**	**19.0**
Females															
Northern Metropolitan	**11.4**	8.7	14.8	**35.5**	31.0	40.4	**29.2**	25.1	33.6	**8.5**	6.2	11.7	**15.4**	12.5	18.8
Southern Metropolitan	**11.8**	9.3	14.9	**34.2**	30.4	38.2	**27.5**	24.0	31.2	**9.3**	7.2	12.0	**17.2**	14.2	20.6
Eastern Metropolitan	**9.3**	6.7	12.6	**37.9**	33.2	42.9	**32.2**	27.7	36.9	**9.4**	7.0	12.5	**11.2**	8.7	14.3
Western Metropolitan	**9.4**	6.8	12.8	**35.6**	31.1	40.5	**27.6**	23.5	32.2	**8.6**	6.2	11.7	**18.8**	15.1	23.1
All metropolitan regions	**10.4**	9.0	11.9	**36.0**	33.8	38.3	**29.0**	27.0	31.2	**8.9**	7.7	10.3	**15.6**	14.0	17.4
Barwon-South Western	**12.5**	8.0	19.2	**36.5**	29.5	44.2	**25.8**	20.0	32.6	**11.5** *	6.9	18.5	**13.7**	9.2	19.7
Gippsland	**10.6**	6.5	16.7	**33.3**	25.8	41.7	**20.8**	15.3	27.7	**12.6**	7.6	20.0	**22.8**	16.1	31.1
Grampians	**5.7** *	3.1	10.5	**42.2**	33.4	51.7	**22.7**	15.9	31.3	**9.9** *	5.8	16.5	**19.5**	12.9	28.3
Hume	**8.8** *	5.3	14.2	**38.4**	30.6	46.8	**23.7**	18.4	29.9	**6.4** *	3.9	10.5	**22.7**	15.3	32.2
Loddon Mallee	**5.9** *	3.1	10.8	**35.8**	28.5	43.7	**36.0**	27.4	45.7	**12.8**	7.9	20.3	**9.5** *	5.7	15.5
All rural regions	**8.8**	6.8	11.2	**36.9**	33.2	40.9	**25.8**	22.5	29.4	**10.8**	8.4	13.7	**17.7**	14.3	21.7
Victoria	**9.9**	**8.8**	**11.2**	**36.1**	**34.2**	**38.1**	**28.5**	**26.7**	**30.4**	**9.5**	**8.4**	**10.8**	**16.0**	**14.5**	**17.5**
People															
Northern Metropolitan	**9.0**	7.2	11.2	**35.4**	32.0	38.8	**29.5**	26.4	32.8	**10.0**	8.1	12.3	**16.1**	13.8	18.7
Southern Metropolitan	**8.6**	7.0	10.4	**33.6**	30.8	36.5	**30.2**	27.4	33.0	**10.5**	8.9	12.5	**17.1**	14.9	19.6
Eastern Metropolitan	**7.9**	6.0	10.3	**35.6**	32.0	39.3	**32.3**	28.9	36.0	**10.8**	8.7	13.2	**13.5**	11.0	16.3
Western Metropolitan	**9.1**	7.0	11.7	**32.8**	29.4	36.3	**30.3**	27.0	33.7	**9.2**	7.4	11.4	**18.7**	16.0	21.8
All metropolitan regions	**8.5**	7.5	9.5	**34.4**	32.8	36.1	**30.6**	29.0	32.2	**10.1**	9.2	11.2	**16.4**	15.1	17.7
Barwon-South Western	**7.5**	5.2	10.7	**38.0**	32.7	43.6	**26.7**	21.9	32.1	**12.8**	9.3	17.5	**14.9**	10.8	20.2
Gippsland	**9.9**	6.7	14.4	**34.5**	28.2	41.5	**19.8**	15.7	24.8	**15.0**	10.2	21.6	**20.7**	15.9	26.5
Grampians	**10.2** *	6.0	16.6	**39.7**	33.6	46.1	**25.5**	20.5	31.3	**8.3**	5.8	11.6	**16.3**	11.4	22.8
Hume	**9.1**	6.2	13.3	**37.9**	31.5	44.8	**23.0**	18.2	28.6	**7.1**	4.6	10.7	**22.9**	17.0	30.1
Loddon Mallee	**7.6** *	4.4	12.9	**33.5**	27.6	40.0	**31.1**	25.0	37.9	**13.4**	8.6	20.1	**14.4**	10.6	19.4
All rural regions	**8.8**	7.1	10.7	**36.6**	33.7	39.7	**25.6**	23.1	28.2	**11.5**	9.6	13.8	**17.5**	15.1	20.2
Victoria	**8.4**	**7.6**	**9.3**	**34.8**	**33.4**	**36.3**	**29.5**	**28.2**	**30.9**	**10.5**	**9.6**	**11.5**	**16.7**	**15.5**	**17.8**

Metropolitan and rural regions are identified by colour as follows: metropolitan / rural.

Data were age-standardised to the 2011 Victorian population.

LL/UL 95% CI = lower/upper limit of 95 per cent confidence interval.

Estimates that are (statistically) significantly different from the corresponding estimate for Victoria are identified by colour as follows: above or below.

Estimates may not add to 100 per cent due to a proportion of 'don't know' or 'refused to say' responses, not reported here.

Relative standard error (RSE) = standard error / point estimate * 100; interpretation below:

* RSE between 25 and 50 per cent; point estimate (%) should be interpreted with caution.

Table 5.14 shows the time spent sitting on a weekend day during the preceding week, by duration, departmental division and sex. There were no significant differences between the divisions in the proportions of men or women who spent eight hours or more sitting on a weekend day during the preceding week.

Table 5.14: Proportion (%) of adults sitting on an average weekend day, by duration, Department of Health and Human Services division and sex, Victoria, 2016

	< 2 hours/day			2 to < 4 hours/day			4 to < 6 hours/day			6 to < 8 hours/day			8+ hours/day		
		95% CI			95% CI			95% CI			95% CI			95% CI	
Division	%	LL	UL	%	LL	UL	%	LL	UL	%	LL	UL	%	LL	UL
Males															
North	**6.4**	4.4	9.1	**34.7**	30.5	39.2	**28.9**	25.0	33.3	**12.1**	9.4	15.5	**17.8**	14.5	21.8
South	**5.7**	4.2	7.8	**33.2**	29.5	37.2	**31.2**	27.5	35.1	**12.5**	10.0	15.5	**17.3**	14.3	20.8
East	**7.2**	4.9	10.4	**33.7**	29.1	38.7	**30.7**	26.2	35.5	**11.7**	8.9	15.1	**16.8**	13.3	20.9
West	**8.1**	6.0	11.0	**33.4**	29.6	37.4	**30.6**	27.0	34.5	**10.4**	8.3	12.9	**17.5**	14.6	20.9
Victoria	**6.9**	**5.8**	**8.2**	**33.6**	**31.5**	**35.7**	**30.7**	**28.7**	**32.8**	**11.6**	**10.3**	**13.1**	**17.2**	**15.5**	**19.0**
Females															
North	**9.9**	7.7	12.7	**35.8**	31.7	40.1	**30.6**	26.8	34.7	**10.0**	7.5	13.1	**13.7**	11.3	16.6
South	**11.6**	9.4	14.4	**33.8**	30.4	37.4	**26.6**	23.4	29.9	**9.9**	7.9	12.4	**18.0**	15.3	21.2
East	**9.1**	7.0	11.9	**38.2**	34.0	42.5	**30.4**	26.6	34.4	**8.9**	6.8	11.4	**13.4**	10.7	16.8
West	**9.3**	7.2	11.8	**36.7**	33.1	40.4	**27.1**	23.9	30.6	**9.4**	7.4	11.8	**17.5**	14.8	20.7
Victoria	**9.9**	**8.8**	**11.2**	**36.1**	**34.2**	**38.1**	**28.5**	**26.7**	**30.4**	**9.5**	**8.4**	**10.8**	**16.0**	**14.5**	**17.5**
People															
North	**8.3**	6.7	10.2	**35.1**	32.2	38.2	**30.0**	27.1	32.9	**10.9**	9.0	13.2	**15.7**	13.6	18.0
South	**8.8**	7.3	10.5	**33.6**	31.0	36.3	**28.7**	26.3	31.3	**11.2**	9.5	13.1	**17.7**	15.6	20.0
East	**8.0**	6.4	10.1	**35.9**	32.8	39.2	**30.7**	27.7	33.9	**10.2**	8.4	12.3	**15.1**	12.8	17.8
West	**8.7**	7.1	10.6	**35.2**	32.5	37.9	**28.8**	26.3	31.4	**9.9**	8.4	11.6	**17.5**	15.4	19.8
Victoria	**8.4**	**7.6**	**9.3**	**34.8**	**33.4**	**36.3**	**29.5**	**28.2**	**30.9**	**10.5**	**9.6**	**11.5**	**16.7**	**15.5**	**17.8**

Data were age-standardised to the 2011 Victorian population.

LL/UL 95% CI = lower/upper limit of 95 per cent confidence interval.

Estimates may not add to 100 per cent due to a proportion of 'don't know' or 'refused to say' responses, not reported here.

Time spent sitting on a weekend by age and sex

Table 5.15 and Figure 5.6 show the time spent sitting on a weekend day during the preceding week, by duration, age group and sex. A significantly higher proportion of women 75 years of age or older spent eight hours or more sitting on a weekend day compared with all Victorian women.

Table 5.15: Proportion (%) of adults sitting on an average weekend day, by duration, age group and sex, Victoria, 2016

Sex	< 2 hours/day			2 to < 4 hours/day			4 to < 6 hours/day			6 to < 8 hours/day			8+ hours/day		
Age group		95% CI			95% CI			95% CI			95% CI			95% CI	
(years)	%	LL	UL	%	LL	UL	%	LL	UL	%	LL	UL	%	LL	UL
Males															
18–24	**6.9** *	4.0	11.7	**32.3**	26.4	38.8	**26.7**	21.4	32.7	**16.2**	11.8	21.9	**17.9**	13.6	23.1
25–34	**6.5**	4.1	10.3	**31.2**	26.1	36.9	**31.9**	26.8	37.5	**9.4**	6.6	13.3	**21.0**	16.5	26.3
35–44	**7.3**	4.7	11.1	**36.8**	31.4	42.5	**31.6**	26.3	37.5	**11.6**	8.5	15.7	**12.7**	9.3	17.1
45–54	**6.6**	4.5	9.7	**37.1**	32.1	42.5	**32.3**	27.6	37.4	**8.7**	6.3	12.0	**15.1**	11.8	19.3
55–64	**7.8**	5.3	11.5	**31.7**	27.5	36.2	**30.0**	25.8	34.5	**13.4**	10.4	17.0	**17.1**	13.8	20.9
65–74	**5.9**	4.0	8.4	**33.5**	29.1	38.2	**31.0**	26.6	35.8	**11.7**	9.0	15.1	**17.9**	14.0	22.5
75–84	**8.3**	5.3	12.7	**31.3**	24.8	38.6	**28.1**	21.9	35.3	**13.7**	9.4	19.5	**18.6**	12.9	26.1
85+	**			**26.0**	16.2	39.0	**33.7**	23.0	46.4	**12.7** *	7.3	21.0	**21.6** *	12.7	34.4
18+	**6.9**	**5.8**	**8.2**	**33.5**	**31.4**	**35.7**	**30.7**	**28.7**	**32.8**	**11.6**	**10.3**	**13.1**	**17.2**	**15.6**	**19.0**
Females															
18–24	**8.7**	5.8	12.8	**27.3**	22.1	33.2	**32.1**	26.5	38.3	**14.9**	11.1	19.8	**17.0**	12.5	22.6
25–34	**10.9**	7.7	15.3	**40.3**	34.8	46.0	**25.5**	20.9	30.7	**8.8**	6.1	12.5	**14.5**	10.9	19.2
35–44	**13.4**	10.3	17.1	**42.8**	38.0	47.8	**26.1**	22.0	30.6	**5.4**	3.8	7.7	**12.3**	9.2	16.2
45–54	**9.7**	7.4	12.5	**38.1**	33.8	42.5	**30.8**	26.8	35.1	**9.1**	6.8	12.0	**12.4**	9.8	15.7
55–64	**9.9**	7.7	12.7	**35.2**	31.0	39.5	**30.0**	26.3	34.1	**9.2**	6.6	12.6	**15.6**	12.6	19.3
65–74	**8.3**	6.2	11.0	**32.8**	28.6	37.2	**29.6**	25.5	33.9	**9.6**	7.4	12.4	**19.8**	16.3	23.8
75–84	**5.0** *	3.0	8.4	**31.6**	25.8	38.0	**26.3**	21.3	32.1	**11.4**	7.8	16.3	**25.7**	20.8	31.2
85+	**7.5** *	3.4	15.8	**19.6**	12.5	29.4	**19.7**	12.9	29.0	**16.3** *	8.9	27.9	**36.9**	26.2	49.0
18+	**10.0**	**8.9**	**11.3**	**36.3**	**34.4**	**38.2**	**28.4**	**26.7**	**30.2**	**9.4**	**8.3**	**10.6**	**15.9**	**14.5**	**17.5**
People															
18–24	**7.8**	5.6	10.7	**29.9**	25.9	34.3	**29.3**	25.3	33.6	**15.6**	12.6	19.3	**17.4**	14.2	21.2
25–34	**8.5**	6.4	11.2	**35.3**	31.5	39.3	**29.0**	25.4	32.8	**9.1**	7.0	11.7	**18.1**	15.0	21.6
35–44	**10.6**	8.4	13.1	**40.0**	36.4	43.8	**28.7**	25.3	32.3	**8.3**	6.5	10.5	**12.5**	10.1	15.3
45–54	**8.2**	6.6	10.2	**37.6**	34.3	41.0	**31.5**	28.4	34.8	**8.9**	7.2	11.0	**13.7**	11.5	16.3
55–64	**8.9**	7.2	11.1	**33.6**	30.6	36.7	**30.0**	27.2	33.0	**11.2**	9.1	13.5	**16.3**	14.0	18.9
65–74	**7.1**	5.7	8.9	**33.1**	30.1	36.3	**30.3**	27.2	33.5	**10.6**	8.8	12.7	**18.9**	16.2	21.9
75–84	**6.3**	4.5	8.9	**31.5**	27.1	36.3	**27.0**	23.0	31.5	**12.3**	9.5	15.9	**22.8**	19.0	27.1
85+	**6.8** *	3.3	13.2	**22.7**	16.4	30.5	**26.3**	19.8	34.1	**14.6**	9.6	21.6	**29.7**	22.3	38.4
18+	**8.5**	**7.7**	**9.4**	**34.9**	**33.5**	**36.4**	**29.5**	**28.2**	**30.9**	**10.5**	**9.6**	**11.4**	**16.6**	**15.5**	**17.7**

Data are age-specific estimates, except for '18+', which are crude estimates (not age-standardised) for Victoria.

LL/UL 95% CI = lower/upper limit of 95 per cent confidence interval.

Estimates that are (statistically) significantly different from the corresponding estimate for Victoria are identified by colour as follows: above or below.

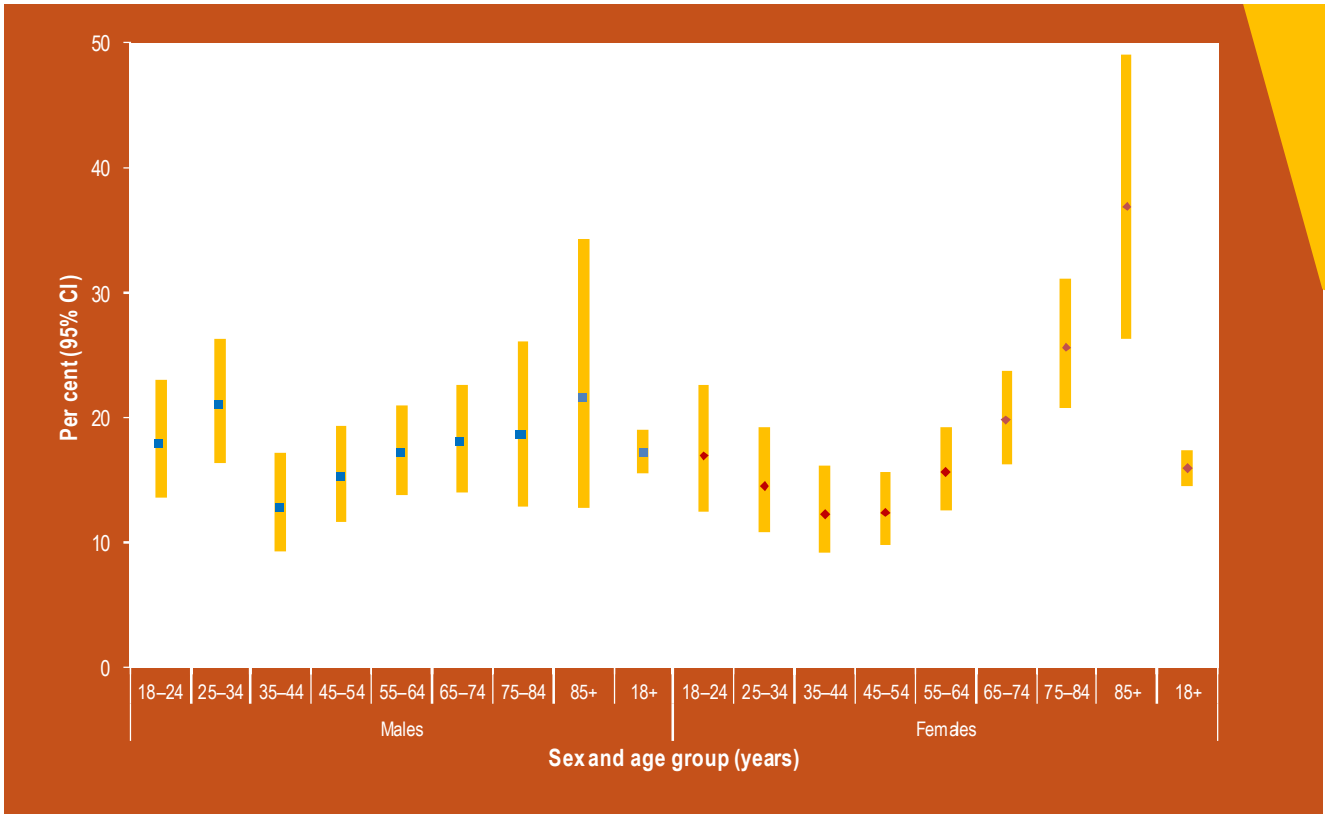
Estimates may not add to 100 per cent due to a proportion of 'don't know' or 'refused to say' responses, not reported here.

Relative standard error (RSE) = standard error/point estimate * 100; interpretation below:

***** Estimate has a RSE between 25 and 50 per cent and should be interpreted with caution.

****** Estimate has a RSE greater than 50 per cent and is not reported as it is unreliable for general use.

Figure 5.6: Proportion (%) of adults sitting eight hours a day or more during weekdays, by age group and sex, Victoria, 2016



Data are age group specific estimates, except for '18+', which are crude estimates (not age-standardised) for Victoria.
95% CI = 95 per cent confidence interval.

6. Alcohol consumption

Key findings

Lifetime risk of alcohol-related harm

2016

57.7%

were at increased lifetime risk of alcohol-related harm based on National Health and Medical Research Council (2009) guidelines

67.7%

of men were at increased lifetime risk of alcohol-related harm

48.6%

of women were at increased lifetime risk of alcohol-related harm

The proportion at 'increased lifetime risk' of alcohol-related harm was statistically significantly higher among men compared with women

The prevalence of lifetime risk of alcohol-related harm statistically significantly increased with increasing total annual household income among both men and women

Risk of alcohol-related injury on a single occasion

2016

41.8%

of adults were at increased risk of alcohol-related injury on a single occasion

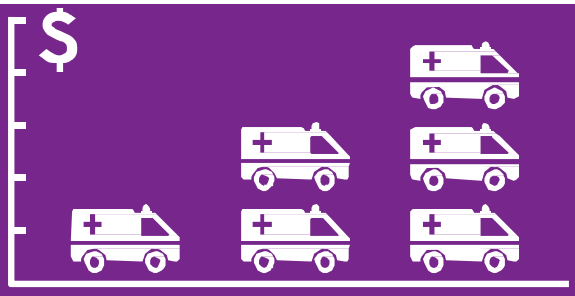
53.4%

of men were at increased risk of alcohol-related injury on a single occasion

31.0%

of women were at increased risk of alcohol-related injury on a single occasion

The proportion at increased risk of alcohol-related injury on a single occasion was significantly higher among men compared with women



The prevalence of increased risk of alcohol-related injury on a single occasion significantly increased with increasing total annual household income among both men and women

Introduction

Regular, excessive consumption of alcohol over time 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 (AIHW 2014).

Australian alcohol guidelines

Research since the previous edition of the National Health and Medical Research Council (NHMRC) guidelines in 2001 has reinforced earlier evidence on the risks of alcohol-related harm, including a range of chronic diseases and accidents and injury. In 2009 the NHMRC released the Australian guidelines to reduce health risks from drinking alcohol, replacing the previous guidelines issued in 2001. The new NHMRC (2009) guidelines take a new approach to developing population health guidance that:

- goes beyond looking at the immediate risk of injury and the cumulative risk of chronic disease, to estimating the overall risk of alcohol-related harm over a lifetime
- provides advice on lowering the risk of alcohol-related harm, using the level of one death for every 100 people as a guide to acceptable risk in the context of present-day Australian society
- provides universal guidance applicable to healthy adults 18 years of age or older (guidelines 1 and 2) and guidance specific to children and young people (guideline 3) and to pregnant and breastfeeding women (guideline 4).

The guidelines focus on reducing health risks from drinking. Only guidelines 1 and 2, listed below (Table 6.1), apply to respondents of the Victorian Population Health Survey, as the survey is administered to adults 18 years of age or over. Guideline 1 refers to lifetime or long-term harm, as lifetime risk of harm from drinking alcohol increases with the amount consumed. Guideline 2 refers to immediate harm, or harm in the short-term, as on a single occasion of drinking the risk of alcohol-related injury increases with the amount consumed.

Table 6.1: National Health and Medical Research Council guidelines to reduce health risks from drinking alcohol

NHMRC (2009) guidelines	
Guideline 1: Reducing the risk of alcohol-related harm over a lifetime	For healthy men and women, drinking no more than TWO standard drinks on any day reduces the lifetime risk of harm from alcohol-related disease or injury.
Guideline 2: Reducing the risk of injury on a single occasion of drinking	For healthy men and women, drinking no more than FOUR standard drinks on a single occasion reduces the risk of alcohol-related injury arising from that occasion.

Lifetime risk of alcohol-related harm

Lifetime risk of alcohol-related harm attempts to measure the risk associated with developing an illness such as cirrhosis of the liver, dementia, other cognitive problems, various cancers and alcohol dependence. For healthy men and women, drinking no more than two standard drinks on any day reduces the lifetime risk of harm from alcohol-related disease or injury (NHMRC 2009). Table 6.2 shows the prevalence of lifetime risk of alcohol-related harm, by departmental region and sex. In 2016, 67.7 per cent of Victorian men and 48.6 per cent of women were at 'increased lifetime risk' of alcohol-related harm. There were no statistically significant differences in the proportion of those who were at 'increased lifetime risk' of alcohol-related harm among men and women across departmental regions or between rural and metropolitan regions of Victoria.

Table 6.2: Proportion (%) of adults with a lifetime risk of alcohol-related harm,[a] by risk category, Department of Health and Human Services region and sex, Victoria, 2016

Region	Abstainer / no longer drinks alcohol			Reduced risk			Increased risk: either yearly, monthly or weekly		
		95% CI			95% CI			95% CI	
	%	LL	UL	%	LL	UL	%	LL	UL
Males									
Northern Metropolitan	**18.7**	15.1	23.0	**9.8**	7.2	13.3	**68.3**	63.4	72.9
Southern Metropolitan	**16.3**	13.3	19.8	**12.7**	10.2	15.7	**68.1**	63.9	72.0
Eastern Metropolitan	**17.3**	13.3	22.2	**14.2**	11.2	17.8	**66.2**	61.0	71.1
Western Metropolitan	**19.6**	15.9	23.9	**12.0**	9.0	15.9	**64.6**	59.5	69.4
All metropolitan regions	**17.6**	15.8	19.6	**12.4**	10.9	14.1	**66.8**	64.4	69.1
Barwon-South Western	**11.2** *	6.7	18.1	**11.1**	8.0	15.2	**76.1**	68.9	82.1
Gippsland	**14.6**	9.4	22.0	**9.5**	6.1	14.4	**73.3**	65.7	79.6
Grampians	**20.5**	13.5	29.9	**18.6**	11.7	28.3	**60.8**	51.0	69.8
Hume	**10.1** *	5.2	18.6	**11.9**	7.2	19.0	**76.3**	67.8	83.2
Loddon Mallee	**18.9**	12.5	27.6	**7.4**	4.6	11.5	**72.5**	64.4	79.3
All rural regions	**15.1**	11.9	18.9	**11.5**	9.1	14.4	**71.8**	67.5	75.7
Victoria	**17.2**	**15.5**	**18.9**	**12.3**	**11.0**	**13.7**	**67.7**	**65.7**	**69.7**
Females									
Northern Metropolitan	**30.3**	26.2	34.8	**17.5**	14.4	21.1	**50.2**	45.6	54.7
Southern Metropolitan	**27.6**	24.0	31.4	**24.8**	21.5	28.3	**46.6**	42.7	50.6
Eastern Metropolitan	**26.3**	22.4	30.6	**23.5**	19.8	27.8	**49.5**	44.8	54.3
Western Metropolitan	**28.0**	24.0	32.5	**21.7**	17.8	26.1	**48.8**	44.0	53.6
All metropolitan regions	**28.0**	26.0	30.1	**22.1**	20.3	24.0	**48.7**	46.4	50.9
Barwon-South Western	**30.2**	23.1	38.5	**18.1**	14.2	22.8	**49.8**	42.2	57.4
Gippsland	**28.8**	22.4	36.1	**18.9**	14.1	24.8	**51.2**	44.1	58.4
Grampians	**24.7**	17.3	33.8	**22.0**	15.8	29.8	**52.7**	43.8	61.5
Hume	**28.4**	20.6	37.8	**29.0**	22.3	36.9	**41.3**	33.2	49.8
Loddon Mallee	**33.4**	24.6	43.6	**16.9**	12.7	22.0	**49.3**	40.4	58.2
All rural regions	**29.8**	25.7	34.3	**21.1**	18.4	24.1	**47.9**	43.8	52.1
Victoria	**28.2**	**26.4**	**30.1**	**21.9**	**20.4**	**23.6**	**48.6**	**46.6**	**50.6**
People									
Northern Metropolitan	**25.3**	22.5	28.4	**14.3**	12.1	16.8	**57.9**	54.6	61.1
Southern Metropolitan	**22.0**	19.6	24.7	**19.0**	16.9	21.4	**56.9**	54.0	59.9
Eastern Metropolitan	**21.9**	19.0	25.1	**18.9**	16.4	21.6	**57.7**	54.1	61.3
Western Metropolitan	**23.9**	21.1	27.0	**16.8**	14.3	19.7	**56.5**	52.9	60.0
All metropolitan regions	**23.1**	21.7	24.5	**17.5**	16.3	18.8	**57.2**	55.6	58.9
Barwon-South Western	**22.0**	16.8	28.2	**15.0**	12.2	18.3	**61.4**	55.4	67.2
Gippsland	**21.6**	17.2	26.7	**14.7**	11.4	18.8	**61.7**	56.1	67.0
Grampians	**22.3**	16.7	29.1	**21.1**	15.4	28.2	**56.3**	49.0	63.4
Hume	**20.8**	14.5	28.8	**21.3**	16.5	27.1	**56.2**	48.7	63.5
Loddon Mallee	**25.6**	19.4	32.9	**12.2**	9.5	15.4	**61.5**	54.6	67.9
All rural regions	**22.5**	19.7	25.5	**16.6**	14.7	18.7	**59.6**	56.4	62.6
Victoria	**22.9**	**21.7**	**24.2**	**17.3**	**16.3**	**18.4**	**57.7**	**56.3**	**59.2**

Metropolitan and rural regions are identified by colour as follows: metropolitan / rural.

Data were age-standardised to the 2011 Victorian population.

LL/UL 95% CI = lower/upper limit of 95 per cent confidence interval.

Estimates that are (statistically) significantly different from the corresponding estimate for Victoria are identified by colour as follows: above or below.

Estimates may not add to 100 per cent due to a proportion of 'don't know' or 'refused to say' responses, not reported here.

Relative standard error (RSE) = standard error / point estimate * 100; interpretation below:

***** RSE between 25 and 50 per cent; point estimate (%) should be interpreted with caution.

[a] NHMRC (2009) guidelines.

Table 6.3 shows the prevalence of lifetime risk of alcohol-related harm, by departmental division and sex. There were no significant differences between the divisions in the proportions of men or women who were at 'increased lifetime risk' of alcohol-related harm.

Table 6.3: Proportion (%) of adults with a lifetime risk of alcohol-related harm,[a] by risk category, Department of Health and Human Services division and sex, Victoria, 2016

	Abstainer / no longer drinks alcohol			Reduced risk			Increased risk: either yearly, monthly or weekly		
		95% CI			95% CI			95% CI	
Division	%	LL	UL	%	LL	UL	%	LL	UL
Males									
North	**19.0**	15.8	22.8	**9.8**	7.3	12.9	**68.4**	64.1	72.3
South	**16.2**	13.4	19.4	**12.4**	10.2	15.1	**68.3**	64.5	71.9
East	**16.1**	12.6	20.4	**13.9**	11.2	17.0	**67.7**	63.0	72.0
West	**17.7**	14.8	20.9	**13.1**	10.7	16.1	**66.4**	62.5	70.1
Victoria	**17.2**	**15.5**	**18.9**	**12.3**	**11.0**	**13.7**	**67.7**	**65.7**	**69.7**
Females									
North	**30.3**	26.4	34.5	**17.6**	14.9	20.8	**50.3**	46.2	54.4
South	**27.9**	24.7	31.4	**23.8**	20.9	27.0	**47.1**	43.6	50.7
East	**26.6**	22.9	30.6	**24.7**	21.3	28.4	**47.9**	43.7	52.2
West	**27.6**	24.3	31.0	**21.3**	18.5	24.6	**49.6**	45.9	53.4
Victoria	**28.2**	**26.4**	**30.1**	**21.9**	**20.4**	**23.6**	**48.6**	**46.6**	**50.6**
People									
North	**25.0**	22.4	27.9	**14.2**	12.3	16.4	**58.6**	55.6	61.5
South	**22.2**	20.0	24.6	**18.4**	16.4	20.5	**57.4**	54.7	60.0
East	**21.5**	18.9	24.5	**19.2**	17.0	21.7	**57.7**	54.4	60.9
West	**23.0**	20.7	25.4	**17.3**	15.4	19.4	**57.5**	54.8	60.2
Victoria	**22.9**	**21.7**	**24.2**	**17.3**	**16.3**	**18.4**	**57.7**	**56.3**	**59.2**

Data were age-standardised to the 2011 Victorian population.

LL/UL 95% CI = lower/upper limit of 95 per cent confidence interval.

[a] NHMRC (2009) guidelines.

Table 6.4 and Figure 6.1 show the prevalence of lifetime risk of alcohol-related harm based on the NHMRC (2009) guidelines, by age group and sex. There was a significantly higher proportion of 18–24-year-old women and adults at increased lifetime risk of alcohol-related harm compared with all Victorian women and adults, respectively. The proportion at increased lifetime risk of alcohol-related harm decreased with age and was lowest among men and women aged 85 years of age or older. The proportion at increased lifetime risk of alcohol-related harm was significantly higher among men compared with women in every age group except the 18–24-year-old age group.

Table 6.4: Proportion (%) of the adults with a lifetime risk of alcohol-related harm,[a] by risk category, age group and sex, Victoria, 2016

Sex	Abstainer / no longer drinks alcohol			Reduced risk			Increased risk: either yearly, monthly or weekly		
Age group		95% CI			95% CI			95% CI	
(years)	%	LL	UL	%	LL	UL	%	LL	UL
Males									
18–24	**16.3**	12.0	21.9	**9.3**	6.1	14.0	**72.3**	65.9	77.8
25–34	**15.6**	11.9	20.3	**7.2**	5.0	10.4	**74.3**	69.1	79.0
35–44	**18.8**	14.6	23.9	**10.7**	7.6	14.8	**68.3**	62.6	73.5
45–54	**14.5**	11.2	18.6	**11.7**	8.9	15.2	**71.8**	67.0	76.2
55–64	**15.9**	12.7	19.7	**13.4**	10.5	16.9	**67.4**	62.8	71.6
65–74	**21.8**	17.7	26.5	**17.3**	13.9	21.4	**56.3**	51.3	61.2
75–84	**24.4**	18.5	31.4	**25.0**	18.6	32.8	**45.8**	38.5	53.3
85+	**15.4** *	9.1	24.8	**32.6**	22.0	45.5	**49.0**	36.6	61.6
18+	**17.2**	**15.6**	**19.0**	**12.1**	**10.8**	**13.5**	**67.8**	**65.7**	**69.8**
Females									
18–24	**23.5**	18.5	29.5	**7.5**	4.8	11.5	**67.7**	61.4	73.4
25–34	**29.6**	24.6	35.1	**17.6**	13.7	22.4	**51.6**	45.9	57.3
35–44	**25.8**	21.5	30.6	**21.6**	17.9	25.9	**52.0**	47.0	56.9
45–54	**19.9**	16.6	23.8	**25.4**	21.6	29.5	**53.4**	48.9	57.9
55–64	**29.1**	25.1	33.4	**26.3**	22.6	30.4	**43.2**	38.9	47.6
65–74	**33.9**	29.5	38.6	**29.6**	25.8	33.8	**35.0**	30.9	39.4
75–84	**47.7**	41.5	54.0	**30.7**	25.1	36.8	**19.5**	15.0	25.1
85+	**49.3**	38.0	60.7	**39.0**	28.3	51.0	**10.1** *	5.7	17.2
18+	**28.5**	**26.7**	**30.3**	**22.5**	**20.9**	**24.1**	**47.8**	**45.9**	**49.8**
People									
18–24	**19.8**	16.3	23.8	**8.4**	6.2	11.4	**70.1**	65.7	74.1
25–34	**22.0**	18.8	25.5	**12.0**	9.7	14.7	**64.0**	60.0	67.8
35–44	**22.5**	19.4	26.0	**16.5**	14.0	19.5	**59.5**	55.7	63.2
45–54	**17.3**	14.9	20.1	**18.8**	16.3	21.6	**62.2**	58.9	65.5
55–64	**22.9**	20.2	25.8	**20.3**	17.8	23.0	**54.5**	51.3	57.7
65–74	**28.1**	24.9	31.4	**23.7**	21.0	26.5	**45.3**	42.0	48.7
75–84	**38.2**	33.6	43.0	**28.4**	24.1	33.1	**30.2**	26.1	34.8
85+	**33.4**	26.0	41.7	**36.0**	28.2	44.7	**28.4**	21.2	36.9
18+	**23.0**	**21.7**	**24.3**	**17.4**	**16.4**	**18.5**	**57.6**	**56.1**	**59.1**

Data are age-specific estimates, except for '18+', which are crude estimates (not age-standardised) for Victoria.

LL/UL 95% CI = lower/upper limit of 95 per cent confidence interval.

Estimates that are (statistically) significantly different from the corresponding estimate for Victoria are identified by colour as follows: above or below.

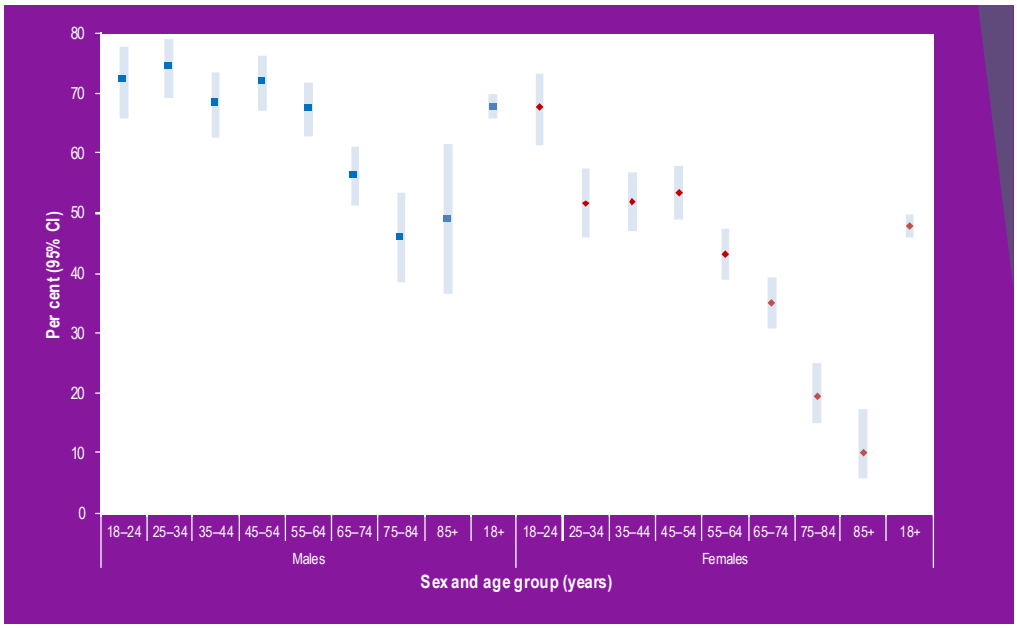
Estimates may not add to 100 per cent due to a proportion of 'don't know' or 'refused to say' responses, not reported here.

Relative standard error (RSE) = standard error/point estimate * 100; interpretation below:

***** Estimate has a RSE between 25 and 50 per cent and should be interpreted with caution.

[a] NHMRC (2009) guidelines.

Figure 6.1: Proportion (%) of adults with an increased lifetime risk of alcohol-related harm,[a] by age group and sex, Victoria, 2016



Data are age group specific estimates, except for '18+', which are crude estimates (not age-standardised) for Victoria.
95% CI = 95 per cent confidence interval.
[a] Either yearly, monthly or weekly, NHMRC (2009).

Table 6.5 shows the prevalence of lifetime risk of alcohol-related harm, by risk frequency, departmental region and sex. The proportion at increased lifetime risk of alcohol-related harm, at least weekly or monthly, was significantly higher among men compared with women. There was a significantly higher proportion of men at increased lifetime risk of alcohol-related harm, at least monthly, who lived in Loddon Mallee Region compared with all Victorian men.

Table 6.5: Proportion (%) of the adults at increased lifetime risk of alcohol-related harm,[a] by risk frequency, Department of Health and Human Services region and sex, Victoria, 2016

	Exceeds 2 standard drinks per day								
	Yearly			Monthly			Weekly		
		95% CI			95% CI			95% CI	
Region	%	LL	UL	%	LL	UL	%	LL	UL
Males									
Northern Metropolitan	**22.4**	18.3	27.2	**19.2**	15.4	23.7	**26.7**	22.2	31.8
Southern Metropolitan	**20.3**	17.0	24.2	**19.0**	15.7	22.8	**28.8**	24.9	33.1
Eastern Metropolitan	**19.4**	15.4	24.3	**18.7**	14.6	23.6	**28.0**	23.2	33.5
Western Metropolitan	**25.2**	20.7	30.4	**17.7**	14.0	22.2	**21.7**	17.7	26.3
All metropolitan regions	**21.6**	19.6	23.8	**18.7**	16.8	20.8	**26.4**	24.2	28.8
Barwon-South Western	**24.9**	17.7	33.9	**16.5**	11.2	23.5	**34.7**	27.6	42.7
Gippsland	**18.6**	13.1	25.7	**22.2**	14.4	32.7	**32.5**	23.5	43.0
Grampians	**15.9**	11.0	22.5	**12.4**	7.8	19.1	**32.5**	24.6	41.6
Hume	**21.9**	14.0	32.6	**26.7**	18.1	37.4	**27.7**	19.5	37.8
Loddon Mallee	**10.9**	6.9	16.9	**29.9**	21.0	40.5	**31.7**	23.8	40.9
All rural regions	**18.4**	15.2	22.0	**21.3**	17.4	25.8	**32.1**	28.0	36.5
Victoria	**20.9**	**19.2**	**22.8**	**19.2**	**17.4**	**21.0**	**27.7**	**25.7**	**29.7**
Females									
Northern Metropolitan	**22.3**	18.5	26.5	**16.4**	13.0	20.5	**11.5**	8.7	15.0
Southern Metropolitan	**20.9**	17.8	24.4	**15.1**	12.4	18.4	**10.6**	8.2	13.5
Eastern Metropolitan	**24.4**	20.4	28.9	**12.0**	9.0	15.8	**13.2**	10.1	17.0
Western Metropolitan	**22.5**	18.3	27.3	**15.0**	11.7	18.9	**11.3**	8.6	14.6
All metropolitan regions	**22.4**	20.5	24.5	**14.5**	12.9	16.3	**11.7**	10.3	13.4
Barwon-South Western	**28.2**	22.0	35.4	**11.1**	7.1	17.1	**10.4**	6.9	15.5
Gippsland	**25.6**	18.9	33.7	**14.4**	9.3	21.5	**11.3** *	6.4	19.1
Grampians	**28.7**	21.1	37.6	**10.2** *	6.0	17.0	**13.8**	9.2	20.3
Hume	**20.5**	14.3	28.4	**12.5**	8.4	18.2	**8.3**	5.4	12.5
Loddon Mallee	**26.7**	20.0	34.8	**11.9** *	7.1	19.2	**10.6** *	6.4	17.3
All rural regions	**25.5**	22.3	29.1	**11.8**	9.6	14.4	**10.7**	8.6	13.1
Victoria	**23.0**	**21.4**	**24.8**	**14.0**	**12.7**	**15.5**	**11.5**	**10.3**	**12.9**
People									
Northern Metropolitan	**22.0**	19.2	25.0	**17.5**	15.0	20.5	**18.4**	15.7	21.4
Southern Metropolitan	**20.6**	18.2	23.1	**16.9**	14.7	19.4	**19.4**	17.1	22.1
Eastern Metropolitan	**22.2**	19.2	25.5	**15.2**	12.6	18.2	**20.3**	17.3	23.7
Western Metropolitan	**23.8**	20.7	27.3	**16.2**	13.6	19.1	**16.5**	14.0	19.4
All metropolitan regions	**21.9**	20.5	23.4	**16.5**	15.2	17.8	**18.8**	17.4	20.3
Barwon-South Western	**25.5**	20.5	31.2	**14.3**	10.6	19.1	**21.6**	17.5	26.4
Gippsland	**22.1**	17.3	27.7	**17.7**	12.9	23.8	**21.9**	16.1	29.2
Grampians	**20.9**	16.4	26.2	**11.5**	8.1	16.0	**23.9**	18.9	29.9
Hume	**21.3**	16.1	27.6	**17.7**	13.1	23.3	**17.3**	13.0	22.8
Loddon Mallee	**18.3**	14.2	23.3	**21.9**	15.7	29.6	**21.3**	16.3	27.2
All rural regions	**21.8**	19.5	24.3	**16.6**	14.3	19.2	**21.1**	18.8	23.7
Victoria	**21.9**	**20.7**	**23.2**	**16.5**	**15.4**	**17.7**	**19.4**	**18.2**	**20.6**

Metropolitan and rural regions are identified by colour as follows: metropolitan / rural.

Data were age-standardised to the 2011 Victorian population.

LL/UL 95% CI = lower/upper limit of 95 per cent confidence interval.

Estimates that are (statistically) significantly different from the corresponding estimate for Victoria are identified by colour as follows: above or below.

Estimates may not add to 100 per cent due to a proportion of 'don't know' or 'refused to say' responses, not reported here.

Relative standard error (RSE) = standard error / point estimate * 100; interpretation below:

***** RSE between 25 and 50 per cent; point estimate (%) should be interpreted with caution.

[a] NHMRC (2009) guidelines.

Table 6.6 shows the prevalence of lifetime risk of alcohol-related harm, by risk frequency, departmental division and sex. There were no significant differences between the divisions in the proportions of men or women who were at 'increased lifetime risk' of alcohol-related harm by risk frequency.

Table 6.6: Proportion (%) of the adults at increased lifetime risk of alcohol-related harm,[a] by risk frequency, Department of Health and Human Services division and sex, Victoria, 2016

	Exceeds 2 standard drinks per day								
	Yearly			Monthly			Weekly		
		95% CI			95% CI			95% CI	
Division	%	LL	UL	%	LL	UL	%	LL	UL
Males									
North	**19.5**	16.2	23.3	**21.2**	17.5	25.5	**27.7**	23.8	32.0
South	**20.2**	17.2	23.6	**19.1**	16.0	22.6	**29.1**	25.3	33.1
East	**19.6**	16.0	23.9	**20.1**	16.3	24.6	**27.9**	23.5	32.8
West	**23.6**	20.1	27.4	**16.9**	14.0	20.2	**26.0**	22.7	29.5
Victoria	**20.9**	**19.2**	**22.8**	**19.2**	**17.4**	**21.0**	**27.7**	**25.7**	**29.7**
Females									
North	**23.3**	19.9	27.1	**15.7**	12.7	19.2	**11.3**	8.9	14.3
South	**21.4**	18.5	24.6	**15.1**	12.5	18.0	**10.7**	8.5	13.3
East	**23.6**	20.1	27.6	**12.1**	9.5	15.3	**12.2**	9.6	15.3
West	**24.4**	21.1	27.9	**13.7**	11.3	16.6	**11.6**	9.5	14.1
Victoria	**23.0**	**21.4**	**24.8**	**14.0**	**12.7**	**15.5**	**11.5**	**10.3**	**12.9**
People									
North	**21.2**	18.8	23.8	**18.3**	15.9	21.1	**19.1**	16.7	21.7
South	**20.7**	18.6	23.0	**17.0**	14.9	19.2	**19.7**	17.4	22.2
East	**21.9**	19.3	24.8	**15.8**	13.5	18.5	**19.9**	17.2	22.9
West	**23.8**	21.4	26.4	**15.1**	13.1	17.2	**18.7**	16.7	20.9
Victoria	**21.9**	**20.7**	**23.2**	**16.5**	**15.4**	**17.7**	**19.4**	**18.2**	**20.6**

Data were age-standardised to the 2011 Victorian population.

LL/UL 95% CI = lower/upper limit of 95 per cent confidence interval.

Estimates may not add to 100 per cent due to a proportion of 'don't know' or 'refused to say' responses, not reported here.

[a] NHMRC (2009) guidelines.

Table 6.7 shows the prevalence of lifetime risk of alcohol-related harm, by risk frequency, age group and sex. There was a significantly higher proportion of 18–24-year-old men, women and adults at increased lifetime risk of alcohol-related harm, at least monthly, compared with all Victorian men, women and adults, respectively.

Table 6.7: Proportion (%) of the adults at increased lifetime risk of alcohol-related harm,[a] by risk frequency, age group and sex, Victoria, 2016

	Exceeds 2 standard drinks per day								
Sex	Yearly			Monthly			Weekly		
Age group		95% CI			95% CI			95% CI	
(years)	%	LL	UL	%	LL	UL	%	LL	UL
Males									
18–24	**22.4**	17.5	28.2	**27.7**	22.1	34.0	**22.2**	17.3	28.0
25–34	**21.8**	17.4	27.0	**22.3**	17.8	27.6	**30.2**	25.0	35.9
35–44	**22.3**	17.8	27.5	**18.3**	14.2	23.2	**27.7**	22.9	33.2
45–54	**19.8**	16.1	24.1	**19.2**	15.2	24.0	**32.8**	27.9	38.1
55–64	**21.1**	17.2	25.5	**15.8**	12.6	19.6	**30.5**	26.3	34.9
65–74	**18.4**	15.0	22.4	**12.3**	9.6	15.7	**25.6**	21.5	30.1
75–84	**18.0**	13.2	24.1	**12.8**	8.8	18.2	**15.0**	10.4	21.2
85+	**19.1** *	10.3	32.7	**13.9** *	7.1	25.4	**16.0** *	8.7	27.6
18+	**20.9**	**19.1**	**22.8**	**19.2**	**17.4**	**21.1**	**27.7**	**25.7**	**29.8**
Females									
18–24	**28.6**	23.3	34.5	**25.8**	20.7	31.7	**13.3**	9.6	18.1
25–34	**23.6**	19.1	28.7	**14.9**	11.3	19.5	**13.1**	9.8	17.4
35–44	**26.6**	22.6	31.1	**13.5**	10.6	17.1	**11.8**	9.0	15.4
45–54	**24.6**	21.0	28.6	**14.4**	11.7	17.7	**14.4**	11.5	17.9
55–64	**20.2**	16.8	24.1	**10.2**	8.0	12.9	**12.8**	10.2	15.8
65–74	**19.5**	16.3	23.2	**8.8**	6.7	11.5	**6.7**	4.8	9.2
75–84	**12.1**	8.5	17.0	**4.9** *	2.7	8.8	**2.5** *	1.4	4.5
85+	**4.2** *	2.0	8.8	**4.7** *	1.9	11.3	**		
18+	**22.8**	**21.2**	**24.5**	**13.6**	**12.3**	**15.0**	**11.4**	**10.2**	**12.7**
People									
18–24	**25.4**	21.7	29.4	**26.8**	22.9	31.1	**18.0**	14.8	21.7
25–34	**22.6**	19.4	26.2	**19.0**	15.9	22.5	**22.4**	19.1	26.2
35–44	**24.6**	21.5	28.0	**15.7**	13.2	18.6	**19.2**	16.4	22.4
45–54	**22.3**	19.7	25.2	**16.7**	14.2	19.6	**23.2**	20.3	26.4
55–64	**20.6**	18.0	23.5	**12.8**	10.9	15.1	**21.1**	18.6	23.7
65–74	**19.0**	16.6	21.7	**10.5**	8.7	12.6	**15.8**	13.5	18.4
75–84	**14.5**	11.5	18.2	**8.1**	5.9	11.1	**7.6**	5.5	10.5
85+	**11.2** *	6.6	18.5	**9.0** *	5.2	15.2	**8.2** *	4.6	14.2
18+	**21.9**	**20.7**	**23.2**	**16.3**	**15.2**	**17.5**	**19.4**	**18.2**	**20.6**

Data are age-specific estimates, except for '18+', which are crude estimates (not age-standardised) for Victoria.

LL/UL 95% CI = lower/upper limit of 95 per cent confidence interval.

Estimates that are (statistically) significantly different from the corresponding estimate for Victoria are identified by colour as follows: above or below.

Estimates may not add to 100 per cent due to a proportion of 'don't know' or 'refused to say' responses, not reported here.

Relative standard error (RSE) = standard error/point estimate * 100; interpretation below:

* Estimate has a RSE between 25 and 50 per cent and should be interpreted with caution.

** Estimate has a RSE greater than 50 per cent and is not reported as it is unreliable for general use.

[a] NHMRC (2009) guidelines.

Table 6.8 shows the prevalence of lifetime risk of alcohol-related harm in men, by selected socioeconomic determinants. When compared with all Victorian men, a significantly higher proportion of men were at 'increased lifetime risk' of alcohol-related harm with the following characteristics:

- born in Australia
- spoke English at home
- total household income of $100,000 or more.

Table 6.8: Proportion (%) of men with a lifetime risk of alcohol-related harm,[a] by risk category and selected socioeconomic determinants, Victoria, 2016

	Abstainer / no longer drinks alcohol			Reduced risk			Increased risk: either yearly, monthly or weekly		
		95% CI			95% CI			95% CI	
	%	LL	UL	%	LL	UL	%	LL	UL
All males	**17.2**	**15.5**	**18.9**	**12.3**	**11.0**	**13.7**	**67.7**	**65.7**	**69.7**
Country of birth									
Australia	**12.8**	11.1	14.6	**10.1**	8.7	11.8	**74.2**	71.9	76.5
Overseas	**25.5**	22.3	29.0	**16.2**	13.8	19.0	**55.5**	51.8	59.2
Language spoken at home									
English	**12.6**	11.0	14.4	**10.6**	9.2	12.1	**74.0**	71.7	76.1
Language other than English	**27.8**	24.2	31.7	**17.0**	14.2	20.2	**52.3**	48.1	56.4
Education level									
Did not complete high school	**21.3**	16.2	27.5	**11.6**	8.2	16.2	**61.5**	54.9	67.7
Completed high school, or TAFE, or trade certificate, or diploma	**15.1**	13.1	17.4	**11.4**	9.7	13.4	**70.9**	68.1	73.5
University, or some other tertiary institute degree	**16.2**	13.8	19.0	**15.8**	13.4	18.4	**65.9**	62.6	69.1
Employment status									
Employed	**14.7**	12.3	17.4	**10.6**	8.9	12.5	**71.6**	68.5	74.4
Unemployed	**23.7**	17.1	31.7	**9.9** *	5.7	16.7	**51.5**	43.5	59.5
Not in labour force	**25.8**	20.5	32.0	**13.1**	9.3	18.0	**59.6**	52.9	66.1
Total annual household income									
< $40,000	**27.9**	23.0	33.3	**17.9**	14.0	22.6	**51.5**	45.8	57.2
$40,000 to < $100,000	**16.9**	14.1	20.1	**11.4**	9.2	14.1	**69.2**	65.4	72.7
≥ $100,000	**6.8**	5.0	9.2	**11.0**	8.0	14.8	**80.1**	75.9	83.8

Data were age-standardised to the 2011 Victorian population.

LL/UL 95% CI = lower/upper limit of 95 per cent confidence interval.

Estimates that are (statistically) significantly different from the corresponding estimate for Victoria are identified by colour as follows: above or below.

Estimates may not add to 100 per cent due to a proportion of 'don't know' or 'refused to say' responses, not reported here.

Relative standard error (RSE) = standard error / point estimate * 100; interpretation below:

* RSE between 25 and 50 per cent; point estimate (%) should be interpreted with caution.

[a] NHMRC (2009) guidelines.

Table 6.9 shows the prevalence of lifetime risk of alcohol-related harm in women, by selected socioeconomic determinants. When compared with all Victorian women, a significantly higher proportion of women were at 'increased lifetime risk' of alcohol-related harm with the following characteristics:

- born in Australia
- spoke English at home
- employed
- total household income of $100,000 or more.

Table 6.9: Proportion (%) of women with a lifetime risk of alcohol-related harm,[a] by risk category and selected socioeconomic determinants, Victoria, 2016

	Abstainer / no longer drinks alcohol			Reduced risk			Increased risk: either yearly, monthly or weekly		
		95% CI			95% CI			95% CI	
	%	LL	UL	%	LL	UL	%	LL	UL
All females	**28.2**	**26.4**	**30.1**	**21.9**	**20.4**	**23.6**	**48.6**	**46.6**	**50.6**
Country of birth									
Australia	**20.8**	19.0	22.8	**21.7**	19.8	23.7	**56.2**	53.9	58.5
Overseas	**44.1**	40.4	47.9	**22.7**	19.9	25.7	**31.9**	28.6	35.4
Language spoken at home									
English	**20.3**	18.5	22.2	**21.5**	19.7	23.4	**56.8**	54.6	59.1
Language other than English	**48.1**	43.9	52.2	**23.5**	20.2	27.1	**27.6**	24.1	31.4
Education level									
Did not complete high school	**36.8**	30.5	43.7	**20.5**	16.2	25.7	**40.8**	34.4	47.6
Completed high school, or TAFE, or trade certificate, or diploma	**27.8**	25.1	30.6	**20.7**	18.5	23.1	**50.4**	47.5	53.3
University, or some other tertiary institute degree	**22.2**	19.7	24.8	**23.8**	21.1	26.8	**53.0**	49.8	56.2
Employment status									
Employed	**19.5**	16.5	22.9	**20.2**	17.6	23.1	**58.9**	55.3	62.5
Unemployed	**39.2**	30.5	48.7	**17.6**	11.2	26.6	**34.5**	25.7	44.5
Not in labour force	**41.2**	37.2	45.3	**23.1**	20.1	26.4	**35.2**	31.6	39.0
Total annual household income									
< $40,000	**43.4**	38.3	48.5	**20.8**	17.1	25.0	**34.9**	30.2	39.8
$40,000 to < $100,000	**25.5**	22.1	29.1	**21.9**	18.9	25.2	**51.7**	47.9	55.5
≥ $100,000	**12.6**	9.4	16.6	**21.7**	17.8	26.3	**65.3**	60.9	69.4

Data were age-standardised to the 2011 Victorian population.

LL/UL 95% CI = lower/upper limit of 95 per cent confidence interval.

Estimates that are (statistically) significantly different from the corresponding estimate for Victoria are identified by colour as follows: above or below.

Estimates may not add to 100 per cent due to a proportion of 'don't know' or 'refused to say' responses, not reported here.

[a] NHMRC (2009) guidelines.

The relationship was investigated between SES and the age-adjusted prevalence of lifetime risk of alcohol-related harm, using total annual household income as a measure of SES (Figure 6.2). The prevalence of lifetime risk of alcohol-related harm significantly increased with increasing total annual household income among both men and women.

Figure 6.2: Proportion (%) of adults with an increased lifetime risk of alcohol-related harm[a], by total annual household income and sex, Victoria, 2016

Data were age-standardised to the 2011 Victorian population.

95% CI = 95 per cent confidence interval.

a Either yearly, monthly or weekly, NHMRC (2009).

Table 6.10 shows the prevalence of lifetime risk of alcohol-related harm in men, by selected modifiable risk factors contributing to chronic disease and morbidity status. When compared with all Victorian men, a significantly higher proportion of men who met vegetable consumption guidelines were at increased 'lifetime risk' of alcohol-related harm.

Table 6.10: Proportion (%) of men with a lifetime risk of alcohol-related harm,[a] by risk category, selected modifiable risk factors and morbidity status, Victoria, 2016

	Abstainer / no longer drinks alcohol			Reduced risk			Increased risk: either yearly, monthly or weekly		
		95% CI			95% CI			95% CI	
	%	LL	UL	%	LL	UL	%	LL	UL
All males	**17.2**	**15.5**	**18.9**	**12.3**	**11.0**	**13.7**	**67.7**	**65.7**	**69.7**
Psychological distress [b]									
Low (K10 score < 16)	**15.9**	13.8	18.3	**11.9**	10.3	13.7	**70.1**	67.3	72.7
Moderate (K10 score 16–21)	**15.3**	12.3	18.7	**13.0**	10.3	16.1	**68.8**	64.6	72.8
High / very high (K10 score 22+)	**25.8**	20.8	31.6	**11.9**	8.5	16.4	**59.7**	53.7	65.4
Physical activity [c]									
Sedentary	**43.9**	31.4	57.2	**17.6**	11.1	26.9	**36.6**	25.7	49.0
Insufficient time (< 150 min) and/or sessions (< 2)	**18.6**	16.0	21.7	**13.2**	11.0	15.7	**66.0**	62.7	69.2
Sufficient time (≥ 150 min) and sessions (≥ 2)	**14.8**	12.7	17.1	**11.3**	9.6	13.3	**70.6**	67.7	73.4
Met fruit / vegetable guidelines [d]									
Both guidelines	**11.7** *	6.5	20.2	**5.6** *	2.4	12.5	**81.7**	71.8	88.6
Vegetable guidelines[e]	**11.0** *	5.9	19.4	**4.4** *	2.0	9.3	**83.7**	74.8	89.9
Fruit guidelines[e]	**18.9**	16.1	21.9	**12.8**	10.8	15.0	**65.3**	61.9	68.6
Neither	**15.8**	13.9	18.0	**12.1**	10.4	14.0	**69.9**	67.3	72.4
Smoking status									
Current smoker	**14.3**	11.0	18.5	**12.1**	9.0	16.1	**70.7**	65.5	75.4
Ex-smoker	**12.7**	9.8	16.4	**8.5**	6.7	10.9	**73.0**	68.2	77.2
Non-smoker	**19.7**	17.4	22.2	**15.0**	13.1	17.2	**63.3**	60.3	66.1
Self-reported health									
Excellent / very good	**15.2**	12.9	17.7	**12.9**	10.9	15.2	**70.2**	67.1	73.1
Good	**17.8**	15.2	20.9	**11.8**	9.8	14.2	**67.2**	63.8	70.5
Fair/poor	**19.6**	16.0	23.9	**12.3**	9.6	15.7	**63.9**	59.0	68.6
Body weight status based on BMI [f]									
Underweight (BMI < 18.5 kg/m^2)	**36.3** *	20.7	55.5	**7.0** *	2.8	16.1	**56.7**	38.7	73.1
Normal range (18.5 ≥ BMI < 25 kg/m^2)	**16.7**	14.1	19.8	**12.0**	9.9	14.6	**69.9**	66.4	73.2
Pre-obese (25 ≥ BMI < 30 kg/m^2)	**16.1**	13.5	19.0	**12.5**	10.3	15.1	**68.9**	65.4	72.2
Obese (BMI ≥ 30 kg/m^2)	**16.7**	13.3	20.7	**10.9**	8.5	14.1	**66.6**	61.5	71.4
Blood pressure status									
Doctor diagnosed hypertension	**14.5**	11.7	17.8	**11.3**	8.6	14.6	**70.0**	64.6	74.8
Normal range	**16.1**	14.3	18.1	**13.7**	12.1	15.5	**67.4**	64.9	69.7
Morbidity status									
No chronic disease	**15.4**	13.3	17.7	**13.0**	11.0	15.1	**68.9**	66.0	71.6
One chronic disease	**16.7**	13.6	20.3	**11.7**	9.4	14.5	**68.4**	64.3	72.2
Two, or more chronic diseases	**17.6**	13.3	22.8	**12.9**	9.4	17.4	**66.8**	60.6	72.5

Data were age-standardised to the 2011 Victorian population.

LL/UL 95% CI = lower/upper limit of 95 per cent confidence interval.

Estimates that are (statistically) significantly different from the corresponding estimate for Victoria are identified by colour as follows: above or below .

Estimates may not add to 100 per cent due to a proportion of 'don't know' or 'refused to say' responses, not reported here.

Relative standard error (RSE) = standard error / point estimate * 100; interpretation below:

***** RSE between 25 and 50 per cent; point estimate (%) should be interpreted with caution.

[a] NHMRC (2009) guidelines.

[b] Based on the Kessler 10 scale for psychological distress.

[c] DoH (2014) guidelines.

[d] NHMRC (2013) guidelines.

[e] Includes those meeting both guidelines.

[f] Body mass index (BMI) = Weight (kg) / Height (m2).

Table 6.11 shows the prevalence of lifetime risk of alcohol-related harm in women, by selected modifiable risk factors contributing to chronic disease and morbidity status. When compared with all Victorian women, a significantly higher proportion of women were at increased ‘lifetime risk’ of alcohol-related harm with the following characteristics:

- engaged in sufficient physical activity
- current or ex-smokers
- excellent or very good self-reported health status.

Table 6.11: Proportion (%) of women with a lifetime risk of alcohol-related harm,[a] by risk category, selected modifiable risk factors and morbidity status, Victoria, 2016

	Abstainer / no longer drinks alcohol			Reduced risk			Increased risk: either yearly, monthly or weekly		
		95% CI			95% CI			95% CI	
	%	LL	UL	%	LL	UL	%	LL	UL
All females	**28.2**	**26.4**	**30.1**	**21.9**	**20.4**	**23.6**	**48.6**	**46.6**	**50.6**
Psychological distress[b]									
Low (K10 score < 16)	**23.9**	21.6	26.4	**23.3**	21.2	25.5	**51.1**	48.4	53.8
Moderate (K10 score 16–21)	**29.4**	25.9	33.1	**22.1**	19.0	25.6	**47.9**	44.1	51.8
High / very high (K10 score 22+)	**36.1**	31.1	41.3	**17.7**	14.3	21.8	**46.1**	41.1	51.2
Physical activity[c]									
Sedentary	**59.0**	43.7	72.7	**9.2**	5.8	14.2	**30.5**	18.3	46.4
Insufficient time (< 150 min) and/or sessions (< 2)	**31.4**	28.6	34.3	**23.8**	21.4	26.3	**43.9**	41.0	46.9
Sufficient time (≥ 150 min) and sessions (≥ 2)	**22.3**	19.9	24.9	**20.9**	18.6	23.3	**55.4**	52.5	58.2
Met fruit / vegetable guidelines[d]									
Both guidelines	**20.2**	14.2	28.0	**28.1**	20.0	38.1	**50.2**	41.0	59.3
Vegetable guidelines[e]	**21.0**	15.0	28.5	**25.3**	18.3	33.9	**52.4**	44.0	60.6
Fruit guidelines[e]	**26.0**	23.5	28.6	**24.6**	22.3	27.2	**48.4**	45.5	51.3
Neither	**29.8**	27.2	32.5	**19.8**	17.8	22.1	**49.0**	46.2	51.8
Smoking status									
Current smoker	**24.8**	19.9	30.5	**17.2**	13.3	22.0	**56.9**	51.5	62.2
Ex-smoker	**18.4**	14.6	22.8	**18.9**	15.8	22.3	**61.0**	56.3	65.6
Non-smoker	**33.1**	30.8	35.5	**23.6**	21.6	25.7	**42.3**	39.9	44.8
Self-reported health									
Excellent / very good	**22.4**	20.0	25.1	**21.6**	19.4	24.0	**54.3**	51.4	57.2
Good	**31.3**	28.1	34.6	**21.7**	19.1	24.5	**45.9**	42.6	49.2
Fair/poor	**34.6**	30.4	39.0	**24.3**	20.3	28.7	**40.6**	35.9	45.4
Body weight status based on BMI[f]									
Underweight (BMI < 18.5 kg/m^2)	**46.5**	35.8	57.5	**22.4**	13.8	34.1	**31.2**	22.7	41.1
Normal range (18.5 ≥ BMI < 25 kg/m^2)	**23.7**	21.2	26.4	**22.1**	19.8	24.5	**53.0**	50.2	55.9
Pre-obese (25 ≥ BMI < 30 kg/m^2)	**28.9**	24.9	33.2	**21.1**	18.1	24.3	**49.0**	44.8	53.2
Obese (BMI ≥ 30 kg/m^2)	**27.8**	23.5	32.5	**20.8**	16.7	25.7	**50.6**	45.3	55.9
Blood pressure status (including pregnancy induced hypertension)									
Doctor diagnosed hypertension	**27.9**	23.7	32.6	**22.8**	18.8	27.3	**48.1**	43.0	53.2
Normal range	**26.7**	24.6	28.9	**22.7**	20.8	24.7	**49.4**	47.2	51.7
Morbidity status									
No chronic disease	**28.2**	25.4	31.2	**23.0**	20.4	25.7	**47.8**	44.8	50.8
One chronic disease	**25.1**	22.1	28.3	**20.0**	17.3	22.9	**53.6**	50.0	57.0
Two, or more chronic diseases	**28.2**	24.1	32.7	**21.6**	17.8	26.0	**49.4**	44.2	54.5

Data were age-standardised to the 2011 Victorian population.

LL/UL 95% CI = lower/upper limit of 95 per cent confidence interval.

Estimates that are (statistically) significantly different from the corresponding estimate for Victoria are identified by colour as follows: above or below.

Estimates may not add to 100 per cent due to a proportion of 'don't know' or 'refused to say' responses, not reported here.

[a] NHMRC (2009) guidelines.

[b] Based on the Kessler 10 scale for psychological distress.

[c] DoH (2014) guidelines.

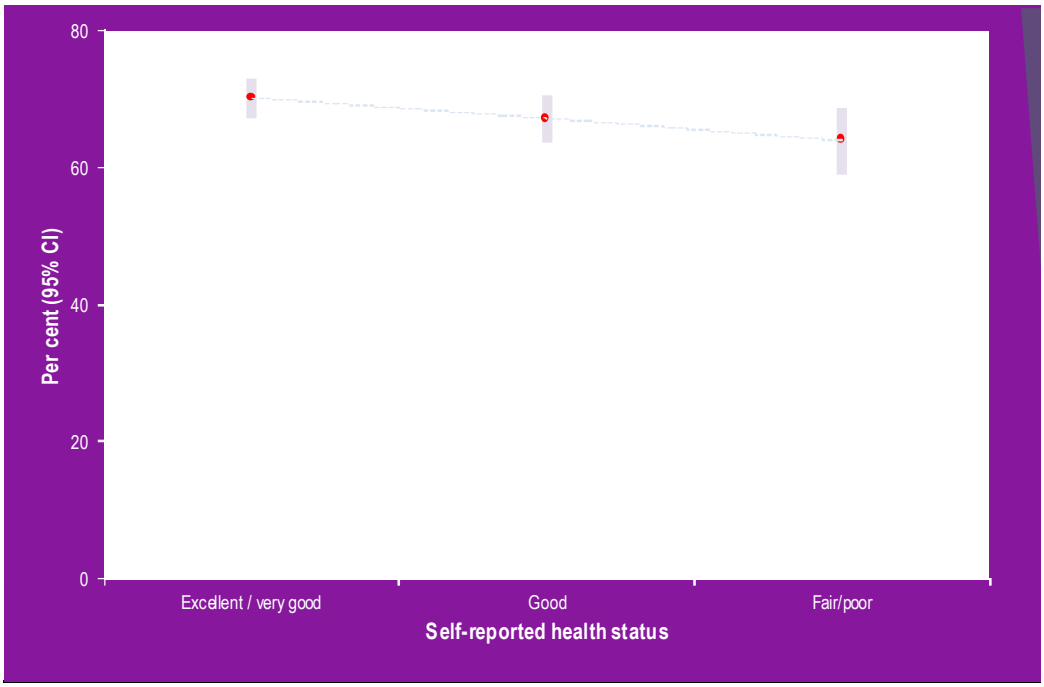
[d] NHMRC (2013) guidelines.

[e] Includes those meeting both guidelines.

[f] Body mass index (BMI) = Weight (kg) / Height (m^2).

The relationship was investigated between smoking status and the age-adjusted prevalence of lifetime risk of alcohol-related harm (Figure 6.3 and Figure 6.4). The proportion of the adult Victorian population at increased 'lifetime risk' of alcohol-related harm was least among men and women who had fair or poor self-reported health status.

Figure 6.3: Proportion (%) of men with an increased lifetime risk of alcohol-related harm[a], by self-reported health status, Victoria, 2016

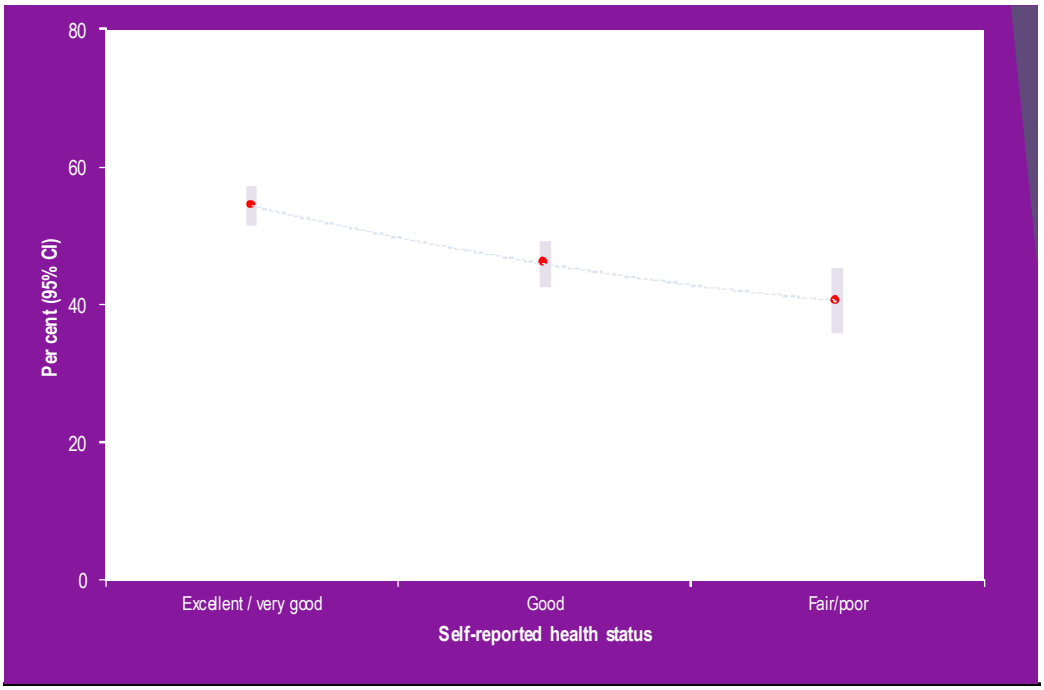


Data are age-adjusted to the 2011 population of Victoria.

95% CI = 95 per cent confidence interval.

[a] Either yearly, monthly or weekly, NHMRC (2009).

Figure 6.4: Proportion (%) of women with an increased lifetime risk of alcohol-related harm[a], by self-reported health status, Victoria, 2016



Data are age-adjusted to the 2011 population of Victoria.

95% CI = 95 per cent confidence interval.

[a] Either yearly, monthly or weekly, NHMRC (2009).

Comparison with previous survey

The proportion of men and women at increased lifetime risk of alcohol-related harm was compared with the previous Victorian Population Health Survey (2015) (Table 6.12 and Figure 6.5). This is the first time that trend over time data has been reported after the introduction of dual-frame sampling in 2015. There was no significant

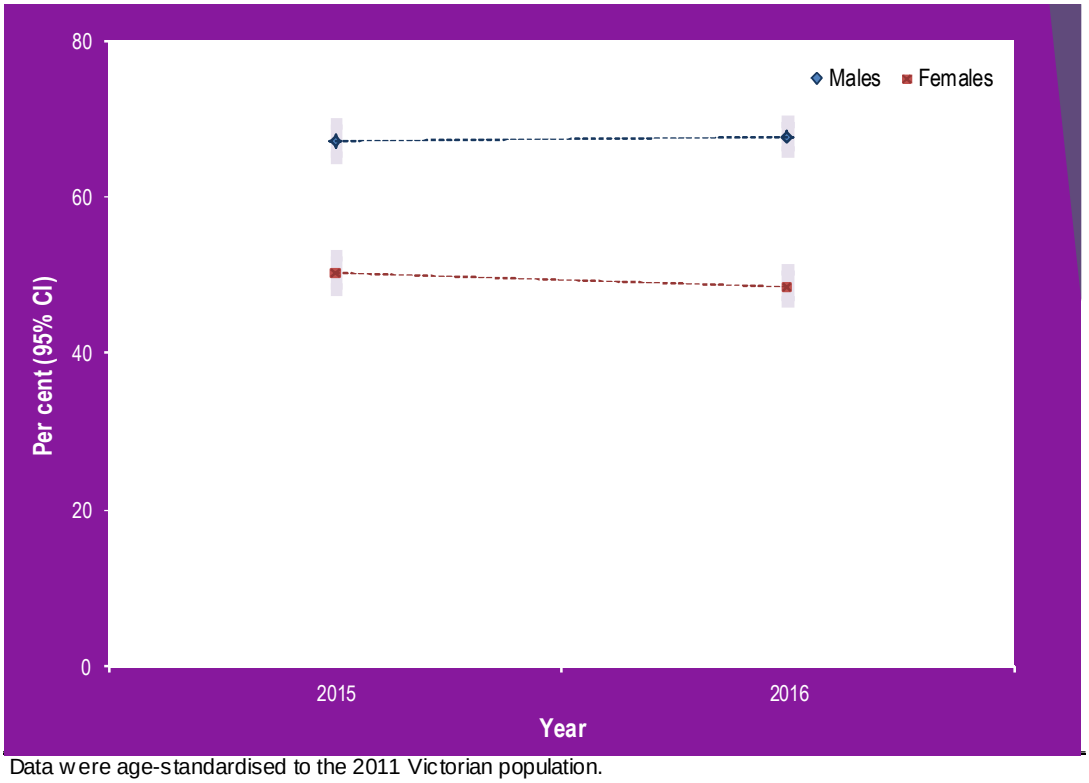
difference in the proportions of men and women at increased lifetime risk of alcohol-related harm between 2015 and 2016.

Table 6.12: Proportion of the adult population at increased lifetime risk of alcohol-related harm[a], by sex, Victoria, 2015–2016

		Increased risk[a]		
			95% CI	
		%	LL	UL
Males	2015	**67.3**	65.0	69.4
	2016	**67.7**	65.7	69.7
Females	2015	**50.3**	48.1	52.4
	2016	**48.6**	46.6	50.6
People	2015	**58.6**	57.0	60.2
	2016	**57.7**	56.3	59.2

Data were age-standardised to the 2011 Victorian population.
LL/UL 95% CI = lower/upper limit of 95 per cent confidence interval.
[a] Either yearly, monthly or weekly, NHMRC (2009).

Figure 6.5: Proportion of the adult population at increased lifetime risk of alcohol-related harm[a], by sex, Victoria, 2015–2016



Data were age-standardised to the 2011 Victorian population.
LL/UL 95% CI = lower/upper limit of 95 per cent confidence interval.
[a] Either yearly, monthly or weekly, NHMRC (2009).

Risk of alcohol-related injury on a single occasion

Risk of alcohol-related injury on a single occasion refers to the acute effects of excess alcohol consumption that can result in death or injury due to road traffic accidents, falls, drowning, assault, suicide and acute alcohol toxicity. The risk of alcohol-related injury increases with the amount of alcohol consumed on a single occasion. For healthy men and women, drinking no more than four standard drinks on a single occasion reduces the risk of alcohol-related injury arising from that occasion (NHMRC 2009).

Table 6.13 shows the proportion of adults at risk of alcohol-related injury on a single occasion, by risk category, departmental region and sex. Overall, a significantly higher proportion of men (53.4 per cent) were at increased risk of alcohol-related injury on a single occasion compared with women (31.0 per cent). There was no difference in the proportion of adults at risk of alcohol-related injury on a single occasion whether they lived in rural or metropolitan Victoria.

Table 6.13: Proportion (%) of adults at risk of alcohol-related injury on a single occasion,[a] by risk category, Department of Health and Human Services region and sex, Victoria, 2016

Region	Abstainer / no longer drinks alcohol			Reduced risk			Increased risk: either yearly, monthly or weekly		
		95% CI			95% CI			95% CI	
	%	LL	UL	%	LL	UL	%	LL	UL
Males									
Northern Metropolitan	**18.7**	15.1	23.0	**22.8**	18.9	27.3	**57.1**	52.0	62.0
Southern Metropolitan	**16.3**	13.3	19.8	**31.4**	27.5	35.5	**51.7**	47.3	56.0
Eastern Metropolitan	**17.3**	13.3	22.2	**29.7**	25.3	34.4	**52.2**	46.8	57.5
Western Metropolitan	**19.6**	15.9	23.9	**26.5**	22.3	31.2	**50.3**	45.2	55.4
All metropolitan regions	**17.6**	15.8	19.6	**28.1**	26.0	30.3	**52.7**	50.2	55.2
Barwon-South Western	**11.2** *	6.7	18.1	**29.5**	22.1	38.1	**58.2**	49.3	66.5
Gippsland	**14.6**	9.4	22.0	**22.9**	17.0	30.1	**58.6**	49.5	67.2
Grampians	**20.5**	13.5	29.9	**31.0**	22.7	40.8	**46.9**	37.7	56.3
Hume	**10.1** *	5.2	18.6	**27.7**	21.0	35.6	**61.0**	52.8	68.7
Loddon Mallee	**18.9**	12.5	27.6	**19.1**	12.2	28.7	**60.8**	51.4	69.5
All rural regions	**15.1**	11.9	18.9	**26.6**	22.7	30.9	**56.7**	52.0	61.2
Victoria	**17.2**	**15.5**	**18.9**	**27.8**	**26.0**	**29.7**	**53.4**	**51.3**	**55.6**
Females									
Northern Metropolitan	**30.3**	26.2	34.8	**36.3**	32.0	40.8	**31.8**	27.5	36.3
Southern Metropolitan	**27.6**	24.0	31.4	**42.2**	38.4	46.2	**28.9**	25.4	32.7
Eastern Metropolitan	**26.3**	22.4	30.6	**43.5**	38.9	48.2	**29.9**	25.6	34.6
Western Metropolitan	**28.0**	24.0	32.5	**37.0**	32.4	41.9	**33.9**	29.4	38.7
All metropolitan regions	**28.0**	26.0	30.1	**40.0**	37.8	42.2	**30.9**	28.9	33.1
Barwon-South Western	**30.2**	23.1	38.5	**38.6**	32.7	44.9	**30.7**	24.3	37.8
Gippsland	**28.8**	22.4	36.1	**37.3**	30.3	44.8	**33.2**	26.2	41.1
Grampians	**24.7**	17.3	33.8	**40.1**	32.8	47.9	**34.8**	27.0	43.6
Hume	**28.4**	20.6	37.8	**44.4**	36.6	52.4	**26.1**	19.2	34.3
Loddon Mallee	**33.4**	24.6	43.6	**30.4**	24.8	36.6	**35.8**	28.1	44.4
All rural regions	**29.8**	25.7	34.3	**38.5**	35.1	42.0	**31.1**	27.5	34.9
Victoria	**28.2**	**26.4**	**30.1**	**39.8**	**37.9**	**41.7**	**31.0**	**29.2**	**32.9**
People									
Northern Metropolitan	**25.3**	22.5	28.4	**29.8**	26.8	33.0	**43.4**	40.1	46.8
Southern Metropolitan	**22.0**	19.6	24.7	**37.1**	34.3	39.9	**39.9**	37.0	42.8
Eastern Metropolitan	**21.9**	19.0	25.1	**36.7**	33.4	40.1	**40.8**	37.2	44.4
Western Metropolitan	**23.9**	21.1	27.0	**31.7**	28.5	35.1	**42.0**	38.5	45.6
All metropolitan regions	**23.1**	21.7	24.5	**34.3**	32.7	35.9	**41.3**	39.7	43.0
Barwon-South Western	**22.0**	16.8	28.2	**34.4**	29.2	40.0	**42.8**	37.1	48.7
Gippsland	**21.6**	17.2	26.7	**30.5**	25.4	36.1	**45.5**	39.3	51.9
Grampians	**22.3**	16.7	29.1	**37.4**	30.9	44.3	**39.3**	32.7	46.2
Hume	**20.8**	14.5	28.8	**37.5**	31.6	43.8	**40.5**	33.5	47.8
Loddon Mallee	**25.6**	19.4	32.9	**25.5**	20.2	31.6	**48.2**	41.4	55.2
All rural regions	**22.5**	19.7	25.5	**33.0**	30.3	35.8	**43.4**	40.3	46.5
Victoria	**22.9**	**21.7**	**24.2**	**34.0**	**32.7**	**35.4**	**41.8**	**40.3**	**43.3**

Metropolitan and rural regions are identified by colour as follows: metropolitan / rural.

Data were age-standardised to the 2011 Victorian population.

LL/UL 95% CI = lower/upper limit of 95 per cent confidence interval.

Estimates that are (statistically) significantly different from the corresponding estimate for Victoria are identified by colour as follows: above or below.

Estimates may not add to 100 per cent due to a proportion of 'don't know' or 'refused to say' responses, not reported here.

Relative standard error (RSE) = standard error / point estimate * 100; interpretation below:

***** RSE between 25 and 50 per cent; point estimate (%) should be interpreted with caution.

[a] NHMRC (2009) guidelines.

Table 6.14 shows the proportion of adults at risk of alcohol-related injury on a single occasion, by risk category, departmental division and sex. There was no difference in the proportion of adults at increased risk of alcohol-related injury on a single occasion by departmental division.

Table 6.14: Proportion (%) of adults at risk of alcohol-related injury on a single occasion,[a] by risk category, Department of Health and Human Services division and sex, Victoria, 2016

	Abstainer / no longer drinks alcohol			Reduced risk			Increased risk: either yearly, monthly or weekly		
		95% CI			95% CI			95% CI	
Division	%	LL	UL	%	LL	UL	%	LL	UL
Males									
North	**19.0**	15.8	22.8	**22.1**	18.5	26.1	**57.5**	53.1	61.8
South	**16.2**	13.4	19.4	**30.3**	26.8	34.0	**52.3**	48.3	56.3
East	**16.1**	12.6	20.4	**29.8**	25.9	34.1	**53.1**	48.2	57.9
West	**17.7**	14.8	20.9	**27.8**	24.3	31.4	**51.9**	47.9	55.9
Victoria	**17.2**	**15.5**	**18.9**	**27.8**	**26.0**	**29.7**	**53.4**	**51.3**	**55.6**
Females									
North	**30.3**	26.4	34.5	**35.6**	31.8	39.5	**32.8**	29.0	36.8
South	**27.9**	24.7	31.4	**41.4**	37.9	45.0	**29.4**	26.2	32.8
East	**26.6**	22.9	30.6	**43.8**	39.8	47.9	**29.1**	25.3	33.3
West	**27.6**	24.3	31.0	**38.5**	35.1	42.2	**33.0**	29.6	36.6
Victoria	**28.2**	**26.4**	**30.1**	**39.8**	**37.9**	**41.7**	**31.0**	**29.2**	**32.9**
People									
North	**25.0**	22.4	27.9	**29.3**	26.6	32.1	**44.4**	41.4	47.4
South	**22.2**	20.0	24.6	**36.0**	33.5	38.6	**40.5**	37.9	43.3
East	**21.5**	18.9	24.5	**36.9**	34.0	39.9	**40.8**	37.6	44.1
West	**23.0**	20.7	25.4	**33.3**	30.8	35.9	**41.9**	39.2	44.7
Victoria	**22.9**	**21.7**	**24.2**	**34.0**	**32.7**	**35.4**	**41.8**	**40.3**	**43.3**

Data were age-standardised to the 2011 Victorian population.

LL/UL 95% CI = lower/upper limit of 95 per cent confidence interval.

Estimates that are (statistically) significantly different from the corresponding estimate for Victoria are identified by colour as follows: above or below.

Estimates may not add to 100 per cent due to a proportion of 'don't know' or 'refused to say' responses, not reported here.

[a] NHMRC (2009) guidelines.

Table 6.15 and Figure 6.6 show the proportion of the adult Victorian population at risk of alcohol-related injury on a single occasion based on the NHMRC (2009) guidelines, by risk category, age group and sex. There were significantly higher proportions of 18–34-year-old women and adults at increased risk of alcohol-related injury on a single occasion, either weekly, monthly or yearly, compared with all Victorian women and adults, respectively. There were significantly higher proportions of 25–34-year-old men at increased risk of alcohol-related injury on a single occasion, either weekly, monthly or yearly, compared with all Victorian men. There were significantly lower proportions of men and women 65 years of age or older at increased risk of alcohol-related injury on a single occasion, either weekly, monthly or yearly, compared with the proportion among all Victorian men and women, respectively. The proportion at increased risk of alcohol-related injury on a single occasion, either weekly, monthly or yearly, was significantly higher among men compared with women in every age group except 18–24 years of age.

Table 6.15: Proportion (%) of adults at risk of alcohol-related injury on a single occasion,[a] by risk category, age group and sex, Victoria, 2016

Sex	Abstainer / no longer drinks alcohol			Reduced risk			Increased risk: either yearly, monthly or weekly		
Age group (years)	%	95% CI LL	95% CI UL	%	95% CI LL	95% CI UL	%	95% CI LL	95% CI UL
Males									
18–24	**16.3**	12.0	21.9	**22.1**	17.0	28.2	**59.9**	53.2	66.2
25–34	**15.6**	11.9	20.3	**18.4**	14.4	23.2	**64.9**	59.2	70.2
35–44	**18.8**	14.6	23.9	**21.7**	17.4	26.8	**58.4**	52.5	64.0
45–54	**14.5**	11.2	18.6	**27.1**	22.7	32.0	**56.0**	50.7	61.2
55–64	**15.9**	12.7	19.7	**31.6**	27.4	36.2	**50.4**	45.6	55.1
65–74	**21.8**	17.7	26.5	**38.8**	34.1	43.7	**37.9**	33.3	42.8
75–84	**24.4**	18.5	31.4	**48.2**	40.7	55.8	**25.7**	19.7	32.8
85+	**15.4** *	9.1	24.8	**69.2**	57.1	79.1	**13.5** *	6.8	24.9
18+	**17.2**	**15.6**	**19.0**	**27.3**	**25.4**	**29.3**	**53.9**	**51.6**	**56.1**
Females									
18–24	**23.5**	18.5	29.5	**21.7**	17.0	27.2	**53.0**	46.6	59.2
25–34	**29.6**	24.6	35.1	**27.9**	23.1	33.2	**42.2**	36.6	47.9
35–44	**25.8**	21.5	30.6	**39.8**	35.1	44.6	**33.6**	29.2	38.4
45–54	**19.9**	16.6	23.8	**48.8**	44.3	53.3	**29.7**	25.9	33.9
55–64	**29.1**	25.1	33.4	**50.1**	45.7	54.6	**20.2**	17.0	23.7
65–74	**33.9**	29.5	38.6	**52.4**	47.8	56.9	**13.1**	10.3	16.6
75–84	**47.7**	41.5	54.0	**47.5**	41.2	53.8	**3.6** *	2.1	5.9
85+	**49.3**	38.0	60.7	**48.2**	37.0	59.7	**		
18+	**28.5**	**26.7**	**30.3**	**40.9**	**39.0**	**42.8**	**29.7**	**27.9**	**31.6**
People									
18–24	**19.8**	16.3	23.8	**21.9**	18.3	26.0	**56.6**	52.0	61.0
25–34	**22.0**	18.8	25.5	**22.7**	19.5	26.2	**54.6**	50.5	58.6
35–44	**22.5**	19.4	26.0	**31.4**	28.1	35.0	**45.1**	41.3	48.9
45–54	**17.3**	14.9	20.1	**38.4**	35.1	41.8	**42.3**	39.0	45.8
55–64	**22.9**	20.2	25.8	**41.5**	38.3	44.7	**34.3**	31.3	37.4
65–74	**28.1**	24.9	31.4	**45.8**	42.5	49.2	**25.1**	22.3	28.1
75–84	**38.2**	33.6	43.0	**47.8**	43.0	52.6	**12.6**	9.8	16.0
85+	**33.4**	26.0	41.7	**58.1**	49.6	66.1	**7.3** *	4.0	13.2
18+	**23.0**	**21.7**	**24.3**	**34.2**	**32.9**	**35.6**	**41.5**	**40.0**	**43.0**

Data are age-specific estimates, except for '18+', which are crude estimates (not age-standardised) for Victoria.

LL/UL 95% CI = lower/upper limit of 95 per cent confidence interval.

Estimates that are (statistically) significantly different from the corresponding estimate for Victoria are identified by colour as follows: above or below.

Estimates may not add to 100 per cent due to a proportion of 'don't know' or 'refused to say' responses, not reported here.

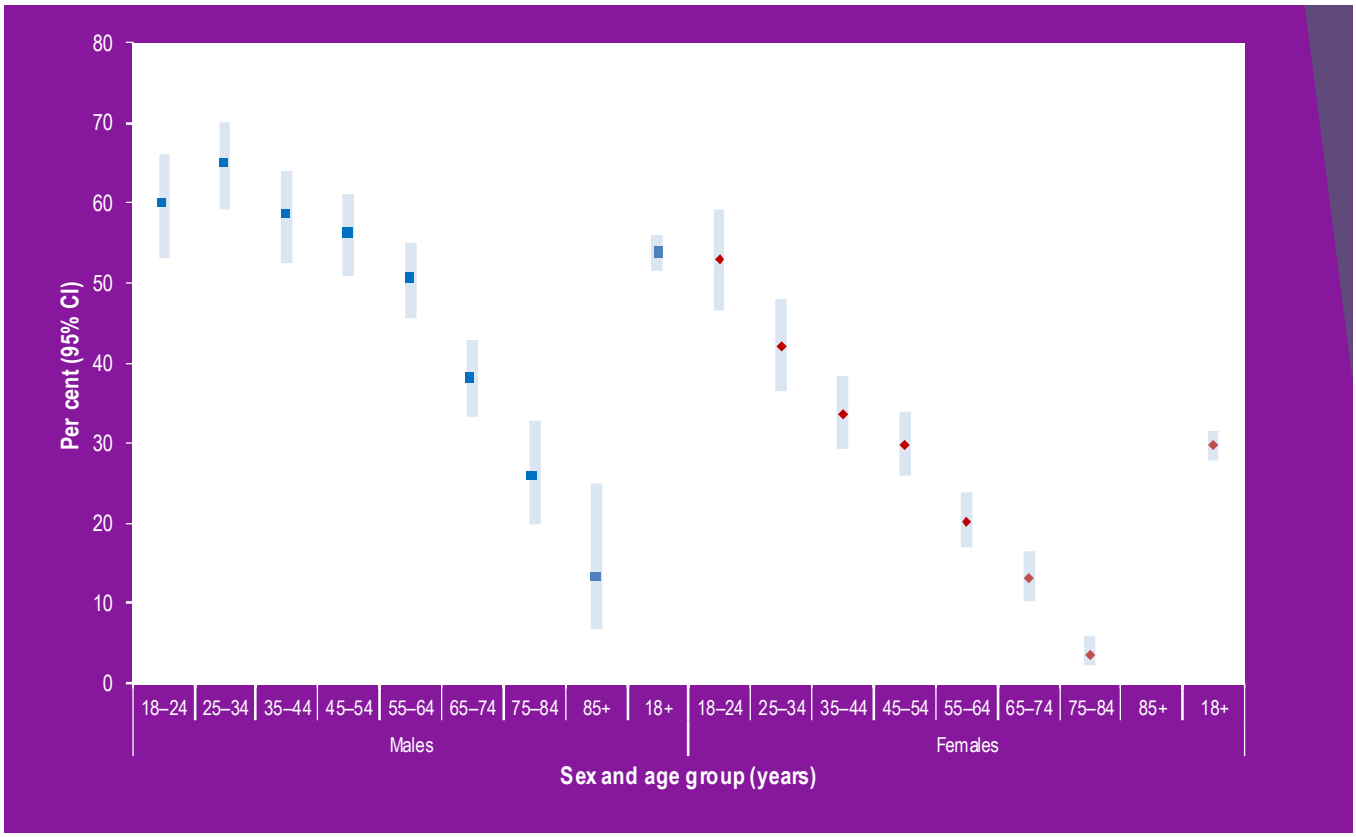
Relative standard error (RSE) = standard error/point estimate * 100; interpretation below:

* Estimate has a RSE between 25 and 50 per cent and should be interpreted with caution.

** Estimate has a RSE greater than 50 per cent and is not reported as it is unreliable for general use.

[a] NHMRC (2009) guidelines.

Figure 6.6: Proportion (%) of adults at risk of alcohol-related injury on a single occasion,[a] by age group and sex, Victoria, 2016



Data are age group specific estimates, except for '18+', which are crude estimates (not age-standardised) for Victoria.

95% CI = 95 per cent confidence interval.

[a] Either yearly, monthly or weekly, NHMRC (2009).

Table 6.16 shows the proportion of adults at increased risk of alcohol-related injury on a single occasion, by risk frequency, departmental region and sex. Overall, a significantly higher proportion of men were at increased risk of alcohol-related injury on a single occasion weekly and monthly compared with women. There was no difference in the proportion of adults at risk of alcohol-related injury on a single occasion by risk frequency whether they lived in rural or metropolitan Victoria. A significantly lower proportion of adults who lived in Grampians Region was at increased risk of alcohol-related injury on a single occasion, monthly compared with all Victorian adults.

Table 6.16: Proportion (%) of adults at risk of alcohol-related injury on a single occasion,[a] by risk frequency, Department of Health and Human Services region and sex, Victoria, 2016

	Exceeds 4 standard drinks per day								
	Yearly			Monthly			Weekly		
		95% CI			95% CI			95% CI	
Region	%	LL	UL	%	LL	UL	%	LL	UL
Males									
Northern Metropolitan	**23.9**	19.7	28.8	**18.9**	15.1	23.5	**14.2**	10.9	18.4
Southern Metropolitan	**19.0**	15.6	22.8	**14.4**	11.5	17.8	**18.3**	15.0	22.2
Eastern Metropolitan	**19.9**	15.7	24.9	**16.9**	13.0	21.6	**15.4**	11.6	20.3
Western Metropolitan	**22.5**	18.2	27.4	**14.8**	11.3	19.3	**13.0**	9.8	17.1
All metropolitan regions	**21.0**	19.0	23.2	**16.1**	14.2	18.1	**15.6**	13.8	17.7
Barwon-South Western	**15.2**	10.8	21.1	**22.4**	15.9	30.6	**20.5**	14.8	27.7
Gippsland	**17.0**	10.9	25.5	**21.6**	14.2	31.3	**20.1**	12.9	29.8
Grampians	**16.4**	11.3	23.2	**9.5**	5.8	15.1	**21.0**	14.4	29.7
Hume	**28.7**	19.4	40.3	**21.4**	13.7	32.0	**10.9** *	6.0	18.9
Loddon Mallee	**16.2**	10.3	24.6	**20.5**	13.5	29.9	**24.1**	17.0	32.9
All rural regions	**17.9**	14.8	21.6	**19.3**	15.8	23.5	**19.4**	16.2	23.1
Victoria	**20.4**	**18.7**	**22.3**	**16.6**	**15.0**	**18.4**	**16.4**	**14.8**	**18.1**
Females									
Northern Metropolitan	**16.8**	13.4	20.8	**10.8**	8.0	14.6	**4.1**	2.5	6.7
Southern Metropolitan	**15.8**	13.0	19.1	**8.2**	6.1	10.9	**4.9**	3.3	7.3
Eastern Metropolitan	**16.4**	12.9	20.7	**9.1**	6.4	12.8	**4.3** *	2.6	7.0
Western Metropolitan	**20.0**	16.1	24.5	**9.3**	6.7	12.9	**4.6**	2.9	7.2
All metropolitan regions	**17.1**	15.4	19.1	**9.2**	7.8	10.8	**4.6**	3.7	5.8
Barwon-South Western	**17.8**	12.6	24.4	**9.8** *	5.8	16.2	**3.0** *	1.6	5.8
Gippsland	**18.0**	12.2	25.8	**11.0** *	6.1	18.9	**		
Grampians	**21.9**	15.0	30.9	**7.0** *	3.4	14.0	**5.9** *	3.1	10.8
Hume	**16.5**	10.8	24.4	**4.5** *	2.4	8.5	**5.0** *	2.7	9.0
Loddon Mallee	**20.2**	14.1	28.1	**12.7**	7.8	20.0	**		
All rural regions	**18.3**	15.4	21.6	**8.9**	6.8	11.4	**3.9**	2.7	5.7
Victoria	**17.4**	**15.9**	**19.0**	**9.2**	**8.0**	**10.5**	**4.5**	**3.7**	**5.4**
People									
Northern Metropolitan	**19.6**	16.9	22.6	**14.8**	12.3	17.7	**9.0**	7.1	11.4
Southern Metropolitan	**17.3**	15.1	19.8	**11.2**	9.4	13.4	**11.3**	9.4	13.6
Eastern Metropolitan	**18.4**	15.5	21.7	**12.7**	10.3	15.7	**9.6**	7.4	12.4
Western Metropolitan	**21.3**	18.3	24.6	**12.0**	9.7	14.7	**8.8**	6.9	11.1
All metropolitan regions	**18.9**	17.5	20.4	**12.5**	11.4	13.8	**9.9**	8.9	11.1
Barwon-South Western	**15.6**	12.2	19.8	**15.6**	11.6	20.7	**11.6**	8.5	15.6
Gippsland	**17.2**	12.7	22.7	**16.2**	11.2	22.9	**12.2**	7.8	18.4
Grampians	**17.8**	13.5	23.1	**7.9**	5.3	11.7	**13.6**	9.7	18.7
Hume	**21.4**	15.8	28.3	**11.6**	7.9	16.7	**7.5**	5.0	11.1
Loddon Mallee	**17.7**	13.2	23.3	**16.8**	11.9	23.0	**13.8**	9.7	19.3
All rural regions	**17.7**	15.6	20.1	**14.0**	11.9	16.5	**11.6**	9.8	13.7
Victoria	**18.7**	**17.6**	**20.0**	**12.8**	**11.8**	**13.9**	**10.3**	**9.3**	**11.3**

Metropolitan and rural regions are identified by colour as follows: metropolitan / rural.

Data were age-standardised to the 2011 Victorian population.

LL/UL 95% CI = lower/upper limit of 95 per cent confidence interval.

Estimates that are (statistically) significantly different from the corresponding estimate for Victoria are identified by colour as follows: above or below.

Estimates may not add to 100 per cent due to a proportion of 'don't know' or 'refused to say' responses, not reported here.

Relative standard error (RSE) = standard error / point estimate * 100; interpretation below:

***** RSE between 25 and 50 per cent; point estimate (%) should be interpreted with caution.

****** RSE greater than, or equal to, 50 per cent; point estimate (%) is unreliable, hence not reported.

[a] NHMRC (2009) guidelines.

Table 6.17 shows the proportion of adults at increased risk of alcohol-related injury on a single occasion, by risk frequency, departmental division and sex. There was no difference in the proportion of adults at increased risk of alcohol-related injury on a single occasion by risk frequency and departmental division.

Table 6.17: Proportion (%) of adults at risk of alcohol-related injury on a single occasion,[a] by risk frequency, Department of Health and Human Services division and sex, Victoria, 2016

	Exceeds 4 standard drinks per day								
	Yearly			Monthly			Weekly		
		95% CI			95% CI			95% CI	
Division	%	LL	UL	%	LL	UL	%	LL	UL
Males									
North	**21.7**	18.2	25.7	**19.1**	15.6	23.1	**16.7**	13.6	20.4
South	**18.8**	15.7	22.2	**15.4**	12.5	18.8	**18.2**	15.1	21.7
East	**21.2**	17.3	25.8	**17.5**	14.0	21.7	**14.4**	11.1	18.4
West	**20.7**	17.6	24.3	**15.6**	12.8	18.9	**15.6**	12.9	18.7
Victoria	**20.4**	**18.7**	**22.3**	**16.6**	**15.0**	**18.4**	**16.4**	**14.8**	**18.1**
Females									
North	**17.6**	14.6	21.1	**11.4**	8.8	14.7	**3.8**	2.4	5.9
South	**16.1**	13.5	19.1	**8.6**	6.6	11.1	**4.8**	3.3	6.9
East	**16.5**	13.4	20.2	**8.2**	6.0	11.2	**4.4**	2.9	6.6
West	**19.5**	16.5	22.9	**9.0**	6.9	11.5	**4.5**	3.2	6.3
Victoria	**17.4**	**15.9**	**19.0**	**9.2**	**8.0**	**10.5**	**4.5**	**3.7**	**5.4**
People									
North	**19.1**	16.7	21.6	**15.2**	13.0	17.7	**10.1**	8.3	12.3
South	**17.3**	15.3	19.6	**11.9**	10.1	14.0	**11.3**	9.5	13.3
East	**19.0**	16.4	21.9	**12.6**	10.4	15.1	**9.2**	7.4	11.5
West	**19.9**	17.6	22.3	**12.0**	10.3	14.1	**10.0**	8.4	11.8
Victoria	**18.7**	**17.6**	**20.0**	**12.8**	**11.8**	**13.9**	**10.3**	**9.3**	**11.3**

Data were age-standardised to the 2011 Victorian population.

LL/UL 95% CI = lower/upper limit of 95 per cent confidence interval.

Estimates may not add to 100 per cent due to a proportion of 'don't know' or 'refused to say' responses, not reported here.

[a] NHMRC (2009) guidelines.

Table 6.18 shows the proportion of the adult Victorian population at increased risk of alcohol-related injury on a single occasion, by risk frequency, age group and sex. A significantly higher proportion of 18–24-year-old men was at increased risk of alcohol-related injury on a single occasion, monthly, compared with all Victorian men. There were significantly higher proportions of 18–34-year-old women at increased risk of alcohol-related injury on a single occasion, either monthly or yearly, compared with all Victorian women. The proportion at increased risk of alcohol-related injury on a single occasion weekly, was significantly higher among men compared with women in every age group except 18–24 years of age, where there was no difference between men and women in this age group.

Table 6.18: Proportion (%) of adults at risk of alcohol-related injury on a single occasion,[a] by risk category, age group and sex, Victoria, 2016

	Exceeds 4 standard drinks per day								
Sex	Yearly			Monthly			Weekly		
Age group		95% CI			95% CI			95% CI	
(years)	%	LL	UL	%	LL	UL	%	LL	UL
Males									
18–24	**20.0**	15.4	25.7	**24.7**	19.6	30.8	**15.1**	11.0	20.3
25–34	**23.7**	19.2	29.0	**23.3**	18.5	28.8	**17.9**	13.8	22.9
35–44	**26.0**	21.1	31.6	**14.1**	10.6	18.4	**18.3**	14.2	23.3
45–54	**19.9**	16.0	24.6	**16.6**	13.1	20.7	**19.6**	15.6	24.3
55–64	**20.0**	16.3	24.2	**12.8**	9.8	16.5	**17.6**	14.4	21.4
65–74	**14.5**	11.4	18.3	**9.6**	7.2	12.7	**13.8**	10.8	17.6
75–84	**11.4**	7.5	17.0	**9.7**	6.0	15.4	**4.6** *	2.4	8.5
85+	**8.4** *	3.8	17.6	**			**		
18+	**20.6**	**18.8**	**22.5**	**16.8**	**15.1**	**18.6**	**16.5**	**14.9**	**18.2**
Females									
18–24	**26.7**	21.5	32.7	**17.9**	13.6	23.1	**8.4**	5.5	12.5
25–34	**23.2**	18.7	28.3	**14.1**	10.5	18.6	**4.9** *	2.9	8.1
35–44	**21.4**	17.6	25.7	**7.7**	5.6	10.7	**4.5**	2.9	7.0
45–54	**15.9**	13.2	19.2	**9.2**	6.8	12.4	**4.6**	3.1	6.8
55–64	**10.8**	8.4	13.7	**5.3**	3.8	7.5	**4.1**	2.7	6.0
65–74	**9.2**	6.7	12.5	**2.5**	1.5	3.9	**1.4** *	0.8	2.8
75–84	**2.8** *	1.6	5.0	**			**		
85+	**			**			**0.0**	.	.
18+	**16.8**	**15.3**	**18.4**	**8.7**	**7.6**	**9.9**	**4.3**	**3.5**	**5.2**
People									
18–24	**23.2**	19.6	27.3	**21.5**	18.0	25.4	**11.9**	9.2	15.1
25–34	**23.5**	20.2	27.1	**19.1**	15.9	22.7	**12.0**	9.5	15.1
35–44	**23.5**	20.4	27.0	**10.7**	8.6	13.1	**10.9**	8.7	13.6
45–54	**17.8**	15.4	20.6	**12.7**	10.6	15.2	**11.8**	9.6	14.4
55–64	**15.1**	12.9	17.6	**8.8**	7.2	10.9	**10.4**	8.6	12.4
65–74	**11.8**	9.7	14.2	**5.9**	4.6	7.6	**7.4**	5.9	9.4
75–84	**6.3**	4.5	8.9	**4.1**	2.5	6.5	**2.2** *	1.3	3.9
85+	**4.9** *	2.4	9.4	**			**		
18+	**18.6**	**17.5**	**19.9**	**12.6**	**11.6**	**13.7**	**10.2**	**9.3**	**11.2**

Data are age-specific estimates, except for '18+', which are crude estimates (not age-standardised) for Victoria.

LL/UL 95% CI = lower/upper limit of 95 per cent confidence interval.

Estimates that are (statistically) significantly different from the corresponding estimate for Victoria are identified by colour as follows: above or below.

Estimates may not add to 100 per cent due to a proportion of 'don't know' or 'refused to say' responses, not reported here.

Relative standard error (RSE) = standard error/point estimate * 100; interpretation below:

* Estimate has a RSE between 25 and 50 per cent and should be interpreted with caution.

** Estimate has a RSE greater than 50 per cent and is not reported as it is unreliable for general use.

[a] NHMRC (2009) guidelines.

Table 6.19 shows the proportion of men at risk of alcohol-related injury on a single occasion (either yearly, monthly or weekly), by risk category and selected socioeconomic determinants. When compared with all Victorian men, a significantly higher proportion of men with the following characteristics were at increased risk of alcohol-related injury on a single occasion:

- born in Australia
- spoke English at home
- had a total household income of $100,000 or more.

Table 6.19: Proportion (%) of men at risk of alcohol-related injury on a single occasion,[a] by risk category and selected socioeconomic determinants, Victoria, 2016

	Abstainer / no longer drinks alcohol			Reduced risk			Increased risk: either yearly, monthly or weekly		
		95% CI			95% CI			95% CI	
	%	LL	UL	%	LL	UL	%	LL	UL
All males	**17.2**	**15.5**	**18.9**	**27.8**	**26.0**	**29.7**	**53.4**	**51.3**	**55.6**
Country of birth									
Australia	**12.8**	11.1	14.6	**24.5**	22.4	26.8	**61.0**	58.4	63.5
Overseas	**25.5**	22.3	29.0	**34.0**	30.6	37.5	**39.2**	35.6	42.9
Language spoken at home									
English	**12.6**	11.0	14.4	**23.9**	21.9	26.0	**61.7**	59.3	64.1
Language other than English	**27.8**	24.2	31.7	**37.9**	33.9	42.0	**33.1**	29.2	37.1
Education level									
Did not complete high school	**21.3**	16.2	27.5	**29.2**	23.8	35.2	**45.9**	39.3	52.7
Completed high school, or TAFE, or trade certificate, or diploma	**15.1**	13.1	17.4	**25.8**	23.3	28.4	**57.9**	54.9	60.8
University, or some other tertiary institute degree	**16.2**	13.8	19.0	**33.1**	30.0	36.3	**49.2**	45.8	52.6
Employment status									
Employed	**14.7**	12.3	17.4	**25.2**	22.4	28.3	**58.4**	55.0	61.7
Unemployed	**23.7**	17.1	31.7	**21.9**	15.1	30.6	**41.2**	33.0	49.9
Not in labour force	**25.8**	20.5	32.0	**28.9**	23.2	35.3	**44.1**	37.2	51.2
Total annual household income									
< $40,000	**27.9**	23.0	33.3	**31.2**	26.4	36.5	**39.4**	33.9	45.2
$40,000 to < $100,000	**16.9**	14.1	20.1	**28.3**	25.0	31.8	**53.6**	49.7	57.5
≥ $100,000	**6.8**	5.0	9.2	**24.1**	20.9	27.7	**67.6**	63.8	71.2

Data were age-standardised to the 2011 Victorian population.

LL/UL 95% CI = lower/upper limit of 95 per cent confidence interval.

Estimates that are (statistically) significantly different from the corresponding estimate for Victoria are identified by colour as follows: above or below.

Estimates may not add to 100 per cent due to a proportion of 'don't know' or 'refused to say' responses, not reported here.

[a] NHMRC (2009) guidelines.

Table 6.20 shows the proportion of women at risk of alcohol-related injury on a single occasion (either yearly, monthly or weekly), by risk category and selected socioeconomic determinants. When compared with all Victorian women, a significantly higher proportion of women with the following characteristics were at increased risk of alcohol-related injury on a single occasion:

- born in Australia
- spoke English at home
- employed
- had a total household income of $100,000 or more.

Table 6.20: Proportion (%) of women at risk of alcohol-related injury on a single occasion,[a] by risk category and selected socioeconomic determinants, Victoria, 2016

	Abstainer / no longer drinks alcohol			Reduced risk			Increased risk: either yearly, monthly or weekly		
		95% CI			95% CI			95% CI	
	%	LL	UL	%	LL	UL	%	LL	UL
All females	**28.2**	**26.4**	**30.1**	**39.8**	**37.9**	**41.7**	**31.0**	**29.2**	**32.9**
Country of birth									
Australia	**20.8**	19.0	22.8	**41.1**	38.9	43.4	**37.0**	34.8	39.3
Overseas	**44.1**	40.4	47.9	**37.8**	34.4	41.3	**17.3**	14.7	20.3
Language spoken at home									
English	**20.3**	18.5	22.2	**40.0**	37.9	42.3	**38.5**	36.3	40.7
Language other than English	**48.1**	43.9	52.2	**38.5**	34.7	42.5	**13.0**	10.6	16.0
Education level									
Did not complete high school	**36.8**	30.5	43.7	**34.4**	29.1	40.3	**27.4**	21.6	34.2
Completed high school, or TAFE, or trade certificate, or diploma	**27.8**	25.1	30.6	**39.1**	36.3	42.0	**32.3**	29.6	35.1
University, or some other tertiary institute degree	**22.2**	19.7	24.8	**44.9**	41.8	47.9	**32.3**	29.5	35.3
Employment status									
Employed	**19.5**	16.5	22.9	**40.2**	36.8	43.6	**38.2**	35.4	41.0
Unemployed	**39.2**	30.5	48.7	**26.7**	19.1	35.9	**25.6**	17.8	35.3
Not in labour force	**41.2**	37.2	45.3	**37.0**	33.4	40.7	**21.5**	18.4	24.9
Total annual household income									
< $40,000	**43.4**	38.3	48.5	**31.4**	27.0	36.0	**24.2**	20.0	28.9
$40,000 to < $100,000	**25.5**	22.1	29.1	**43.4**	39.8	47.0	**30.3**	27.0	33.7
≥ $100,000	**12.6**	9.4	16.6	**46.1**	41.8	50.5	**40.7**	37.3	44.1

Data were age-standardised to the 2011 Victorian population.

LL/UL 95% CI = lower/upper limit of 95 per cent confidence interval.

Estimates that are (statistically) significantly different from the corresponding estimate for Victoria are identified by colour as follows: above or below.

Estimates may not add to 100 per cent due to a proportion of 'don't know' or 'refused to say' responses, not reported here.

[a] NHMRC (2009) guidelines.

The relationship was investigated between SES and the age-adjusted prevalence of increased risk of alcohol-related injury on a single occasion, using total annual household income as a measure of SES (Figure 6.7). There was a significant increase in the proportion of men and women who were at increased risk of alcohol-related harm from a single occasion of drinking, either yearly, monthly or weekly, with increasing total annual household income.

Figure 6.7: Proportion (%) of adults at increased risk of alcohol-related injury[a] on a single occasion, either yearly, monthly or weekly, by total annual household income and sex, Victoria, 2016

Data were age-standardised to the 2011 Victorian population.
95% CI = 95 per cent confidence interval.
[a] Either yearly, monthly or weekly, NHMRC (2009).

Table 6.21 shows the proportion of men at risk of alcohol-related injury on a single occasion (either yearly, monthly or weekly), by risk category, selected modifiable risk factors and morbidity status. When compared with all Victorian men, a significantly higher proportion of men who were current smokers were at increased risk of alcohol-related injury on a single occasion.

Table 6.21: Proportion (%) of men at risk of alcohol-related injury on a single occasion,[a] by risk category, selected modifiable risk factors and morbidity status, Victoria, 2016

	Abstainer / no longer drinks alcohol			Reduced risk			Increased risk: either yearly, monthly or weekly		
		95% CI			95% CI			95% CI	
	%	LL	UL	%	LL	UL	%	LL	UL
All males	**17.2**	**15.5**	**18.9**	**27.8**	**26.0**	**29.7**	**53.4**	**51.3**	**55.6**
Psychological distress [b]									
Low (K10 score < 16)	**15.9**	13.8	18.3	**28.5**	26.2	31.0	**54.1**	51.2	56.9
Moderate (K10 score 16–21)	**15.3**	12.3	18.7	**27.6**	23.9	31.7	**55.9**	51.5	60.2
High / very high (K10 score 22+)	**25.8**	20.8	31.6	**20.5**	16.2	25.7	**52.4**	46.5	58.4
Physical activity [c]									
Sedentary	**43.9**	31.4	57.2	**30.1**	20.8	41.3	**25.8**	17.1	37.1
Insufficient time (< 150 min) and/or sessions (< 2)	**18.6**	16.0	21.7	**29.3**	26.3	32.6	**50.9**	47.5	54.2
Sufficient time (≥ 150 min) and sessions (≥ 2)	**14.8**	12.7	17.1	**26.8**	24.2	29.5	**56.3**	53.1	59.3
Met fruit / vegetable guidelines [d]									
Both guidelines	**11.7** *	6.5	20.2	**30.3**	19.1	44.4	**58.0**	44.8	70.2
Vegetable guidelines[e]	**11.0** *	5.9	19.4	**29.6**	18.9	43.1	**59.4**	46.1	71.5
Fruit guidelines[e]	**18.9**	16.1	21.9	**29.6**	26.6	32.8	**49.9**	46.3	53.4
Neither	**15.8**	13.9	18.0	**26.9**	24.6	29.4	**56.1**	53.3	58.9
Smoking status									
Current smoker	**14.3**	11.0	18.5	**23.1**	19.6	27.1	**60.9**	56.2	65.4
Ex-smoker	**12.7**	9.8	16.4	**21.0**	18.1	24.3	**63.7**	59.3	68.0
Non-smoker	**19.7**	17.4	22.2	**32.9**	30.1	35.8	**46.2**	43.2	49.3
Self-reported health									
Excellent / very good	**15.2**	12.9	17.7	**30.2**	27.3	33.2	**53.6**	50.3	56.9
Good	**17.8**	15.2	20.9	**27.4**	24.5	30.5	**52.6**	49.1	56.1
Fair/poor	**19.6**	16.0	23.9	**23.5**	19.6	27.9	**55.1**	50.0	60.1
Body weight status based on BMI [f]									
Underweight (BMI < 18.5 kg/m^2)	**36.3** *	20.7	55.5	**14.9** *	8.7	24.3	**46.0**	29.2	63.7
Normal range (18.5 ≥ BMI < 25 kg/m^2)	**16.7**	14.1	19.8	**29.7**	26.5	33.0	**52.7**	49.1	56.4
Pre-obese (25 ≥ BMI < 30 kg/m^2)	**16.1**	13.5	19.0	**27.9**	24.7	31.4	**54.7**	51.0	58.4
Obese (BMI ≥ 30 kg/m^2)	**16.7**	13.3	20.7	**23.7**	19.9	28.0	**56.7**	51.6	61.7
Blood pressure status									
Doctor diagnosed hypertension	**14.5**	11.7	17.8	**22.4**	18.7	26.6	**60.1**	54.7	65.3
Normal range	**16.1**	14.3	18.1	**30.2**	28.0	32.5	**52.0**	49.4	54.5
Morbidity status									
No chronic disease	**15.4**	13.3	17.7	**30.6**	27.9	33.5	**52.5**	49.5	55.5
One chronic disease	**16.7**	13.6	20.3	**23.0**	20.0	26.4	**58.4**	54.2	62.4
Two, or more chronic diseases	**17.6**	13.3	22.8	**25.2**	20.0	31.3	**55.3**	48.6	61.9

Data were age-standardised to the 2011 Victorian population.

LL/UL 95% CI = lower/upper limit of 95 per cent confidence interval.

Estimates that are (statistically) significantly different from the corresponding estimate for Victoria are identified by colour as follows: above or below.

Estimates may not add to 100 per cent due to a proportion of 'don't know' or 'refused to say' responses, not reported here.

Relative standard error (RSE) = standard error / point estimate * 100; interpretation below:

* RSE between 25 and 50 per cent; point estimate (%) should be interpreted with caution.

[a] NHMRC (2009) guidelines.

[b] Based on the Kessler 10 scale for psychological distress.

[c] DoH (2014) guidelines.

[d] NHMRC (2013) guidelines.

[e] Includes those meeting both guidelines.

[f] Body mass index (BMI) = Weight (kg) / Height (m2).

Table 6.22 shows the proportion of women at risk of alcohol-related injury on a single occasion (either yearly, monthly or weekly), by risk category and selected modifiable risk factors and morbidity status. When compared with all Victorian women a significantly higher proportion of women with the following characteristics were at increased risk of alcohol-related injury on a single occasion:

- engaged in sufficient physical activity
- current or ex-smoker.

Table 6.22: Proportion (%) of women at risk of alcohol-related injury on a single occasion,[a] by risk category, selected modifiable risk factors and morbidity status, Victoria, 2016

	Abstainer / no longer drinks alcohol			Reduced risk			Increased risk: either yearly, monthly or weekly		
		95% CI			95% CI			95% CI	
	%	LL	UL	%	LL	UL	%	LL	UL
All females	**28.2**	**26.4**	**30.1**	**39.8**	**37.9**	**41.7**	**31.0**	**29.2**	**32.9**
Psychological distress[b]									
Low (K10 score < 16)	**23.9**	21.6	26.4	**43.0**	40.4	45.6	**31.8**	29.3	34.5
Moderate (K10 score 16–21)	**29.4**	25.9	33.1	**38.5**	34.8	42.3	**31.8**	28.4	35.6
High / very high (K10 score 22+)	**36.1**	31.1	41.3	**33.3**	28.8	38.0	**30.1**	25.8	34.7
Physical activity[c]									
Sedentary	**59.0**	43.7	72.7	**21.8**	14.4	31.6	**19.1** *	9.4	35.0
Insufficient time (< 150 min) and/or sessions (< 2)	**31.4**	28.6	34.3	**41.3**	38.6	44.2	**26.3**	23.7	29.0
Sufficient time (≥ 150 min) and sessions (≥ 2)	**22.3**	19.9	24.9	**40.1**	37.4	42.9	**36.6**	33.9	39.4
Met fruit / vegetable guidelines[d]									
Both guidelines	**20.2**	14.2	28.0	**45.7**	36.3	55.3	**33.4**	25.1	42.9
Vegetable guidelines[e]	**21.0**	15.0	28.5	**41.9**	33.7	50.6	**36.6**	29.0	44.9
Fruit guidelines[e]	**26.0**	23.5	28.6	**43.3**	40.5	46.1	**30.1**	27.5	32.9
Neither	**29.8**	27.2	32.5	**37.6**	35.0	40.3	**31.4**	28.9	34.1
Smoking status									
Current smoker	**24.8**	19.9	30.5	**30.7**	25.7	36.3	**43.3**	38.5	48.2
Ex-smoker	**18.4**	14.6	22.8	**38.1**	33.5	42.9	**42.2**	37.2	47.4
Non-smoker	**33.1**	30.8	35.5	**42.4**	40.0	44.8	**23.8**	21.8	26.0
Self-reported health									
Excellent / very good	**22.4**	20.0	25.1	**42.3**	39.6	45.0	**34.2**	31.5	37.0
Good	**31.3**	28.1	34.6	**38.9**	35.7	42.1	**28.9**	25.9	32.0
Fair/poor	**34.6**	30.4	39.0	**36.4**	31.9	41.1	**28.0**	23.7	32.8
Body weight status based on BMI[f]									
Underweight (BMI < 18.5 kg/m^2)	**46.5**	35.8	57.5	**38.5**	28.5	49.7	**14.1**	8.7	22.0
Normal range (18.5 ≥ BMI < 25 kg/m^2)	**23.7**	21.2	26.4	**40.8**	38.0	43.5	**34.8**	32.1	37.6
Pre-obese (25 ≥ BMI < 30 kg/m^2)	**28.9**	24.9	33.2	**40.1**	36.1	44.3	**30.3**	26.3	34.7
Obese (BMI ≥ 30 kg/m^2)	**27.8**	23.5	32.5	**37.0**	32.1	42.2	**34.6**	29.6	40.0
Blood pressure status (including pregnancy induced hypertension)									
Doctor diagnosed hypertension	**27.9**	23.7	32.6	**40.4**	35.4	45.5	**30.7**	25.9	36.0
Normal range	**26.7**	24.6	28.9	**41.5**	39.3	43.8	**30.8**	28.8	32.8
Morbidity status									
No chronic disease	**28.2**	25.4	31.2	**42.4**	39.5	45.4	**28.5**	26.1	31.1
One chronic disease	**25.1**	22.1	28.3	**39.0**	35.7	42.5	**34.8**	31.5	38.3
Two, or more chronic diseases	**28.2**	24.1	32.7	**36.4**	31.8	41.2	**34.7**	29.8	40.0

Data were age-standardised to the 2011 Victorian population.

LL/UL 95% CI = lower/upper limit of 95 per cent confidence interval.

Estimates that are (statistically) significantly different from the corresponding estimate for Victoria are identified by colour as follows: above or below.

Estimates may not add to 100 per cent due to a proportion of 'don't know' or 'refused to say' responses, not reported here.

Relative standard error (RSE) = standard error / point estimate * 100; interpretation below:

* RSE between 25 and 50 per cent; point estimate (%) should be interpreted with caution.

[a] NHMRC (2009) guidelines.

[b] Based on the Kessler 10 scale for psychological distress.

[c] DoH (2014) guidelines.

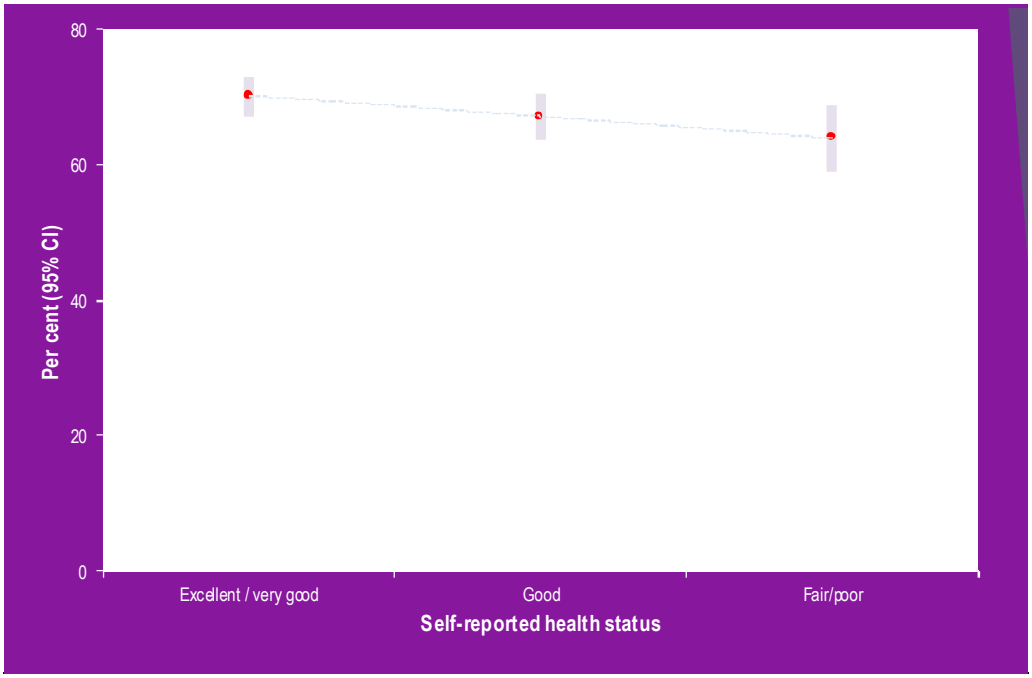
[d] NHMRC (2013) guidelines.

[e] Includes those meeting both guidelines.

[f] Body mass index (BMI) = Weight (kg) / Height (m^2).

The relationship was investigated between self-reported health status and the age-adjusted prevalence of increased risk of alcohol-related injury on a single occasion (Figure 6.8 and Figure 6.9). The proportion of the adult Victorian population at increased risk of alcohol-related injury on a single occasion was highest among men and women who reported excellent or very good health.

Figure 6.8: Proportion (%) of men at increased risk of alcohol-related injury on a single occasion,[a] by self-reported health status, Victoria, 2016

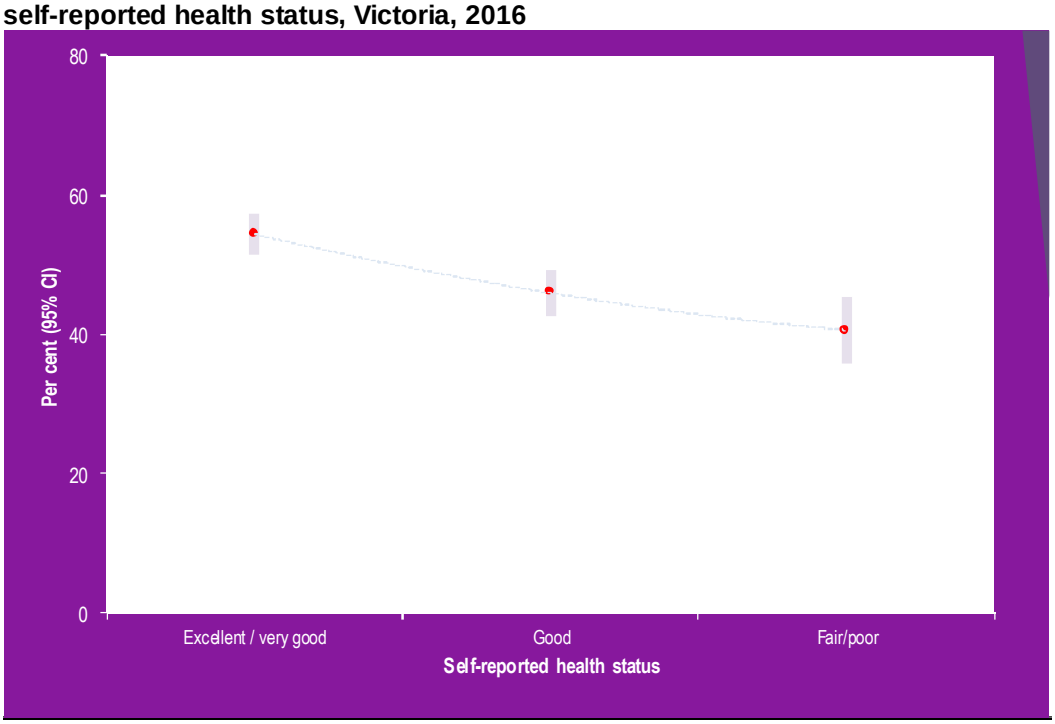


Data are age-adjusted to the 2011 population of Victoria.

95% CI = 95 per cent confidence interval.

[a] Either yearly, monthly or weekly, NHMRC (2009).

Figure 6.9: Proportion (%) of women at increased risk of alcohol-related injury on a single occasion,[a] by self-reported health status, Victoria, 2016



Data are age-adjusted to the 2011 population of Victoria.

95% CI = 95 per cent confidence interval.

[a] Either yearly, monthly or weekly, NHMRC (2009).

Comparison with previous survey

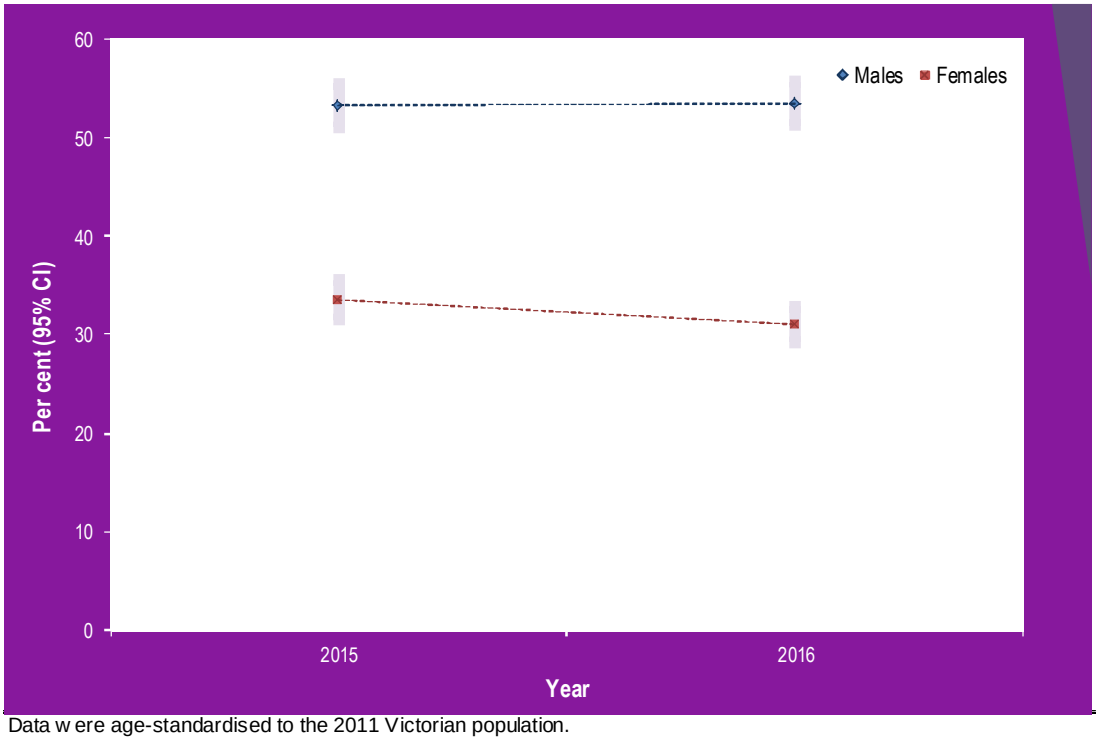
The proportion of men and women at increased risk of alcohol-related injury on a single occasion was compared with the previous Victorian Population Health Survey (2015) (Table 6.23 and Figure 6.10). This is the first time that trend over time data has been reported after the introduction of dual-frame sampling in 2015. There was no significant difference in the proportions of men and women at increased risk of alcohol-related injury on a single occasion between 2015 and 2016.

Table 6.23: Proportion of the adults at increased risk of alcohol-related injury on a single occasion[a], by sex, Victoria, 2015–2016

		Increased risk[a]		
			95% CI	
		%	LL	UL
Males	2015	53.3	51.0	55.5
	2016	53.4	51.3	55.6
Females	2015	33.5	31.6	35.5
	2016	31.0	29.2	32.9
People	2015	43.2	41.7	44.8
	2016	41.8	40.3	43.3

Data were age-standardised to the 2011 Victorian population.
LL/UL 95% CI = lower/upper limit of 95 per cent confidence interval.
[a] Either yearly, monthly or weekly, NHMRC (2009).

Figure 6.10: Proportion of the adults at increased risk of alcohol-related injury on a single occasion[a], by sex, Victoria, 2015–2016



Data were age-standardised to the 2011 Victorian population.
LL/UL 95% CI = lower/upper limit of 95 per cent confidence interval.
[a] Either yearly, monthly or weekly, NHMRC (2009).

7. Psychological distress

Key findings

Psychological distress

14.8%

reported high or very high levels of psychological distress, as determined by the Kessler 10 scale

13.2%

of men reported high or very high levels of psychological distress

16.5%

of women reported high or very high levels of psychological distress

The proportion of Victorian adults with high or very high levels of psychological distress was statistically significantly higher in women compared with men

The proportion of men and women with very high levels of psychological distress statistically significantly decreased with increasing income.

Introduction

Psychological distress is an important risk factor for a number of diseases and conditions including fatigue, migraine, cardiovascular disease, chronic obstructive pulmonary disease, cerebrovascular disease, injury, obesity, depression and anxiety (Hamer et al. 2012; Holden et al. 2010; Stansfeld et al. 2002). It is also a significant risk factor for risky drinking, smoking and drug use (Holden et al. 2010).

A measure of psychological distress, the Kessler 10 Psychological Distress Scale (K10), has been included 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 has been validated as a screening tool for detecting affective disorders such as depression and anxiety and is currently in use in general practice in Australia (Andrews & Slade 2001; Furukawa et al. 2003; Kessler et al. 2003).

The K10 covers the dimensions of nervousness, hopelessness, restlessness, sadness and worthlessness. It consists of 10 questions that 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 (that are scored 5 through to 1). The 10 items are summed to yield scores ranging from 10 to 50. Individuals are categorised to four levels of psychological distress based on their score: low (10–15), moderate (16–21), high (22–29) and very high (30–50) (Andrews & Slade 2001).

Prevalence of psychological distress (K10 scale)

Table 7.1 shows psychological distress levels by departmental region and sex. Overall, 14.8 per cent of Victorian adults had high or very high levels of psychological distress; the prevalence was significantly higher in women (16.5 per cent) than men (13.2 per cent). A significantly lower proportion of men who lived in Loddon Mallee Region, had high or very high levels of psychological distress compared with all Victorian men. There were no significant regional differences in the proportions of men or women with mild or moderate levels of psychological distress.

Table 7.1: Proportion (%) of adults with psychological distress,[a] by level of distress, Department of Health and Human Services region and sex, Victoria, 2016

Region	Mild (K10:< 16)			Moderate (K10:16–21)			High (K10:22–29)			Very high (K10:30+)			High / very high (K10:22+)		
	%	95% CI LL	95% CI UL	%	95% CI LL	95% CI UL	%	95% CI LL	95% CI UL	%	95% CI LL	95% CI UL	%	95% CI LL	95% CI UL
Males															
Northern Metropolitan	***54.3***	49.0	59.4	**24.9**	20.7	29.7	**8.6**	5.9	12.3	**5.5**	3.6	8.4	**14.1**	10.7	18.3
Southern Metropolitan	**54.9**	50.5	59.3	**22.4**	18.9	26.4	**12.2**	9.4	15.6	**4.4**	2.8	6.8	**16.5**	13.3	20.4
Eastern Metropolitan	**56.6**	50.8	62.2	**23.3**	18.8	28.6	**7.1**	4.6	10.9	**5.6** *	3.1	9.7	**12.7**	9.0	17.5
Western Metropolitan	**56.3**	50.9	61.5	**25.3**	20.8	30.3	**8.6**	6.0	12.1	**3.8** *	2.3	6.4	**12.4**	9.3	16.4
All metropolitan regions	**55.8**	53.2	58.3	**23.7**	21.5	25.9	**9.2**	7.8	10.9	**4.7**	3.7	6.0	**13.9**	12.2	15.9
Barwon-South Western	**62.1**	53.5	70.1	**21.7**	15.5	29.5	**7.7** *	4.6	12.7	**2.7** *	1.1	6.4	**10.4**	6.7	15.8
Gippsland	**54.6**	44.1	64.6	**18.4**	11.9	27.4	**14.5** *	8.6	23.5	**			**17.5**	11.1	26.5
Grampians	**60.5**	51.9	68.4	**23.5**	16.4	32.5	**9.9** *	4.9	18.8	**			**11.6** *	6.4	20.2
Hume	**63.5**	52.3	73.4	**24.2**	15.8	35.3	**6.9** *	3.2	14.4	**			**9.0** *	4.6	17.1
Loddon Mallee	**65.3**	55.3	74.2	**23.0**	16.4	31.4	**4.7** *	2.3	9.4	**			**5.4** *	2.9	10.0
All rural regions	**61.5**	56.9	65.9	**21.7**	18.2	25.6	**8.4**	6.2	11.3	**2.1** *	1.2	3.6	**10.5**	8.1	13.6
Victoria	**57.0**	**54.7**	**59.2**	**23.3**	**21.4**	**25.2**	**9.1**	**7.9**	**10.6**	**4.1**	**3.3**	**5.2**	**13.2**	**11.7**	**14.9**
Females															
Northern Metropolitan	**51.6**	46.8	56.3	**26.0**	22.0	30.6	**11.1**	8.4	14.5	**6.3**	4.2	9.3	**17.4**	14.0	21.4
Southern Metropolitan	**55.4**	51.3	59.4	**23.2**	19.8	26.9	**10.7**	8.4	13.5	**5.2**	3.6	7.3	**15.8**	13.1	19.1
Eastern Metropolitan	**54.1**	49.2	58.9	**26.1**	22.0	30.7	**9.5**	6.8	13.2	**6.2**	4.0	9.4	**15.7**	12.2	20.0
Western Metropolitan	**53.6**	48.6	58.5	**25.8**	21.6	30.5	**9.6**	7.0	12.9	**4.9**	3.1	7.7	**14.5**	11.3	18.3
All metropolitan regions	**54.1**	51.8	56.4	**24.9**	22.9	27.0	**10.2**	8.9	11.8	**5.6**	4.5	6.8	**15.8**	14.1	17.6
Barwon-South Western	**57.2**	49.4	64.6	**24.0**	17.7	31.8	**6.6** *	3.5	12.1	**6.4** *	2.9	13.7	**13.1**	8.0	20.6
Gippsland	**51.1**	42.8	59.3	**25.5**	18.7	33.9	**12.5**	7.7	19.6	**5.6** *	2.8	10.6	**18.0**	12.2	25.8
Grampians	**55.3**	46.4	63.9	**20.1**	14.1	27.9	**14.1** *	8.3	23.0	**7.6** *	3.6	15.5	**21.8**	14.5	31.4
Hume	**54.5**	46.4	62.3	**22.3**	16.2	30.0	**15.8** *	9.3	25.4	**			**20.5**	13.1	30.6
Loddon Mallee	**51.9**	42.8	60.9	**24.1**	17.3	32.6	**14.5**	8.8	22.9	**7.0** *	3.4	14.0	**21.5**	14.5	30.7
All rural regions	**53.4**	49.3	57.5	**23.9**	20.4	27.7	**12.3**	9.5	15.7	**6.5**	4.2	9.8	**18.7**	15.3	22.8
Victoria	**54.0**	**51.9**	**56.0**	**24.6**	**22.9**	**26.5**	**10.8**	**9.5**	**12.1**	**5.7**	**4.8**	**6.9**	**16.5**	**14.9**	**18.1**
People															
Northern Metropolitan	**53.3**	49.7	56.8	**25.5**	22.5	28.7	**9.5**	7.7	11.8	**5.7**	4.2	7.6	**15.2**	12.8	17.9
Southern Metropolitan	**55.2**	52.2	58.2	**22.7**	20.2	25.4	**11.4**	9.6	13.6	**4.8**	3.6	6.3	**16.2**	14.0	18.6
Eastern Metropolitan	**55.3**	51.5	59.0	**25.0**	21.9	28.5	**8.2**	6.2	10.6	**6.1**	4.2	8.7	**14.2**	11.6	17.4
Western Metropolitan	**55.2**	51.4	58.8	**25.6**	22.5	29.0	**8.9**	7.0	11.2	**4.3**	3.0	6.0	**13.1**	10.9	15.8
All metropolitan regions	**54.9**	53.2	56.7	**24.4**	22.9	25.9	**9.7**	8.7	10.8	**5.1**	4.4	6.0	**14.8**	13.6	16.1
Barwon-South Western	**59.1**	53.0	64.9	**23.0**	18.3	28.4	**6.8**	4.6	10.1	**4.9** *	2.5	9.6	**11.8**	8.2	16.6
Gippsland	**52.8**	46.0	59.4	**22.0**	16.9	28.0	**13.5**	9.4	18.9	**4.2** *	2.4	7.4	**17.7**	13.1	23.4
Grampians	**55.6**	48.9	62.1	**23.8**	18.0	30.7	**12.4**	7.9	19.1	**4.5** *	2.5	8.0	**17.0**	11.8	23.7
Hume	**57.9**	50.9	64.5	**23.4**	17.9	30.0	**11.7**	7.2	18.4	**			**15.7**	10.3	23.2
Loddon Mallee	**59.8**	52.7	66.6	**22.9**	17.9	28.8	**9.0**	6.0	13.5	**3.3** *	1.7	6.2	**12.3**	8.7	17.3
All rural regions	**57.5**	54.3	60.5	**22.8**	20.3	25.4	**10.3**	8.4	12.5	**4.3**	3.0	6.0	**14.6**	12.3	17.1
Victoria	**55.5**	**54.0**	**57.0**	**24.0**	**22.7**	**25.3**	**9.9**	**9.0**	**10.9**	**4.9**	**4.2**	**5.7**	**14.8**	**13.7**	**16.0**

Metropolitan and rural regions are identified by colour as follows: metropolitan / rural.

Data were age-standardised to the 2011 Victorian population.

LL/UL 95% CI = lower/upper limit of 95 per cent confidence interval.

Estimates that are (statistically) significantly different from the corresponding estimate for Victoria are identified by colour as follows: above or below.

Estimates may not add to 100 per cent due to a proportion of 'don't know' or 'refused to say' responses, not reported here.

Relative standard error (RSE) = standard error / point estimate * 100; interpretation below:

* RSE between 25 and 50 per cent; point estimate (%) should be interpreted with caution.

** RSE greater than, or equal to, 50 per cent; point estimate (%) is unreliable, hence not reported.

[a] Based on the Kessler 10 scale for psychological distress.

Table 7.2 shows psychological distress levels by departmental division and sex, There were no significant divisional differences in the proportions of men or women with different levels of psychological distress.

Table 7.2: Proportion (%) of adults with psychological distress,[a] by level of distress, Department of Health and Human Services division and sex, Victoria, 2016

	Mild (K10:< 16)			Moderate (K10:16–21)			High (K10:22–29)			Very high (K10:30+)			High / very high (K10:22+)		
		95% CI			95% CI			95% CI			95% CI			95% CI	
Division	%	LL	UL	%	LL	UL	%	LL	UL	%	LL	UL	%	LL	UL
Males															
North	**57.4**	52.7	61.9	**24.3**	20.6	28.4	**7.5**	5.4	10.4	**4.4**	2.9	6.7	**12.0**	9.3	15.3
South	**54.8**	50.7	58.9	**21.5**	18.2	25.1	**12.7**	10.0	15.9	**4.3**	2.8	6.5	**16.9**	13.9	20.5
East	**57.8**	52.7	62.7	**23.6**	19.6	28.3	**6.9**	4.7	10.1	**5.0** *	2.9	8.7	**12.0**	8.8	16.1
West	**57.8**	53.7	61.8	**24.3**	20.9	28.1	**8.8**	6.6	11.7	**3.2**	2.1	4.8	**12.0**	9.5	15.1
Victoria	**57.0**	**54.7**	**59.2**	**23.3**	**21.4**	**25.2**	**9.1**	**7.9**	**10.6**	**4.1**	**3.3**	**5.2**	**13.2**	**11.7**	**14.9**
Females															
North	**51.6**	47.4	55.9	**25.8**	22.1	29.8	**12.0**	9.4	15.3	**6.2**	4.4	8.8	**18.2**	15.0	22.0
South	**54.9**	51.2	58.6	**23.4**	20.3	26.8	**10.9**	8.8	13.4	**5.3**	3.8	7.2	**16.2**	13.6	19.1
East	**54.3**	49.9	58.6	**25.3**	21.7	29.3	**10.7**	8.0	14.1	**5.9**	3.9	8.8	**16.6**	13.3	20.5
West	**54.5**	50.7	58.3	**24.8**	21.6	28.4	**9.6**	7.5	12.2	**5.6**	3.9	8.0	**15.2**	12.5	18.3
Victoria	**54.0**	**51.9**	**56.0**	**24.6**	**22.9**	**26.5**	**10.8**	**9.5**	**12.1**	**5.7**	**4.8**	**6.9**	**16.5**	**14.9**	**18.1**
People															
North	**54.8**	51.6	57.9	**24.9**	22.3	27.7	**9.7**	7.9	11.8	**5.0**	3.8	6.6	**14.7**	12.5	17.1
South	**54.9**	52.1	57.6	**22.4**	20.1	24.9	**11.8**	10.0	13.8	**4.8**	3.7	6.2	**16.6**	14.5	18.8
East	**55.8**	52.5	59.1	**24.7**	21.9	27.7	**8.8**	7.0	11.0	**5.7**	4.0	8.0	**14.5**	12.0	17.3
West	**56.4**	53.6	59.2	**24.7**	22.3	27.3	**9.0**	7.4	10.8	**4.3**	3.3	5.7	**13.3**	11.4	15.4
Victoria	**55.5**	**54.0**	**57.0**	**24.0**	**22.7**	**25.3**	**9.9**	**9.0**	**10.9**	**4.9**	**4.2**	**5.7**	**14.8**	**13.7**	**16.0**

Data were age-standardised to the 2011 Victorian population.

LL/UL 95% CI = lower/upper limit of 95 per cent confidence interval.

Estimates that are (statistically) significantly different from the corresponding estimate for Victoria are identified by colour as follows: above or below.

Estimates may not add to 100 per cent due to a proportion of 'don't know' or 'refused to say' responses, not reported here.

Relative standard error (RSE) = standard error / point estimate * 100; interpretation below:

***** RSE between 25 and 50 per cent; point estimate (%) should be interpreted with caution.

[a] Based on the Kessler 10 scale for psychological distress.

Table 7.3 and Figure 7.1 show psychological distress levels by age group and sex. There was a significantly higher proportion of 18–24-year-old women (almost one in three women) and adults with high or very high levels of psychological distress compared with all Victorian women and adults, respectively. By contrast, there was a significantly lower proportion 65–74-year-old men and of 65–84-year-old women with high or very high levels of psychological distress compared with all Victorian men and women, respectively.

Table 7.3: Proportion (%) of adults with psychological distress,[a] by level of distress, age group and sex, Victoria, 2016

Sex	Mild (K10:< 16)			Moderate (K10:16–21)			High (K10:22–29)			Very high (K10:30+)			High / very high (K10:22+)		
Age group (years)	%	95% CI LL	95% CI UL	%	95% CI LL	95% CI UL	%	95% CI LL	95% CI UL	%	95% CI LL	95% CI UL	%	95% CI LL	95% CI UL
Males															
18–24	**52.5**	45.9	58.9	**29.8**	24.2	36.0	**11.4**	7.9	16.1	**			**13.2**	9.4	18.3
25–34	**49.3**	43.5	55.2	**28.2**	23.3	33.7	**12.0**	8.7	16.5	**5.2** *	2.9	9.2	**17.3**	13.1	22.4
35–44	**57.7**	51.8	63.3	**24.4**	19.7	29.8	**9.3**	6.3	13.4	**4.6** *	2.6	8.0	**13.8**	10.1	18.6
45–54	**60.7**	55.5	65.7	**20.3**	16.4	24.7	**7.5**	5.2	10.7	**4.4**	2.7	7.1	**11.9**	8.9	15.7
55–64	**57.9**	53.0	62.6	**21.0**	17.4	25.1	**9.5**	6.8	13.1	**4.7**	3.1	7.0	**14.2**	11.0	18.1
65–74	**68.8**	64.0	73.3	**16.1**	12.7	20.1	**4.6** *	2.8	7.4	**2.7** *	1.5	5.0	**7.3**	5.0	10.5
75–84	**57.5**	49.9	64.8	**20.6**	15.1	27.4	**7.5** *	4.0	13.6	**3.6** *	1.7	7.7	**11.1**	6.9	17.5
85+	**57.9**	45.3	69.5	**13.9** *	7.4	24.6	**6.0** *	2.4	14.0	**			**10.7** *	5.4	20.3
18+	**57.0**	**54.8**	**59.2**	**23.4**	**21.6**	**25.4**	**9.2**	**7.9**	**10.7**	**4.1**	**3.2**	**5.2**	**13.3**	**11.7**	**15.0**
Females															
18–24	**39.6**	33.6	46.0	**29.1**	23.8	35.0	**22.4**	17.6	28.2	**7.7**	4.7	12.3	**30.1**	24.5	36.3
25–34	**52.9**	47.2	58.5	**25.7**	21.1	31.0	**10.6**	7.7	14.4	**5.8** *	3.4	9.7	**16.4**	12.6	21.2
35–44	**54.0**	49.0	58.9	**27.9**	23.6	32.6	**9.5**	6.8	13.1	**5.3**	3.4	8.2	**14.8**	11.5	18.9
45–54	**57.9**	53.4	62.3	**22.6**	19.1	26.6	**7.8**	5.8	10.3	**8.0**	5.7	11.0	**15.7**	12.7	19.3
55–64	**57.3**	52.9	61.7	**20.6**	17.2	24.4	**10.3**	7.7	13.7	**6.3**	4.4	9.1	**16.7**	13.4	20.5
65–74	**61.5**	56.9	66.0	**21.7**	17.9	26.1	**6.1**	4.2	8.9	**2.5** *	1.5	4.3	**8.7**	6.4	11.7
75–84	**60.1**	53.7	66.2	**18.1**	14.0	23.0	**6.9** *	3.7	12.6	**1.4** *	0.6	3.1	**8.3** *	4.9	13.8
85+	**59.3**	47.9	69.7	**23.3**	15.1	34.2	**6.3** *	2.7	13.7	**			**7.4** *	3.4	15.0
18+	**54.7**	**52.7**	**56.7**	**24.2**	**22.5**	**26.0**	**10.4**	**9.2**	**11.7**	**5.6**	**4.7**	**6.7**	**16.0**	**14.5**	**17.6**
People															
18–24	**46.3**	41.8	50.9	**29.4**	25.5	33.7	**16.7**	13.6	20.3	**4.6**	3.0	7.2	**21.3**	17.8	25.3
25–34	**50.9**	46.8	55.0	**27.1**	23.6	30.9	**11.4**	9.0	14.3	**5.5**	3.7	8.1	**16.9**	13.9	20.3
35–44	**55.7**	51.9	59.4	**26.3**	23.1	29.8	**9.4**	7.3	12.0	**5.0**	3.5	7.0	**14.4**	11.8	17.4
45–54	**59.3**	55.8	62.6	**21.5**	18.8	24.4	**7.6**	6.1	9.5	**6.3**	4.8	8.2	**13.9**	11.7	16.4
55–64	**57.6**	54.3	60.8	**20.8**	18.3	23.5	**10.0**	8.0	12.3	**5.6**	4.2	7.3	**15.5**	13.2	18.2
65–74	**65.1**	61.7	68.3	**19.0**	16.4	21.9	**5.4**	4.0	7.2	**2.6**	1.7	3.9	**8.0**	6.3	10.1
75–84	**59.1**	54.2	63.8	**19.1**	15.7	23.0	**7.2**	4.6	11.0	**2.3** *	1.3	4.1	**9.5**	6.6	13.4
85+	**58.6**	50.2	66.6	**18.9**	13.2	26.2	**6.1** *	3.4	11.0	**2.8** *	1.1	7.1	**8.9** *	5.4	14.5
18+	**55.8**	**54.3**	**57.3**	**23.8**	**22.6**	**25.1**	**9.8**	**8.9**	**10.8**	**4.9**	**4.2**	**5.6**	**14.7**	**13.6**	**15.8**

Data are age-specific estimates, except for '18+', which are crude estimates (not age-standardised) for Victoria.

LL/UL 95% CI = lower/upper limit of 95 per cent confidence interval.

Estimates that are (statistically) significantly different from the corresponding estimate for Victoria are identified by colour as follows: above or below.

Estimates may not add to 100 per cent due to a proportion of 'don't know' or 'refused to say' responses, not reported here.

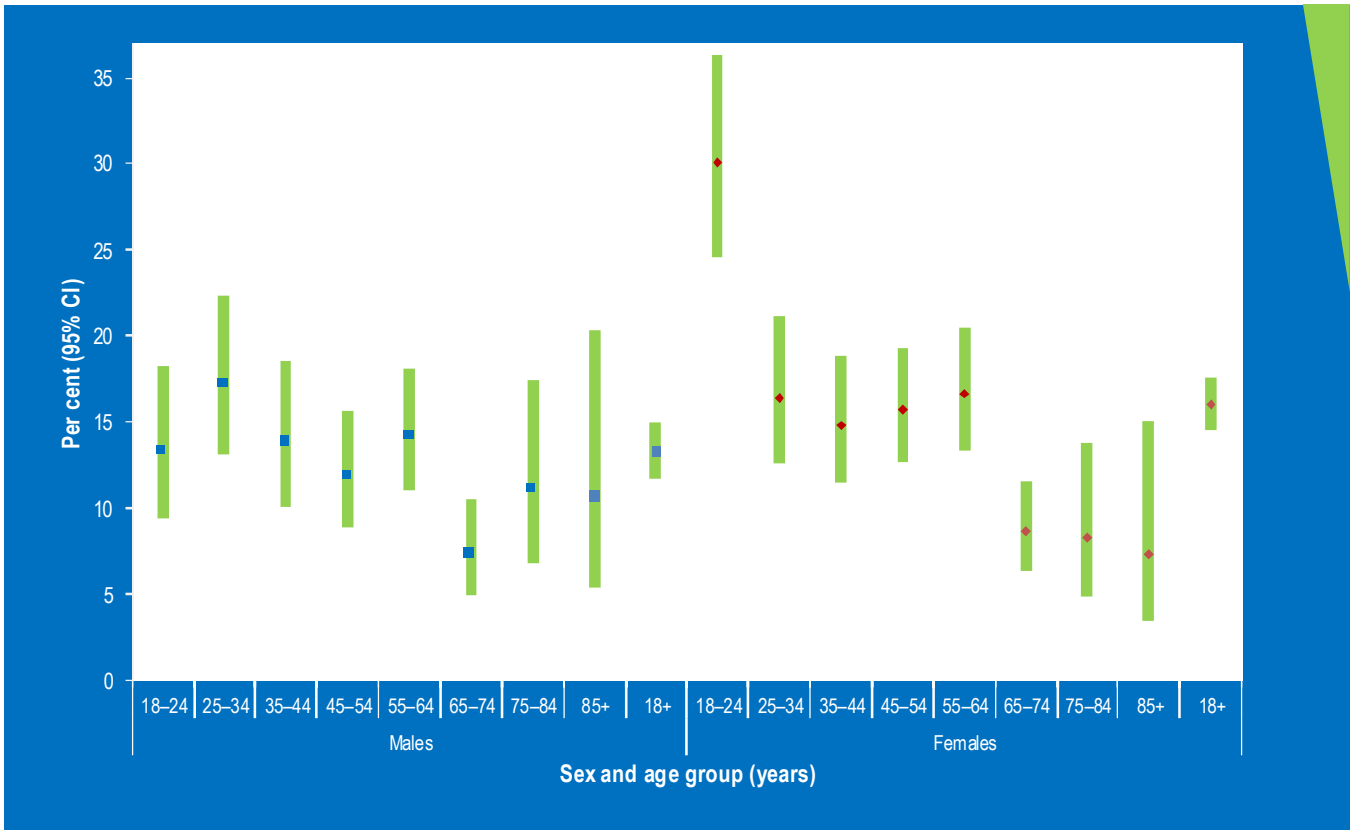
Relative standard error (RSE) = standard error/point estimate * 100; interpretation below:

***** Estimate has a RSE between 25 and 50 per cent and should be interpreted with caution.

****** Estimate has a RSE greater than 50 per cent and is not reported as it is unreliable for general use.

[a] Based on the Kessler 10 scale for psychological distress.

Figure 7.1: Proportion (%) of adults with high or very high levels of psychological distress,[a] by age group and sex, Victoria, 2016



Data are age group specific estimates, except for '18+', w hich are crude estimates (not age-standardised) for Victoria.

95% CI = 95 per cent confidence interval.

[a] Based on the Kessler 10 scale for psychological distress.

Table 7.4 shows the proportion of adult males with psychological distress, by level of distress and selected socioeconomic determinants. When compared with all Victorian men, there was a significantly higher proportion of men with very high levels of psychological distress who had the following characteristics:

- did not complete high school
- not in the labour force
- a total household income income less than $40,000.

Table 7.4: Proportion (%) of men with psychological distress,[a] by level of distress and selected socioeconomic determinants, Victoria, 2016

	Mild (K10:< 16)			Moderate (K10:16–21)			High (K10:22–29)			Very high (K10:30+)		
		95% CI			95% CI			95% CI			95% CI	
	%	LL	UL	%	LL	UL	%	LL	UL	%	LL	UL
All males	**57.0**	**54.7**	**59.2**	**23.3**	**21.4**	**25.2**	**9.1**	**7.9**	**10.6**	**4.1**	**3.3**	**5.2**
Country of birth												
Australia	**57.4**	54.7	60.1	**24.8**	22.5	27.4	**9.0**	7.5	10.8	**4.5**	3.4	6.0
Overseas	**56.1**	52.3	59.7	**20.6**	17.8	23.7	**9.3**	7.2	11.8	**3.4**	2.3	4.8
Language spoken at home												
English	**58.1**	55.4	60.7	**23.9**	21.7	26.3	**9.4**	7.9	11.2	**4.5**	3.4	5.9
Language other than English	**52.7**	48.5	56.9	**22.2**	18.9	25.9	**9.0**	6.8	11.8	**3.3**	2.2	5.1
Education level												
Did not complete high school	**51.8**	45.4	58.3	**23.3**	18.1	29.5	**9.2**	6.2	13.4	**9.3** *	5.6	15.0
Completed high school, or TAFE, or trade certificate, or diploma	**57.2**	54.1	60.2	**22.7**	20.2	25.4	**9.6**	7.8	11.7	**4.1**	2.9	5.6
University, or some other tertiary institute degree	**62.1**	58.7	65.4	**23.0**	20.3	26.0	**7.3**	5.5	9.5	**1.5** *	0.9	2.5
Employment status												
Employed	**59.4**	56.2	62.5	**24.0**	21.6	26.5	**7.9**	6.5	9.6	**2.7** *	1.5	4.7
Unemployed	**29.3**	21.9	38.0	**18.1**	12.3	25.9	**20.8**	14.4	29.1	**7.7** *	4.2	13.7
Not in labour force	**45.5**	39.3	51.9	**21.8**	16.4	28.3	**10.0**	6.4	15.1	**15.4**	9.7	23.4
Total annual household income												
< $40,000	**39.6**	34.4	45.1	**22.4**	18.0	27.6	**19.1**	14.9	24.2	**8.0**	5.5	11.6
$40,000 to < $100,000	**58.8**	54.7	62.7	**23.6**	20.4	27.1	**8.9**	6.8	11.5	**3.6**	2.3	5.6
≥ $100,000	**66.1**	61.9	70.1	**23.0**	19.8	26.5	**5.7**	4.1	8.0	**2.6** *	1.3	5.1

Data were age-standardised to the 2011 Victorian population.

LL/UL 95% CI = lower/upper limit of 95 per cent confidence interval.

Estimates that are (statistically) significantly different from the corresponding estimate for Victoria are identified by colour as follows: above or below.

Estimates may not add to 100 per cent due to a proportion of 'don't know' or 'refused to say' responses, not reported here.

Relative standard error (RSE) = standard error / point estimate * 100; interpretation below:

***** RSE between 25 and 50 per cent; point estimate (%) should be interpreted with caution.

[a] Based on the Kessler 10 scale for psychological distress.

Table 7.5 shows the proportion of adult females with psychological distress, by level of distress and selected socioeconomic determinants. When compared with all Victorian women, there was a significantly higher proportion of women with very high levels of psychological distress who had the following characteristics:

- did not complete high school
- unemployed
- not in the labour force
- total household income less than $40,000.

Table 7.5: Proportion (%) of women with psychological distress,[a] by level of distress and selected socioeconomic determinants, Victoria, 2016

	Mild (K10:< 16)			Moderate (K10:16–21)			High (K10:22–29)			Very high (K10:30+)		
		95% CI			95% CI			95% CI			95% CI	
	%	LL	UL	%	LL	UL	%	LL	UL	%	LL	UL
All females	**54.0**	**51.9**	**56.0**	**24.6**	**22.9**	**26.5**	**10.8**	**9.5**	**12.1**	**5.7**	**4.8**	**6.9**
Country of birth												
Australia	**55.8**	53.4	58.2	**25.3**	23.2	27.5	**10.1**	8.7	11.7	**5.4**	4.3	6.7
Overseas	**51.1**	47.4	54.8	**23.1**	20.1	26.5	**11.7**	9.3	14.6	**6.1**	4.3	8.6
Language spoken at home												
English	**56.8**	54.4	59.1	**25.0**	22.9	27.1	**9.7**	8.4	11.3	**5.1**	4.1	6.3
Language other than English	**44.4**	40.4	48.4	**24.0**	20.7	27.8	**14.6**	11.7	18.1	**7.8**	5.7	10.7
Education level												
Did not complete high school	**43.1**	36.7	49.7	**24.3**	19.0	30.6	**15.9**	11.2	22.2	**11.9**	7.8	17.8
Completed high school, or TAFE, or trade certificate, or diploma	**52.6**	49.6	55.6	**25.3**	22.7	28.1	**11.2**	9.4	13.3	**6.4**	5.0	8.2
University, or some other tertiary institute degree	**63.7**	60.7	66.6	**22.7**	20.2	25.4	**7.9**	6.4	9.8	**2.0**	1.4	2.9
Employment status												
Employed	**59.7**	56.2	63.2	**25.5**	22.3	28.9	**9.4**	7.7	11.5	**3.0**	2.2	4.1
Unemployed	**34.6**	25.7	44.7	**21.1**	14.4	29.9	**16.2**	9.9	25.5	**15.1**	9.5	23.2
Not in labour force	**47.2**	43.2	51.1	**23.8**	20.6	27.3	**11.6**	9.2	14.5	**10.8**	8.2	14.0
Total annual household income												
< $40,000	**38.3**	33.7	43.1	**24.1**	19.9	28.8	**19.7**	15.6	24.5	**13.3**	10.2	17.1
$40,000 to < $100,000	**57.7**	53.8	61.5	**24.2**	21.0	27.6	**9.4**	7.3	11.9	**4.9**	3.4	7.1
≥ $100,000	**61.2**	55.6	66.5	**25.1**	21.3	29.2	**7.6**	5.6	10.3	**1.5** *	0.8	2.9

Data were age-standardised to the 2011 Victorian population.

LL/UL 95% CI = lower/upper limit of 95 per cent confidence interval.

Estimates that are (statistically) significantly different from the corresponding estimate for Victoria are identified by colour as follows: above or below.

Estimates may not add to 100 per cent due to a proportion of 'don't know' or 'refused to say' responses, not reported here.

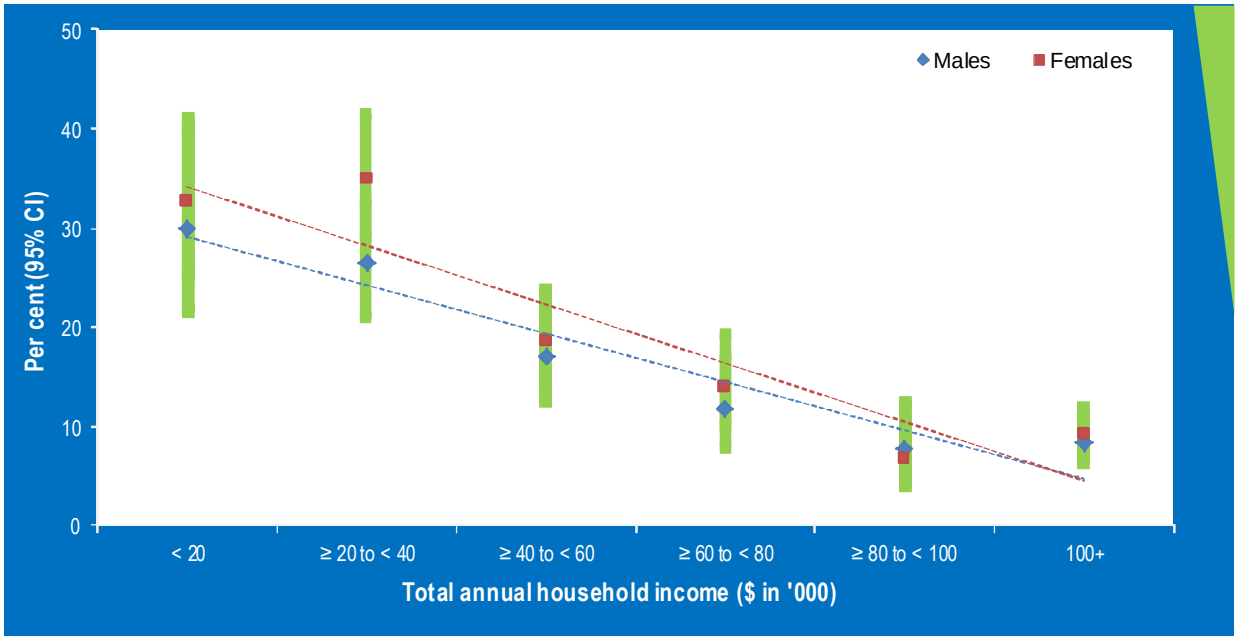
Relative standard error (RSE) = standard error / point estimate * 100; interpretation below:

* RSE between 25 and 50 per cent; point estimate (%) should be interpreted with caution.

[a] Based on the Kessler 10 scale for psychological distress.

The relationship was investigated between SES and high or very high levels of psychological distress, using total annual household income as a measure of SES (Figure 7.2). The proportion of men and women with very high levels of psychological distress significantly decreased with increasing income.

Figure 7.2: Proportion (%) of adults with high or very high levels of psychological distress,[a] by total annual household income and sex, Victoria, 2016



Data were age-standardised to the 2011 Victorian population.

95% CI = 95 per cent confidence interval.

[a] Based on the Kessler 10 scale for psychological distress.

Table 7.6 shows the proportion of adult males with psychological distress, by level of distress and selected modifiable risk factors and morbidity status. When compared with all Victorian men, there was a significantly higher proportion of men with very high levels of psychological distress who had the following characteristics:

- sedentary behaviour
- fair or poor self-reported health status
- doctor-diagnosed hypertension
- two or more chronic diseases.

Table 7.6: Proportion (%) of men with psychological distress,[a] by level of distress, selected modifiable risk factors and morbidity status, Victoria, 2016

	Mild (K10:< 16)			Moderate (K10:16–21)			High (K10:22–29)			Very high (K10:30+)		
		95% CI			95% CI			95% CI			95% CI	
	%	LL	UL	%	LL	UL	%	LL	UL	%	LL	UL
All males	**57.0**	**54.8**	**59.2**	**23.3**	**21.5**	**25.3**	**9.1**	**7.8**	**10.5**	**4.1**	**3.3**	**5.2**
Physical activity[b]												
Sedentary	**46.4**	35.6	57.4	**11.5** *	6.1	20.6	**8.6** *	4.2	16.8	**18.1** *	10.5	29.4
Insufficient time (< 150 min) and/or sessions (< 2)	**54.7**	51.2	58.1	**22.9**	20.2	25.9	**10.2**	8.3	12.4	**4.2**	3.0	5.9
Sufficient time (≥ 150 min) and sessions (≥ 2)	**59.8**	56.6	62.9	**23.6**	21.0	26.5	**7.9**	6.2	10.0	**2.9**	2.0	4.4
Met fruit / vegetable guidelines[c]												
Both guidelines	**65.2**	51.6	76.7	**26.2** *	15.3	41.2	**			**		
Vegetable guidelines[d]	**59.3**	45.7	71.5	**30.4**	18.3	45.9	**4.0** *	1.5	10.2	**		
Fruit guidelines[d]	**63.5**	59.9	66.8	**21.6**	18.8	24.8	**6.3**	4.8	8.3	**2.8**	1.8	4.4
Neither	**54.2**	51.3	57.1	**24.0**	21.6	26.6	**10.6**	8.8	12.6	**4.7**	3.6	6.3
Smoking status												
Current smoker	**47.1**	42.1	52.2	**24.9**	20.7	29.5	**13.6**	10.4	17.6	**6.3**	4.2	9.3
Ex-smoker	**57.8**	52.5	62.8	**24.6**	20.1	29.7	**8.3**	5.9	11.6	**5.6** *	3.3	9.3
Non-smoker	**60.8**	57.8	63.8	**21.8**	19.4	24.4	**8.2**	6.5	10.1	**2.6**	1.8	3.8
Lifetime risk of alcohol-related harm[e]												
Abstainer / no longer drinks alcohol	**52.3**	46.9	57.6	**20.3**	16.3	25.0	**12.7**	9.4	17.0	**6.5**	4.3	9.6
Reduced risk	**53.5**	47.0	60.0	**26.2**	20.7	32.6	**9.5**	6.2	14.3	**2.9** *	1.4	6.2
Increased risk	**59.3**	56.6	61.9	**23.6**	21.4	26.0	**8.0**	6.6	9.6	**3.9**	2.9	5.2
Self-reported health												
Excellent / very good	**70.7**	67.5	73.7	**18.0**	15.5	20.7	**4.4**	3.2	6.1	**1.3** *	0.7	2.4
Good	**54.8**	51.2	58.2	**25.5**	22.5	28.8	**9.8**	7.8	12.4	**3.5**	2.3	5.4
Fair/poor	**32.8**	27.9	38.2	**29.9**	25.2	35.0	**18.6**	14.7	23.2	**11.1**	8.1	15.1
Body weight status based on BMI[f]												
Underweight (BMI < 18.5 kg/m^2)	**76.9**	62.3	87.1	**13.1** *	6.6	24.4	**			**0.0**	.	.
Normal range (18.5 ≥ BMI < 25 kg/m^2)	**61.6**	57.9	65.2	**21.3**	18.5	24.3	**7.3**	5.5	9.5	**3.5**	2.2	5.3
Pre-obese (25 ≥ BMI < 30 kg/m^2)	**54.5**	50.7	58.3	**23.8**	20.6	27.3	**9.8**	7.6	12.7	**4.0**	2.7	5.9
Obese (BMI ≥ 30 kg/m^2)	**52.8**	47.3	58.3	**25.8**	21.2	31.1	**13.0**	9.8	17.2	**5.4** *	3.3	8.8
Blood pressure status												
Doctor diagnosed hypertension	**45.9**	40.0	51.9	**25.5**	20.4	31.5	**14.5**	10.7	19.5	**8.8**	5.5	13.7
Normal range	**59.8**	57.3	62.4	**22.2**	20.1	24.4	**8.2**	6.8	9.8	**3.0**	2.2	4.1
Morbidity status												
No chronic disease	**66.1**	63.1	68.9	**22.4**	19.9	25.0	**4.8**	3.7	6.3	**0.5** *	0.2	1.1
One chronic disease	**50.1**	45.8	54.4	**23.3**	19.8	27.3	**14.4**	11.4	18.0	**5.8**	3.8	8.6
Two, or more chronic diseases	**36.2**	29.4	43.6	**23.1**	16.7	31.2	**16.5**	11.0	23.8	**18.1**	11.7	26.8

Data were age-standardised to the 2011 Victorian population.

LL/UL 95% CI = lower/upper limit of 95 per cent confidence interval.

Estimates that are (statistically) significantly different from the corresponding estimate for Victoria are identified by colour as follows: above or below.

Estimates may not add to 100 per cent due to a proportion of 'don't know' or 'refused to say' responses, not reported here.

Relative standard error (RSE) = standard error / point estimate * 100; interpretation below:

* RSE between 25 and 50 per cent; point estimate (%) should be interpreted with caution.

** RSE greater than, or equal to, 50 per cent; point estimate (%) is unreliable, hence not reported.

[a] Based on the Kessler 10 scale for psychological distress.

[b] DoH (2014) guidelines.

[c] NHMRC (2013) guidelines.

[d] Includes those meeting both guidelines.

[e] NHMRC (2009) guidelines.

[f] Body mass index (BMI) = Weight (kg) / Height (m^2).

Table 7.7 shows the proportion of adult females with psychological distress, by level of distress and selected modifiable risk factors and morbidity status. When compared with all Victorian women, there was a significantly higher proportion of women with very high levels of psychological distress who had the following characteristics:

- current smoker
- fair or poor self-reported health status
- two or more chronic diseases.

Table 7.7: Proportion (%) of women with psychological distress,[a] by level of distress, selected modifiable risk factors and morbidity status, Victoria, 2016

	Mild (K10:< 16)			Moderate (K10:16–21)			High (K10:22–29)			Very high (K10:30+)		
		95% CI			95% CI			95% CI			95% CI	
	%	LL	UL	%	LL	UL	%	LL	UL	%	LL	UL
All females	**54.0**	**51.9**	**56.0**	**24.6**	**22.9**	**26.5**	**10.8**	**9.5**	**12.1**	**5.7**	**4.8**	**6.9**
Physical activity[b]												
Sedentary	**44.1**	30.9	58.2	**25.9**	15.5	39.9	**9.3** *	3.8	21.1	**9.8** *	5.2	18.0
Insufficient time (< 150 min) and/or sessions (< 2)	**51.2**	48.2	54.2	**25.3**	22.7	28.0	**11.5**	9.6	13.7	**6.7**	5.2	8.5
Sufficient time (≥ 150 min) and sessions (≥ 2)	**57.4**	54.4	60.3	**24.4**	21.9	27.1	**10.1**	8.4	12.2	**4.3**	3.1	5.9
Met fruit / vegetable guidelines[c]												
Both guidelines	**63.0**	53.5	71.5	**20.1**	14.3	27.4	**			**		
Vegetable guidelines[d]	**61.4**	52.8	69.3	**19.4**	14.2	25.8	**9.3** *	4.0	20.0	**3.6** *	1.4	8.9
Fruit guidelines[d]	**56.8**	53.9	59.8	**24.2**	21.7	27.0	**9.8**	8.1	11.8	**4.2**	3.1	5.7
Neither	**51.8**	49.0	54.7	**25.2**	22.8	27.7	**11.5**	9.7	13.6	**6.8**	5.3	8.6
Smoking status												
Current smoker	**39.5**	34.2	45.1	**26.9**	22.1	32.3	**15.7**	12.3	19.9	**13.0**	9.7	17.2
Ex-smoker	**55.6**	50.3	60.8	**24.4**	20.0	29.4	**10.6**	7.6	14.5	**5.1** *	3.0	8.4
Non-smoker	**56.6**	54.1	59.0	**24.7**	22.6	26.9	**9.5**	8.0	11.2	**4.3**	3.3	5.7
Lifetime risk of alcohol-related harm[e]												
Abstainer / no longer drinks alcohol	**45.4**	41.3	49.5	**24.7**	21.3	28.5	**12.6**	9.9	15.9	**9.0**	6.7	12.0
Reduced risk	**57.4**	52.4	62.2	**26.0**	21.6	31.0	**8.4**	5.7	12.3	**4.5**	2.8	7.1
Increased risk	**57.1**	54.2	59.9	**23.8**	21.5	26.2	**11.7**	9.8	13.8	**4.4**	3.3	5.8
Self-reported health												
Excellent / very good	**66.7**	63.8	69.5	**21.1**	18.8	23.7	**6.0**	4.6	7.8	**2.1** *	1.2	3.7
Good	**51.9**	48.5	55.3	**26.9**	23.9	30.1	**11.8**	9.7	14.3	**4.8**	3.5	6.6
Fair/poor	**28.7**	24.6	33.3	**28.1**	23.7	32.9	**19.4**	15.9	23.5	**17.5**	13.7	22.0
Body weight status based on BMI[f]												
Underweight (BMI < 18.5 kg/m²)	**44.9**	35.9	54.2	**34.9**	26.2	44.6	**12.7** *	7.6	20.4	**		
Normal range (18.5 ≥ BMI < 25 kg/m²)	**58.8**	55.7	61.7	**23.7**	21.2	26.4	**8.8**	7.2	10.7	**4.8**	3.6	6.5
Pre-obese (25 ≥ BMI < 30 kg/m²)	**56.3**	51.5	60.9	**24.1**	20.3	28.4	**10.2**	7.5	13.9	**5.2**	3.4	8.0
Obese (BMI ≥ 30 kg/m²)	**45.3**	40.3	50.5	**25.1**	20.8	30.0	**15.5**	11.7	20.2	**9.6**	6.2	14.6
Blood pressure status (excluding pregnancy induced hypertension)												
Doctor diagnosed hypertension	**50.9**	45.7	56.1	**26.1**	21.6	31.0	**11.6**	8.5	15.7	**6.5**	4.4	9.5
Normal range	**55.8**	53.4	58.1	**23.7**	21.7	25.8	**10.4**	9.0	12.1	**5.3**	4.2	6.6
Morbidity status												
No chronic disease	**66.8**	63.9	69.7	**22.3**	19.7	25.0	**5.6**	4.3	7.3	**1.3** *	0.7	2.4
One chronic disease	**51.1**	47.4	54.7	**25.2**	22.0	28.5	**12.2**	9.9	14.8	**7.5**	5.5	10.1
Two, or more chronic diseases	**33.5**	29.1	38.2	**25.2**	21.0	30.0	**21.6**	17.5	26.4	**13.9**	10.3	18.7

Data were age-standardised to the 2011 Victorian population.

LL/UL 95% CI = lower/upper limit of 95 per cent confidence interval.

Estimates that are (statistically) significantly different from the corresponding estimate for Victoria are identified by colour as follows: above or below.

Estimates may not add to 100 per cent due to a proportion of 'don't know' or 'refused to say' responses, not reported here.

Relative standard error (RSE) = standard error / point estimate * 100; interpretation below:

* RSE between 25 and 50 per cent; point estimate (%) should be interpreted with caution.

** RSE greater than, or equal to, 50 per cent; point estimate (%) is unreliable, hence not reported.

[a] Based on the Kessler 10 scale for psychological distress.

[b] DoH (2014) guidelines.

[c] NHMRC (2013) guidelines.

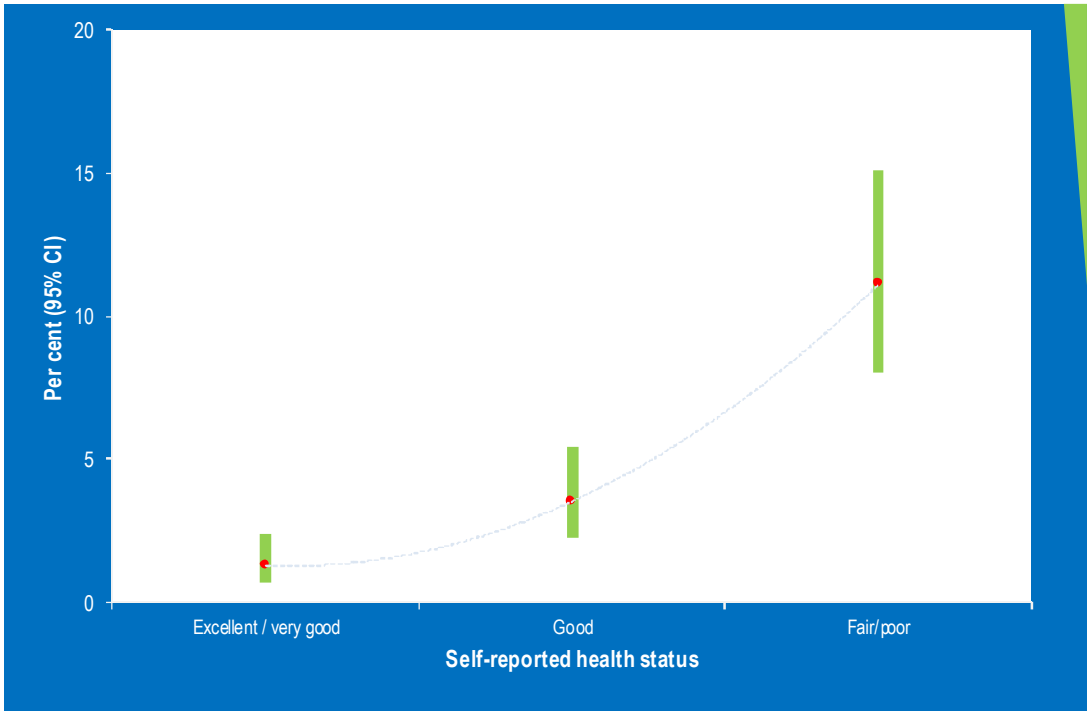
[d] Includes those meeting both guidelines.

[e] NHMRC (2009) guidelines.

[f] Body mass index (BMI) = Weight (kg) / Height (m²).

The relationship was investigated between very high levels of psychological distress and self-reported health status (Figure 7.3 and Figure 7.4). The proportion of the adult Victorian population with very high levels of psychological distress was highest among men and women who reported fair or poor health status.

Figure 7.3: Proportion (%) of men with very high levels of psychological distress,[a] by self-reported health status, Victoria, 2016

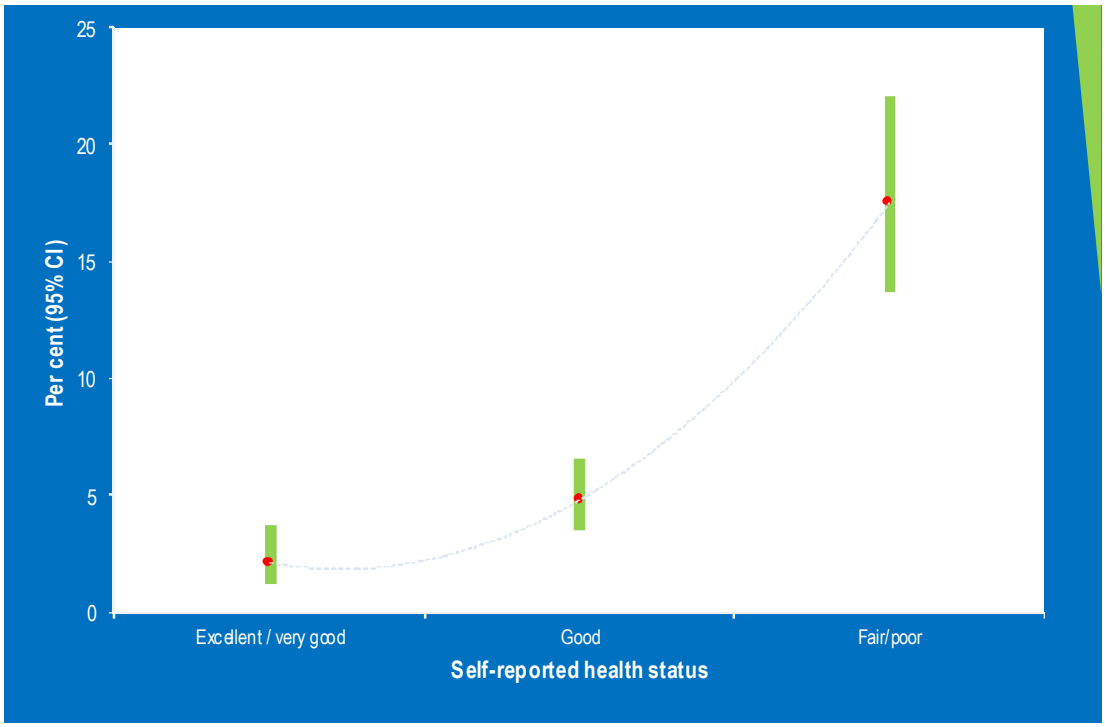


Data are age-adjusted to the 2011 population of Victoria.

95% CI = 95 per cent confidence interval.

[a] Based on the Kessler 10 scale for psychological distress.

Figure 7.4: Proportion (%) of women with very high levels of psychological distress,[a] by self-reported health status, Victoria, 2016



Data are age-adjusted to the 2011 population of Victoria.

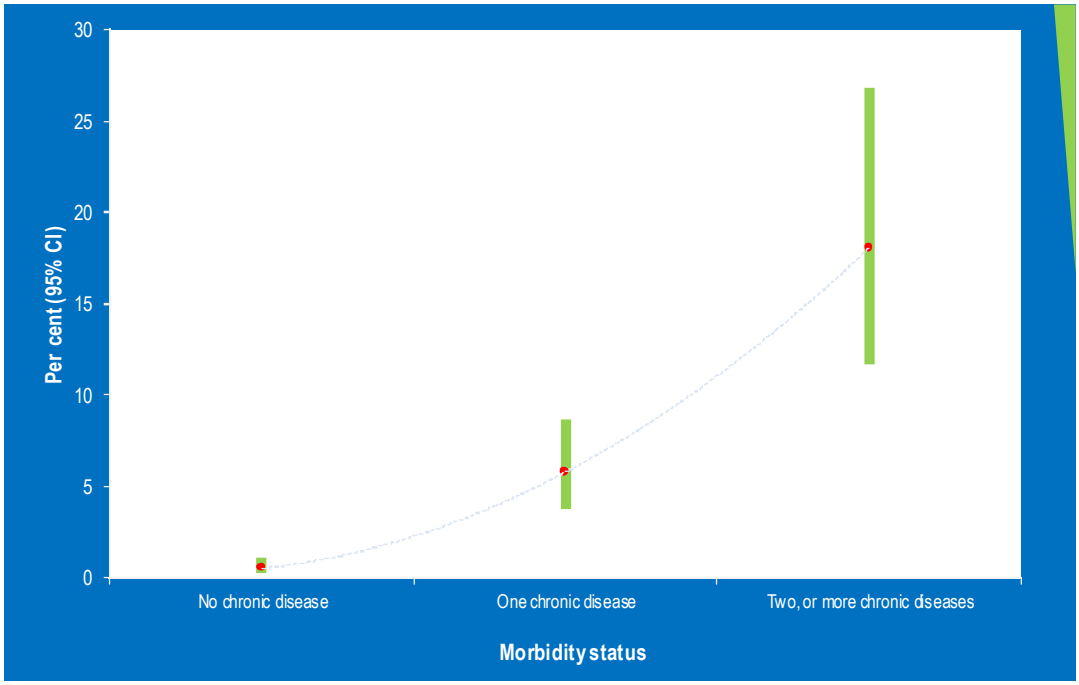
95% CI = 95 per cent confidence interval.

[a] Based on the Kessler 10 scale for psychological distress.

The relationship was investigated between very high levels of psychological distress and morbidity status (Figure 7.5 and Figure 7.6). The proportion of adults with very high levels of psychological distress increased with the

number of chronic diseases among men and women. The proportion of adults with very high levels of psychological distress was highest among men and women who reported having two or more chronic diseases.

Figure 7.5: Proportion (%) of men with very high levels of psychological distress,[a] by morbidity status, Victoria, 2016

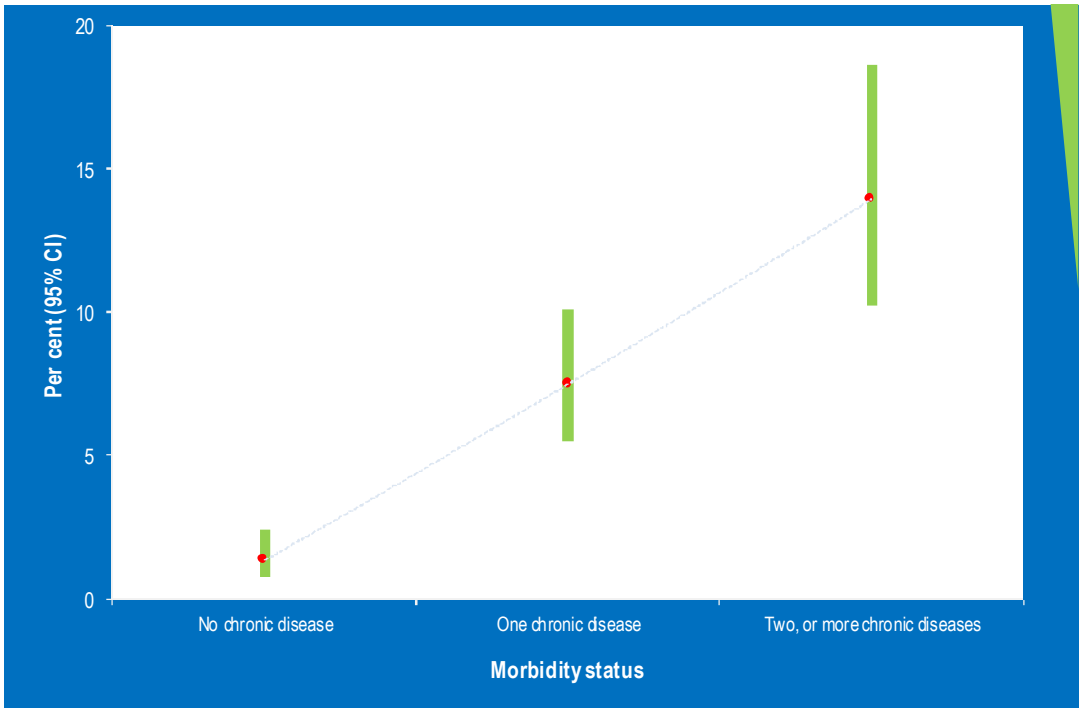


Data are age-adjusted to the 2011 population of Victoria.

95% CI = 95 per cent confidence interval.

[a] Based on the Kessler 10 scale for psychological distress.

Figure 7.6 Proportion (%) of women with very high levels of psychological distress,[a] by morbidity status, Victoria, 2016



Data are age-adjusted to the 2011 population of Victoria.

95% CI = 95 per cent confidence interval.

[a] Based on the Kessler 10 scale for psychological distress.

Comparison with previous survey

The proportion of men and women with psychological distress was compared with the previous Victorian Population Health Survey (2015) (Table 7.8, Figure 7.7, Figure 7.8 and Figure 7.9). This is the first time that trend over time data have been reported after the introduction of dual-frame sampling in 2015. The proportions of men and women with a mild level of psychological distress significantly increased from 2015 to 2016. There was no statistically significant difference between 2015 and 2016 in the proportions of men and women who had moderate, high or very high levels of psychological distress.

Table 7.8: Proportion (%) of adults with psychological distress[a], by level of distress and sex, Victoria, 2015–2016

		Mild (K10:< 16)			Moderate (K10:16–21)			High / very high (K10:22+)		
			95% CI			95% CI			95% CI	
	Year	%	LL	UL	%	LL	UL	%	LL	UL
Males	2015	**51.8**	49.5	54.2	**26.1**	24.1	28.2	**15.1**	13.5	16.9
	2016	**57.0**	54.7	59.2	**23.3**	21.4	25.2	**13.2**	11.7	14.9
Females	2015	**46.7**	44.5	48.9	**27.8**	25.9	29.8	**19.4**	17.7	21.3
	2016	**54.0**	51.9	56.0	**24.6**	22.9	26.5	**16.5**	14.9	18.1
People	2015	**49.3**	47.7	50.9	**26.9**	25.5	28.4	**17.3**	16.1	18.6
	2016	**55.5**	54.0	57.0	**24.0**	22.7	25.3	**14.8**	13.7	16.0

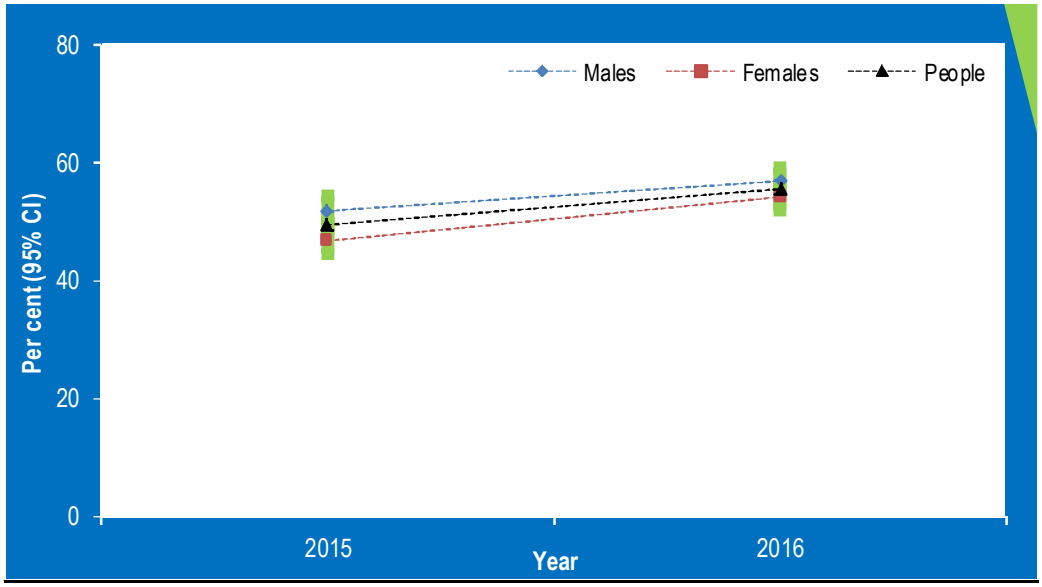
Data were age-standardised to the 2011 Victorian population.

LL/UL 95% CI = lower/upper limit of 95 per cent confidence interval.

Estimates may not add to 100 per cent due to a proportion of 'don't know' or 'refused to say' responses, not reported here.

[a] Based on the Kessler 10 psychological distress scale.

Figure 7.7: Proportion (%) of adults with a mild level of psychological distress[a], by sex, Victoria, 2015–2016

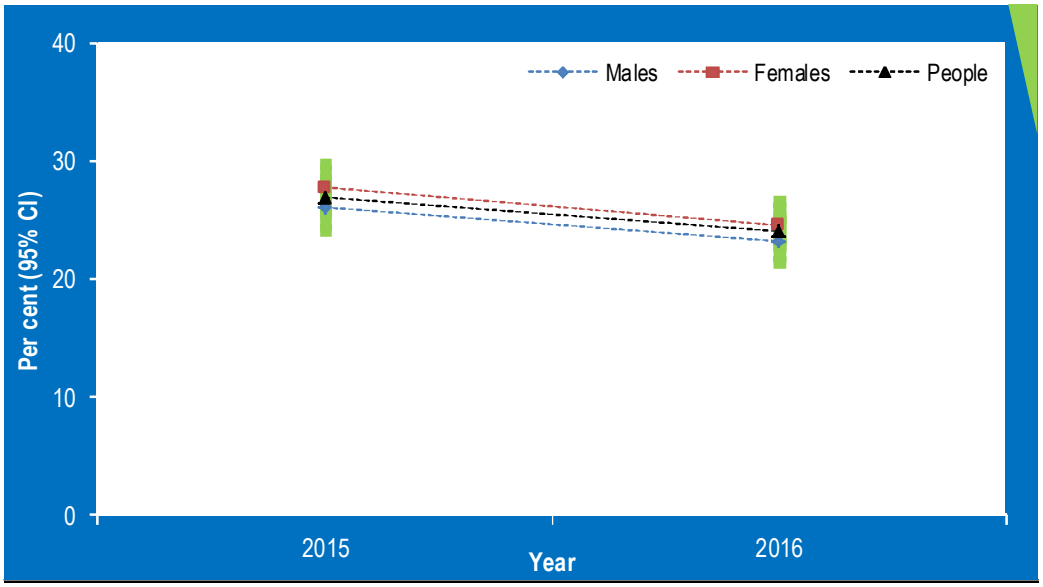


Data were age-standardised to the 2011 Victorian population.

LL/UL 95% CI = lower/upper limit of 95 per cent confidence interval.

[a] Based on the Kessler 10 psychological distress scale.

Figure 7.8: Proportion (%) of adults with a moderate level of psychological distress[a], by sex, Victoria, 2015–2016

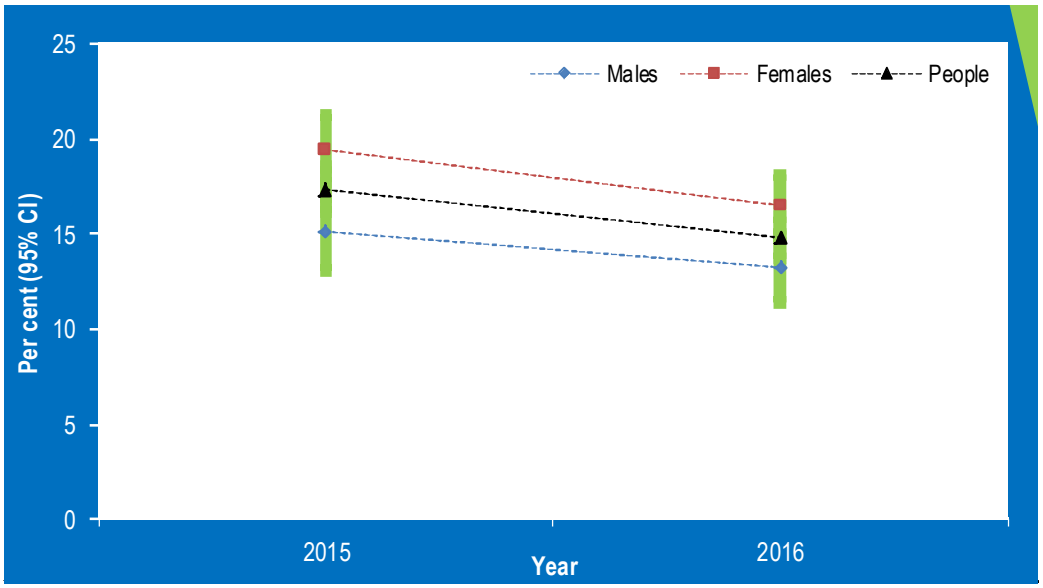


Data were age-standardised to the 2011 Victorian population.

LL/UL 95% CI = lower/upper limit of 95 per cent confidence interval.

[a] Based on the Kessler 10 psychological distress scale.

Figure 7.9: Proportion (%) of adults with a high or very high level of psychological distress[a], by sex, Victoria, 2015–2016



Data were age-standardised to the 2011 Victorian population.

LL/UL 95% CI = lower/upper limit of 95 per cent confidence interval.

[a] Based on the Kessler 10 psychological distress scale.

8. Hypertension

Key findings

Prevalence of hypertension

25.5%

of men and women had been diagnosed with high blood pressure

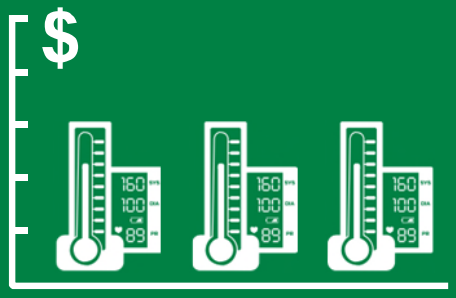
27.3%

of men had been diagnosed with high blood pressure

24.0%

of women had been diagnosed with high blood pressure

The prevalence of hypertension was statistically significantly higher in men compared with women



The proportion of men and women diagnosed with high blood pressure did not change with income

Introduction

Hypertension, commonly known as ‘high blood pressure’, is a chronic medical condition in which the blood pressure in the arteries is elevated. A person is clinically diagnosed with hypertension if their systolic blood pressure is 140 mmHg or more or their diastolic blood pressure is 90 mmHg or more (Sutters 2007).

Hypertension is an important risk factor for cardiovascular disease, and the risk of disease increases with increasing blood pressure levels. Adults are advised to have their blood pressure checked regularly. There are several modifiable causes of high blood pressure including poor nutrition (especially a diet high in salt), low levels of physical activity, obesity and high levels of alcohol consumption.

Hypertension is an important modifiable risk factor rating second only to tobacco use. Tobacco use is responsible for 7.8 per cent of the total health loss associated with all causes of disease and injury, while hypertension is responsible for 7.6 per cent. Hypertension is the most significant risk factor for cardiovascular disease and accounts for 42.1 per cent of the health loss due to cardiovascular disease (Begg et al. 2008).

There are two types of hypertension: primary (essential) hypertension and secondary hypertension.

Primary (essential) hypertension

For most adults, there is no identifiable cause of high blood pressure. This type of high blood pressure, called primary (essential) hypertension, tends to develop gradually over many years. In industrialised countries, the risk of becoming hypertensive (blood pressure > 140/90 mm Hg) during a lifetime exceeds 90 per cent. Essential hypertension usually clusters with other cardiovascular risk factors such as ageing, being overweight, insulin resistance, diabetes and hyperlipidaemia (Messerli, Williams & Ritz 2007).

Secondary hypertension

Secondary hypertension is a type of high blood pressure with an underlying, potentially correctable cause. Approximately 5–10 per cent of adults with hypertension have a secondary cause (Viera & Neutze 2010). Secondary causes of hypertension include renal parenchymal disease, renovascular diseases, coarctation of the aorta, Cushing’s syndrome, primary hyperaldosteronism, pheochromocytoma, hyperthyroidism and hyperparathyroidism. Occasionally included in this category are alcohol-induced and oral contraceptive-induced hypertension and hypothyroidism (Akpunonu, Mulrow & Hoffman 1996).

The Victorian Population Health Survey makes no distinction between primary and secondary hypertension when reporting the prevalence of hypertension.

Survey respondents were asked if they had ever been told by a doctor that they had high blood pressure, distinguishing between pregnancy-induced hypertension and other types of hypertension in women. If they responded ‘yes’ they were then asked to indicate what they were doing to treat their blood pressure.

Prevalence of hypertension

Survey respondents were asked ‘Have you ever been told by a doctor that you have high blood pressure?’. Table 8.1 shows the proportion of the adults diagnosed with high blood pressure, by departmental region and sex. Overall, the prevalence of hypertension was 25.5 per cent and was significantly higher in men (27.3 per cent) compared with women (24.0 per cent). The prevalence of hypertension was not significantly different in men, women and people living in any departmental regions compared with the prevalence in all Victorian men, women and people, respectively.

Table 8.1: Proportion (%) of adults diagnosed with high blood pressure, by Department of Health and Human Services region and sex, Victoria, 2016

	Males			Females[a]			People		
		95% CI			95% CI			95% CI	
Region	%	LL	UL	%	LL	UL	%	LL	UL
Northern Metropolitan	**27.3**	23.3	31.7	**24.3**	21.2	27.8	**25.8**	23.2	28.5
Southern Metropolitan	**29.3**	26.0	32.9	**24.6**	21.8	27.6	**26.8**	24.7	29.1
Eastern Metropolitan	**26.8**	22.8	31.4	**20.8**	17.7	24.3	**23.3**	20.7	26.0
Western Metropolitan	**23.5**	19.5	28.1	**26.8**	23.2	30.7	**25.3**	22.5	28.3
All metropolitan regions	**27.2**	25.2	29.2	**24.0**	22.4	25.7	**25.5**	24.3	26.9
Barwon-South Western	**27.6**	21.0	35.4	**23.8**	18.9	29.6	**24.8**	20.9	29.2
Gippsland	**26.1**	20.4	32.7	**26.4**	22.2	31.1	**26.8**	23.1	30.8
Grampians	**24.3**	19.0	30.5	**25.9**	20.3	32.5	**24.9**	21.1	29.1
Hume	**33.3**	24.9	42.9	**20.2**	16.8	24.1	**25.8**	21.8	30.4
Loddon Mallee	**27.3**	20.8	34.9	**24.1**	18.0	31.3	**25.1**	20.3	30.5
All rural regions	**27.7**	24.6	31.2	**23.7**	21.3	26.3	**25.5**	23.5	27.6
Victoria	**27.3**	**25.6**	**29.0**	**24.0**	**22.6**	**25.4**	**25.5**	**24.5**	**26.7**

Metropolitan and rural regions are identified by colour as follows: metropolitan / rural.

Data were age-standardised to the 2011 Victorian population.

LL/UL 95% CI = lower/upper limit of 95 per cent confidence interval.

Estimates that are (statistically) significantly different from the corresponding estimate for Victoria are identified by colour as follows: above or below.

Estimates may not add to 100 per cent due to a proportion of 'don't know' or 'refused to say' responses, not reported here.

[a] Excludes pregnancy-induced high blood pressure.

Table 8.3 shows the proportion of the adult population diagnosed with high blood pressure, by departmental division and sex. There were no significant divisional differences in the proportions of men or women with high blood pressure.

Table 8.2: Proportion (%) of adults diagnosed with high blood pressure, by Department of Health and Human Services division and sex, Victoria, 2016

	Males			Females[a]			People		
		95% CI			95% CI			95% CI	
Division	%	LL	UL	%	LL	UL	%	LL	UL
North	**27.4**	23.9	31.2	**24.0**	21.1	27.2	**25.5**	23.2	28.0
South	**29.2**	26.2	32.4	**25.0**	22.5	27.6	**27.0**	25.1	29.0
East	**27.7**	24.2	31.6	**20.7**	18.1	23.6	**23.8**	21.6	26.2
West	**24.6**	21.5	28.0	**25.7**	23.1	28.4	**25.1**	23.1	27.3
Victoria	**27.3**	**25.6**	**29.0**	**24.0**	**22.6**	**25.4**	**25.5**	**24.5**	**26.7**

Data were age-standardised to the 2011 Victorian population.

LL/UL 95% CI = lower/upper limit of 95 per cent confidence interval.

Estimates that are (statistically) significantly different from the corresponding estimate for Victoria are identified by colour as follows: above or below.

Estimates may not add to 100 per cent due to a proportion of 'don't know' or 'refused to say' responses, not reported here.

[a] Excludes pregnancy-induced high blood pressure.

Table 8.3 and Figure 8.1 show the proportion of the adult population diagnosed with high blood pressure, by age group and sex. The proportion of the adult population diagnosed with high blood pressure was age-related, increasing with age to 65.4 per cent of people 85 years of age or older compared with 6.1 per cent of 18–24-year-old people. A significantly higher proportion of men and women 55 years of age or older were diagnosed with high blood pressure compared with all Victorian men and women, respectively.

Table 8.3: Proportion (%) of adults diagnosed with high blood pressure, by age group and sex, Victoria, 2016

Age group (years)	Males			Females[a]			People		
	%	95% CI LL	95% CI UL	%	95% CI LL	95% CI UL	%	95% CI LL	95% CI UL
18–24	6.2 *	3.7	10.1	6.1	3.7	9.8	6.1	4.3	8.7
25–34	10.3	7.1	14.6	6.7	4.2	10.5	8.6	6.5	11.4
35–44	17.9	13.9	22.7	8.5	6.2	11.5	12.8	10.5	15.5
45–54	25.7	21.3	30.6	23.4	19.7	27.6	24.5	21.6	27.7
55–64	43.0	38.3	47.9	39.6	35.4	43.9	41.2	38.0	44.4
65–74	55.6	50.6	60.5	55.9	51.4	60.4	55.8	52.4	59.1
75–84	66.8	59.6	73.3	62.6	56.3	68.5	64.3	59.6	68.8
85+	57.9	44.9	69.8	72.1	61.3	80.8	65.4	56.9	73.0
18+	**26.8**	**25.0**	**28.7**	**25.4**	**23.9**	**27.1**	**26.1**	**24.9**	**27.3**

Data are age-specific estimates, except for '18+', which are crude estimates (not age-standardised) for Victoria.

LL/UL 95% CI = lower/upper limit of 95 per cent confidence interval.

Estimates that are (statistically) significantly different from the corresponding estimate for Victoria are identified by colour as follows: above or below.

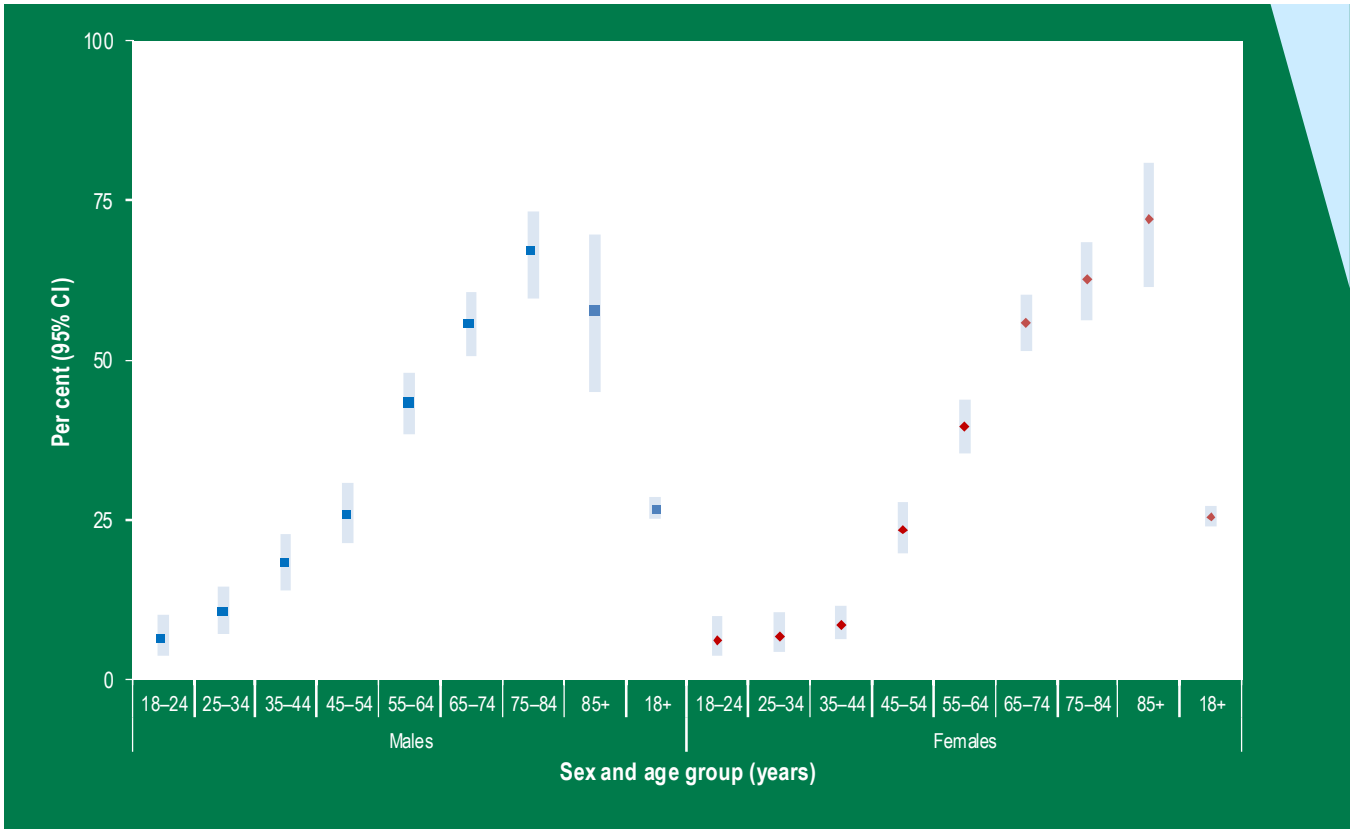
Estimates may not add to 100 per cent due to a proportion of 'don't know' or 'refused to say' responses, not reported here.

Relative standard error (RSE) = standard error/point estimate * 100; interpretation below:

* Estimate has a RSE between 25 and 50 per cent and should be interpreted with caution.

[a] Excludes pregnancy-induced high blood pressure.

Figure 8.1: Proportion (%) of adults diagnosed with high blood pressure,[a] by age group and sex, Victoria, 2016



Data are age group specific estimates, except for '18+', which are crude estimates (not age-standardised) for Victoria.

95% CI = 95 per cent confidence interval.

[a] Excludes pregnancy-induced high blood pressure

Table 8.4 shows the proportion of men and women diagnosed with high blood pressure, by selected socioeconomic determinants. When compared with all Victorian men, a significantly lower proportion of men with high blood pressure were unemployed or had a total annual household income of $100,000 or more. When compared with all Victorian women, a significantly lower proportion of women with high blood pressure had a university or some other tertiary institution degree.

Table 8.4: Proportion (%) of adults diagnosed with high blood pressure, by selected socioeconomic determinants and sex, Victoria, 2016

	Males			Females[a]		
		95% CI			95% CI	
	%	LL	UL	%	LL	UL
All Victorians	**27.3**	**25.6**	**29.0**	**24.0**	**22.6**	**25.4**
Country of birth						
Australia	**27.7**	25.7	29.9	**24.7**	23.1	26.4
Overseas	**26.2**	23.4	29.2	**22.4**	20.0	25.1
Language spoken at home						
English	**28.3**	26.3	30.4	**24.3**	22.8	25.9
Language other than English	**24.6**	21.4	28.2	**22.6**	19.5	26.0
Education level						
Did not complete high school	**30.2**	25.8	35.0	**25.5**	21.9	29.5
Completed high school, or TAFE, or trade certificate, or diploma	**27.6**	25.2	30.0	**25.7**	23.5	27.9
University, or some other tertiary institute degree	**24.0**	21.5	26.7	**18.5**	16.4	20.8
Employment status						
Employed	**23.3**	20.9	26.0	**20.2**	17.5	23.3
Unemployed	**15.0**	9.7	22.4	**24.1**	19.7	29.2
Not in labour force	**31.9**	26.0	38.4	**23.8**	21.5	26.4
Total annual household income						
< $40,000	**31.6**	27.0	36.6	**25.1**	22.4	28.0
$40,000 to < $100,000	**28.4**	25.5	31.5	**22.7**	19.9	25.7
≥ $100,000	**20.8**	17.2	24.8	**20.7**	17.8	23.9

Data were age-standardised to the 2011 Victorian population.

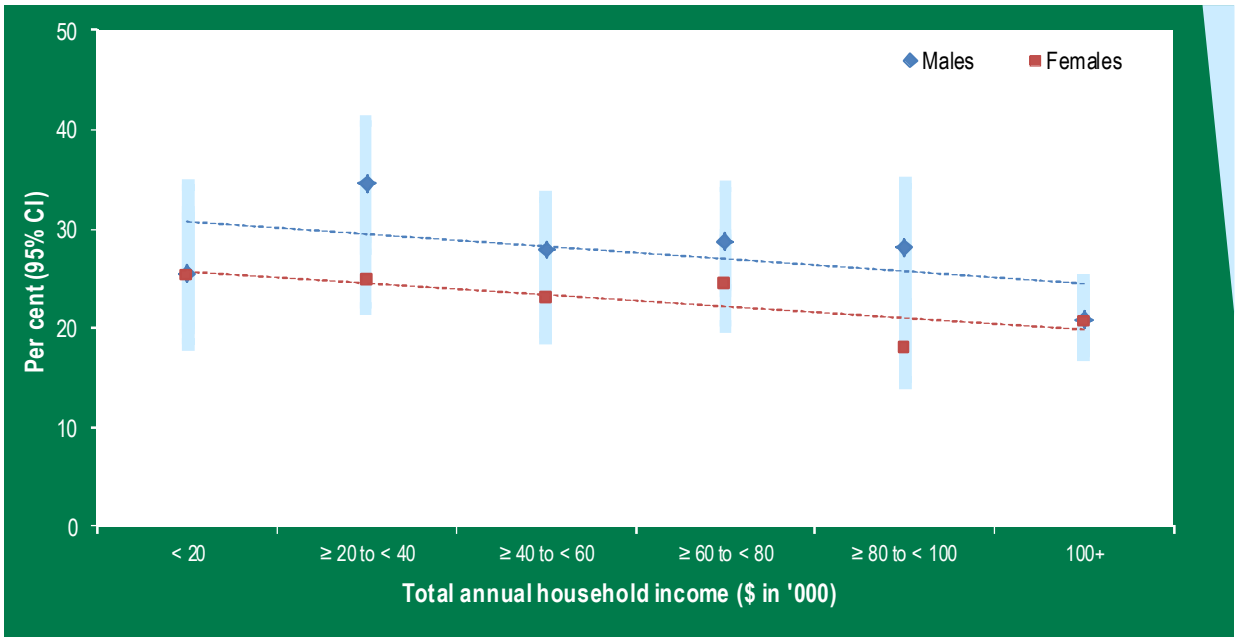
LL/UL 95% CI = lower/upper limit of 95 per cent confidence interval.

Estimates that are (statistically) significantly different from the corresponding estimate for Victoria are identified by colour as follows: above or below.

[a] Excludes pregnancy-induced high blood pressure.

The relationship was investigated between SES and age-adjusted prevalence of hypertension, using total annual household income as a measure of SES (Figure 8.2). The proportion of men, women and people diagnosed with high blood pressure did not change with income.

Figure 8.2: Proportion (%) of adults diagnosed with high blood pressure,[a] by total annual household income and sex, Victoria, 2016



Data were age-standardised to the 2011 Victorian population.
95% CI = 95 per cent confidence interval.
[a] Excludes pregnancy-induced high blood pressure

Table 8.5 shows the proportion of adults diagnosed with high blood pressure, by selected modifiable risk factors and morbidity status. When compared with all Victorian men, a significantly higher proportion of men with high blood pressure were observed with the following characteristics:

- high or very high levels of psychological distress
- fair or poor self-reported health
- obesity
- two or more chronic diseases.

When compared with all Victorian women, a significantly higher proportion of women with high blood pressure were observed with the following characteristics:

- fair or poor self-reported health
- obesity
- two or more chronic diseases.

Table 8.5: Proportion (%) of adults diagnosed with high blood pressure,[a] by selected modifiable risk factors and morbidity status, Victoria, 2016

	Males			Females[a]		
		95% CI			95% CI	
	%	LL	UL	%	LL	UL
All Victorians	**27.3**	**25.6**	**29.0**	**24.0**	**22.6**	**25.4**
Psychological distress[b]						
Low (K10 score < 16)	**24.1**	22.1	26.4	**22.2**	20.4	24.0
Moderate (K10 score 16–21)	**30.3**	26.8	34.0	**25.1**	22.3	28.1
High / very high (K10 score 22+)	**38.5**	33.1	44.3	**28.8**	24.9	33.0
Physical activity[c]						
Sedentary	**18.9**	13.1	26.5	**18.5**	13.4	24.8
Insufficient time (< 150 min) and/or sessions (< 2)	**30.4**	27.7	33.2	**25.2**	23.1	27.3
Sufficient time (≥ 150 min) and sessions (≥ 2)	**24.7**	22.5	27.1	**22.7**	20.7	24.8
Met fruit / vegetable guidelines[d]						
Both guidelines	**24.5**	17.3	33.4	**27.2**	19.6	36.3
Vegetable guidelines[e]	**24.5**	17.9	32.6	**27.1**	20.4	35.1
Fruit guidelines[e]	**26.0**	23.4	28.8	**23.3**	21.3	25.4
Neither	**28.0**	25.8	30.3	**24.4**	22.5	26.5
Smoking status						
Current smoker	**27.7**	23.6	32.3	**25.1**	20.9	29.9
Ex-smoker	**29.2**	26.1	32.5	**25.8**	21.9	30.2
Non-smoker	**24.3**	22.0	26.8	**23.5**	21.8	25.3
Lifetime risk of alcohol-related harm[f]						
Abstainer / no longer drinks alcohol	**28.5**	24.9	32.4	**26.2**	23.6	28.9
Reduced risk	**24.8**	20.3	29.9	**22.6**	19.4	26.2
Increased risk	**27.6**	25.6	29.8	**23.2**	21.2	25.4
Self-reported health						
Excellent / very good	**21.7**	19.3	24.3	**19.8**	17.8	21.9
Good	**28.8**	26.1	31.6	**24.4**	22.2	26.8
Fair/poor	**37.1**	32.7	41.6	**32.5**	29.0	36.3
Body weight status based on BMI[g]						
Underweight (BMI < 18.5 kg/m^2)	**22.4** *	12.9	35.8	**14.6** *	8.7	23.3
Normal range (18.5 ≥ BMI < 25 kg/m^2)	**18.4**	16.0	21.1	**17.3**	15.4	19.3
Pre-obese (25 ≥ BMI < 30 kg/m^2)	**28.3**	25.5	31.3	**21.9**	19.4	24.7
Obese (BMI ≥ 30 kg/m^2)	**37.8**	33.4	42.4	**39.1**	34.7	43.7
Morbidity status						
No chronic disease	**20.8**	18.5	23.3	**18.0**	15.7	20.5
One chronic disease	**28.1**	24.8	31.8	**22.9**	20.6	25.3
Two, or more chronic diseases	**44.5**	37.4	52.0	**31.6**	27.8	35.7

Data were age-standardised to the 2011 Victorian population.

LL/UL 95% CI = lower/upper limit of 95 per cent confidence interval.

Estimates that are (statistically) significantly different from the corresponding estimate for Victoria are identified by colour as follows: above or below.

Estimates may not add to 100 per cent due to a proportion of 'don't know' or 'refused to say' responses, not reported here.

Relative standard error (RSE) = standard error / point estimate * 100; interpretation below:

***** RSE between 25 and 50 per cent; point estimate (%) should be interpreted with caution.

[a] Excludes pregnancy-induced high blood pressure.

[b] Based on the Kessler 10 scale for psychological distress.

[c] DoH (2014) guidelines.

[d] NHMRC (2013) guidelines.

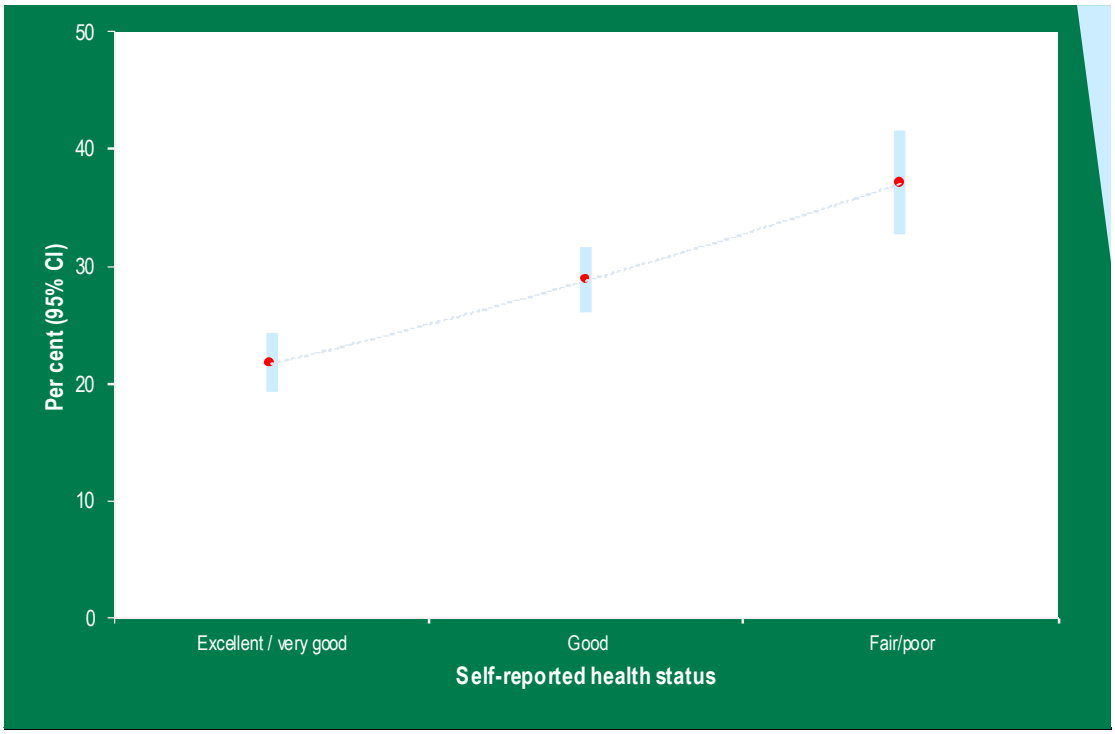
[e] Includes those meeting both guidelines.

[f] NHMRC (2009) guidelines.

[g] Body mass index (BMI) = Weight (kg) / Height (m^2).

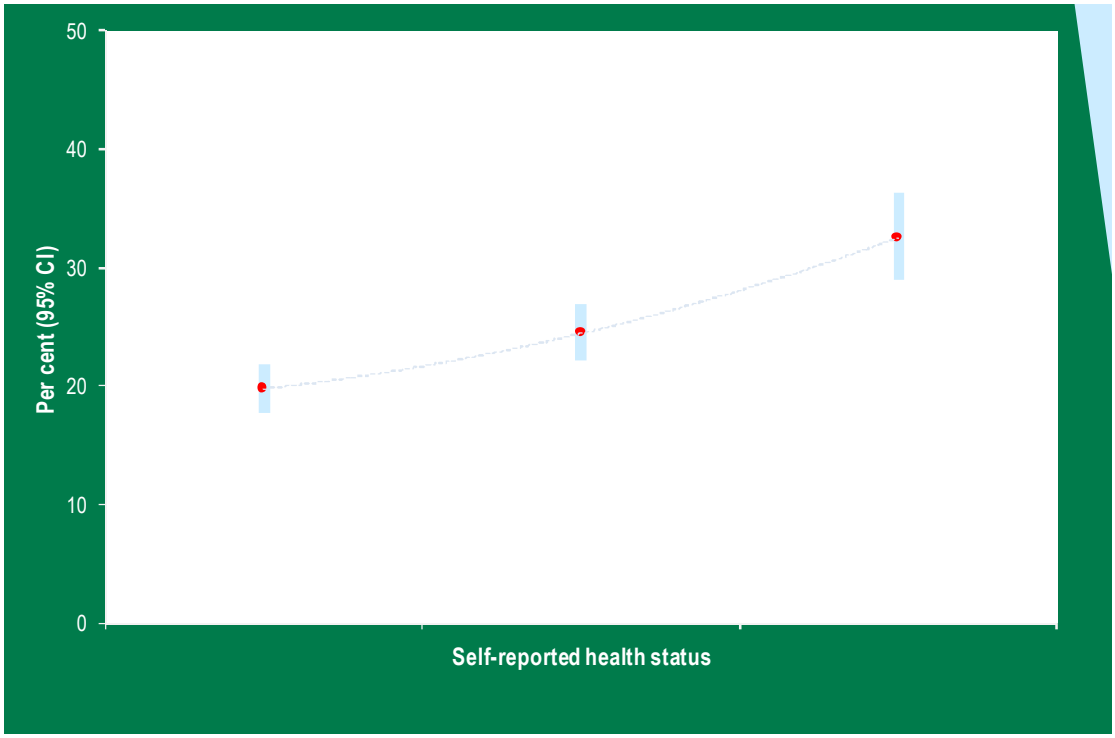
The relationship was investigated between doctor-diagnosed high blood pressure and self-reported health status (Figure 8.3 and Figure 8.4). The proportion of Victorian men and women with doctor-diagnosed high blood pressure was highest among men and women with fair or poor health status.

Figure 8.3: Proportion (%) of men with doctor-diagnosed high blood pressure, by self-reported health status, Victoria, 2016



Data are age-adjusted to the 2011 population of Victoria.
95% CI = 95 per cent confidence interval.

Figure 8.4: Proportion (%) of women with doctor-diagnosed high blood pressure,[a] by self-reported health status, Victoria, 2016



Data are age-adjusted to the 2011 population of Victoria.
95% CI = 95 per cent confidence interval.
[a] Excludes pregnancy induced high blood pressure

Comparison with previous survey

The proportion of men and women with high blood pressure was compared with the previous Victorian Population Health Survey (2015) (Table 8.6 and Figure 8.5). This is the first time that trend over time data has been reported after the introduction of dual-frame sampling in 2015. There was no statistically significant difference between 2015 and 2016 in the proportions of men and women with high blood pressure.

Table 8.6: Proportion (%) of adults with doctor-diagnosed high blood pressure[a], by sex, Victoria, 2015–2016

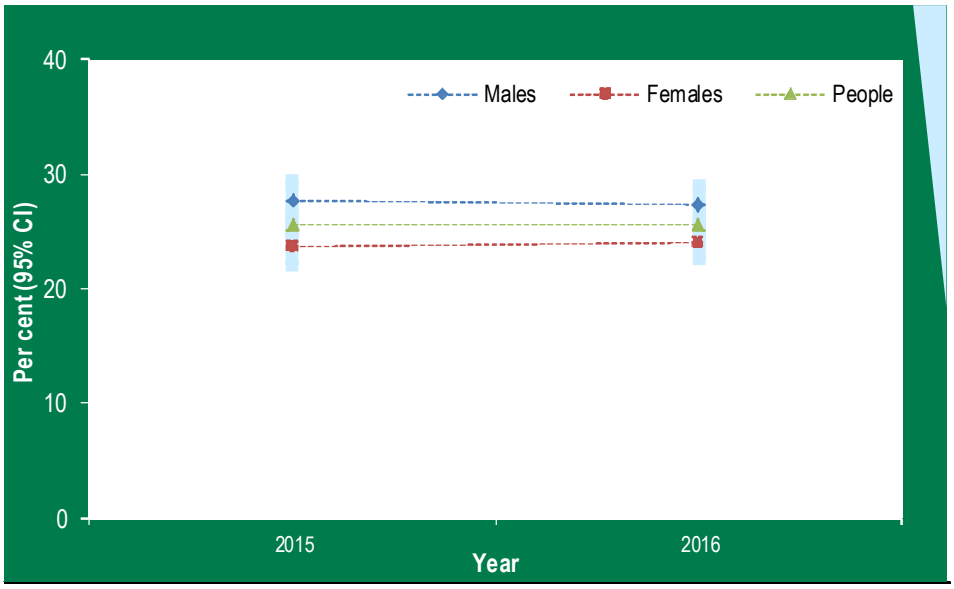
		High blood pressure		
			95% CI	
	Year	%	LL	UL
Males	2015	**27.6**	25.8	29.5
	2016	**27.3**	25.6	29.0
Females	2015	**23.6**	22.1	25.3
	2016	**24.0**	22.6	25.4
People	2015	**25.6**	24.4	26.8
	2016	**25.5**	24.5	26.7

Data were age-standardised to the 2011 Victorian population.

LL/UL 95% CI = lower/upper limit of 95 per cent confidence interval.

[a] Excludes pregnancy induced high blood pressure

Figure 8.5: Proportion (%) of adults with doctor-diagnosed high blood pressure[a], by sex, Victoria, 2015–2016



Data were age-standardised to the 2011 Victorian population.

LL/UL 95% CI = lower/upper limit of 95 per cent confidence interval.

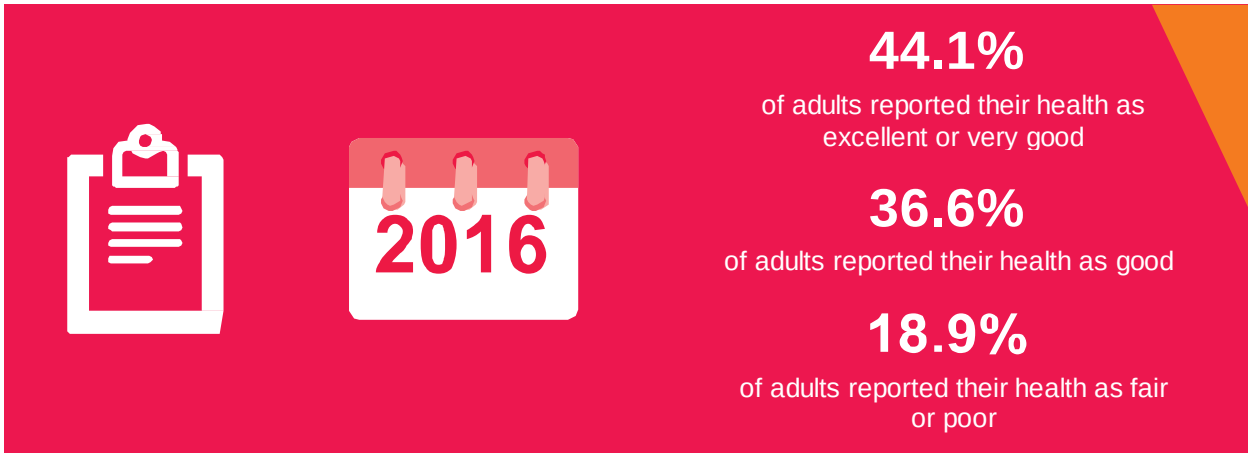
[a] Excludes pregnancy-induced high blood pressure

9. Health and wellbeing

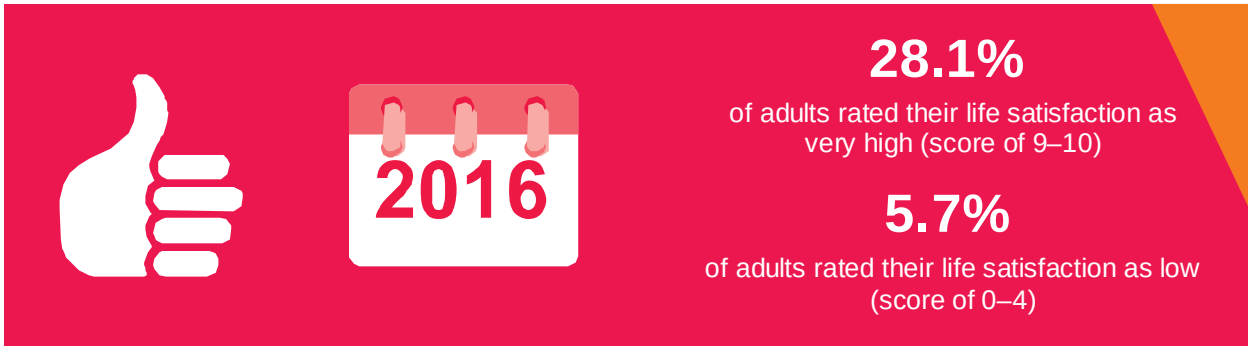
Key findings

Health and wellbeing

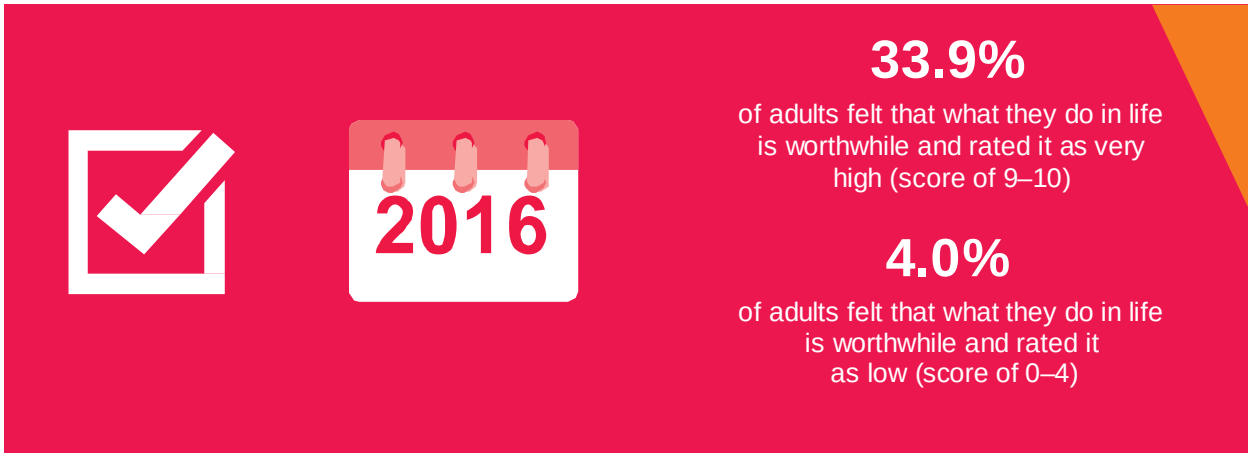
Self-reported health



Satisfaction with life



Feeling that life is worthwhile



Introduction

Self-reported health status has been shown to be a reliable predictor of ill-health, future healthcare use and premature mortality, independent of other medical, behavioural or psychosocial risk factors (Burstrom & Fredlund 2001; Idler & Benyamini 1997; Miilunpalo et al. 1997). Survey respondents were asked to rank their current health status by indicating whether, in general, they would say their health was excellent, very good, good, fair or poor.

Self-reported health

Table 9.1 shows self-reported health status, by Department of Health and Human Services region and sex. In this table and those tables that follow, ‘excellent’ and ‘very good’ health status have been combined, as have ‘fair’ and ‘poor’ health status. Overall, the percentage of adults who reported excellent or very good health was 44.1 per cent, the percentage who reported good health was 38.6 per cent, and the percentage who reported fair or poor health was 18.9 per cent. There was no statistically significant difference between the sexes. There was also no difference in self-reported health status between Victorians who lived in rural and metropolitan Victoria.

Table 9.1: Self-reported health status, by Department of Health and Human Services region and sex, Victoria, 2016

Region	Excellent / very good			Good			Fair/poor		
	%	95% CI LL	95% CI UL	%	95% CI LL	95% CI UL	%	95% CI LL	95% CI UL
Males									
Northern Metropolitan	**36.2**	31.6	41.1	**43.4**	38.4	48.5	**20.0**	16.1	24.6
Southern Metropolitan	**42.3**	38.0	46.8	**35.3**	31.2	39.6	**21.6**	18.0	25.7
Eastern Metropolitan	**40.3**	34.9	45.9	**41.8**	36.2	47.5	**18.0**	13.9	22.9
Western Metropolitan	**45.3**	40.0	50.8	**36.8**	31.8	42.1	**17.0**	13.4	21.4
All metropolitan regions	**41.4**	38.9	43.9	**38.9**	36.5	41.5	**19.2**	17.2	21.3
Barwon-South Western	**42.1**	34.4	50.2	**41.9**	34.3	49.9	**15.6**	11.6	20.8
Gippsland	**56.1**	47.4	64.3	**26.8**	19.5	35.7	**16.9**	12.9	21.8
Grampians	**39.4**	30.8	48.6	**39.3**	30.4	48.9	**19.8**	14.3	26.8
Hume	**51.5**	41.4	61.5	**29.6**	21.2	39.7	**18.2**	12.6	25.5
Loddon Mallee	**46.5**	36.3	57.0	**35.2**	26.4	45.2	**18.2**	11.7	27.1
All rural regions	**45.8**	41.3	50.5	**36.2**	32.1	40.5	**17.4**	14.5	20.8
Victoria	**42.3**	40.1	44.5	**38.2**	36.0	40.4	**19.0**	17.3	20.8
Females									
Northern Metropolitan	**43.3**	38.6	48.2	**37.3**	32.8	42.2	**19.3**	16.0	23.0
Southern Metropolitan	**45.3**	41.2	49.5	**34.9**	31.0	39.0	**19.7**	16.7	23.2
Eastern Metropolitan	**44.1**	39.3	49.0	**35.5**	31.0	40.4	**19.6**	16.0	23.8
Western Metropolitan	**46.7**	41.8	51.7	**34.6**	30.0	39.6	**18.6**	15.1	22.6
All metropolitan regions	**45.1**	42.7	47.4	**35.4**	33.2	37.7	**19.2**	17.5	21.1
Barwon-South Western	**49.0**	41.1	56.9	**36.2**	28.8	44.3	**14.5**	10.7	19.5
Gippsland	**49.3**	41.7	57.0	**31.2**	24.1	39.3	**18.3**	14.1	23.3
Grampians	**40.4**	31.9	49.5	**41.3**	32.5	50.8	**18.3**	13.1	25.0
Hume	**46.9**	38.3	55.7	**34.0**	26.2	42.8	**19.1**	14.2	25.2
Loddon Mallee	**50.9**	42.5	59.2	**30.6**	23.6	38.7	**18.4**	12.4	26.6
All rural regions	**47.8**	43.8	51.9	**34.5**	30.7	38.6	**17.3**	14.9	20.0
Victoria	**45.6**	43.6	47.6	**35.3**	33.4	37.3	**18.8**	17.3	20.3
People									
Northern Metropolitan	**40.5**	37.1	44.0	**39.4**	36.0	42.9	**19.9**	17.2	22.8
Southern Metropolitan	**43.9**	40.9	46.9	**34.9**	32.1	37.9	**20.7**	18.3	23.4
Eastern Metropolitan	**42.4**	38.8	46.2	**38.2**	34.6	41.9	**18.9**	16.1	22.1
Western Metropolitan	**46.4**	42.7	50.1	**35.5**	32.0	39.1	**17.7**	15.2	20.7
All metropolitan regions	**43.3**	41.6	45.1	**37.0**	35.3	38.7	**19.3**	18.0	20.7
Barwon-South Western	**44.3**	38.4	50.3	**40.7**	34.9	46.9	**14.6**	11.8	17.9
Gippsland	**52.2**	46.3	58.1	**29.6**	24.2	35.7	**17.5**	14.2	21.2
Grampians	**41.3**	35.0	47.9	**39.9**	33.3	46.8	**18.1**	14.4	22.5
Hume	**48.1**	40.9	55.3	**32.7**	26.5	39.6	**18.8**	14.4	24.2
Loddon Mallee	**48.5**	41.4	55.7	**33.3**	27.0	40.4	**18.0**	13.2	24.2
All rural regions	**46.7**	43.6	49.8	**35.7**	32.8	38.8	**17.1**	15.3	19.2
Victoria	**44.1**	42.6	45.6	**36.6**	35.1	38.1	**18.9**	17.8	20.1

Metropolitan and rural regions are identified by colour as follows: metropolitan / rural.

Data were age-standardised to the 2011 Victorian population.

LL/UL 95% CI = lower/upper limit of 95 per cent confidence interval.

Estimates that are (statistically) significantly different from the corresponding estimate for Victoria are identified by colour as follows: above or below.

Estimates may not add to 100 per cent due to a proportion of 'don't know' or 'refused to say' responses, not reported here.

Relative standard error (RSE) = standard error / point estimate * 100; interpretation below:

Table 9.2 shows self-reported health status, by Department of Health and Human Services division and sex. There were no significant differences in self-reported health status of men and women between the divisions.

Table 9.2: Self-reported health status, by Department of Health and Human Services division and sex, Victoria, 2016

	Excellent / very good			Good			Fair/poor		
		95% CI			95% CI			95% CI	
Division	%	LL	UL	%	LL	UL	%	LL	UL
Males									
North	**39.5**	34.9	44.2	**40.7**	36.3	45.4	**19.4**	16.0	23.4
South	**43.9**	39.8	48.0	**34.3**	30.5	38.2	**21.1**	17.8	24.8
East	**42.1**	37.2	47.1	**39.6**	34.8	44.6	**18.1**	14.5	22.5
West	**43.3**	39.3	47.5	**38.6**	34.7	42.7	**17.3**	14.5	20.4
Victoria	**42.3**	**40.1**	**44.5**	**38.2**	**36.0**	**40.4**	**19.0**	**17.3**	**20.8**
Females									
North	**45.3**	41.0	49.6	**35.8**	31.8	40.1	**18.8**	15.9	22.2
South	**45.6**	41.9	49.4	**34.5**	31.0	38.2	**19.6**	16.8	22.6
East	**44.7**	40.4	49.0	**35.2**	31.2	39.5	**19.5**	16.4	23.0
West	**46.3**	42.5	50.1	**36.0**	32.3	39.8	**17.6**	15.0	20.5
Victoria	**45.6**	**43.6**	**47.6**	**35.3**	**33.4**	**37.3**	**18.8**	**17.3**	**20.3**
People									
North	**42.6**	39.5	45.8	**37.7**	34.7	40.9	**19.4**	17.0	22.0
South	**44.8**	42.0	47.6	**34.3**	31.7	37.0	**20.4**	18.2	22.8
East	**43.5**	40.2	46.8	**37.2**	34.0	40.5	**18.9**	16.4	21.7
West	**45.1**	42.3	47.9	**37.3**	34.5	40.1	**17.2**	15.3	19.3
Victoria	**44.1**	**42.6**	**45.6**	**36.6**	**35.1**	**38.1**	**18.9**	**17.8**	**20.1**

Data were age-standardised to the 2011 Victorian population.

LL/UL 95% CI = lower/upper limit of 95 per cent confidence interval.

Table 9.3 and Figure 9.1 show self-reported health status by age group and sex. The proportion of men and women who reported fair or poor health increased with age. A significantly higher proportion of men 85 years of age or older reported fair or poor health compared with all Victorian men. A significantly higher proportion of women 75 years of age or older reported fair or poor health compared with all Victorian women.

Table 9.3: Self-reported health status, by age group and sex, Victoria, 2016

Sex	Excellent / very good			Good			Fair/poor		
Age group		95% CI			95% CI			95% CI	
(years)	%	LL	UL	%	LL	UL	%	LL	UL
Males									
18–24	**55.9**	49.3	62.3	**33.6**	27.7	40.2	**10.0**	6.8	14.5
25–34	**41.0**	35.4	46.8	**40.2**	34.7	46.0	**18.2**	13.9	23.3
35–44	**43.4**	37.7	49.3	**36.9**	31.6	42.6	**19.7**	15.3	25.0
45–54	**42.1**	37.0	47.4	**38.3**	33.3	43.6	**19.0**	15.2	23.6
55–64	**40.5**	35.9	45.3	**39.1**	34.5	43.9	**20.3**	16.8	24.3
65–74	**36.1**	31.6	40.9	**39.7**	34.9	44.7	**23.0**	18.9	27.8
75–84	**36.9**	29.9	44.5	**38.8**	31.7	46.4	**24.1**	18.2	31.0
85+	**22.8**	14.0	34.8	**37.5**	26.1	50.5	**36.2**	25.2	48.8
18+	**42.4**	**40.2**	**44.7**	**38.2**	**36.0**	**40.3**	**18.9**	**17.2**	**20.7**
Females									
18–24	**47.1**	40.8	53.4	**41.7**	35.6	48.0	**11.2**	8.0	15.6
25–34	**49.4**	43.7	55.1	**35.9**	30.6	41.6	**14.3**	10.9	18.5
35–44	**46.4**	41.5	51.4	**36.5**	31.8	41.5	**16.9**	13.5	21.0
45–54	**50.3**	45.8	54.7	**30.4**	26.5	34.7	**19.3**	15.9	23.2
55–64	**42.6**	38.3	47.1	**33.1**	29.1	37.4	**23.4**	19.8	27.4
65–74	**41.3**	36.9	45.8	**34.5**	30.2	39.0	**24.0**	20.3	28.2
75–84	**36.0**	30.2	42.2	**35.4**	29.6	41.6	**27.7**	22.3	33.8
85+	**30.4**	21.2	41.5	**33.1**	22.8	45.4	**36.5**	26.5	47.9
18+	**45.5**	**43.6**	**47.5**	**35.1**	**33.2**	**37.0**	**19.1**	**17.6**	**20.6**
People									
18–24	**51.7**	47.1	56.2	**37.5**	33.2	42.0	**10.6**	8.2	13.6
25–34	**44.8**	40.8	48.9	**38.2**	34.3	42.3	**16.4**	13.5	19.7
35–44	**45.0**	41.3	48.8	**36.7**	33.1	40.4	**18.2**	15.4	21.4
45–54	**46.3**	42.9	49.8	**34.2**	31.0	37.6	**19.2**	16.6	22.1
55–64	**41.6**	38.5	44.9	**35.9**	32.8	39.1	**21.9**	19.4	24.7
65–74	**38.8**	35.6	42.0	**37.0**	33.8	40.3	**23.5**	20.7	26.6
75–84	**36.3**	31.8	41.1	**36.8**	32.2	41.6	**26.2**	22.2	30.7
85+	**26.8**	20.1	34.7	**35.2**	27.3	44.0	**36.4**	28.7	44.7
18+	**44.0**	**42.5**	**45.5**	**36.6**	**35.2**	**38.0**	**19.0**	**17.9**	**20.2**

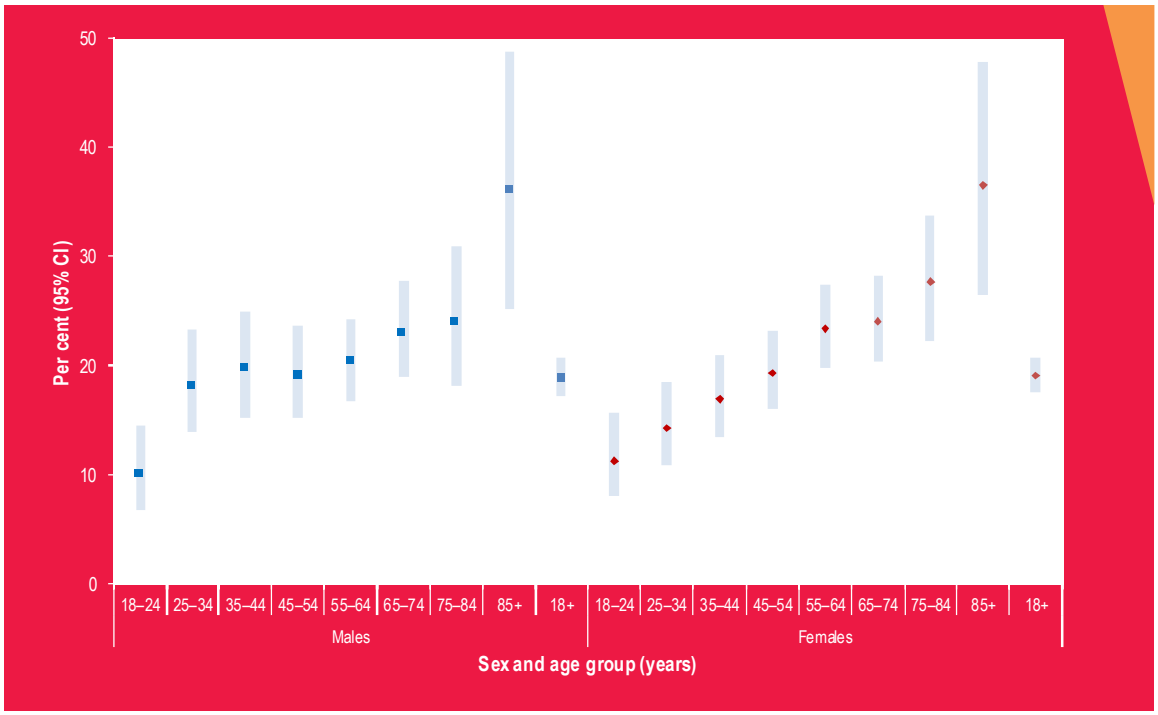
Data are age-specific estimates, except for '18+', which are crude estimates (not age-standardised) for Victoria.

LL/UL 95% CI = lower/upper limit of 95 per cent confidence interval.

Estimates that are (statistically) significantly different from the corresponding estimate for Victoria are identified by colour as follows: above or below.

Estimates may not add to 100 per cent due to a proportion of 'don't know' or 'refused to say' responses, not reported here.

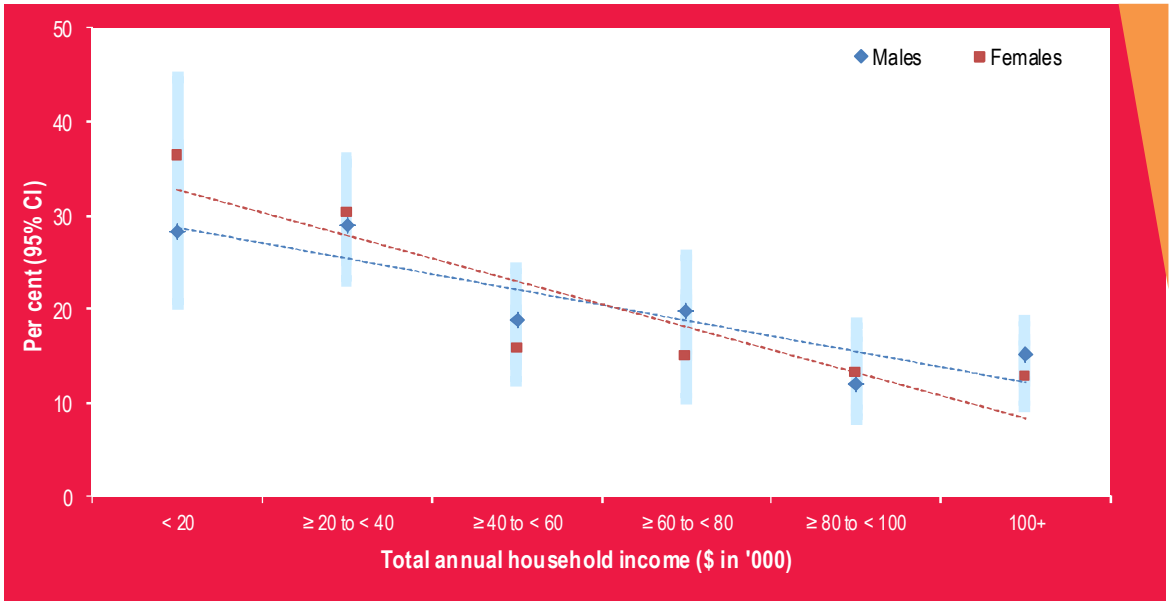
Figure 9.1: Proportion (%) of adults who self-reported fair or poor health, by age group and sex, Victoria, 2016



Data are age group specific estimates, except for '18+', which are crude estimates (not age-standardised) for Victoria.
95% CI = 95 per cent confidence interval.

The relationship was investigated between SES and age-adjusted prevalence of fair or poor health, using total annual household income as a measure of SES (Figure 9.2). In 2016 there was a significant decline in the proportion of males, females and people reporting fair or poor health, with increasing total annual household income.

Figure 9.2: Proportion (%) of adults who self-reported fair or poor health, by total annual household income and sex, Victoria, 2016



Data were age-standardised to the 2011 Victorian population.
95% CI = 95 per cent confidence interval.

Table 9.4 shows self-reported health status in males by selected socioeconomic determinants. When compared with all Victorian males there was a significantly higher proportion of males who reported fair or poor health with the following characteristics:

- did not complete high school
- not in the labour force
- total annual household income of less than $40,000.

Table 9.4: Proportion (%) of men, by self-reported health status and selected socioeconomic determinants, Victoria, 2016

	Excellent / very good			Good			Fair/poor		
		95% CI			95% CI			95% CI	
	%	LL	UL	%	LL	UL	%	LL	UL
All males	**42.3**	**40.1**	**44.5**	**38.2**	**36.0**	**40.4**	**19.0**	**17.3**	**20.8**
Country of birth									
Australia	**42.8**	40.1	45.6	**37.3**	34.7	40.0	**19.1**	17.0	21.4
Overseas	**41.2**	37.5	45.0	**40.2**	36.6	44.0	**18.4**	15.7	21.3
Language spoken at home									
English	**42.6**	40.0	45.3	**37.2**	34.7	39.8	**19.6**	17.5	21.8
Language other than English	**40.2**	36.1	44.4	**41.3**	37.3	45.5	**18.2**	15.2	21.6
Education level									
Did not complete high school	**34.2**	28.2	40.7	**37.1**	30.9	43.7	**28.6**	22.8	35.2
Completed high school, or TAFE, or trade certificate, or diploma	**41.9**	38.8	45.0	**39.1**	36.1	42.2	**18.2**	16.0	20.8
University, or some other tertiary institute degree	**51.4**	47.9	54.9	**34.8**	31.6	38.2	**13.7**	11.5	16.1
Employment status									
Employed	**48.2**	44.8	51.5	**37.7**	34.5	41.0	**13.9**	12.1	15.9
Unemployed	**26.2**	19.0	34.9	**36.9**	28.8	45.8	**23.8**	17.1	32.2
Not in labour force	**32.2**	26.4	38.7	**35.2**	28.8	42.1	**32.1**	25.5	39.5
Total annual household income									
< $40,000	**35.5**	30.1	41.3	**35.8**	30.6	41.3	**28.2**	23.4	33.6
$40,000 to < $100,000	**44.3**	40.3	48.3	**38.4**	34.6	42.3	**17.1**	14.3	20.3
≥ $100,000	**48.3**	43.4	53.2	**36.5**	31.8	41.3	**15.1**	12.2	18.7

Data were age-standardised to the 2011 Victorian population.

LL/UL 95% CI = lower/upper limit of 95 per cent confidence interval.

Estimates that are (statistically) significantly different from the corresponding estimate for Victoria are identified by colour as follows: above or below.

Estimates may not add to 100 per cent due to a proportion of 'don't know' or 'refused to say' responses, not reported here.

Table 9.5 shows self-reported health status in females by selected socioeconomic determinants. When compared with all Victorian women there was a significantly higher proportion of women who reported fair or poor health with the following characteristics:

- spoke a language other than English at home
- unemployed or not in the labour force
- total annual household income of less than $40,000.

Table 9.5: Proportion (%) of women, by self-reported health status and selected socioeconomic determinants, Victoria, 2016

	Excellent / very good			Good			Fair/poor		
		95% CI			95% CI			95% CI	
	%	LL	UL	%	LL	UL	%	LL	UL
All females	**45.6**	**43.6**	**47.6**	**35.3**	**33.4**	**37.3**	**18.8**	**17.3**	**20.3**
Country of birth									
Australia	**47.5**	45.1	49.9	**34.6**	32.3	36.9	**17.9**	16.1	19.8
Overseas	**42.6**	38.9	46.3	**36.6**	33.1	40.3	**19.9**	17.4	22.6
Language spoken at home									
English	**48.2**	45.8	50.6	**34.4**	32.2	36.7	**17.3**	15.7	19.1
Language other than English	**36.9**	33.1	40.8	**37.0**	33.1	41.0	**25.1**	21.8	28.6
Education level									
Did not complete high school	**41.5**	34.8	48.6	**36.2**	30.0	42.9	**22.0**	17.5	27.4
Completed high school, or TAFE, or trade certificate, or diploma	**44.8**	41.8	47.8	**35.4**	32.5	38.4	**19.6**	17.4	22.0
University, or some other tertiary institute degree	**54.2**	51.0	57.3	**33.5**	30.6	36.6	**12.2**	10.3	14.4
Employment status									
Employed	**51.1**	47.4	54.7	**36.0**	32.5	39.7	**12.8**	10.4	15.7
Unemployed	**39.1**	29.9	49.1	**33.5**	25.3	42.7	**19.9**	14.0	27.4
Not in labour force	**38.0**	34.2	42.0	**34.9**	31.1	38.8	**26.6**	23.4	30.1
Total annual household income									
< $40,000	**35.5**	30.6	40.6	**32.7**	28.1	37.6	**31.5**	27.2	36.1
$40,000 to < $100,000	**44.3**	40.6	48.1	**40.7**	36.9	44.7	**15.0**	12.4	17.9
≥ $100,000	**58.1**	53.3	62.8	**29.1**	24.8	33.8	**12.8**	9.6	16.8

Data were age-standardised to the 2011 Victorian population.

LL/UL 95% CI = lower/upper limit of 95 per cent confidence interval.

Estimates that are (statistically) significantly different from the corresponding estimate for Victoria are identified by colour as follows: above or below.

Estimates may not add to 100 per cent due to a proportion of 'don't know' or 'refused to say' responses, not reported here.

Table 9.6 shows self-reported health status in males by selected modifiable risk factors and morbidity status. When compared with all Victorian males there was a significantly higher proportion of males who reported fair or poor health with the following characteristics:

- moderate, high or very high levels of psychological distress
- sedentary
- current smoker
- obese
- diagnosed with hypertension by a doctor
- two or more chronic diseases.

Table 9.6: Proportion (%) of men, by self-reported health status, selected modifiable risk factors and morbidity status, Victoria, 2016

	Excellent / very good			Good			Fair/poor		
		95% CI			95% CI			95% CI	
	%	LL	UL	%	LL	UL	%	LL	UL
All males	**42.3**	**40.1**	**44.5**	**38.2**	**36.0**	**40.4**	**19.0**	**17.3**	**20.8**
Psychological distress [a]									
Low (K10 score < 16)	**52.4**	49.4	55.4	**36.4**	33.7	39.3	**10.9**	9.1	12.9
Moderate (K10 score 16–21)	**32.7**	28.7	37.0	**41.1**	36.8	45.6	**25.6**	22.0	29.6
High / very high (K10 score 22+)	**18.4**	14.0	23.7	**37.2**	31.4	43.3	**44.1**	38.1	50.2
Physical activity [b]									
Sedentary	**23.6**	14.3	36.2	**36.7**	27.3	47.3	**38.8**	30.6	47.6
Insufficient time (< 150 min) and/or sessions (< 2)	**35.4**	32.2	38.7	**40.5**	37.1	43.9	**23.7**	20.8	26.9
Sufficient time (≥ 150 min) and sessions (≥ 2)	**51.1**	47.9	54.3	**35.3**	32.3	38.5	**13.5**	11.5	15.7
Met fruit / vegetable guidelines [c]									
Both guidelines	**55.8**	44.6	66.4	**41.3**	31.5	51.8	**		
Vegetable guidelines [d]	**59.9**	46.9	71.7	**27.3**	18.1	39.0	**12.7** *	6.1	24.8
Fruit guidelines [d]	**49.5**	45.9	53.1	**36.0**	32.6	39.5	**14.2**	11.9	16.9
Neither	**38.0**	35.3	40.9	**39.7**	36.9	42.5	**21.6**	19.3	24.2
Smoking status									
Current smoker	**32.3**	27.9	37.0	**41.6**	36.7	46.6	**26.2**	22.0	30.8
Ex-smoker	**39.7**	34.7	44.9	**39.3**	34.3	44.6	**20.2**	16.4	24.8
Non-smoker	**47.8**	44.8	50.9	**35.8**	33.0	38.7	**15.5**	13.3	17.9
Lifetime risk of alcohol-related harm [e]									
Abstainer / no longer drinks alcohol	**37.9**	32.7	43.3	**39.5**	34.2	45.0	**22.4**	18.4	26.8
Reduced risk	**43.3**	36.9	49.9	**37.5**	31.4	44.0	**18.6**	14.3	23.8
Increased risk	**43.9**	41.3	46.6	**38.0**	35.5	40.6	**17.6**	15.6	19.9
Body weight status based on BMI [f]									
Underweight (BMI < 18.5 kg/m^2)	**22.6**	14.8	32.9	**48.5**	34.2	62.9	**29.0** *	16.5	45.8
Normal range (18.5 ≥ BMI < 25 kg/m^2)	**52.3**	48.5	56.1	**32.8**	29.4	36.5	**14.4**	11.9	17.3
Pre-obese (25 ≥ BMI < 30 kg/m^2)	**46.1**	42.4	49.9	**41.0**	37.3	44.7	**12.7**	10.5	15.2
Obese (BMI ≥ 30 kg/m^2)	**23.0**	18.8	27.9	**41.3**	36.0	46.8	**35.4**	30.2	40.8
Blood pressure status									
Doctor diagnosed hypertension	**30.5**	25.1	36.5	**40.6**	34.8	46.6	**28.0**	22.8	33.9
Normal range	**45.8**	43.3	48.4	**37.5**	35.0	40.1	**15.9**	14.0	18.0
Morbidity status									
No chronic disease	**52.8**	49.7	55.9	**35.9**	33.0	38.9	**11.1**	9.3	13.1
One chronic disease	**37.7**	33.6	42.0	**43.0**	38.7	47.4	**18.2**	15.0	21.8
Two, or more chronic diseases	**18.1**	13.1	24.3	**35.6**	28.2	43.8	**46.1**	37.9	54.5

Data were age-standardised to the 2011 Victorian population.

LL/UL 95% CI = lower/upper limit of 95 per cent confidence interval.

Estimates that are (statistically) significantly different from the corresponding estimate for Victoria are identified by colour as follows: above or below.

Estimates may not add to 100 per cent due to a proportion of 'don't know' or 'refused to say' responses, not reported here.

Relative standard error (RSE) = standard error / point estimate * 100; interpretation below:

***** RSE between 25 and 50 per cent; point estimate (%) should be interpreted with caution.

****** RSE greater than, or equal to, 50 per cent; point estimate (%) is unreliable, hence not reported.

[a] Based on the Kessler 10 scale for psychological distress.

[b] DoH (2014) guidelines.

[c] NHMRC (2013) guidelines.

[d] Includes those meeting both guidelines.

[e] NHMRC (2009) guidelines.

[f] Body mass index (BMI) = Weight (kg) / Height (m^2).

Table 9.7 shows self-reported health status in females by selected modifiable risk factors and chronic conditions. When compared with all Victorian women there was a significantly higher proportion of women who reported fair or poor health with the following characteristics:

- high or very high levels of psychological distress
- sedentary
- current smoker

- abstainer or no longer drinks alcohol
- obese
- two or more chronic diseases.

Table 9.7: Proportion (%) of women, by self-reported health status, selected modifiable risk factors and morbidity status, Victoria, 2016

	Excellent / very good			Good			Fair/poor		
		95% CI			95% CI			95% CI	
	%	LL	UL	%	LL	UL	%	LL	UL
All females	**45.6**	**43.6**	**47.6**	**35.3**	**33.4**	**37.3**	**18.8**	**17.3**	**20.3**
Psychological distress [a]									
Low (K10 score < 16)	**56.2**	53.4	58.9	**33.7**	31.0	36.4	**9.9**	8.5	11.6
Moderate (K10 score 16–21)	**38.7**	34.9	42.6	**38.4**	34.5	42.4	**22.8**	19.7	26.2
High / very high (K10 score 22+)	**21.4**	17.3	26.1	**34.5**	29.9	39.4	**44.2**	39.5	48.9
Physical activity [b]									
Sedentary	**23.5** *	12.6	39.5	**45.3**	30.7	60.8	**31.2**	22.7	41.2
Insufficient time (< 150 min) and/or sessions (< 2)	**37.9**	35.1	40.9	**39.1**	36.1	42.0	**22.9**	20.5	25.4
Sufficient time (≥ 150 min) and sessions (≥ 2)	**55.0**	52.1	57.9	**31.3**	28.6	34.1	**13.3**	11.5	15.2
Met fruit / vegetable guidelines [c]									
Both guidelines	**56.9**	48.0	65.3	**30.3**	22.9	38.9	**12.8**	8.2	19.4
Vegetable guidelines [d]	**60.1**	52.2	67.4	**26.1**	19.9	33.4	**13.8**	9.6	19.4
Fruit guidelines [d]	**47.7**	44.8	50.7	**36.3**	33.4	39.2	**15.8**	13.9	17.9
Neither	**43.4**	40.6	46.3	**35.6**	32.9	38.4	**20.5**	18.4	22.9
Smoking status									
Current smoker	**36.9**	31.7	42.4	**34.8**	29.7	40.2	**28.0**	23.3	33.2
Ex-smoker	**49.9**	44.7	55.0	**34.8**	30.0	39.9	**15.3**	12.5	18.6
Non-smoker	**47.3**	44.8	49.8	**34.8**	32.4	37.2	**17.5**	15.8	19.4
Lifetime risk of alcohol-related harm [e]									
Abstainer / no longer drinks alcohol	**36.0**	32.0	40.1	**39.2**	35.2	43.4	**24.0**	21.1	27.3
Reduced risk	**43.9**	39.0	48.9	**34.8**	30.1	39.8	**21.1**	17.3	25.6
Increased risk	**51.7**	48.8	54.5	**33.3**	30.7	36.0	**14.9**	12.9	17.1
Body weight status based on BMI [f]									
Underweight (BMI < 18.5 kg/m^2)	**39.8**	30.9	49.4	**32.0**	23.5	41.9	**27.2**	19.2	37.1
Normal range (18.5 ≥ BMI < 25 kg/m^2)	**56.3**	53.3	59.3	**31.0**	28.2	33.9	**12.3**	10.5	14.3
Pre-obese (25 ≥ BMI < 30 kg/m^2)	**45.8**	41.1	50.5	**37.7**	33.2	42.4	**15.8**	12.8	19.3
Obese (BMI ≥ 30 kg/m^2)	**27.4**	22.9	32.5	**35.8**	30.9	40.9	**36.8**	31.7	42.3
Blood pressure status (including pregnancy induced hypertension)									
Doctor diagnosed hypertension	**41.3**	36.2	46.7	**35.1**	30.3	40.2	**23.5**	20.0	27.4
Normal range	**48.7**	46.3	51.1	**34.6**	32.4	36.9	**16.4**	14.6	18.2
Morbidity status									
No chronic disease	**60.6**	57.5	63.7	**30.6**	27.8	33.5	**8.5**	6.8	10.5
One chronic disease	**42.1**	38.5	45.7	**38.4**	34.8	42.1	**19.2**	16.4	22.4
Two, or more chronic diseases	**27.4**	22.7	32.7	**39.6**	34.5	44.9	**32.9**	28.5	37.5

Data were age-standardised to the 2011 Victorian population.

LL/UL 95% CI = lower/upper limit of 95 per cent confidence interval.

Estimates that are (statistically) significantly different from the corresponding estimate for Victoria are identified by colour as follows: above or below.

Estimates may not add to 100 per cent due to a proportion of 'don't know' or 'refused to say' responses, not reported here.

Relative standard error (RSE) = standard error / point estimate * 100; interpretation below:

* RSE between 25 and 50 per cent; point estimate (%) should be interpreted with caution.

[a] Based on the Kessler 10 scale for psychological distress.

[b] DoH (2014) guidelines.

[c] NHMRC (2013) guidelines.

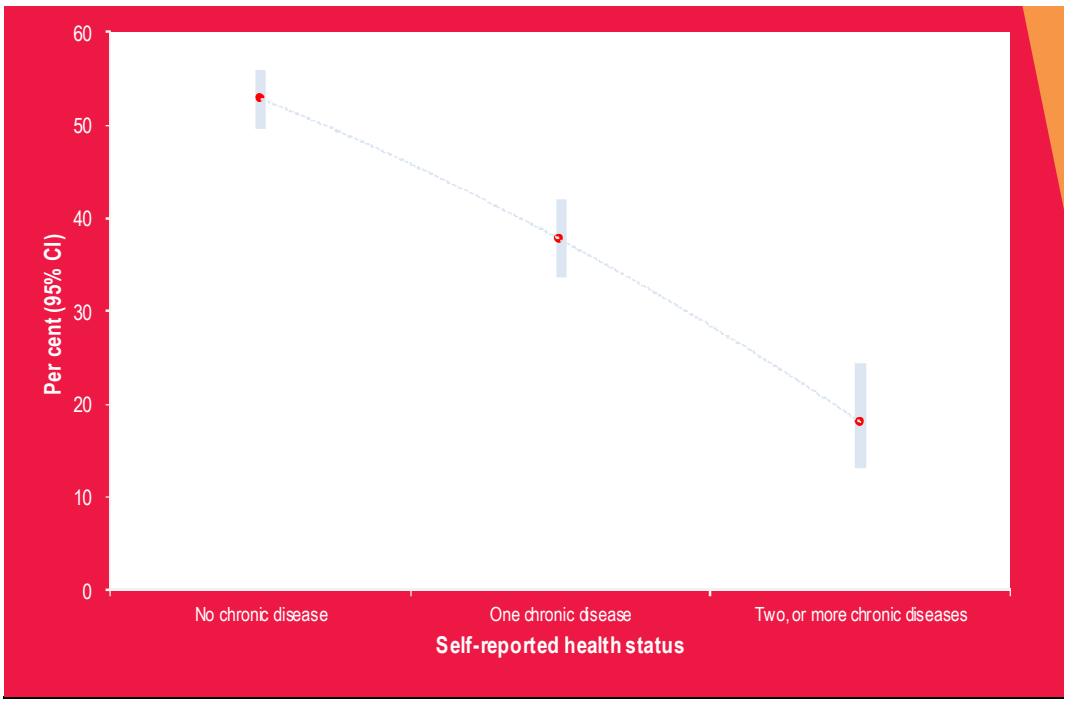
[d] Includes those meeting both guidelines.

[e] NHMRC (2009) guidelines.

[f] Body mass index (BMI) = Weight (kg) / Height (m^2).

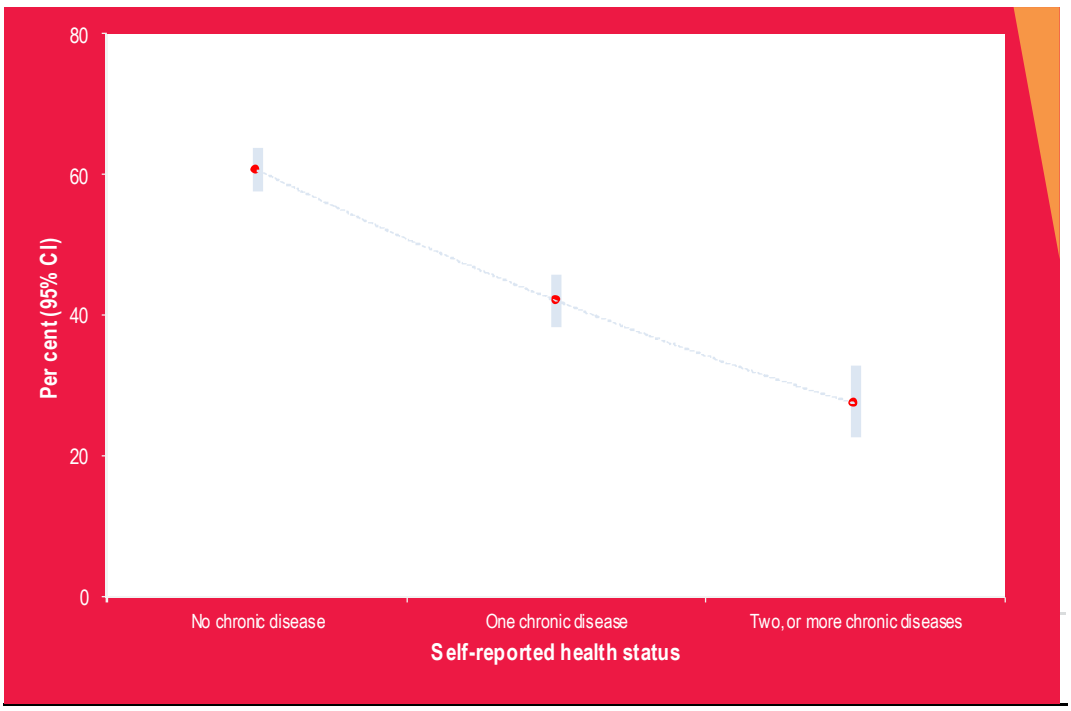
Figure 9.3 and Figure 9.4 show the proportion of adult men and women who reported excellent or very good health, by morbidity status. The proportion of adult men and women who reported excellent or very good health decreased with an increasing number of chronic diseases.

Figure 9.3: Proportion (%) of men self-reporting excellent or very good health, by morbidity status, Victoria, 2016



Data are age-adjusted to the 2011 population of Victoria.
95% CI = 95 per cent confidence interval.

Figure 9.4: Proportion (%) of women self-reporting excellent or very good health, by morbidity status, Victoria, 2016



Data are age-adjusted to the 2011 population of Victoria.
95% CI = 95 per cent confidence interval.

Comparison with previous survey

The prevalence of self-reported health status among men and women was compared with the previous Victorian Population Health Survey (2015) (Table 9.8, Figure 9.5 and Figure 9.6). This is the first time that trend over time data has been reported after the introduction of dual-frame sampling in 2015. For all categories of self-reported health status, the proportions of men and women did not change significantly from 2015 to 2016.

Table 9.8: Proportion (%) of adults, by self-reported health status, Department of Health and Human Services region and sex, Victoria, 2015–2016

		Excellent / very good			Good			Fair/poor		
			95% CI			95% CI			95% CI	
	Year	%	LL	UL	%	LL	UL	%	LL	UL
Males	2015	**39.9**	37.6	42.2	**38.8**	36.6	41.1	**20.7**	18.8	22.7
	2016	**42.3**	40.1	44.5	**38.2**	36.0	40.4	**19.0**	17.3	20.8
Females	2015	**42.9**	40.8	45.1	**36.3**	34.2	38.5	**20.2**	18.4	22.1
	2016	**45.6**	43.6	47.6	**35.3**	33.4	37.3	**18.8**	17.3	20.3
People	2015	**41.5**	40.0	43.1	**37.5**	36.0	39.1	**20.4**	19.1	21.7
	2016	**44.1**	42.6	45.6	**36.6**	35.1	38.1	**18.9**	17.8	20.1

Data were age-standardised to the 2011 Victorian population.

LL/UL 95% CI = lower/upper limit of 95 per cent confidence interval.

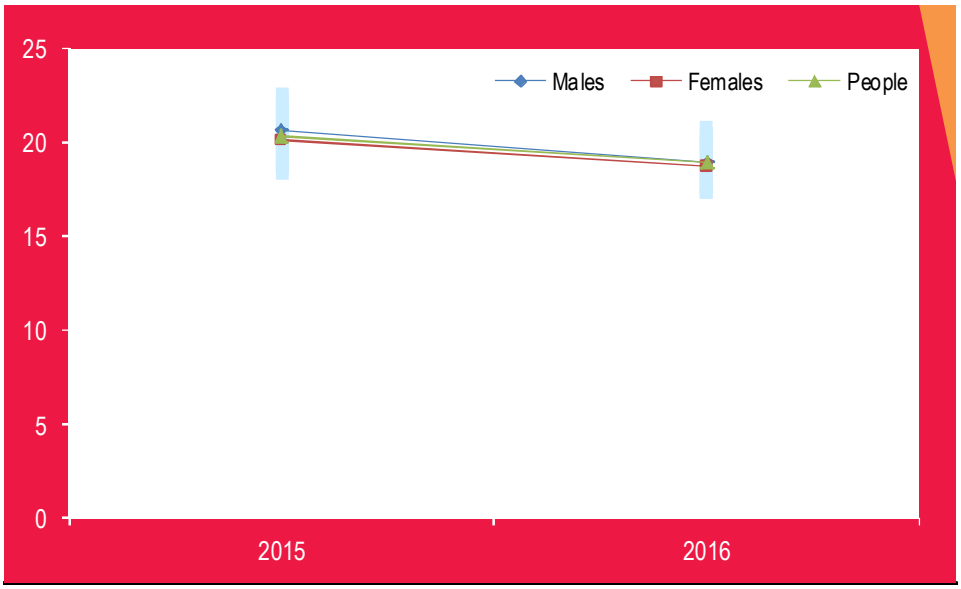
Estimates may not add to 100 per cent due to a proportion of 'don't know' or 'refused to say' responses, not reported here.

Figure 9.5: Proportion (%) of adults who reported excellent or very good health status, by sex, Victoria, 2015–2016

Data were age-standardised to the 2011 Victorian population.

LL/UL 95% CI = lower/upper limit of 95 per cent confidence interval.

Figure 9.6: Proportion (%) of adults who reported fair or poor health status, by sex, Victoria, 2015–2016



Data were age-standardised to the 2011 Victorian population.

LL/UL 95% CI = lower/upper limit of 95 per cent confidence interval.

What is subjective wellbeing?

The term 'wellbeing' is often equated with 'happiness'. However, happiness is just one aspect of wellbeing and is measured by asking people about their feelings, known as 'subjective wellbeing' (Office for National Statistics 2011). Wellbeing includes both objective and subjective measures. Objective measures include indicators such as life expectancy.

Subjective wellbeing is a multifaceted concept that incorporates a person's affective and cognitive evaluations of his or her life (Diener et al. 2002). The affective component refers to both the presence of positive emotions and feelings and the absence of negative emotions and feelings, while the cognitive component is an information-based appraisal of one's life for which people judge the extent to which their life so far measures up to their expectations.

How is subjective wellbeing measured?

There is no absolute consensus on how to measure subjective wellbeing, and the exact wording of questions, out of necessity, will vary by culture and language. Typically, questions are asked to assess an individual's positive and negative affective state (conscious experience of emotions), eudemonic state (conducive to happiness) and cognitive evaluations of his or her life. In the United Kingdom, the Office for National Statistics has incorporated the following four questions, known as the 'ONS 4', into the annual *Integrated Household Survey* to measure subjective wellbeing:

1. Overall, how satisfied are you with your life nowadays? (cognitive evaluation)
2. Overall, to what extent do you feel the things you do in your life are worthwhile? (eudemonic)
3. Overall, how happy did you feel yesterday? (positive affect)
4. Overall, how anxious did you feel yesterday? (negative affect)

People were asked to give their answers on a scale of 0 to 10, where 0 is ‘not at all’ and 10 is ‘completely’. These questions allow people to make an assessment of their life overall, as well as providing an indication of their day-to-day emotions.

The 2016 Victorian Population Health Survey included two questions (Question 1 and Question 2) to measure the eudemonic dimensions of subjective wellbeing, sourced from the United Kingdom’s Office for National Statistics.

Satisfaction with life

The Victorian Population Health Survey respondents were asked, ‘How satisfied are you with your life overall, on a scale from 0 to 10, where 0 is not at all satisfied and 10 is completely satisfied?’. Table 9.9 shows life satisfaction by Department of Health and Human Services region and sex. Overall, 28.1 per cent of adults rated their life satisfaction as very high (score of 9–10) and 5.7 per cent of adults rated their life satisfaction as low (score of 0–4). There was no significant difference in life satisfaction between males and females. A significantly higher proportion of men who lived in Hume Region rated their life satisfaction as very high (score of 9–10) compared with all Victorian men.

Table 9.9: Proportion (%) of adults, by satisfaction with life, Department of Health and Human Services region and sex, Victoria, 2016

Region	Very high: 9–10			High: 7–8			Medium: 5–6			Low: 0–4		
	%	95% CI LL	95% CI UL	%	95% CI LL	95% CI UL	%	95% CI LL	95% CI UL	%	95% CI LL	95% CI UL
Males												
Northern Metropolitan	**22.6**	18.6	27.0	**54.1**	49.0	59.2	**14.2**	11.1	18.0	**7.2**	4.8	10.6
Southern Metropolitan	**28.8**	25.0	33.0	**49.3**	44.9	53.7	**13.4**	10.6	16.6	**7.2**	5.1	10.1
Eastern Metropolitan	**29.0**	24.1	34.4	**50.0**	44.4	55.7	**12.6**	9.2	16.9	**7.1**	4.4	11.4
Western Metropolitan	**25.9**	21.6	30.7	**48.3**	43.1	53.6	**15.6**	12.0	20.1	**6.3**	4.0	9.7
All metropolitan regions	**26.9**	24.7	29.2	**50.5**	47.9	53.0	**13.9**	12.2	15.8	**6.7**	5.4	8.2
Barwon-South Western	**23.2**	16.9	31.1	**59.4**	51.1	67.2	**11.8**	8.2	16.7	**4.9** *	2.4	9.7
Gippsland	**26.0**	18.5	35.2	**56.6**	47.1	65.5	**10.1**	6.5	15.2	**5.7** *	2.4	13.0
Grampians	**28.9**	21.9	37.0	**47.6**	38.2	57.0	**18.6**	12.1	27.6	**2.4** *	0.9	6.2
Hume	**42.3**	31.6	53.8	**38.3**	28.6	49.0	**12.6** *	7.0	21.5	**5.3** *	2.0	13.1
Loddon Mallee	**37.6**	28.6	47.6	**46.4**	36.5	56.5	**13.6** *	7.7	22.7	**2.1** *	1.0	4.4
All rural regions	**30.4**	26.4	34.8	**50.7**	46.1	55.3	**13.8**	10.9	17.2	**3.9**	2.6	5.6
Victoria	**27.8**	25.9	29.8	**50.3**	48.1	52.5	**13.9**	12.5	15.5	**6.0**	5.0	7.3
Females												
Northern Metropolitan	**26.0**	22.2	30.3	**51.4**	46.6	56.1	**14.8**	11.8	18.5	**5.1**	3.3	7.8
Southern Metropolitan	**29.0**	25.5	32.9	**47.7**	43.5	51.8	**15.8**	13.0	19.2	**5.7**	4.1	7.9
Eastern Metropolitan	**26.0**	22.2	30.1	**49.4**	44.6	54.2	**17.0**	13.4	21.4	**6.6**	4.5	9.6
Western Metropolitan	**29.6**	25.3	34.3	**49.5**	44.7	54.4	**14.3**	11.2	18.0	**4.4** *	2.7	7.1
All metropolitan regions	**27.7**	25.7	29.8	**49.4**	47.1	51.8	**15.5**	13.8	17.3	**5.4**	4.5	6.6
Barwon-South Western	**32.2**	25.6	39.6	**47.8**	39.9	55.7	**12.3**	8.1	18.1	**3.1** *	1.4	6.4
Gippsland	**32.5**	25.1	40.8	**47.4**	39.1	55.8	**14.5**	9.5	21.4	**3.6** *	2.0	6.4
Grampians	**27.2**	19.9	36.0	**52.4**	43.5	61.2	**11.5**	7.3	17.7	**7.0** *	3.7	12.9
Hume	**32.2**	23.9	41.8	**47.8**	39.3	56.6	**14.3**	8.9	22.3	**3.9** *	2.0	7.4
Loddon Mallee	**26.8**	20.1	34.7	**49.3**	40.3	58.2	**16.6**	10.7	24.8	**6.8** *	3.5	12.5
All rural regions	**30.6**	26.9	34.5	**48.2**	44.0	52.3	**13.9**	11.2	17.1	**4.8**	3.5	6.6
Victoria	**28.3**	26.5	30.1	**49.2**	47.2	51.3	**15.1**	13.7	16.7	**5.3**	4.5	6.3
People												
Northern Metropolitan	**25.0**	22.1	28.2	**52.0**	48.5	55.5	**14.4**	12.2	17.0	**5.9**	4.4	7.9
Southern Metropolitan	**29.0**	26.3	31.8	**48.4**	45.4	51.5	**14.6**	12.6	16.9	**6.4**	5.0	8.2
Eastern Metropolitan	**27.1**	24.0	30.4	**49.7**	46.0	53.5	**15.0**	12.4	18.1	**6.8**	5.0	9.3
Western Metropolitan	**27.9**	24.8	31.3	**49.0**	45.4	52.6	**15.0**	12.5	17.8	**5.1**	3.7	7.1
All metropolitan regions	**27.4**	25.9	28.9	**49.8**	48.1	51.5	**14.7**	13.5	16.0	**6.1**	5.3	7.0
Barwon-South Western	**27.2**	22.4	32.5	**53.5**	47.5	59.5	**11.7**	9.0	15.2	**4.3** *	2.5	7.4
Gippsland	**29.3**	23.8	35.5	**51.8**	45.3	58.3	**12.6**	9.2	16.9	**4.6** *	2.5	8.2
Grampians	**27.5**	22.4	33.2	**49.3**	42.6	56.1	**16.3**	11.4	22.7	**4.7** *	2.7	7.9
Hume	**37.0**	29.8	44.8	**43.5**	36.6	50.6	**13.9**	9.4	20.0	**4.1** *	2.4	7.0
Loddon Mallee	**32.5**	26.2	39.5	**47.5**	40.4	54.8	**15.2**	10.5	21.5	**4.3** *	2.5	7.3
All rural regions	**30.4**	27.7	33.3	**49.4**	46.2	52.5	**13.8**	11.8	16.2	**4.4**	3.4	5.7
Victoria	**28.1**	26.8	29.4	**49.7**	48.2	51.2	**14.5**	13.5	15.6	**5.7**	5.0	6.5

Metropolitan and rural regions are identified by colour as follows: metropolitan / rural.

Data were age-standardised to the 2011 Victorian population.

LL/UL 95% CI = lower/upper limit of 95 per cent confidence interval.

Estimates that are (statistically) significantly different from the corresponding estimate for Victoria are identified by colour as follows: above or below.

Estimates may not add to 100 per cent due to a proportion of 'don't know' or 'refused to say' responses, not reported here.

Relative standard error (RSE) = standard error / point estimate * 100; interpretation below:

* RSE between 25 and 50 per cent; point estimate (%) should be interpreted with caution.

Table 9.10 shows life satisfaction by Department of Health and Human Services division and sex. There were no significant differences in life satisfaction of men and women between the departmental divisions.

Table 9.10: Proportion (%) of adults, by satisfaction with life, Department of Health and Human Services division and sex, Victoria, 2016

	Very high: 9–10			High: 7–8			Medium: 5–6			Low: 0–4		
		95% CI			95% CI			95% CI			95% CI	
Division	%	LL	UL	%	LL	UL	%	LL	UL	%	LL	UL
Males												
North	**27.2**	23.1	31.6	**51.5**	46.8	56.1	**13.9**	11.0	17.4	**5.8**	4.0	8.3
South	**28.4**	24.9	32.2	**50.0**	45.9	54.1	**13.2**	10.7	16.2	**7.0**	5.0	9.6
East	**31.0**	26.4	35.9	**48.0**	43.0	53.1	**12.8**	9.7	16.6	**6.7**	4.3	10.3
West	**25.5**	22.3	29.1	**50.5**	46.5	54.6	**15.7**	12.9	19.0	**5.3**	3.6	7.6
Victoria	**27.8**	**25.9**	**29.8**	**50.3**	**48.1**	**52.5**	**13.9**	**12.5**	**15.5**	**6.0**	**5.0**	**7.3**
Females												
North	**26.3**	22.8	30.1	**51.0**	46.8	55.3	**15.3**	12.4	18.6	**5.4**	3.7	7.8
South	**29.5**	26.3	33.0	**47.6**	43.8	51.3	**15.7**	13.0	18.7	**5.5**	4.0	7.4
East	**27.3**	23.7	31.1	**49.0**	44.8	53.3	**16.5**	13.3	20.2	**6.0**	4.2	8.4
West	**29.3**	26.1	32.7	**50.2**	46.5	53.9	**13.2**	10.9	15.8	**4.6**	3.1	6.6
Victoria	**28.3**	**26.5**	**30.1**	**49.2**	**47.2**	**51.3**	**15.1**	**13.7**	**16.7**	**5.3**	**4.5**	**6.3**
People												
North	**27.0**	24.3	29.9	**50.9**	47.7	54.1	**14.4**	12.4	16.8	**5.6**	4.3	7.4
South	**29.0**	26.6	31.5	**48.7**	45.9	51.5	**14.4**	12.6	16.5	**6.2**	5.0	7.8
East	**28.9**	26.0	32.0	**48.5**	45.2	51.9	**14.8**	12.5	17.5	**6.3**	4.7	8.4
West	**27.6**	25.2	30.1	**50.3**	47.5	53.0	**14.5**	12.6	16.6	**4.8**	3.7	6.2
Victoria	**28.1**	**26.8**	**29.4**	**49.7**	**48.2**	**51.2**	**14.5**	**13.5**	**15.6**	**5.7**	**5.0**	**6.5**

Data were age-standardised to the 2011 Victorian population.

LL/UL 95% CI = lower/upper limit of 95 per cent confidence interval.

Estimates that are (statistically) significantly different from the corresponding estimate for Victoria are identified by colour as follows: above or below.

Estimates may not add to 100 per cent due to a proportion of 'don't know' or 'refused to say' responses, not reported here.

Table 9.11 and Figure 9.7 show satisfaction with life, by age group and sex. A significantly higher proportion of 65–74-year-old men and women rated their life satisfaction as very high (score of 9–10) compared with all Victorian men and women. A significantly higher proportion of 75–84-year-old women rated their life satisfaction as very high (score of 9–10) compared with all Victorian women.

Table 9.11: Proportion (%) of adults, by satisfaction with life, age group and sex, Victoria, 2016

Sex / Age group (years)	Very high: 9–10			High: 7–8			Medium: 5–6			Low: 0–4		
	%	95% CI LL	95% CI UL	%	95% CI LL	95% CI UL	%	95% CI LL	95% CI UL	%	95% CI LL	95% CI UL
Males												
18–24	**29.6**	24.0	35.9	**49.7**	43.2	56.2	**15.7**	11.2	21.6	**4.3** *	2.3	7.9
25–34	**24.2**	19.6	29.4	**53.7**	47.8	59.4	**13.0**	9.6	17.4	**6.7**	4.2	10.7
35–44	**26.1**	21.3	31.5	**53.2**	47.3	59.0	**12.1**	8.9	16.3	**7.6**	4.7	12.0
45–54	**22.9**	18.6	27.9	**52.3**	47.0	57.5	**16.9**	13.3	21.3	**6.3**	4.3	9.2
55–64	**27.4**	23.3	32.0	**48.0**	43.2	52.8	**14.8**	11.8	18.5	**6.6**	4.6	9.6
65–74	**37.2**	32.4	42.2	**44.7**	39.9	49.7	**11.6**	8.8	15.1	**5.2**	3.3	8.1
75–84	**35.6**	28.6	43.3	**43.9**	36.6	51.4	**12.5**	8.2	18.4	**4.5** *	2.2	8.9
85+	**39.9**	28.2	52.8	**40.2**	28.7	52.9	**13.0** *	6.0	26.1	**		
18+	**27.8**	**25.8**	**29.8**	**50.3**	**48.1**	**52.6**	**13.9**	**12.4**	**15.5**	**6.1**	**5.0**	**7.4**
Females												
18–24	**20.8**	16.1	26.6	**58.0**	51.6	64.1	**16.7**	12.5	22.1	**4.1** *	2.2	7.4
25–34	**26.6**	22.0	31.8	**54.4**	48.6	60.0	**13.6**	10.2	18.0	**3.6** *	1.9	6.7
35–44	**27.0**	22.9	31.6	**48.4**	43.5	53.3	**16.1**	12.7	20.4	**5.9**	4.0	8.7
45–54	**28.0**	24.2	32.2	**49.1**	44.7	53.6	**15.4**	12.4	19.0	**6.0**	4.2	8.6
55–64	**28.0**	24.2	32.2	**45.5**	41.2	49.9	**17.5**	14.2	21.5	**7.1**	5.1	9.8
65–74	**37.9**	33.6	42.4	**42.1**	37.7	46.7	**12.7**	10.0	15.9	**4.9**	3.1	7.6
75–84	**38.1**	32.2	44.5	**38.4**	32.7	44.5	**12.5**	8.9	17.3	**5.9** *	3.1	11.0
85+	**36.1**	26.3	47.3	**42.2**	31.1	54.1	**8.5** *	4.0	17.2	**4.0** *	1.6	9.9
18+	**28.7**	**27.0**	**30.5**	**48.7**	**46.8**	**50.7**	**15.1**	**13.7**	**16.6**	**5.4**	**4.5**	**6.3**
People												
18–24	**25.4**	21.6	29.6	**53.7**	49.1	58.2	**16.2**	13.0	20.1	**4.2**	2.7	6.4
25–34	**25.3**	22.0	28.9	**54.0**	49.9	58.1	**13.3**	10.8	16.3	**5.3**	3.6	7.8
35–44	**26.6**	23.4	30.0	**50.6**	46.8	54.4	**14.3**	11.8	17.2	**6.7**	4.9	9.1
45–54	**25.6**	22.6	28.7	**50.6**	47.2	54.1	**16.1**	13.7	18.9	**6.2**	4.7	8.0
55–64	**27.7**	24.9	30.8	**46.7**	43.5	49.9	**16.3**	13.9	18.9	**6.9**	5.4	8.8
65–74	**37.5**	34.3	40.9	**43.4**	40.1	46.7	**12.2**	10.2	14.5	**5.1**	3.7	6.9
75–84	**37.1**	32.5	42.0	**40.6**	36.1	45.4	**12.5**	9.6	16.1	**5.4**	3.3	8.6
85+	**37.9**	30.1	46.4	**41.2**	33.1	49.9	**10.6** *	6.1	17.8	**3.2** *	1.4	7.2
18+	**28.3**	**27.0**	**29.6**	**49.5**	**48.0**	**51.0**	**14.5**	**13.5**	**15.6**	**5.7**	**5.0**	**6.5**

Data are age-specific estimates, except for '18+', which are crude estimates (not age-standardised) for Victoria.

LL/UL 95% CI = lower/upper limit of 95 per cent confidence interval.

Estimates that are (statistically) significantly different from the corresponding estimate for Victoria are identified by colour as follows: above or below.

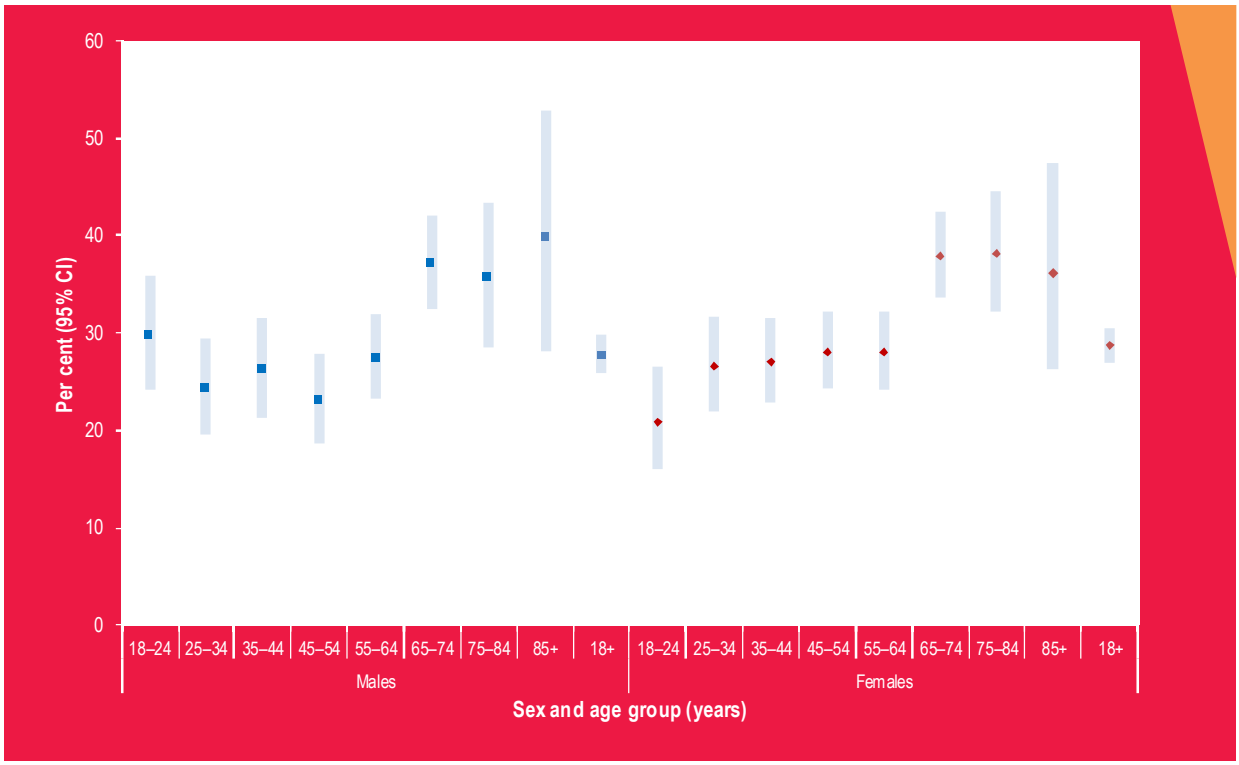
Estimates may not add to 100 per cent due to a proportion of 'don't know' or 'refused to say' responses, not reported here.

Relative standard error (RSE) = standard error/point estimate * 100; interpretation below:

* Estimate has a RSE between 25 and 50 per cent and should be interpreted with caution.

** Estimate has a RSE greater than 50 per cent and is not reported as it is unreliable for general use.

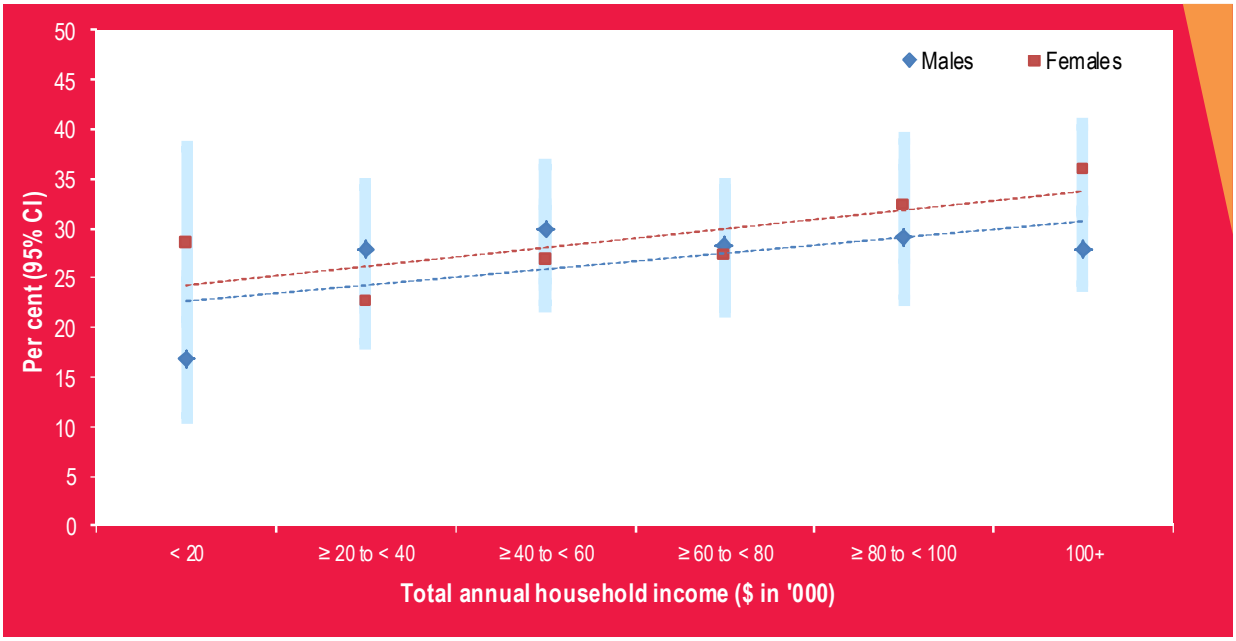
Figure 9.7: Proportion (%) of adults who rated their life satisfaction as very high (9-10), by age group and sex, Victoria, 2016



Data are age group specific estimates, except for '18+', which are crude estimates (not age-standardised) for Victoria.
95% CI = 95 per cent confidence interval.

The relationship was investigated between SES and the proportion of the adult population who rated their life satisfaction as very high (9–10), using total annual household income as a measure of SES (Figure 9.8). There was a significant increase in the prevalence of very high satisfaction with life with increasing total annual household income in people, but not males or females.

Figure 9.8: Proportion (%) of adults who rated their life satisfaction as very high (9-10), by total annual household income and sex, Victoria, 2016



Data were age-standardised to the 2011 Victorian population.
95% CI = 95 per cent confidence interval.

Table 9.12 shows satisfaction with life in males, by selected socioeconomic determinants. When compared with all Victorian men there were significantly higher proportions of men who rated their life satisfaction as very low (0–4), with the following characteristics:

- did not complete high school
- unemployed
- not in the labour force
- total annual household income of less than $40,000.

Table 9.12: Proportion (%) of men, by satisfaction with life and selected socioeconomic determinants, Victoria, 2016

	Very high: 9–10			High: 7–8			Medium: 5–6			Low: 0–4		
		95% CI			95% CI			95% CI			95% CI	
	%	LL	UL	%	LL	UL	%	LL	UL	%	LL	UL
All males	**27.8**	**25.9**	**29.8**	**50.3**	**48.1**	**52.5**	**13.9**	**12.5**	**15.5**	**6.0**	**5.0**	**7.3**
Country of birth												
Australia	**26.0**	23.7	28.4	**51.4**	48.7	54.2	**13.3**	11.5	15.3	**7.0**	5.6	8.7
Overseas	**31.2**	27.8	34.8	**48.2**	44.4	51.9	**15.3**	12.8	18.2	**4.2**	3.0	5.8
Language spoken at home												
English	**26.3**	24.0	28.6	**51.1**	48.4	53.7	**13.3**	11.6	15.2	**7.2**	5.8	8.9
Language other than English	**30.9**	27.0	35.0	**48.1**	43.9	52.3	**16.0**	13.1	19.4	**3.7**	2.4	5.9
Education level												
Did not complete high school	**26.1**	20.8	32.2	**42.6**	36.3	49.2	**14.1**	10.4	18.9	**13.0**	8.4	19.4
Completed high school, or TAFE, or trade certificate, or diploma	**27.3**	24.7	30.2	**50.4**	47.3	53.5	**14.6**	12.6	16.9	**6.0**	4.7	7.8
University, or some other tertiary institute degree	**30.4**	27.2	33.7	**52.8**	49.3	56.3	**11.6**	9.5	14.0	**3.9**	2.7	5.7
Employment status												
Employed	**29.2**	26.2	32.4	**54.2**	50.8	57.5	**11.8**	10.1	13.7	**3.8**	2.8	5.2
Unemployed	**10.6** *	6.3	17.2	**37.5**	29.4	46.4	**19.3**	13.3	27.0	**18.6**	12.6	26.6
Not in labour force	**22.6**	18.6	27.2	**40.5**	33.8	47.7	**18.4**	13.5	24.6	**13.9**	9.1	20.8
Total annual household income												
< $40,000	**24.0**	19.6	29.1	**36.8**	31.5	42.5	**21.4**	17.1	26.6	**15.2**	11.4	20.1
$40,000 to < $100,000	**28.5**	25.0	32.2	**52.9**	48.9	56.8	**13.2**	10.9	16.0	**4.7**	3.1	6.9
≥ $100,000	**27.9**	24.2	31.9	**58.3**	53.6	62.7	**9.5**	7.5	12.1	**2.9** *	1.6	5.1

Data were age-standardised to the 2011 Victorian population.

LL/UL 95% CI = lower/upper limit of 95 per cent confidence interval.

Estimates that are (statistically) significantly different from the corresponding estimate for Victoria are identified by colour as follows: above or below.

Estimates may not add to 100 per cent due to a proportion of 'don't know' or 'refused to say' responses, not reported here.

Relative standard error (RSE) = standard error / point estimate * 100; interpretation below:

* RSE between 25 and 50 per cent; point estimate (%) should be interpreted with caution.

Table 9.13 shows satisfaction with life in females, by selected socioeconomic determinants. When compared with all Victorian women, there were significantly higher proportions of women who rated their life satisfaction as very low (0–4), with the following characteristics:

- unemployed
- total annual household income of less than $40,000.

Table 9.13: Proportion (%) of women, by satisfaction with life and selected socioeconomic determinants, Victoria, 2016

	Very high: 9–10			High: 7–8			Medium: 5–6			Low: 0–4		
		95% CI			95% CI			95% CI			95% CI	
	%	LL	UL	%	LL	UL	%	LL	UL	%	LL	UL
All females	**28.3**	**26.5**	**30.1**	**49.2**	**47.2**	**51.3**	**15.1**	**13.7**	**16.7**	**5.3**	**4.5**	**6.3**
Country of birth												
Australia	**28.5**	26.5	30.7	**49.4**	47.0	51.8	**15.2**	13.5	17.1	**5.8**	4.7	7.0
Overseas	**28.9**	25.6	32.4	**49.0**	45.3	52.7	**14.4**	12.0	17.2	**4.1**	3.0	5.6
Language spoken at home												
English	**29.0**	27.0	31.1	**50.0**	47.7	52.4	**13.7**	12.1	15.5	**5.7**	4.7	6.9
Language other than English	**24.9**	21.5	28.7	**46.4**	42.3	50.5	**19.6**	16.4	23.3	**4.8**	3.1	7.3
Education level												
Did not complete high school	**30.6**	24.2	37.9	**41.9**	35.6	48.6	**15.0**	11.0	20.3	**9.3**	6.1	13.7
Completed high school, or TAFE, or trade certificate, or diploma	**26.0**	23.6	28.7	**49.9**	46.9	52.9	**17.0**	14.8	19.5	**5.0**	3.8	6.5
University, or some other tertiary institute degree	**31.9**	28.9	35.0	**52.9**	49.7	56.1	**10.8**	9.1	12.8	**3.5**	2.5	4.9
Employment status												
Employed	**30.6**	27.4	34.0	**50.6**	47.0	54.1	**14.3**	11.7	17.3	**3.5**	2.3	5.3
Unemployed	**20.5**	13.8	29.4	**42.5**	34.0	51.5	**16.9**	10.9	25.4	**13.4**	8.3	21.1
Not in labour force	**26.7**	23.6	30.2	**46.4**	42.4	50.4	**16.6**	13.8	19.9	**7.5**	5.7	9.7
Total annual household income												
< $40,000	**26.1**	21.8	31.0	**40.2**	35.4	45.3	**21.8**	17.8	26.4	**9.9**	7.4	13.2
$40,000 to < $100,000	**27.9**	24.6	31.5	**50.8**	46.9	54.6	**15.7**	13.0	19.0	**3.9**	2.7	5.6
≥ $100,000	**35.9**	31.6	40.5	**52.3**	47.7	56.8	**8.6**	6.5	11.3	**2.9** *	1.7	4.9

Data were age-standardised to the 2011 Victorian population.

LL/UL 95% CI = lower/upper limit of 95 per cent confidence interval.

Estimates that are (statistically) significantly different from the corresponding estimate for Victoria are identified by colour as follows: above or below.

Estimates may not add to 100 per cent due to a proportion of 'don't know' or 'refused to say' responses, not reported here.

Relative standard error (RSE) = standard error / point estimate * 100; interpretation below:

* RSE between 25 and 50 per cent; point estimate (%) should be interpreted with caution.

Feeling that life is worthwhile

Respondents were asked, 'Overall, to what extent do you feel the things that you do in your life are worthwhile, on a scale from 0 to 10, where 0 is not at all worthwhile and 10 is completely worthwhile?'.

Table 9.14 shows the proportion of adults who felt that life was worthwhile by Department of Health and Human Services region and sex. Overall, 33.9 per cent of adults felt that what they do in life is worthwhile, rating it as very high (score of 9–10); 4.0 per cent of adults rated it as low (score of 0–4). A significantly higher proportion of women felt that what they do in life is worthwhile (score of 9–10) compared with men.

A significantly higher proportion of men who lived in Gippsland Region rated what they do in life as worthwhile (score of 9–10) compared with all Victorian men. A significantly higher proportion of men who lived in rural Victoria rated what they do in life as worthwhile (score of 9–10) compared with their metropolitan counterparts. A significantly higher proportion of women who lived in Hume Region rated what they do in life as worthwhile (score of 9–10) compared with all Victorian women.

Table 9.14: Proportion (%) of adults who feel that what they do in life is worthwhile, by Department of Health and Human Services region and sex, Victoria, 2016

Region	Very high: 9–10			High: 7–8			Medium: 5–6			Low: 0–4		
		95% CI			95% CI			95% CI			95% CI	
	%	LL	UL	%	LL	UL	%	LL	UL	%	LL	UL
Males												
Northern Metropolitan	**24.8**	20.6	29.5	**48.7**	43.4	54.0	**17.4**	13.7	22.0	**6.3**	4.1	9.4
Southern Metropolitan	**29.6**	25.7	33.8	**50.6**	46.1	55.0	**14.2**	11.2	17.7	**2.8** *	1.7	4.8
Eastern Metropolitan	**30.1**	25.3	35.4	**47.0**	41.4	52.7	**14.7**	11.0	19.4	**3.8** *	1.9	7.5
Western Metropolitan	**31.2**	26.5	36.3	**45.6**	40.3	50.9	**13.4**	10.1	17.5	**6.4**	4.0	10.0
All metropolitan regions	**29.2**	26.9	31.5	**48.4**	45.9	51.0	**14.4**	12.7	16.3	**4.6**	3.6	6.0
Barwon-South Western	**27.2**	20.7	35.0	**54.9**	46.4	63.2	**11.1**	7.3	16.3	**		
Gippsland	**39.4**	29.3	50.4	**45.4**	34.8	56.4	**5.8** *	3.3	10.2	**		
Grampians	**29.5**	22.5	37.7	**50.3**	41.7	58.9	**12.9**	8.3	19.4	**2.7** *	1.0	7.2
Hume	**53.5**	42.9	63.8	**32.2**	23.6	42.3	**9.2** *	4.3	18.6	**		
Loddon Mallee	**26.2**	19.3	34.4	**58.6**	49.5	67.2	**6.5** *	3.5	11.6	**6.2** *	2.4	15.2
All rural regions	**33.4**	29.3	37.7	**50.4**	45.8	55.0	**9.1**	7.1	11.6	**4.2** *	2.4	7.2
Victoria	**30.2**	**28.3**	**32.3**	**48.7**	**46.4**	**50.9**	**13.3**	**11.8**	**14.9**	**4.5**	**3.6**	**5.7**
Females												
Northern Metropolitan	**37.1**	32.7	41.8	**45.1**	40.3	50.0	**12.6**	9.6	16.3	**3.9**	2.4	6.2
Southern Metropolitan	**37.3**	33.4	41.4	**44.0**	40.0	48.2	**11.8**	9.4	14.6	**3.5**	2.3	5.2
Eastern Metropolitan	**34.5**	30.2	39.1	**45.1**	40.3	50.1	**14.7**	11.3	18.9	**3.0** *	1.7	5.4
Western Metropolitan	**38.2**	33.4	43.1	**42.2**	37.5	47.2	**12.1**	9.2	15.7	**3.1** *	1.8	5.2
All metropolitan regions	**36.9**	34.7	39.2	**44.2**	41.8	46.5	**12.6**	11.1	14.3	**3.5**	2.7	4.4
Barwon-South Western	**41.4**	34.1	49.1	**41.8**	34.8	49.1	**6.1** *	3.1	11.8	**		
Gippsland	**43.8**	35.9	52.1	**37.4**	29.7	45.8	**10.0**	6.6	15.0	**4.1** *	1.5	10.5
Grampians	**38.1**	29.4	47.7	**45.0**	35.8	54.4	**10.1** *	6.1	16.3	**3.8** *	1.6	8.6
Hume	**38.1**	30.3	46.7	**48.2**	39.4	57.1	**9.6** *	5.4	16.4	**		
Loddon Mallee	**38.8**	30.4	47.9	**46.1**	37.2	55.2	**9.0** *	5.2	15.3	**3.3** *	1.4	7.6
All rural regions	**40.0**	36.0	44.1	**43.6**	39.7	47.7	**8.7**	6.8	11.1	**3.1**	2.0	4.7
Victoria	**37.5**	**35.6**	**39.4**	**44.1**	**42.1**	**46.1**	**11.8**	**10.5**	**13.2**	**3.3**	**2.7**	**4.1**
People												
Northern Metropolitan	**31.8**	28.6	35.1	**46.5**	43.0	50.0	**14.4**	12.0	17.1	**5.3**	3.9	7.3
Southern Metropolitan	**33.5**	30.7	36.5	**47.2**	44.2	50.2	**12.9**	11.0	15.2	**3.2**	2.3	4.4
Eastern Metropolitan	**32.2**	28.9	35.6	**46.1**	42.4	49.9	**14.8**	12.1	17.8	**3.5**	2.2	5.6
Western Metropolitan	**34.8**	31.4	38.4	**43.8**	40.3	47.5	**12.6**	10.3	15.2	**4.8**	3.4	6.8
All metropolitan regions	**33.1**	31.5	34.7	**46.2**	44.5	47.9	**13.5**	12.3	14.8	**4.1**	3.4	4.9
Barwon-South Western	**33.4**	28.4	38.8	**48.6**	43.0	54.3	**9.0**	6.3	12.7	**4.0** *	1.9	8.2
Gippsland	**41.4**	34.8	48.3	**41.5**	34.8	48.5	**8.0**	5.6	11.2	**4.0** *	1.9	8.3
Grampians	**33.6**	27.9	39.8	**47.9**	41.5	54.3	**11.5**	8.2	15.9	**3.4** *	1.8	6.3
Hume	**45.0**	38.1	52.2	**41.6**	34.7	48.8	**9.3**	5.9	14.3	**2.1** *	0.9	4.6
Loddon Mallee	**32.7**	26.5	39.6	**52.0**	44.8	59.1	**7.4**	5.0	11.0	**5.1** *	2.3	11.0
All rural regions	**36.6**	33.7	39.5	**46.9**	43.8	50.0	**9.0**	7.5	10.7	**3.7**	2.6	5.4
Victoria	**33.9**	**32.5**	**35.3**	**46.3**	**44.8**	**47.8**	**12.5**	**11.6**	**13.6**	**4.0**	**3.4**	**4.7**

Metropolitan and rural regions are identified by colour as follows: metropolitan / rural.

Data were age-standardised to the 2011 Victorian population.

LL/UL 95% CI = lower/upper limit of 95 per cent confidence interval.

Estimates that are (statistically) significantly different from the corresponding estimate for Victoria are identified by colour as follows: above or below.

Estimates may not add to 100 per cent due to a proportion of 'don't know' or 'refused to say' responses, not reported here.

Relative standard error (RSE) = standard error / point estimate * 100; interpretation below:

* RSE between 25 and 50 per cent; point estimate (%) should be interpreted with caution.

** RSE greater than, or equal to, 50 per cent; point estimate (%) is unreliable, hence not reported.

Table 9.15 shows the proportion of adults who felt that life was worthwhile by Department of Health and Human Services division and sex. There were no significant differences in the proportion of men and women who felt that life was worthwhile between the divisions.

Table 9.15: Proportion (%) of adults who feel that what they do in life is worthwhile, by Department of Health and Human Services division and sex, Victoria, 2016

	Very high: 9–10			High: 7–8			Medium: 5–6			Low: 0–4		
		95% CI			95% CI			95% CI			95% CI	
Division	%	LL	UL	%	LL	UL	%	LL	UL	%	LL	UL
Males												
North	**25.3**	21.7	29.4	**50.7**	46.1	55.4	**14.5**	11.5	18.0	**6.3**	4.3	9.3
South	**31.0**	27.3	34.9	**49.7**	45.6	53.8	**13.2**	10.5	16.3	**2.8**	1.8	4.6
East	**34.0**	29.4	38.8	**44.5**	39.6	49.6	**14.0**	10.7	18.1	**3.6** *	1.9	6.7
West	**30.1**	26.6	33.9	**48.6**	44.6	52.6	**12.8**	10.4	15.7	**5.5**	3.7	8.2
Victoria	**30.2**	**28.3**	**32.3**	**48.7**	**46.4**	**50.9**	**13.3**	**11.8**	**14.9**	**4.5**	**3.6**	**5.7**
Females												
North	**37.4**	33.4	41.5	**45.3**	41.0	49.6	**12.0**	9.4	15.1	**3.6**	2.4	5.4
South	**38.1**	34.5	41.8	**43.1**	39.4	46.9	**11.7**	9.6	14.3	**3.5**	2.4	5.1
East	**35.4**	31.5	39.4	**45.7**	41.4	50.0	**13.6**	10.7	17.2	**2.8** *	1.6	4.7
West	**38.6**	35.0	42.4	**43.4**	39.8	47.1	**10.3**	8.3	12.9	**3.1**	2.1	4.7
Victoria	**37.5**	**35.6**	**39.4**	**44.1**	**42.1**	**46.1**	**11.8**	**10.5**	**13.2**	**3.3**	**2.7**	**4.1**
People												
North	**32.0**	29.2	35.0	**47.6**	44.4	50.8	**12.8**	10.9	15.1	**5.3**	3.9	7.1
South	**34.6**	32.0	37.3	**46.3**	43.5	49.1	**12.4**	10.7	14.4	**3.2**	2.4	4.3
East	**34.6**	31.6	37.7	**45.2**	41.9	48.6	**13.8**	11.5	16.4	**3.2**	2.1	5.0
West	**34.5**	31.9	37.1	**45.9**	43.2	48.7	**11.5**	9.9	13.4	**4.3**	3.2	5.7
Victoria	**33.9**	**32.5**	**35.3**	**46.3**	**44.8**	**47.8**	**12.5**	**11.6**	**13.6**	**4.0**	**3.4**	**4.7**

Data were age-standardised to the 2011 Victorian population.

LL/UL 95% CI = lower/upper limit of 95 per cent confidence interval.

Estimates that are (statistically) significantly different from the corresponding estimate for Victoria are identified by colour as follows: above or below.

Estimates may not add to 100 per cent due to a proportion of 'don't know' or 'refused to say' responses, not reported here.

Relative standard error (RSE) = standard error / point estimate * 100; interpretation below:

* RSE between 25 and 50 per cent; point estimate (%) should be interpreted with caution.

Table 9.16 and Figure 9.9 show the proportion of adults who felt that what they do in their life is worthwhile by age group and sex. A significantly higher proportion of 65–74-year-old men rated their feeling that what they do in life is worthwhile as very high (score of 9–10) compared with all Victorian men. A significantly lower proportion of 18–24-year-old women rated it as very high (score of 9–10) compared with all Victorian women.

Table 9.16: Proportion (%) of adults who feel that what they do in life is worthwhile, by age group and sex, Victoria, 2016

Sex	Very high: 9–10			High: 7–8			Medium: 5–6			Low: 0–4		
Age group		95% CI			95% CI			95% CI			95% CI	
(years)	%	LL	UL	%	LL	UL	%	LL	UL	%	LL	UL
Males												
18–24	**24.5**	19.4	30.4	**51.2**	44.7	57.7	**17.2**	12.8	22.7	**5.4** *	2.9	10.0
25–34	**25.5**	20.9	30.8	**48.6**	42.8	54.4	**17.3**	13.4	22.1	**7.0**	4.2	11.2
35–44	**29.2**	24.1	34.8	**52.0**	46.2	57.9	**12.1**	8.8	16.5	**3.7** *	1.9	7.1
45–54	**32.9**	28.0	38.2	**50.0**	44.8	55.3	**11.1**	8.4	14.5	**2.9** *	1.7	4.9
55–64	**31.0**	26.8	35.6	**48.0**	43.3	52.8	**13.0**	10.2	16.6	**3.7**	2.4	5.8
65–74	**38.6**	34.0	43.5	**46.2**	41.2	51.1	**6.8**	4.8	9.5	**3.5** *	2.0	6.0
75–84	**36.7**	29.8	44.1	**40.3**	33.0	48.0	**12.0**	7.9	17.8	**3.8** *	1.7	7.9
85+	**34.9**	23.6	48.0	**32.3**	21.9	44.8	**16.7** *	8.7	29.8	**7.4** *	3.1	16.5
18+	**30.2**	**28.2**	**32.2**	**48.7**	**46.5**	**51.0**	**13.3**	**11.8**	**14.9**	**4.6**	**3.6**	**5.7**
Females												
18–24	**29.2**	23.9	35.2	**48.6**	42.3	55.0	**17.5**	13.3	22.7	**4.2** *	2.3	7.5
25–34	**39.4**	33.9	45.1	**44.4**	38.8	50.1	**11.8**	8.5	16.0	**1.7** *	0.8	3.5
35–44	**36.5**	32.0	41.3	**44.1**	39.3	49.0	**11.7**	8.8	15.4	**3.6** *	2.2	6.1
45–54	**38.6**	34.4	43.0	**44.9**	40.5	49.4	**10.5**	8.1	13.6	**3.9** *	2.3	6.4
55–64	**38.1**	33.9	42.5	**43.0**	38.7	47.4	**11.2**	8.6	14.4	**4.4**	2.9	6.7
65–74	**42.1**	37.7	46.6	**41.4**	37.0	45.9	**9.3**	7.1	12.2	**2.4** *	1.4	4.3
75–84	**44.1**	37.9	50.4	**36.8**	31.0	42.9	**8.9**	5.8	13.5	**3.2** *	1.8	5.5
85+	**31.2**	21.7	42.6	**43.5**	32.4	55.2	**8.4** *	4.3	15.8	**5.2** *	2.0	13.0
18+	**37.8**	**35.9**	**39.7**	**43.8**	**41.9**	**45.8**	**11.6**	**10.4**	**12.9**	**3.4**	**2.7**	**4.2**
People												
18–24	**26.8**	23.0	30.9	**50.0**	45.4	54.5	**17.4**	14.2	21.0	**4.8**	3.1	7.5
25–34	**31.8**	28.2	35.7	**46.7**	42.6	50.8	**14.8**	12.1	17.9	**4.6**	3.0	7.0
35–44	**33.1**	29.7	36.7	**47.8**	44.0	51.6	**11.9**	9.6	14.7	**3.7**	2.4	5.5
45–54	**35.9**	32.6	39.3	**47.3**	43.9	50.8	**10.8**	8.9	13.0	**3.4**	2.3	4.9
55–64	**34.8**	31.8	37.9	**45.3**	42.1	48.6	**12.0**	10.1	14.3	**4.1**	3.0	5.6
65–74	**40.4**	37.2	43.7	**43.7**	40.4	47.1	**8.1**	6.5	10.0	**3.0**	2.0	4.4
75–84	**41.0**	36.4	45.9	**38.2**	33.6	43.0	**10.2**	7.6	13.6	**3.4**	2.1	5.4
85+	**32.9**	25.4	41.5	**38.2**	30.3	46.8	**12.3**	7.6	19.4	**6.2** *	3.3	11.5
18+	**34.1**	**32.7**	**35.5**	**46.2**	**44.7**	**47.7**	**12.4**	**11.5**	**13.5**	**4.0**	**3.4**	**4.6**

Data are age-specific estimates, except for '18+', which are crude estimates (not age-standardised) for Victoria.

LL/UL 95% CI = lower/upper limit of 95 per cent confidence interval.

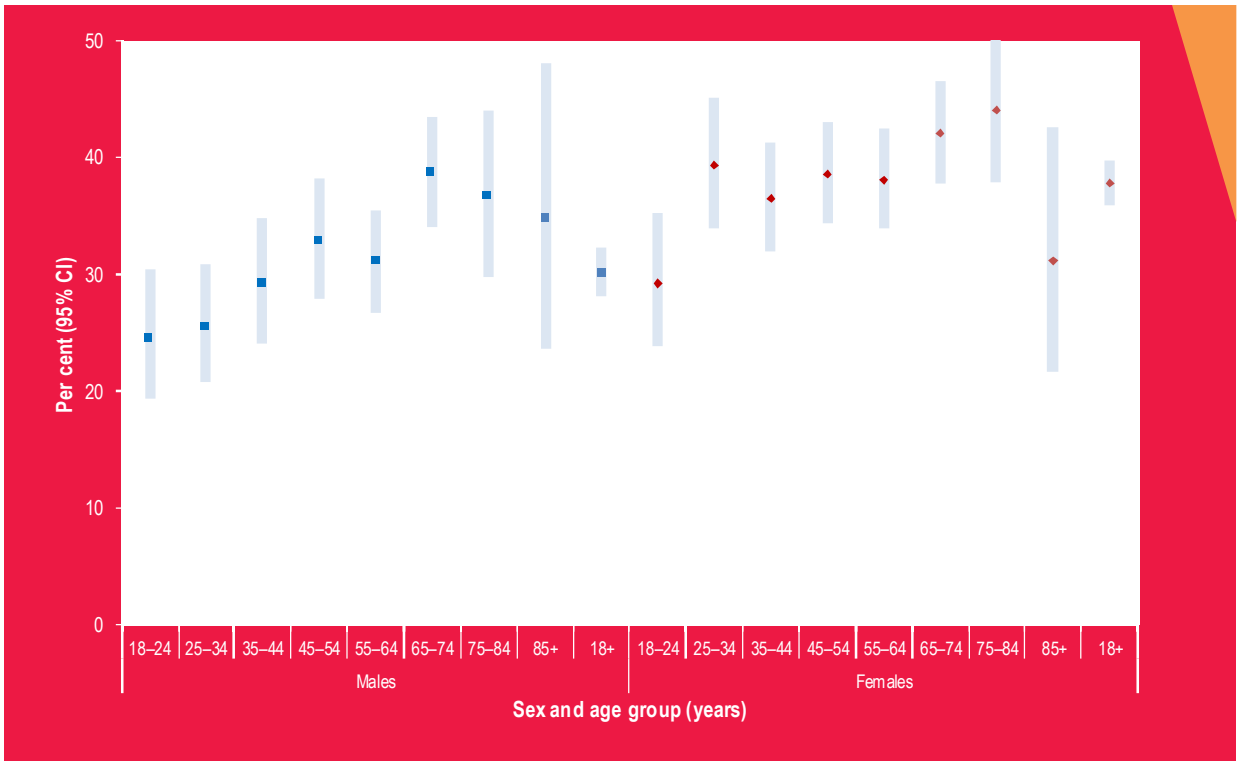
Estimates that are (statistically) significantly different from the corresponding estimate for Victoria are identified by colour as follows: above or below.

Estimates may not add to 100 per cent due to a proportion of 'don't know' or 'refused to say' responses, not reported here.

Relative standard error (RSE) = standard error/point estimate * 100; interpretation below:

* Estimate has a RSE between 25 and 50 per cent and should be interpreted with caution.

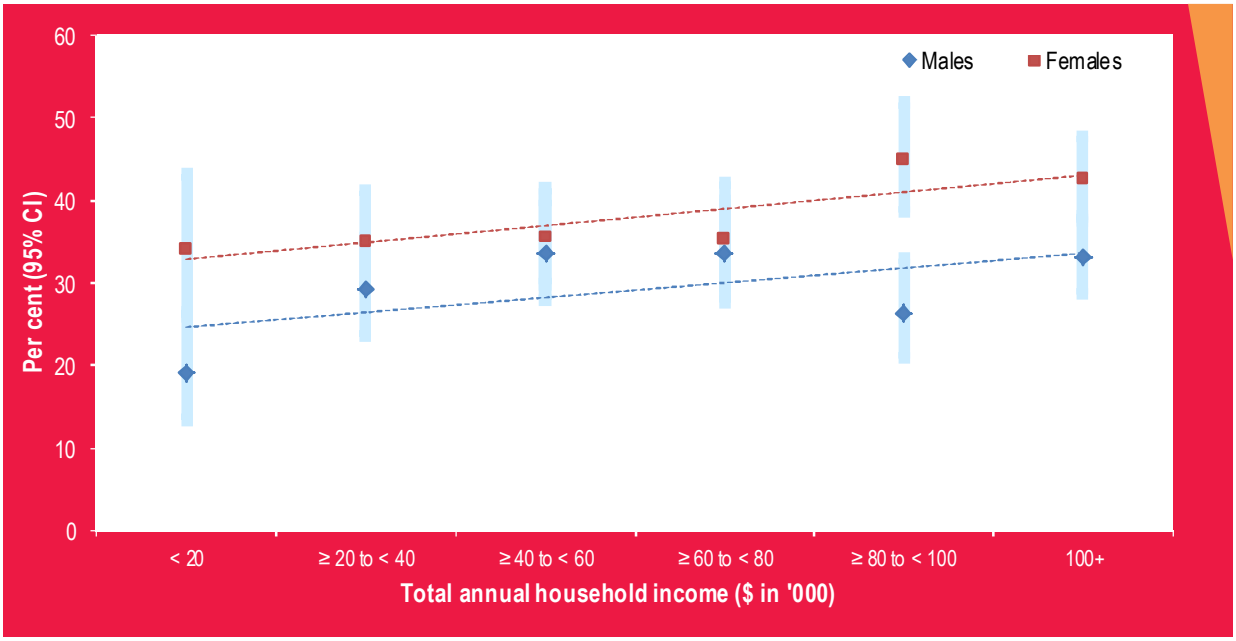
Figure 9.9: Proportion (%) of adults who felt that life was very worthwhile (9–10), by age group and sex, Victoria, 2016



Data are age group specific estimates, except for '18+', which are crude estimates (not age-standardised) for Victoria.
95% CI = 95 per cent confidence interval.

The relationship was investigated between SES and the proportion of the adult population who rated their feeling that what they do in life is worthwhile as very high (score of 9–10), using total annual household income as a measure of SES (Figure 9.10). There was a significant increase in the prevalence of the feeling that life was very worthwhile with increasing total annual household income in women and people, but not men.

Figure 9.10: Proportion (%) of adults who felt life was very (9–10) worthwhile, by total annual household income and sex, Victoria, 2016



Data were age-standardised to the 2011 Victorian population.
95% CI = 95 per cent confidence interval.

Table 9.17 shows the proportion of men who felt that life was worthwhile, by selected socioeconomic determinants. When compared with all Victorian men, there were significantly higher proportions of men who rated their life as worthwhile at a very low level (0–4), with the following characteristics:

- unemployed
- not in the labour force
- total annual household income of less than $40,000.

Table 9.17: Proportion (%) of men who feel that what they do in life is worthwhile, by selected socioeconomic determinants, Victoria, 2016

	Very high: 9–10			High: 7–8			Medium: 5–6			Low: 0–4		
		95% CI			95% CI			95% CI			95% CI	
	%	LL	UL	%	LL	UL	%	LL	UL	%	LL	UL
All males	**30.2**	**28.3**	**32.3**	**48.7**	**46.4**	**50.9**	**13.3**	**11.8**	**14.9**	**4.5**	**3.6**	**5.7**
Country of birth												
Australia	**29.8**	27.4	32.3	**49.3**	46.6	52.1	**13.3**	11.4	15.3	**4.7**	3.5	6.1
Overseas	**31.0**	27.6	34.6	**47.6**	43.8	51.4	**13.3**	11.1	15.9	**4.2**	2.9	6.3
Language spoken at home												
English	**28.7**	26.5	31.1	**49.5**	46.8	52.1	**13.8**	12.0	15.8	**5.0**	3.8	6.4
Language other than English	**33.5**	29.6	37.6	**46.0**	41.9	50.3	**12.4**	10.1	15.2	**3.5**	2.2	5.7
Education level												
Did not complete high school	**30.6**	25.2	36.7	**40.3**	34.1	46.8	**15.4**	11.0	21.0	**6.3** *	3.3	11.8
Completed high school, or TAFE, or trade certificate, or diploma	**29.3**	26.6	32.1	**49.6**	46.5	52.7	**13.9**	11.9	16.2	**4.7**	3.5	6.4
University, or some other tertiary institute degree	**33.3**	30.1	36.7	**50.2**	46.7	53.7	**11.2**	9.2	13.6	**3.0**	1.9	4.8
Employment status												
Employed	**33.5**	30.4	36.8	**49.2**	46.4	52.1	**13.1**	10.7	15.8	**2.7**	1.8	4.0
Unemployed	**12.3** *	7.3	20.1	**34.3**	26.4	43.2	**20.7**	14.5	28.7	**15.6**	10.0	23.5
Not in labour force	**27.8**	22.4	33.9	**41.5**	35.0	48.5	**13.8**	9.6	19.4	**11.8**	7.2	19.0
Total annual household income												
< $40,000	**26.2**	21.8	31.1	**39.2**	33.6	45.0	**18.5**	14.5	23.3	**10.6**	7.3	15.1
$40,000 to < $100,000	**31.3**	27.8	35.0	**50.3**	46.4	54.2	**13.6**	11.1	16.7	**3.3** *	2.0	5.5
≥ $100,000	**33.2**	28.8	38.0	**53.3**	48.4	58.2	**10.1**	7.9	12.9	**2.2** *	1.1	4.5

Data were age-standardised to the 2011 Victorian population.
LL/UL 95% CI = lower/upper limit of 95 per cent confidence interval.
Estimates that are (statistically) significantly different from the corresponding estimate for Victoria are identified by colour as follows: above or below.
Estimates may not add to 100 per cent due to a proportion of 'don't know' or 'refused to say' responses, not reported here.
Relative standard error (RSE) = standard error / point estimate * 100; interpretation below:
* RSE between 25 and 50 per cent; point estimate (%) should be interpreted with caution.

Table 9.18 shows the proportion of women who felt that life was worthwhile, by selected socioeconomic determinants. When compared with all Victorian women there were significantly higher proportions of women who rated their life as worthwhile at a very low level (0–4), with the following characteristics:

- did not complete high school
- unemployed
- total annual household income of less than $40,000.

Table 9.18: Proportion (%) of women who feel that what they do in life is worthwhile, by selected socioeconomic determinants, Victoria, 2016

	Very high: 9–10			High: 7–8			Medium: 5–6			Low: 0–4		
		95% CI			95% CI			95% CI			95% CI	
	%	LL	UL	%	LL	UL	%	LL	UL	%	LL	UL
All females	**37.5**	**35.6**	**39.4**	**44.1**	**42.1**	**46.1**	**11.8**	**10.5**	**13.2**	**3.3**	**2.7**	**4.1**
Country of birth												
Australia	**38.7**	36.4	41.0	**45.0**	42.6	47.4	**11.8**	10.3	13.5	**3.2**	2.4	4.1
Overseas	**36.1**	32.6	39.7	**42.3**	38.7	46.0	**11.5**	9.4	14.0	**3.4**	2.4	4.8
Language spoken at home												
English	**38.2**	36.0	40.5	**45.6**	43.3	48.0	**11.2**	9.8	12.8	**3.1**	2.4	4.0
Language other than English	**34.8**	31.0	38.9	**40.1**	36.2	44.1	**13.4**	10.9	16.5	**4.0**	2.7	5.8
Education level												
Did not complete high school	**32.5**	26.7	38.8	**39.7**	33.4	46.3	**14.9**	10.6	20.7	**8.6**	5.4	13.5
Completed high school, or TAFE, or trade certificate, or diploma	**36.8**	34.0	39.7	**45.2**	42.2	48.2	**12.1**	10.2	14.2	**3.2**	2.3	4.3
University, or some other tertiary institute degree	**40.1**	37.0	43.3	**46.1**	43.0	49.3	**10.2**	8.5	12.3	**1.7**	1.1	2.5
Employment status												
Employed	**41.9**	38.4	45.5	**43.4**	40.2	46.7	**11.4**	9.0	14.3	**2.0**	1.3	2.9
Unemployed	**26.7**	19.3	35.6	**31.4**	23.3	40.7	**22.7**	15.3	32.3	**11.0** *	6.6	17.9
Not in labour force	**35.3**	31.7	39.1	**43.1**	39.2	47.1	**11.0**	9.0	13.5	**5.2**	3.7	7.2
Total annual household income												
< $40,000	**36.1**	31.4	41.1	**36.8**	32.0	41.8	**14.1**	11.0	18.0	**8.9**	6.2	12.6
$40,000 to < $100,000	**37.1**	33.5	40.9	**45.9**	42.1	49.8	**11.6**	9.3	14.5	**2.7** *	1.6	4.5
≥ $100,000	**42.6**	37.6	47.7	**45.4**	40.6	50.2	**10.6**	7.6	14.5	**1.4** *	0.6	3.1

Data were age-standardised to the 2011 Victorian population.

LL/UL 95% CI = lower/upper limit of 95 per cent confidence interval.

Estimates that are (statistically) significantly different from the corresponding estimate for Victoria are identified by colour as follows: above or below.

Estimates may not add to 100 per cent due to a proportion of 'don't know' or 'refused to say' responses, not reported here.

Relative standard error (RSE) = standard error / point estimate * 100; interpretation below:

* RSE between 25 and 50 per cent; point estimate (%) should be interpreted with caution.

10. Selected chronic diseases

Key findings

Selected chronic diseases

Diabetes

2016

6.8%
of adults had been diagnosed with diabetes

7.7%
of men had been diagnosed with diabetes

6.0%
of women had been diagnosed with diabetes

There was a statistically significant decrease in the prevalence of diabetes with increasing total annual household income in men but not in women

Heart disease

2016

7.3%
of adults had been diagnosed with heart disease

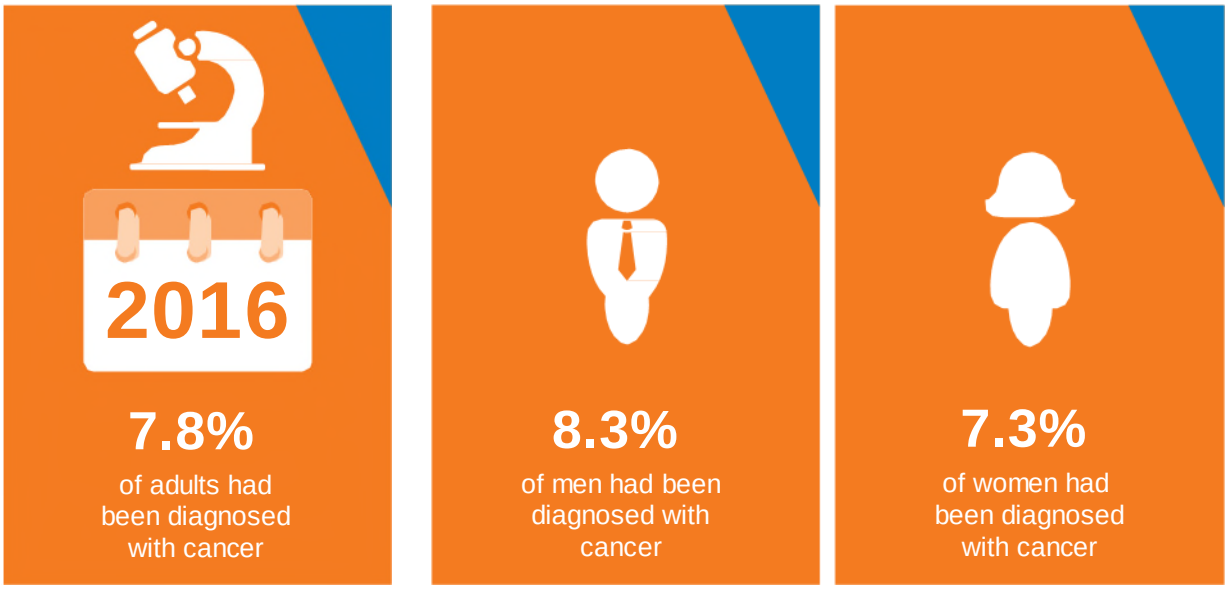
9.0%
of men had been diagnosed with heart disease

5.8%
of women had been diagnosed with heart disease

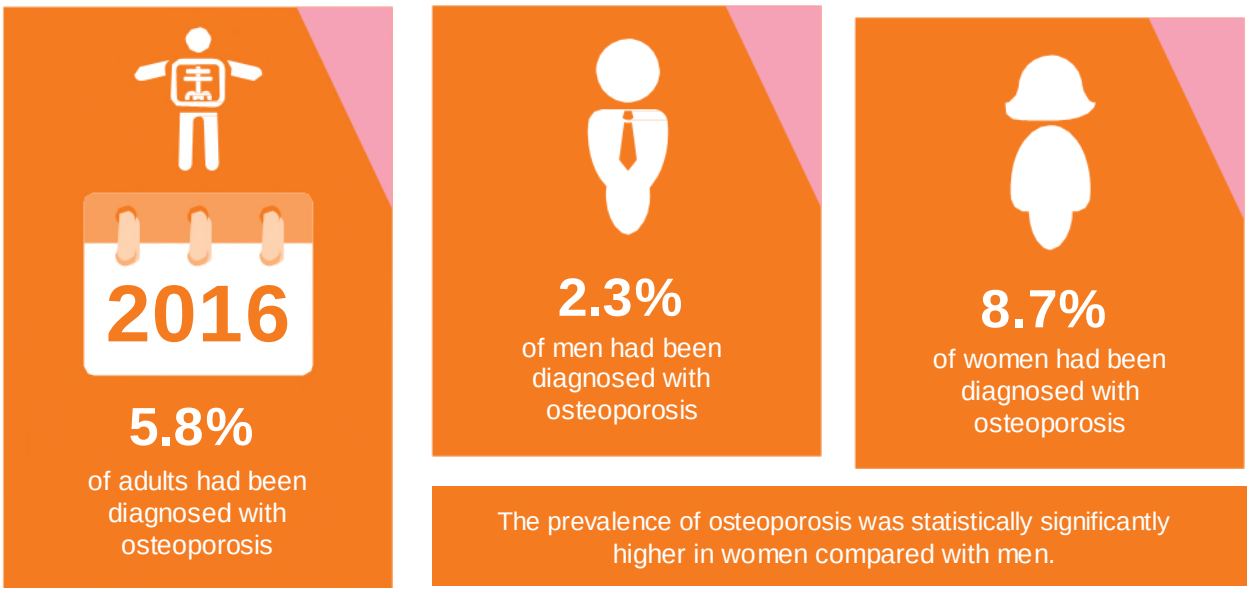
The prevalence of heart disease was statistically significantly higher in men compared with women.

Stroke

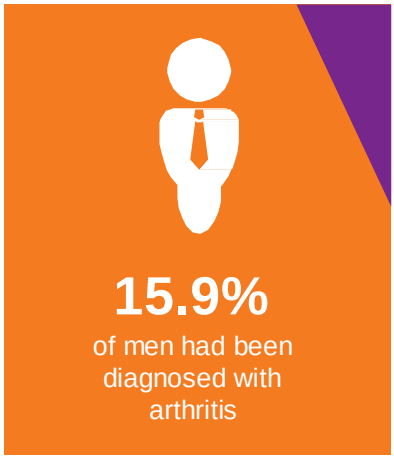
Cancer

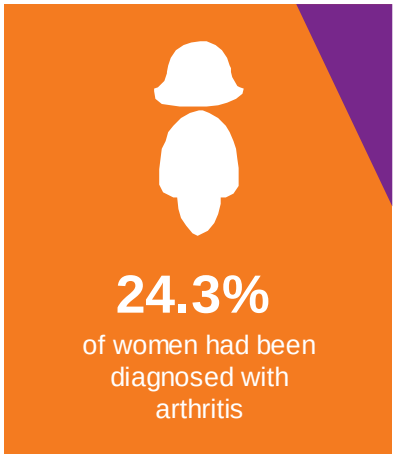


Osteoporosis



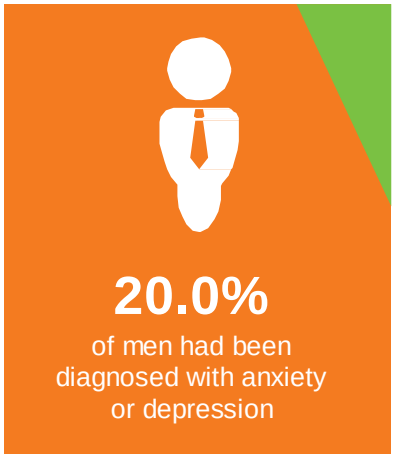
Arthritis

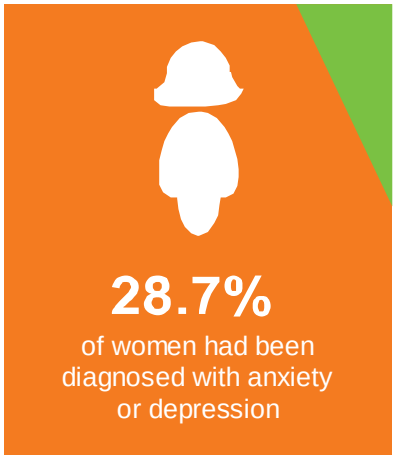




The prevalence of arthritis was statistically significantly higher in women compared with men.

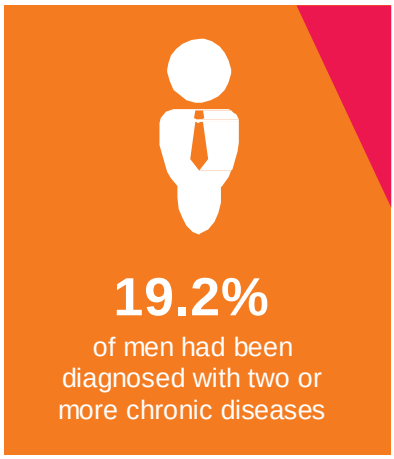
Anxiety or depression

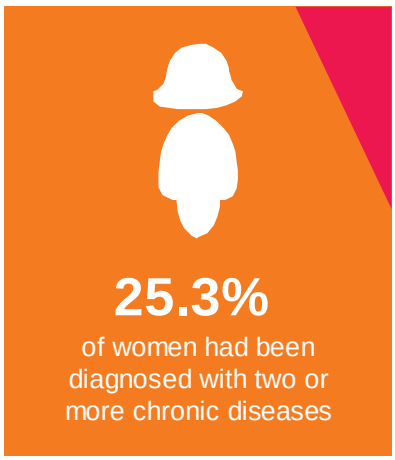




The prevalence of anxiety or depression was statistically significantly higher in women compared with men.

Multiple chronic diseases





The prevalence of two or more chronic disease was statistically significantly higher in women compared with men.

Selected chronic diseases

Introduction

The term ‘chronic disease’ applies to a group of diseases that tend to be long lasting and have persistent effects. Chronic diseases have a range of potential impacts on a person’s individual circumstances, including quality of life and broader social and economic effects. Chronic diseases are the leading cause of fatal burden of disease (the amount of life lost due to people dying early) in most age and sex groups (AIHW 2015a) and are the leading cause of illness, disability and death in Australia, accounting for about 90 per cent of all deaths in 2011 (AIHW 2014).

Survey respondents were asked whether they had, at any time in their life, been told by a doctor that they had any of the following conditions: heart disease, stroke, cancer, osteoporosis, depression or arthritis.

Diabetes

Diabetes mellitus is a common chronic condition characterised by high blood glucose (sugar) levels. The two main types of diabetes mellitus are type 1 (insulin-dependent) diabetes and type 2 diabetes. Gestational diabetes is another form of the condition that affects females during pregnancy, although they have had no prior diagnosis of diabetes. This condition usually abates after birth but is a risk factor for developing type 2 diabetes later in life.

Type 1 diabetes is an autoimmune disease in which the body’s immune system destroys the insulin-producing cells of the pancreas, rendering the individual unable to produce enough of the hormone insulin, which is essential for controlling glucose levels in the blood. It most commonly occurs in those under the age of 30 years and may be referred to as juvenile-onset diabetes. People with type 1 diabetes require replacement insulin injections (usually several times a day) for life. Unlike type 2 diabetes, it is not caused by lifestyle factors. Type 1 diabetes accounts for approximately 10–15 per cent of diabetes mellitus and, while a great deal of research is being carried out, at this stage nothing can be done to prevent or cure type 1 diabetes.

Type 2 diabetes is the most common form of diabetes, which occurs mostly in people 50 years of age or older. Risk factors for type 2 diabetes include being overweight or obese and having a family history of the condition. Type 2 diabetes accounts for around 85 per cent of all cases of diabetes mellitus (Diabetes Australia, 2015). It is caused by insufficient production of insulin and/or the body becoming resistant to high glucose levels in the blood. In many cases, appropriate diet and exercise can control type 2 diabetes. More severe cases require treatment with oral glucose-lowering drugs, insulin injections or a combination of these. Left untreated, diabetes mellitus can cause kidney, eye and nerve damage, heart disease, stroke and impotence.

Lifetime prevalence of diabetes

Survey respondents were asked: 'Have you ever been told by a doctor that you have diabetes?'. Overall, 6.8 per cent of people in 2016 responded that they had been diagnosed with diabetes (types 1, 2 or other, but excluding gestational diabetes). Table 10.1 shows the age-adjusted prevalence of diabetes, by Department of Health and Human Services region and sex. There was no difference in the prevalence of diabetes in men and women whether they lived in rural or metropolitan Victoria.

Table 10.1: Prevalence of diabetes, by Department of Health and Human Services region and sex, Victoria, 2016

	Males			Females[a]			People		
		95% CI			95% CI			95% CI	
Region	%	LL	UL	%	LL	UL	%	LL	UL
Northern Metropolitan	**9.6**	7.0	13.1	**6.1**	4.3	8.6	**7.5**	5.9	9.4
Southern Metropolitan	**8.3**	6.6	10.5	**5.4**	3.9	7.4	**6.7**	5.6	8.2
Eastern Metropolitan	**6.0**	4.1	8.8	**5.9**	4.1	8.5	**6.0**	4.6	7.7
Western Metropolitan	**8.9**	6.5	12.2	**5.2**	3.6	7.4	**6.7**	5.3	8.6
All metropolitan regions	**7.9**	6.8	9.2	**5.7**	4.7	6.8	**6.7**	6.0	7.5
Barw on-South Western	**7.8**	5.5	11.0	**8.1**	5.1	12.4	**7.9**	6.0	10.2
Gippsland	**6.1**	3.9	9.5	**6.6**	4.4	9.7	**6.5**	4.8	8.8
Grampians	**7.4** *	4.2	13.0	**5.0**	3.3	7.5	**6.1**	4.1	9.1
Hume	**4.9** *	2.9	8.3	**6.0**	4.0	9.0	**5.5**	3.9	7.9
Loddon Mallee	**6.7**	4.2	10.7	**9.0** *	5.4	14.6	**7.5**	5.2	10.7
All rural regions	**6.8**	5.4	8.6	**7.0**	5.6	8.7	**6.9**	5.9	8.1
Victoria	**7.7**	**6.8**	**8.8**	**6.0**	**5.2**	**6.9**	**6.8**	**6.2**	**7.4**

Metropolitan and rural regions are identified by colour as follows: metropolitan / rural.

Data were age-standardised to the 2011 Victorian population.

LL/UL 95% CI = lower/upper limit of 95 per cent confidence interval.

Estimates that are (statistically) significantly different from the corresponding estimate for Victoria are identified by colour as follows: above or below.

Estimates may not add to 100 per cent due to a proportion of 'don't know' or 'refused to say' responses, not reported here.

Relative standard error (RSE) = standard error / point estimate * 100; interpretation below:

* RSE between 25 and 50 per cent; point estimate (%) should be interpreted with caution.

[a] Excludes pregnancy induced diabetes.

Table 10.2 shows the age-adjusted prevalence of diabetes, by Department of Health and Human Services division and sex. There was no difference in the prevalence of diabetes in men and women by departmental divisions.

Table 10.2: Prevalence of diabetes, by Department of Health and Human Services division and sex, Victoria, 2016

	Males			Females[a]			People		
		95% CI			95% CI			95% CI	
Division	%	LL	UL	%	LL	UL	%	LL	UL
North	**9.1**	7.0	11.9	**6.7**	5.0	8.9	**7.6**	6.2	9.3
South	**8.1**	6.5	10.0	**5.5**	4.2	7.2	**6.7**	5.7	8.0
East	**5.8**	4.2	7.9	**6.0**	4.3	8.1	**5.9**	4.7	7.4
West	**8.3**	6.5	10.4	**5.9**	4.7	7.4	**6.9**	5.8	8.1
Victoria	**7.7**	**6.8**	**8.8**	**6.0**	**5.2**	**6.9**	**6.8**	**6.2**	**7.4**

Data were age-standardised to the 2011 Victorian population.

LL/UL 95% CI = lower/upper limit of 95 per cent confidence interval.

Estimates that are (statistically) significantly different from the corresponding estimate for Victoria are identified by colour as follows: above or below.

Estimates may not add to 100 per cent due to a proportion of 'don't know' or 'refused to say' responses, not reported here.

[a] Excludes pregnancy induced diabetes.

Table 10.3 shows the prevalence of diabetes, by age group and sex. The prevalence of diabetes increased with age, being highest in people 55 years or age or older.

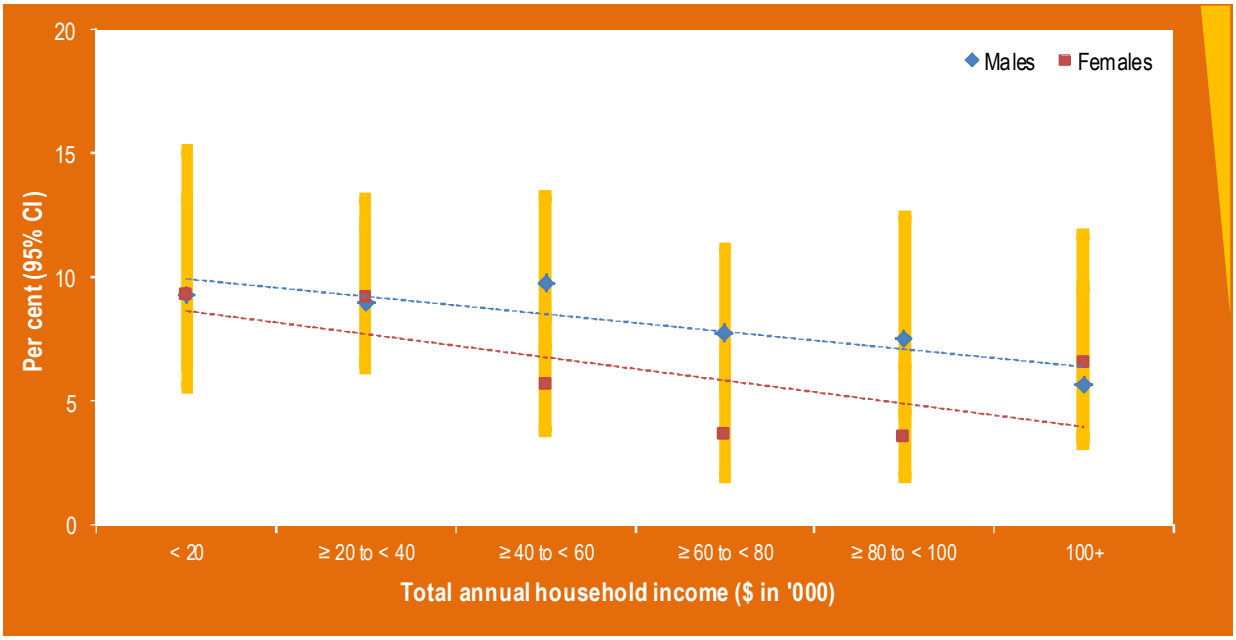
Table 10.3: Prevalence of diabetes, by age group and sex, Victoria, 2016

Age group	Males			Females[a]			People		
		95% CI			95% CI			95% CI	
(years)	%	LL	UL	%	LL	UL	%	LL	UL
18–24	**			**			1.9 *	0.9	4.1
25–34	**			**			1.0 *	0.4	2.2
35–44	3.9 *	2.2	6.9	2.4 *	1.3	4.3	3.1	2.0	4.7
45–54	5.0	3.3	7.6	4.4	2.9	6.8	4.7	3.5	6.4
55–64	14.6	11.6	18.3	9.3	7.2	11.9	11.8	9.9	14.0
65–74	20.3	16.5	24.7	16.3	13.2	20.0	18.2	15.7	21.0
75–84	24.6	18.3	32.3	15.2	10.9	20.7	19.0	15.3	23.5
85+	14.6 *	7.4	26.5	15.9	9.6	25.1	15.3	10.2	22.2
18+	**7.6**	**6.6**	**8.7**	**6.3**	**5.5**	**7.3**	**7.0**	**6.3**	**7.7**

Data are age-specific estimates, except for '18+', which are crude estimates (not age-standardised) for Victoria.
LL/UL 95% CI = lower/upper limit of 95 per cent confidence interval.
Estimates that are (statistically) significantly different from the corresponding estimate for Victoria are identified by colour as follows: above or below.
Estimates may not add to 100 per cent due to a proportion of 'don't know' or 'refused to say' responses, not reported here.
Relative standard error (RSE) = standard error/point estimate * 100; interpretation below:
* Estimate has a RSE between 25 and 50 per cent and should be interpreted with caution.
** Estimate has a RSE greater than 50 per cent and is not reported as it is unreliable for general use.
[a] Excludes pregnancy induced diabetes.

Figure 10.1 shows the relationship between the prevalence of diabetes and total annual household income, as a measure of SES. The prevalence of diabetes decreased significantly with increasing total annual household income in men but not in women.

Figure 10.1: Prevalence of diabetes, by total annual household income and sex, Victoria, 2016



Data were age-standardised to the 2011 Victorian population.
95% CI = 95 per cent confidence interval.

Asthma

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 medical treatment. There is evidence that environmental and lifestyle factors (viral infections, exercise, exposure to irritants and air pollutants), as well as genetic factors such as an allergic tendency, increase the risk of developing asthma (ACAM 2011). The disease affects all age groups, but particularly young people, and ranges in severity from intermittent, mild symptoms to a severe, incapacitating and life-threatening disorder.

The Victorian Population Health Survey examined the prevalence of doctor-diagnosed self-reported asthma. Respondents who indicated that they had been diagnosed with asthma were subsequently asked if they had experienced symptoms of asthma (wheezing, coughing, shortness of breath, chest tightness) in the previous 12 months. Those who indicated that they had were classified as having 'current' asthma. In addition, respondents who indicated that they were taking concurrent medication to manage asthma but had not experienced symptoms in the previous 12 months were also included in the estimate of the prevalence of 'current' asthma. This aligns with the definitions recommended by the Australian Centre for Asthma Monitoring (ACAM) for the purposes of estimating the prevalence of asthma (ACAM 2007).

Table 10.4 shows the prevalence of doctor-diagnosed current asthma, by Department of Health and Human Services region and sex. Overall, the prevalence of current asthma in Victorians was 11.5 per cent, with a significantly higher prevalence observed in females compared with males. There were no significant differences in the prevalence of current asthma in males or females who lived in rural compared with metropolitan Victoria. Similarly, there were no significant regional differences in the prevalence of current asthma in either males or females.

Table 10.5 shows the prevalence of current asthma by Department of Health and Human Services division and sex. The proportion of adults who had doctor-diagnosed current asthma was similar across all departmental divisions among men, women and adults.

Table 10.6 shows the prevalence of current asthma, by age group and sex. A significantly higher proportion of males 85 year of age or older had current asthma compared with all Victorian males.

Heart disease

Table 10.4 shows the lifetime prevalence of self-reported doctor-diagnosed heart disease, by Department of Health and Human Services region and sex. Overall, the prevalence of heart disease in Victorians was 7.3 per cent, with a significantly higher prevalence observed in males compared with females. There were no significant differences in the prevalence of heart disease in males or females who lived in rural compared with metropolitan Victoria. A significantly higher proportion of females who lived in Gippsland Region had doctor-diagnosed heart disease compared with all Victorian females.

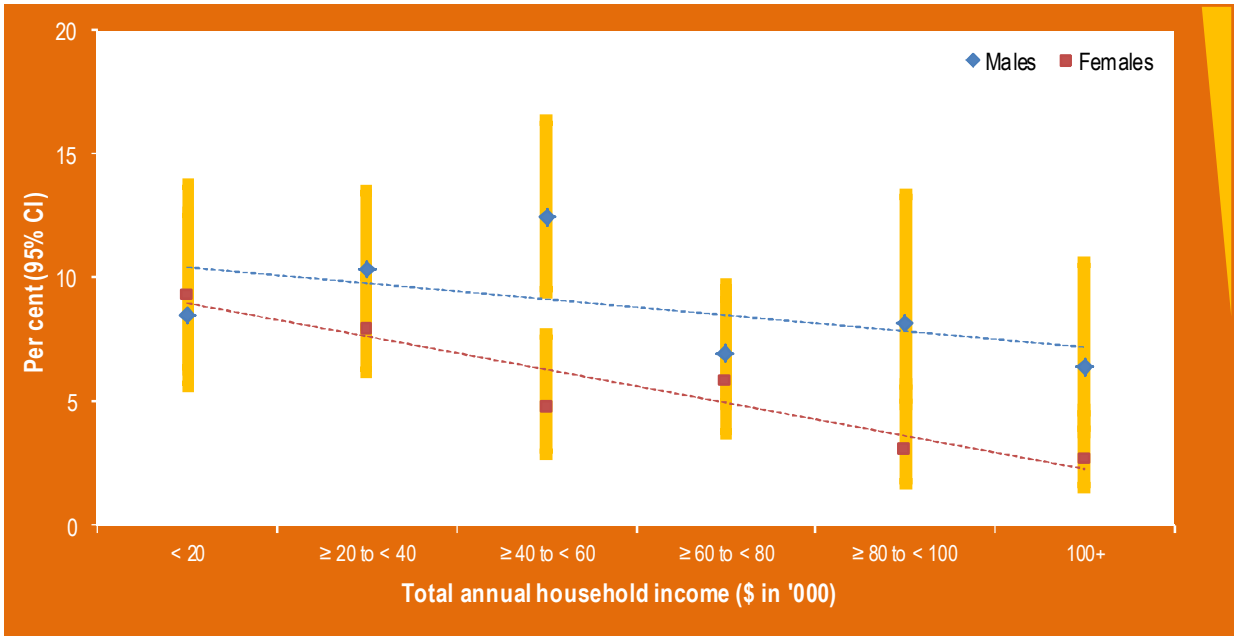
Table 10.5 shows the lifetime prevalence of doctor-diagnosed heart disease, by Department of Health and Human Services division and sex. The proportion of adults who had doctor-diagnosed heart disease was similar across all departmental divisions among men, women and adults.

Table 10.6 shows the lifetime prevalence of self-reported doctor-diagnosed heart disease, by age group and sex. There was an age-related increase in the prevalence of heart disease, with males and females

65 years of age or older having a significantly higher prevalence compared with all Victorian males and females.

Figure 10.2 shows the relationship between the prevalence of heart disease and total annual household income, as a measure of SES. There was a significant decline in the prevalence of heart disease with increasing total annual household income in women and people, but not men.

Figure 10.2: Proportion (%) of adults with doctor-diagnosed heart disease, by total annual household income and sex, Victoria, 2016



Data were age-standardised to the 2011 Victorian population.
95% CI = 95 per cent confidence interval.

Stroke

Table 10.4 shows the lifetime prevalence of self-reported doctor-diagnosed stroke, by Department of Health and Human Services region and sex. The prevalence of stroke in Victorians was 2.7 per cent and was not significantly different between the sexes. There were no significant differences in the prevalence of stroke in males or females who lived in rural compared with metropolitan Victoria. Similarly, there were no significant regional differences in the prevalence of stroke in either males or females.

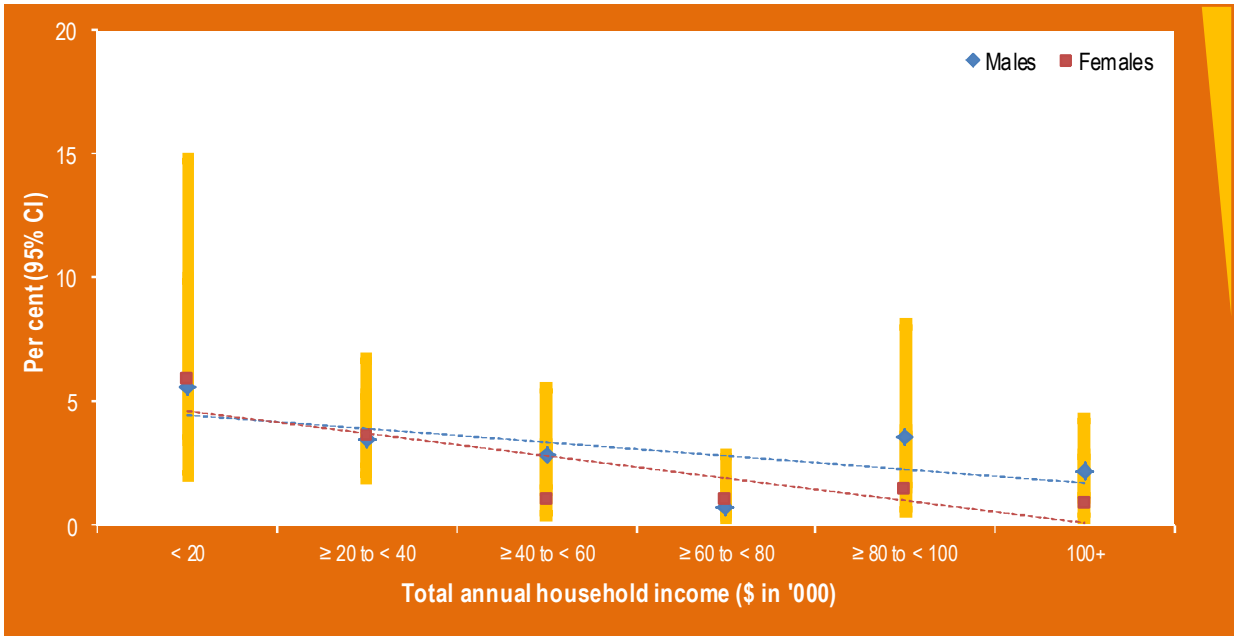
Table 10.5 shows the lifetime prevalence of doctor-diagnosed stroke, by Department of Health and Human Services division and sex. The proportion of adults who had doctor-diagnosed stroke was similar across all departmental divisions among men, women and adults.

Table 10.6 shows the lifetime prevalence of self-reported doctor-diagnosed stroke, by age group and sex. Stroke was rarely reported in males and females in the 18–44-year age category but increasingly reported with increasing age thereafter. There was a significantly higher prevalence of stroke in males 65

years of age or older compared with all Victorian males. There was a significantly higher prevalence of stroke in females 85 years of age or older compared with all Victorian females.

Figure 10.3 shows the relationship between the prevalence of stroke and total annual household income, as a measure of SES. The prevalence of stroke decreased significantly with increasing total annual household income for females; however, no significant trend was observed for males.

Figure 10.3: Proportion (%) of adults with doctor-diagnosed stroke, by total annual household income and sex, Victoria, 2016



Data were age-standardised to the 2011 Victorian population.
95% CI = 95 per cent confidence interval.

Cancer

Table 10.4 shows the lifetime prevalence of self-reported doctor-diagnosed cancer, by Department of Health and Human Services region and sex. The prevalence of cancer in Victorians was 7.8 per cent in 2016 and was not significantly different between the sexes. There were no significant differences in the prevalence of cancer in males or females who lived in rural compared with metropolitan Victoria. Similarly, there were no significant regional differences in the prevalence of cancer in men, women and people compared with the prevalence in all Victorian men, women and people, respectively.

Table 10.5 shows the lifetime prevalence of doctor-diagnosed cancer, by Department of Health and Human Services division and sex. The proportion of adults who had doctor-diagnosed cancer was similar across all departmental divisions among men, women and adults.

Table 10.6 shows the lifetime prevalence of self-reported doctor-diagnosed cancer, by age group and sex. There was an age-related increase in the prevalence of cancer in both males and females, with a significantly higher prevalence observed in males and females 55 years of age or older compared with all Victorian males and females, respectively.

Figure 10.4 shows the relationship between the prevalence of cancer and total annual household income, as a measure of SES. In 2016, there was no significant trend in the prevalence of cancer, with increasing total annual household income in males, females or people.

Figure 10.4: Proportion (%) of adults with doctor-diagnosed cancer, by total annual household income and sex, Victoria, 2016

Data were age-standardised to the 2011 Victorian population.
95% CI = 95 per cent confidence interval.

Osteoporosis

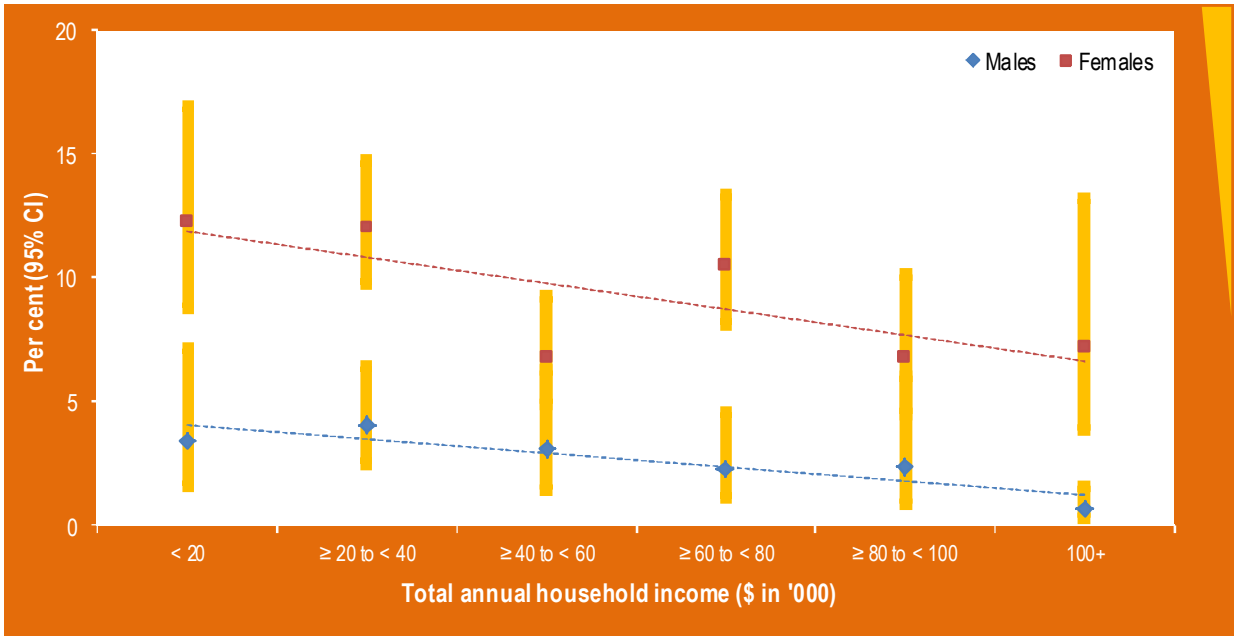
Table 10.4 shows the lifetime prevalence of self-reported doctor-diagnosed osteoporosis, by Department of Health and Human Services region and sex. The prevalence of osteoporosis was 5.8 per cent, with a significantly higher prevalence observed in females compared with males. There were no significant differences in the prevalence of osteoporosis in males or females who lived in rural compared with metropolitan Victoria. A significantly higher proportion of males who lived in Gippsland Region had doctor-diagnosed osteoporosis compared with all Victorian males.

Table 10.5 shows the lifetime prevalence of doctor-diagnosed osteoporosis, by Department of Health and Human Services division and sex. The proportion of adults who had doctor-diagnosed osteoporosis was similar across all departmental divisions among men, women and adults.

Table 10.6 shows the lifetime prevalence of self-reported doctor-diagnosed osteoporosis, by age group and sex. There was an age-related increase in the prevalence of osteoporosis in both males and females, with a significantly higher prevalence observed in males 65 years of age or older and females 55 years of age or older compared with all Victorian males and females, respectively.

Figure 10.5 shows the relationship between the prevalence of osteoporosis and total annual household income, as a measure of SES. In 2016, there was a significant decline in the prevalence of osteoporosis, with increasing total annual household income in males and people, but not in females.

Figure 10.5: Proportion (%) of adults with doctor-diagnosed osteoporosis, by total annual household income and sex, Victoria, 2016



Data were age-standardised to the 2011 Victorian population.
95% CI = 95 per cent confidence interval.

Arthritis

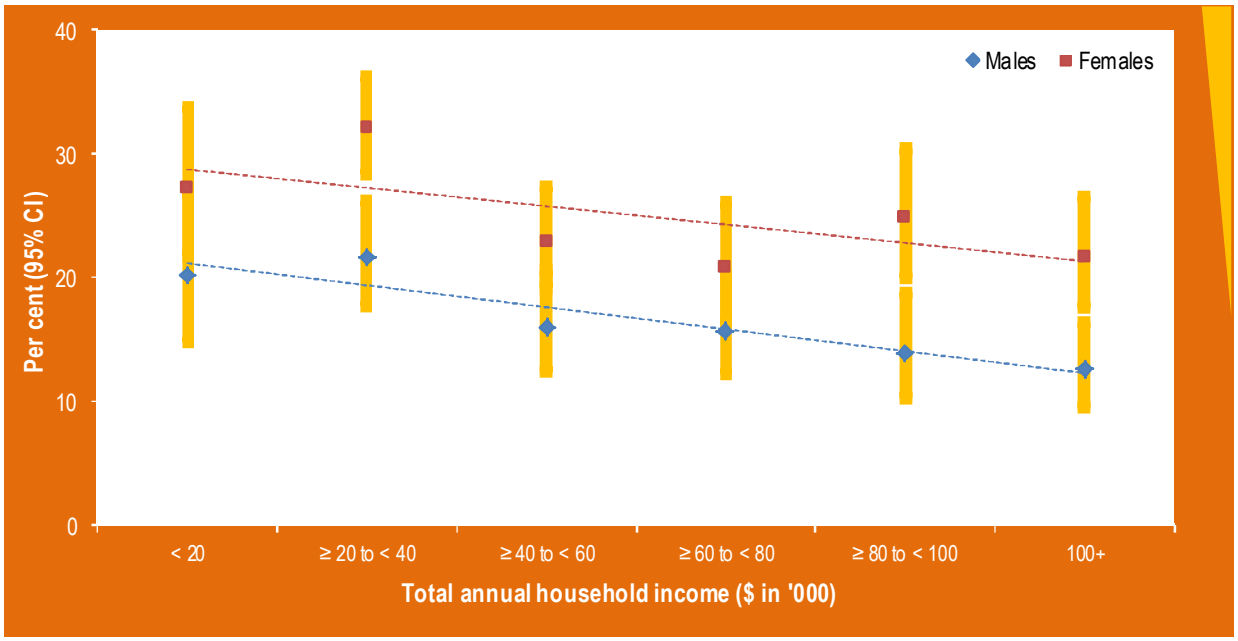
Table 10.4 shows the lifetime prevalence of self-reported doctor-diagnosed arthritis, by Department of Health and Human Services region and sex. The prevalence of arthritis was 20.4 per cent, with a significantly higher prevalence observed in females compared with males. There were no significant differences in the prevalence of arthritis in men, women and people who lived in rural regions compared with metropolitan regions. Similarly, there were no significant regional differences in the prevalence of arthritis in men, women and people compared with the prevalence in all Victorian men, women and people, respectively.

Table 10.5 shows the lifetime prevalence of doctor-diagnosed arthritis, by Department of Health and Human Services division and sex. The proportion of adults who had doctor-diagnosed arthritis was similar across all departmental divisions among men, women and adults.

Table 10.6 shows the lifetime prevalence of self-reported doctor-diagnosed arthritis, by age group and sex. There was an age-related increase in the prevalence of arthritis, with males and females 55 years of age or older having a significantly higher prevalence compared with all Victorian males and females.

Figure 10.6 shows the relationship between the prevalence of arthritis and total annual household income, as a measure of SES. The prevalence of arthritis decreased significantly with increasing total annual household income in males, but not in females.

Figure 10.6: Proportion (%) of adults with doctor-diagnosed arthritis, by total annual household income and sex, Victoria, 2016



Data were age-standardised to the 2011 Victorian population.
95% CI = 95 per cent confidence interval.

Depression or anxiety

The World Health Organization defines health as 'a state of complete physical, mental and social well-being, and not merely the absence of disease or infirmity' (WHO 2015). It reports that more than 450 million people across the world suffer from mental disorders, and many more suffer from mental health problems. Mental health includes emotional, psychological and social wellbeing, and it affects how we think, feel and act as we cope with life. It also helps determine how we handle stress, relate to others and make choices. Wellbeing, or positive mental health, improves our quality of life in many ways including: better physical health; faster recovery from illness; fewer limitations in daily life; higher educational attainment; greater likelihood of employment and earnings; and better relationships.

The Victorian Population Health Survey collects data on selected mental health disorders and primarily focuses on the affective disorders of depression and anxiety. These disorders were selected because they are the most common mental health disorders. Moreover, there is strong and consistent evidence of an association between depression and anxiety and the National Health Priority Area conditions of heart disease, stroke, diabetes, asthma, cancer, arthritis and osteoporosis (Clarke 2009; Clarke & Currie 2009). Depression is also associated with poorer health outcomes in those with physical disease. While depression and anxiety are, for the most part, highly treatable disorders, continuing social stigma about mental illness often prevents people from seeking the help they need.

Lifetime prevalence of depression or anxiety

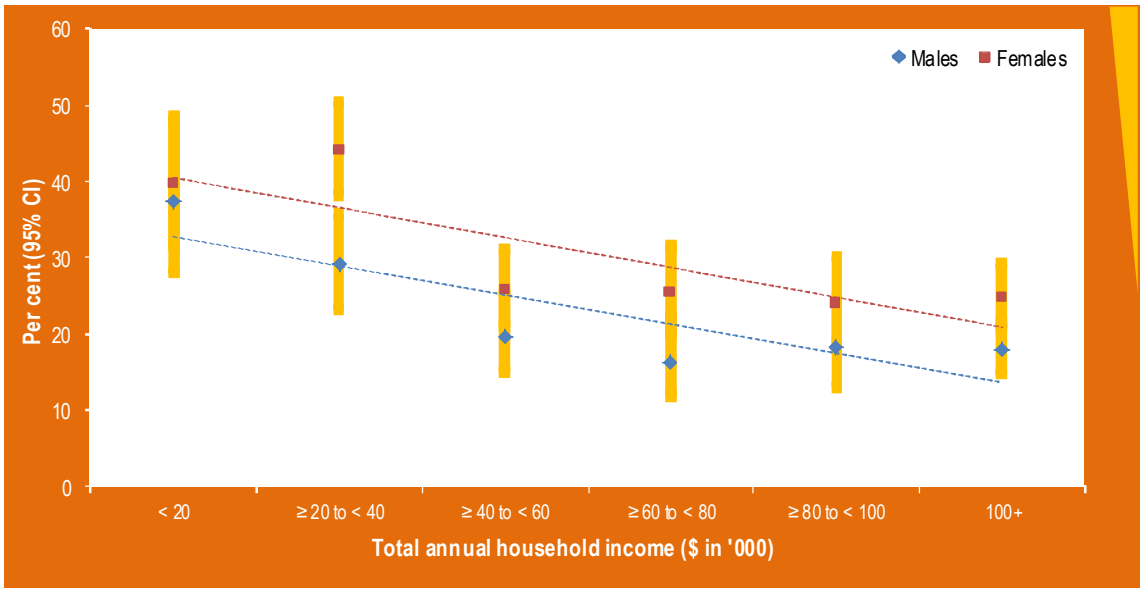
Respondents were asked if they had ever been diagnosed with depression or anxiety by a doctor. This is a measure of the lifetime prevalence of these two disorders and does not necessarily mean that the respondent was experiencing symptoms at the time of interview. It should be noted that depression and anxiety are two separate conditions; however, the results that are presented in this chapter are a combination of both disorders. Table 10.4 shows the lifetime prevalence of depression or anxiety, by Department of Health and Human Services region and sex. Overall, 20.0 per cent of males and a significantly higher proportion of females (28.7 per cent) had ever been diagnosed with depression or anxiety by a doctor. There were no significant differences in the lifetime prevalence of depression or anxiety in men, women and people who lived in rural regions compared with metropolitan regions.

Table 10.5 shows the lifetime prevalence of depression or anxiety, by Department of Health and Human Services division and sex. The proportion of adults who had depression or anxiety was similar across all departmental divisions among men, women and adults.

Table 10.6 shows the lifetime prevalence of depression or anxiety, by age group and sex. The prevalence of depression or anxiety was significantly lower in men 85 years of age or older compared with all Victorian men.

Figure 10.7 shows the relationship between the lifetime prevalence of depression or anxiety and total annual household income as a measure of SES. The lifetime prevalence of depression or anxiety decreased significantly with increasing total annual household income for both males and females.

Figure 10.7: Proportion (%) of adults with doctor-diagnosed depression or anxiety, by total annual household income and sex, Victoria, 2016



Data were age-standardised to the 2011 Victorian population.
95% CI = 95 per cent confidence interval.

Table 10.4: Proportion (%) of adults with a doctor-diagnosed chronic disease, by Department of Health and Human Services region and sex, Victoria, 2016

Region	Asthma (has, or being treated for, in last year) %	95% CI LL	95% CI UL	Heart disease %	95% CI LL	95% CI UL	Stroke %	95% CI LL	95% CI UL	Cancer %	95% CI LL	95% CI UL	Osteoporosis %	95% CI LL	95% CI UL	Arthritis %	95% CI LL	95% CI UL	Anxiety or depression %	95% CI LL	95% CI UL
Males																					
Northern Metropolitan	**7.3**	5.0	10.5	**7.3**	5.2	10.2	**3.0** *	1.6	5.4	**6.9**	5.1	9.2	**3.0** *	1.6	5.3	**16.4**	13.1	20.4	**18.7**	15.0	23.1
Southern Metropolitan	**9.2**	6.8	12.4	**10.1**	8.2	12.3	**1.9** *	1.1	3.2	**8.8**	6.9	11.0	**1.7** *	0.9	3.0	**16.3**	13.8	19.1	**20.4**	16.9	24.4
Eastern Metropolitan	**11.3**	7.9	15.9	**8.8**	6.7	11.5	**4.5**	2.8	7.1	**8.8**	6.7	11.5	**1.7** *	0.9	3.4	**13.8**	11.0	17.3	**19.0**	14.6	24.3
Western Metropolitan	**7.5**	5.1	10.8	**8.6**	6.2	11.8	**2.8** *	1.6	5.0	**8.6**	6.1	12.1	**1.4** *	0.6	2.8	**14.5**	11.5	18.1	**20.8**	16.6	25.8
All metropolitan regions	**8.8**	7.4	10.5	**9.0**	7.8	10.2	**2.7**	2.1	3.6	**8.5**	7.4	9.8	**1.9**	1.4	2.6	**15.6**	14.1	17.2	**19.7**	17.6	21.9
Barwon-South Western	**11.0**	6.7	17.6	**8.0**	5.7	11.0	**3.0** *	1.4	6.3	**7.0**	4.8	10.1	**2.1** *	1.1	3.8	**16.3**	12.7	20.8	**19.3**	13.8	26.4
Gippsland	**4.1** *	2.1	8.0	**11.1**	7.2	16.7	**3.1** *	1.5	6.3	**11.2** *	6.4	18.9	**5.1**	3.2	8.2	**18.9**	14.4	24.3	**29.3**	19.9	41.0
Grampians	**15.6** *	8.9	25.7	**11.2**	7.4	16.5	**			**8.3**	5.4	12.6	**3.7** *	1.9	7.1	**23.2**	17.7	29.8	**16.8**	11.5	23.8
Hume	**8.2** *	4.2	15.5	**12.0** *	6.8	20.4	**3.9** *	1.9	8.0	**7.7**	5.3	11.0	**4.9** *	1.8	12.7	**15.2**	11.0	20.7	**25.5**	16.9	36.6
Loddon Mallee	**13.0** *	7.3	22.0	**7.2** *	4.3	11.9	**8.8** *	3.5	20.3	**6.1** *	3.6	10.0	**2.3** *	1.2	4.3	**13.0**	9.4	17.9	**13.5**	8.5	20.8
All rural regions	**10.4**	7.7	13.9	**9.1**	7.4	11.1	**4.6** *	2.7	7.7	**8.1**	6.5	10.1	**3.4**	2.3	4.9	**16.8**	14.6	19.1	**20.3**	16.9	24.2
Victoria	**9.2**	**7.9**	**10.7**	**9.0**	**8.1**	**10.1**	**3.1**	**2.5**	**4.0**	**8.3**	**7.4**	**9.4**	**2.3**	**1.8**	**2.9**	**15.9**	**14.6**	**17.2**	**20.0**	**18.2**	**22.0**
Females																					
Northern Metropolitan	**14.6**	11.4	18.4	**6.6**	4.7	9.1	**3.6**	2.3	5.6	**7.6**	5.8	9.9	**10.1**	8.0	12.6	**24.2**	21.0	27.7	**28.4**	24.3	33.0
Southern Metropolitan	**14.1**	11.4	17.3	**5.5**	4.2	7.3	**1.8** *	1.0	3.3	**7.9**	6.2	10.1	**7.3**	5.8	9.2	**23.5**	20.8	26.5	**27.6**	24.0	31.5
Eastern Metropolitan	**13.3**	10.3	16.9	**5.5**	3.8	7.7	**3.0** *	1.8	4.8	**7.6**	5.9	9.7	**10.2**	8.3	12.6	**22.9**	19.7	26.4	**30.3**	25.8	35.1
Western Metropolitan	**12.1**	9.1	16.0	**5.1**	3.5	7.5	**1.1** *	0.5	2.5	**4.6**	3.2	6.8	**7.5**	5.5	10.0	**25.7**	22.2	29.6	**27.4**	23.0	32.1
All metropolitan regions	**13.6**	12.0	15.3	**5.6**	4.8	6.6	**2.4**	1.8	3.1	**7.2**	6.2	8.2	**8.7**	7.7	9.8	**23.8**	22.2	25.5	**28.2**	26.0	30.4
Barwon-South Western	**17.6**	11.9	25.2	**4.2**	3.0	5.8	**2.4** *	1.3	4.2	**8.4**	6.0	11.6	**8.1**	6.0	10.9	**22.4**	18.4	27.0	**29.5**	22.7	37.3
Gippsland	**11.4**	7.3	17.5	**9.0**	6.7	12.0	**3.0** *	1.6	5.6	**7.8**	5.4	11.1	**9.3**	6.9	12.6	**27.9**	22.3	34.2	**30.0**	23.4	37.6
Grampians	**11.9** *	7.2	19.3	**5.9**	3.7	9.3	**2.9** *	1.2	7.1	**4.4**	2.8	6.9	**5.6**	3.9	7.8	**25.2**	19.6	31.8	**32.4**	24.3	41.8
Hume	**14.2**	9.4	21.0	**6.4**	4.5	9.1	**2.6** *	1.3	5.2	**6.1**	4.1	8.8	**9.2**	6.9	12.3	**28.2**	22.8	34.3	**26.4**	20.4	33.5
Loddon Mallee	**15.6**	9.9	23.8	**6.0** *	3.3	10.5	**1.7** *	0.8	3.7	**11.3**	7.5	16.7	**11.8**	7.9	17.2	**29.8**	23.4	37.0	**33.8**	26.2	42.3
All rural regions	**14.3**	11.6	17.5	**6.0**	4.8	7.3	**2.4**	1.7	3.3	**7.9**	6.5	9.5	**8.9**	7.5	10.6	**26.3**	23.7	29.0	**30.0**	26.5	33.7
Victoria	**13.8**	**12.4**	**15.3**	**5.8**	**5.0**	**6.6**	**2.4**	**1.9**	**3.0**	**7.3**	**6.5**	**8.2**	**8.7**	**7.9**	**9.6**	**24.3**	**23.0**	**25.8**	**28.7**	**26.8**	**30.5**
People																					
Northern Metropolitan	**10.8**	8.8	13.2	**6.6**	5.2	8.3	**3.2**	2.2	4.7	**7.4**	6.0	9.1	**7.3**	5.8	9.0	**21.1**	18.8	23.5	**24.0**	21.1	27.1
Southern Metropolitan	**11.6**	9.8	13.8	**7.7**	6.5	9.1	**1.8**	1.2	2.7	**8.3**	7.0	9.8	**4.7**	3.7	5.8	**20.1**	18.2	22.2	**24.0**	21.5	26.8
Eastern Metropolitan	**12.9**	10.4	16.0	**7.0**	5.6	8.6	**3.6**	2.6	5.1	**8.2**	6.8	9.9	**6.5**	5.2	8.1	**18.8**	16.6	21.2	**24.9**	21.7	28.5
Western Metropolitan	**9.6**	7.6	12.0	**6.8**	5.3	8.7	**1.9**	1.2	3.1	**6.4**	4.9	8.3	**4.7**	3.5	6.4	**20.5**	18.0	23.2	**23.9**	20.8	27.3
All metropolitan regions	**11.2**	10.1	12.4	**7.2**	6.4	7.9	**2.5**	2.1	3.1	**7.8**	7.0	8.6	**5.6**	5.0	6.3	**20.0**	18.9	21.2	**24.1**	22.6	25.7
Barwon-South Western	**14.0**	10.2	19.1	**6.0**	4.7	7.7	**2.7** *	1.6	4.4	**7.8**	6.1	10.0	**5.4**	4.1	7.1	**19.3**	16.6	22.3	**24.0**	19.4	29.3
Gippsland	**8.0**	5.4	11.6	**10.5**	7.9	13.7	**3.2**	2.0	5.2	**9.1**	6.5	12.7	**7.4**	5.7	9.5	**23.5**	19.8	27.7	**29.5**	23.6	36.2
Grampians	**13.7**	9.0	20.4	**7.9**	5.7	10.9	**2.1** *	1.0	4.5	**6.5**	4.6	9.0	**4.8**	3.5	6.6	**23.4**	19.7	27.6	**24.3**	19.4	29.9
Hume	**11.1**	7.7	15.7	**8.3**	5.9	11.4	**3.3** *	2.0	5.4	**7.1**	5.4	9.3	**6.3**	4.0	9.6	**21.4**	17.5	26.0	**25.0**	19.7	31.0
Loddon Mallee	**13.9**	9.5	19.8	**6.4**	4.3	9.4	**5.4** *	2.4	12.0	**8.7**	6.3	11.9	**7.7**	5.2	11.3	**21.8**	18.0	26.2	**23.0**	18.4	28.4
All rural regions	**12.3**	10.4	14.6	**7.5**	6.5	8.7	**3.4**	2.4	4.9	**8.0**	6.9	9.1	**6.3**	5.3	7.4	**21.5**	19.9	23.3	**25.1**	22.7	27.7
Victoria	**11.5**	**10.5**	**12.5**	**7.3**	**6.7**	**7.9**	**2.7**	**2.3**	**3.2**	**7.8**	**7.2**	**8.4**	**5.8**	**5.3**	**6.4**	**20.4**	**19.4**	**21.3**	**24.5**	**23.2**	**25.8**

Metropolitan and rural regions are identified by colour as follows: metropolitan / rural.

Data were age-standardised to the 2011 Victorian population.

LL/UL 95% CI = lower/upper limit of 95 per cent confidence interval.

Estimates that are (statistically) significantly different from the corresponding estimate for Victoria are identified by colour as follows: above or below.

Estimates may not add to 100 per cent due to a proportion of 'don't know' or 'refused to say' responses, not reported here.

Relative standard error (RSE) = standard error / point estimate * 100; interpretation below:

* RSE between 25 and 50 per cent; point estimate (%) should be interpreted with caution.

** RSE greater than, or equal to, 50 per cent; point estimate (%) is unreliable, hence not reported.

Table 10.5: Proportion (%) of adults with a doctor-diagnosed chronic disease, by Department of Health and Human Services division and sex, Victoria, 2016

	Asthma (has, or being treated for, in last year)			Heart disease			Stroke			Cancer			Osteoporosis			Arthritis			Anxiety or depression		
		95% CI			95% CI			95% CI			95% CI			95% CI			95% CI			95% CI	
Division	**%**	LL	UL	**%**	LL	UL	**%**	LL	UL	**%**	LL	UL	**%**	LL	UL	**%**	LL	UL	**%**	LL	UL
Males																					
North	**8.8**	6.3	12.0	**7.0**	5.2	9.5	**3.8** *	2.1	6.7	**6.8**	5.3	8.7	**2.7**	1.7	4.2	**15.5**	12.8	18.6	**18.0**	14.7	21.9
South	**8.5**	6.4	11.3	**10.4**	8.6	12.4	**2.2**	1.4	3.5	**9.1**	7.3	11.2	**2.4**	1.5	3.6	**16.8**	14.6	19.4	**21.6**	18.3	25.5
East	**11.0**	8.0	14.9	**8.8**	7.0	11.0	**4.3**	2.9	6.4	**8.5**	6.7	10.7	**2.3** *	1.3	3.8	**14.0**	11.6	16.8	**20.2**	16.3	24.9
West	**9.4**	7.1	12.3	**9.0**	7.3	11.1	**2.5**	1.6	3.9	**8.3**	6.6	10.6	**2.0**	1.3	2.9	**16.1**	13.9	18.7	**20.0**	16.8	23.7
Victoria	**9.2**	**7.9**	**10.7**	**9.0**	**8.1**	**10.1**	**3.1**	**2.5**	**4.0**	**8.3**	**7.4**	**9.4**	**2.3**	**1.8**	**2.9**	**15.9**	**14.6**	**17.2**	**20.0**	**18.2**	**22.0**
Females																					
North	**14.9**	12.0	18.4	**6.5**	4.8	8.7	**2.9**	1.9	4.4	**8.3**	6.6	10.4	**10.5**	8.6	12.9	**25.4**	22.6	28.5	**29.8**	26.0	33.8
South	**13.7**	11.3	16.6	**6.0**	4.8	7.5	**2.0**	1.2	3.2	**8.0**	6.4	9.9	**7.6**	6.3	9.2	**24.0**	21.5	26.7	**28.1**	24.9	31.6
East	**13.5**	10.8	16.7	**5.6**	4.2	7.5	**2.9**	1.9	4.4	**7.3**	5.9	9.1	**10.0**	8.4	12.0	**23.8**	21.0	26.9	**29.5**	25.7	33.6
West	**13.4**	10.9	16.4	**5.0**	3.9	6.4	**1.9**	1.2	2.9	**5.6**	4.4	7.1	**7.2**	5.9	8.7	**24.4**	21.8	27.1	**28.2**	24.8	31.8
Victoria	**13.8**	**12.4**	**15.3**	**5.8**	**5.0**	**6.6**	**2.4**	**1.9**	**3.0**	**7.3**	**6.5**	**8.2**	**8.7**	**7.9**	**9.6**	**24.3**	**23.0**	**25.8**	**28.7**	**26.8**	**30.5**
People																					
North	**11.5**	9.6	13.8	**6.5**	5.3	8.0	**3.4**	2.3	4.9	**7.6**	6.4	9.0	**7.4**	6.1	9.0	**21.2**	19.2	23.4	**24.1**	21.5	26.9
South	**11.1**	9.5	13.0	**8.1**	7.0	9.4	**2.1**	1.5	2.9	**8.5**	7.3	9.9	**5.1**	4.2	6.1	**20.6**	18.8	22.4	**25.0**	22.6	27.5
East	**12.6**	10.4	15.2	**7.2**	6.1	8.6	**3.6**	2.7	4.8	**8.0**	6.8	9.4	**6.4**	5.3	7.7	**19.2**	17.3	21.3	**25.0**	22.2	28.1
West	**11.2**	9.4	13.2	**6.9**	5.9	8.1	**2.2**	1.6	3.0	**6.8**	5.8	8.0	**4.8**	4.0	5.8	**20.4**	18.7	22.3	**23.8**	21.5	26.4
Victoria	**11.5**	**10.5**	**12.5**	**7.3**	**6.7**	**7.9**	**2.7**	**2.3**	**3.2**	**7.8**	**7.2**	**8.4**	**5.8**	**5.3**	**6.4**	**20.4**	**19.4**	**21.3**	**24.5**	**23.2**	**25.8**

Data were age-standardised to the 2011 Victorian population.

LL/UL 95% CI = lower/upper limit of 95 per cent confidence interval.

Estimates that are (statistically) significantly different from the corresponding estimate for Victoria are identified by colour as follows: above or below.

Estimates may not add to 100 per cent due to a proportion of 'don't know' or 'refused to say' responses, not reported here.

Relative standard error (RSE) = standard error / point estimate * 100; interpretation below:

***** RSE between 25 and 50 per cent; point estimate (%) should be interpreted with caution.

Table 10.6: Proportion (%) of adults with a doctor-diagnosed chronic disease, by age group and sex, Victoria, 2016

Sex / Age group (years)	Asthma (has, or being treated for, in last year)			Heart disease			Stroke			Cancer			Osteoporosis			Arthritis			Anxiety or depression		
	%	95% CI LL	95% CI UL	%	95% CI LL	95% CI UL	%	95% CI LL	95% CI UL	%	95% CI LL	95% CI UL	%	95% CI LL	95% CI UL	%	95% CI LL	95% CI UL	%	95% CI LL	95% CI UL
Males																					
18–24	**7.3**	4.5	11.7	**			**			**			**			**			**13.7**	9.8	18.9
25–34	**11.7**	8.1	16.6	**1.4** *	0.5	3.5	**			**			**			**2.1** *	0.9	5.2	**25.4**	20.4	31.1
35–44	**10.8**	7.4	15.5	**0.8** *	0.3	1.7	**			**2.8** *	1.4	5.3	**			**7.5**	4.9	11.1	**23.0**	18.3	28.4
45–54	**6.9**	4.6	10.2	**5.3**	3.4	8.3	**3.0** *	1.3	6.8	**6.9**	4.6	10.1	**			**16.0**	12.6	20.1	**21.2**	17.0	26.1
55–64	**10.2**	7.5	13.8	**12.3**	9.4	15.9	**3.0** *	1.8	5.0	**13.7**	10.9	17.2	**3.6**	2.3	5.6	**25.7**	21.8	29.9	**21.0**	17.4	25.2
65–74	**8.2**	5.5	11.9	**28.7**	24.1	33.7	**9.2**	6.4	12.9	**23.6**	19.7	27.9	**8.5**	5.9	12.0	**39.4**	34.6	44.3	**14.6**	11.4	18.5
75–84	**9.9**	6.4	15.1	**32.9**	26.4	40.0	**8.1**	5.1	12.5	**22.8**	17.5	29.3	**5.7**	3.5	9.2	**46.1**	38.7	53.7	**16.9**	12.0	23.3
85+	**2.8** *	1.1	6.8	**46.2**	34.0	58.9	**15.1** *	8.3	25.7	**38.1**	26.2	51.6	**7.7** *	3.8	15.0	**48.5**	36.1	61.1	**6.6** *	2.9	14.5
18+	**9.3**	**8.0**	**10.9**	**8.8**	**7.8**	**9.9**	**3.0**	**2.4**	**3.9**	**8.2**	**7.2**	**9.2**	**2.3**	**1.8**	**2.9**	**15.6**	**14.2**	**17.0**	**20.2**	**18.4**	**22.2**
Females																					
18–24	**17.4**	13.2	22.7	**			**			**			**0.0**	.	.	**3.5** *	1.8	6.7	**28.7**	23.4	34.6
25–34	**15.8**	11.9	20.7	**			**			**1.3** *	0.5	3.2	**			**4.6** *	2.7	7.8	**28.0**	23.1	33.6
35–44	**12.3**	9.4	15.8	**0.7** *	0.3	1.6	**0.5** *	0.2	1.0	**3.5**	2.3	5.5	**2.2** *	1.2	4.0	**14.7**	11.5	18.7	**29.3**	25.0	34.1
45–54	**10.9**	8.4	14.0	**4.2**	2.8	6.4	**1.5** *	0.7	3.1	**9.4**	7.1	12.3	**5.6**	3.8	8.1	**23.6**	19.9	27.8	**31.2**	27.1	35.5
55–64	**15.9**	12.8	19.5	**8.0**	5.6	11.3	**3.4**	2.1	5.3	**13.1**	10.3	16.5	**13.5**	10.6	17.1	**39.8**	35.6	44.2	**30.9**	27.1	35.0
65–74	**11.2**	8.7	14.3	**13.7**	10.9	17.1	**5.1**	3.3	7.8	**16.1**	13.3	19.3	**25.2**	21.2	29.6	**56.7**	52.2	61.2	**26.9**	22.9	31.3
75–84	**12.2**	8.7	16.8	**20.0**	15.8	25.1	**8.7**	5.6	13.3	**14.2**	10.9	18.3	**34.3**	28.4	40.7	**60.0**	53.9	65.9	**20.9**	16.0	26.9
85+	**10.4** *	5.7	18.3	**41.0**	30.2	52.7	**16.4** *	8.5	29.1	**18.8**	11.8	28.6	**40.1**	29.4	51.8	**69.9**	58.8	79.1	**18.2**	11.2	28.3
18+	**13.6**	**12.3**	**15.1**	**6.0**	**5.3**	**6.9**	**2.4**	**1.9**	**3.0**	**7.8**	**6.9**	**8.7**	**9.4**	**8.4**	**10.5**	**25.9**	**24.3**	**27.6**	**28.6**	**26.8**	**30.4**
People																					
18–24	**12.1**	9.5	15.4	**0.8** *	0.3	2.0	**			**			**			**2.2** *	1.2	3.8	**20.9**	17.5	24.8
25–34	**13.6**	10.8	16.9	**1.4** *	0.7	2.8	**			**0.9** *	0.4	1.8	**			**3.2**	2.0	5.2	**26.6**	23.0	30.5
35–44	**11.6**	9.3	14.4	**0.7** *	0.4	1.3	**1.1** *	0.4	2.7	**3.2**	2.2	4.6	**1.4** *	0.8	2.4	**11.4**	9.2	14.0	**26.4**	23.2	29.9
45–54	**9.0**	7.2	11.1	**4.8**	3.5	6.5	**2.2** *	1.2	4.0	**8.2**	6.5	10.3	**3.2**	2.2	4.5	**20.0**	17.4	22.9	**26.4**	23.4	29.6
55–64	**13.2**	11.1	15.7	**10.0**	8.1	12.3	**3.2**	2.3	4.5	**13.4**	11.3	15.7	**8.9**	7.1	11.0	**33.2**	30.2	36.3	**26.3**	23.6	29.2
65–74	**9.7**	7.9	12.0	**20.9**	18.2	24.0	**7.1**	5.4	9.3	**19.7**	17.3	22.4	**17.1**	14.6	20.0	**48.4**	45.0	51.7	**21.0**	18.3	23.9
75–84	**11.2**	8.6	14.6	**25.3**	21.5	29.4	**8.5**	6.2	11.6	**17.7**	14.7	21.3	**22.7**	18.8	27.1	**54.3**	49.5	59.1	**19.3**	15.7	23.6
85+	**6.9** *	4.1	11.3	**43.4**	35.2	52.0	**15.8**	10.1	23.7	**27.8**	20.6	36.4	**24.9**	18.3	32.8	**59.8**	51.3	67.8	**12.8**	8.4	19.0
18+	**11.5**	**10.6**	**12.6**	**7.4**	**6.7**	**8.1**	**2.7**	**2.3**	**3.2**	**8.0**	**7.3**	**8.7**	**5.9**	**5.4**	**6.6**	**20.8**	**19.8**	**22.0**	**24.5**	**23.2**	**25.8**

Data are age-specific estimates, except for '18+', which are crude estimates (not age-standardised) for Victoria.

LL/UL 95% CI = lower/upper limit of 95 per cent confidence interval.

Estimates that are (statistically) significantly different from the corresponding estimate for Victoria are identified by colour as follows: above or below.

Estimates may not add to 100 per cent due to a proportion of 'don't know' or 'refused to say' responses, not reported here.

Relative standard error (RSE) = standard error/point estimate * 100; interpretation below:

***** Estimate has a RSE between 25 and 50 per cent and should be interpreted with caution.

****** Estimate has a RSE greater than 50 per cent and is not reported as it is unreliable for general use.

Multiple chronic diseases

The Australian Institute of Health and Welfare (AIHW) estimates that about half of all Australians have at least one of the following chronic conditions: arthritis, asthma, back problems, cancer, chronic obstructive pulmonary disease, cardiovascular disease, diabetes or a mental health condition; and about 20 per cent have two or more of these conditions (AIHW 2015b). When a person has two or more diseases that occur at the same time, it is referred to as 'comorbidity'. Comorbidities are important because they are associated with poorer health outcomes, more frequent use of health services and higher healthcare costs (AIHW 2015b).

Ageing is an important factor associated with comorbidity because older people are more vulnerable to developing disease, and increases in life expectancy are leading to greater opportunities for multiple chronic conditions to arise. Hence, as the population ages, it is expected that the prevalence of multiple chronic conditions will increase.

Table 10.7 shows the proportion of survey respondents with a chronic disease, by Department of Health and Human Services region, sex and the number of chronic diseases reported. The number of chronic diseases was calculated for each respondent based on whether they had reported having ever been diagnosed by a doctor with any of the following: asthma, anxiety/depression, heart disease, stroke, cancer, osteoporosis, arthritis or diabetes.

The table shows that 28.6 per cent of respondents had been diagnosed with one of the eight chronic diseases included in the survey, and 22.4 per cent had been diagnosed at some point in their lives with two or more chronic diseases. The table also shows that 49.0 per cent of respondents had never been diagnosed with any of the eight chronic diseases included in the survey. The prevalence of having ever been diagnosed with two or more chronic diseases was significantly higher in females compared with males. There were no significant differences in the prevalence of having ever been diagnosed with two or more chronic diseases in men, women and people who lived in rural regions compared with metropolitan regions.

Table 10.7: Proportion (%) of adults, by morbidity status,[a] Department of Health and Human Services region and sex, Victoria, 2016

Region	No chronic disease			One chronic disease			Two, or more chronic diseases		
		95% CI			95% CI			95% CI	
	%	LL	UL	%	LL	UL	%	LL	UL
Males									
Northern Metropolitan	**54.6**	49.7	59.5	**26.9**	22.4	32.0	**18.4**	15.1	22.4
Southern Metropolitan	**53.8**	49.5	58.0	**25.1**	21.4	29.2	**21.1**	18.1	24.5
Eastern Metropolitan	**53.0**	47.4	58.5	**28.5**	23.6	34.0	**18.5**	14.6	23.0
Western Metropolitan	**54.8**	49.6	59.9	**28.8**	24.1	34.1	**16.4**	13.0	20.4
All metropolitan regions	**54.0**	51.6	56.5	**27.2**	25.0	29.6	**18.7**	17.0	20.6
Barwon-South Western	**53.4**	46.0	60.6	**29.4**	22.7	37.2	**17.2**	13.4	21.8
Gippsland	**49.2**	39.1	59.3	**27.3**	18.6	38.2	**23.5**	17.3	31.1
Grampians	**47.1**	38.2	56.2	**31.2**	23.0	40.7	**21.7**	16.4	28.2
Hume	**46.9**	36.3	57.8	**33.1**	23.9	43.7	**20.0**	13.2	29.1
Loddon Mallee	**56.8**	48.2	65.0	**23.0**	17.7	29.2	**20.3**	13.1	30.0
All rural regions	**51.7**	47.4	55.9	**28.0**	24.3	32.0	**20.4**	17.2	23.9
Victoria	**53.3**	**51.2**	**55.4**	**27.5**	**25.6**	**29.5**	**19.2**	**17.7**	**20.8**
Females									
Northern Metropolitan	**44.3**	39.7	49.0	**30.0**	25.7	34.6	**25.7**	22.2	29.5
Southern Metropolitan	**46.1**	42.1	50.1	**29.0**	25.4	32.8	**25.0**	21.7	28.5
Eastern Metropolitan	**43.2**	38.5	48.1	**32.0**	27.5	36.9	**24.7**	21.2	28.6
Western Metropolitan	**47.8**	43.1	52.5	**28.0**	23.7	32.8	**24.2**	20.4	28.4
All metropolitan regions	**45.5**	43.3	47.8	**29.6**	27.5	31.8	**24.9**	23.1	26.7
Barwon-South Western	**40.1**	32.7	48.0	**34.2**	27.6	41.5	**25.7**	20.1	32.2
Gippsland	**41.8**	34.1	49.8	**28.5**	21.5	36.7	**29.7**	24.0	36.2
Grampians	**45.9**	37.3	54.8	**29.5**	22.1	38.2	**24.5**	18.7	31.5
Hume	**45.6**	38.0	53.3	**28.8**	22.2	36.4	**25.7**	20.4	31.8
Loddon Mallee	**39.2**	30.8	48.3	**30.2**	23.2	38.3	**30.6**	23.6	38.7
All rural regions	**42.9**	39.1	46.9	**30.1**	26.7	33.8	**27.0**	24.0	30.1
Victoria	**44.8**	**42.9**	**46.8**	**29.8**	**28.0**	**31.7**	**25.3**	**23.8**	**27.0**
People									
Northern Metropolitan	**49.5**	46.2	52.9	**28.2**	25.1	31.5	**22.3**	19.9	24.9
Southern Metropolitan	**49.9**	47.0	52.9	**27.0**	24.4	29.8	**23.0**	20.8	25.4
Eastern Metropolitan	**47.7**	44.0	51.4	**30.2**	26.8	33.8	**22.2**	19.4	25.2
Western Metropolitan	**51.5**	47.9	55.0	**28.3**	25.0	31.8	**20.2**	17.7	23.1
All metropolitan regions	**49.7**	48.0	51.4	**28.4**	26.8	30.0	**21.9**	20.7	23.3
Barwon-South Western	**47.6**	42.1	53.3	**30.6**	25.8	35.8	**21.8**	18.1	26.1
Gippsland	**45.1**	38.8	51.5	**28.1**	22.2	34.7	**26.9**	22.7	31.5
Grampians	**46.8**	40.2	53.6	**30.5**	24.4	37.3	**22.7**	18.9	27.0
Hume	**47.9**	41.3	54.6	**29.7**	24.2	35.9	**22.4**	18.0	27.4
Loddon Mallee	**49.0**	43.0	55.0	**25.9**	21.3	31.0	**25.2**	19.9	31.2
All rural regions	**47.4**	44.5	50.2	**29.0**	26.5	31.7	**23.6**	21.5	25.9
Victoria	**49.0**	**47.6**	**50.5**	**28.6**	**27.3**	**30.0**	**22.4**	**21.3**	**23.5**

Metropolitan and rural regions are identified by colour as follows: metropolitan / rural.

Data were age-standardised to the 2011 Victorian population.

LL/UL 95% CI = lower/upper limit of 95 per cent confidence interval.

[a] Doctor-diagnosed current asthma, heart disease, stroke, cancer, osteoporosis, arthritis, depression or diabetes

Table 10.8 shows the proportion of survey respondents with a chronic disease, by Department of Health and Human Services division, sex and the number of chronic diseases reported. The proportion of adults who with a chronic disease was similar across all departmental divisions among men, women and adults.

Table 10.8: Proportion (%) of adults, by morbidity status,[a] Department of Health and Human Services division and sex, Victoria, 2016

	No chronic disease			One chronic disease			Two, or more chronic diseases		
		95% CI			95% CI			95% CI	
Division	%	LL	UL	%	LL	UL	%	LL	UL
Males									
North	**54.8**	50.6	59.0	**26.8**	22.9	31.0	**18.4**	15.2	22.1
South	**52.9**	48.9	56.8	**25.5**	22.0	29.3	**21.6**	18.8	24.7
East	**52.3**	47.4	57.2	**28.9**	24.6	33.6	**18.8**	15.4	22.6
West	**53.1**	49.1	57.0	**29.6**	25.9	33.5	**17.4**	14.9	20.2
Victoria	**53.3**	**51.2**	**55.4**	**27.5**	**25.6**	**29.5**	**19.2**	**17.7**	**20.8**
Females									
North	**43.2**	39.2	47.4	**30.2**	26.4	34.4	**26.5**	23.3	29.9
South	**45.4**	41.8	49.0	**28.9**	25.7	32.4	**25.7**	22.8	28.8
East	**43.7**	39.6	47.9	**31.4**	27.5	35.6	**24.9**	21.8	28.2
West	**46.2**	42.5	49.8	**29.4**	26.1	33.0	**24.4**	21.6	27.5
Victoria	**44.8**	**42.9**	**46.8**	**29.8**	**28.0**	**31.7**	**25.3**	**23.8**	**27.0**
People									
North	**49.3**	46.4	52.2	**28.0**	25.3	30.9	**22.7**	20.4	25.1
South	**49.1**	46.4	51.8	**27.2**	24.8	29.8	**23.7**	21.6	25.8
East	**47.7**	44.4	50.9	**30.1**	27.2	33.3	**22.2**	19.8	24.8
West	**50.0**	47.3	52.7	**29.2**	26.7	31.8	**20.9**	18.9	22.9
Victoria	**49.0**	**47.6**	**50.5**	**28.6**	**27.3**	**30.0**	**22.4**	**21.3**	**23.5**

Data were age-standardised to the 2011 Victorian population.

LL/UL 95% CI = lower/upper limit of 95 per cent confidence interval.

[a] Doctor-diagnosed current asthma, heart disease, stroke, cancer, osteoporosis, arthritis, depression or diabetes

Table 10.9 and Figure 10.8 show the proportion of survey respondents with a chronic disease, by age group, sex and the number of chronic diseases reported. The prevalence of having ever been diagnosed with two or more chronic diseases was significantly higher in males, females and people 55 years of age or older compared with the prevalence for all Victorian males, females and people, respectively.

Table 10.9: Proportion (%) of adults, by morbidity status,[a] age group and sex, Victoria, 2016

Sex / Age group (years)	No chronic disease			One chronic disease			Two, or more chronic diseases		
	%	95% CI LL	95% CI UL	%	95% CI LL	95% CI UL	%	95% CI LL	95% CI UL
Males									
18–24	78.4	72.5	83.3	18.3	13.8	23.8	3.3 *	1.6	6.8
25–34	65.3	59.3	70.8	27.2	22.2	32.9	7.5	4.7	11.8
35–44	61.7	55.9	67.3	27.3	22.5	32.8	10.9	7.5	15.6
45–54	56.5	51.2	61.7	27.5	23.1	32.4	16.0	12.3	20.6
55–64	39.3	34.7	44.1	32.0	27.7	36.6	28.7	24.6	33.2
65–74	25.5	21.5	30.0	30.5	26.3	35.1	44.0	39.0	49.1
75–84	19.5	14.2	26.2	28.5	21.9	36.2	52.0	44.4	59.5
85+	9.1 *	4.6	17.2	37.8	26.3	50.8	53.1	40.4	65.3
18+	**53.7**	**51.4**	**55.9**	**27.4**	**25.4**	**29.4**	**19.0**	**17.3**	**20.7**
Females									
18–24	59.7	53.4	65.8	27.2	22.0	33.3	13.0	9.3	17.9
25–34	60.4	54.6	65.9	28.0	23.2	33.3	11.6	8.2	16.2
35–44	56.4	51.4	61.2	29.3	25.0	34.1	14.3	11.2	18.1
45–54	47.3	42.8	51.8	28.9	25.1	33.1	23.8	20.2	27.9
55–64	29.5	25.6	33.7	33.2	29.1	37.5	37.4	33.2	41.7
65–74	18.7	15.4	22.5	30.6	26.5	34.9	50.7	46.1	55.2
75–84	14.5	10.7	19.3	35.2	29.4	41.4	50.3	44.0	56.6
85+	**			29.6	19.9	41.5	64.8	52.8	75.2
18+	**43.7**	**41.8**	**45.7**	**29.9**	**28.1**	**31.7**	**26.4**	**24.8**	**28.1**
People									
18–24	69.5	65.1	73.5	22.6	19.0	26.6	8.0	5.8	10.8
25–34	63.1	58.9	67.0	27.6	24.0	31.5	9.4	7.1	12.3
35–44	58.8	55.1	62.5	28.4	25.1	31.9	12.7	10.4	15.6
45–54	51.7	48.2	55.1	28.2	25.3	31.4	20.1	17.4	23.1
55–64	34.1	31.0	37.2	32.6	29.6	35.7	33.3	30.4	36.4
65–74	22.0	19.4	24.9	30.5	27.6	33.7	47.5	44.1	50.8
75–84	16.5	13.3	20.4	32.5	28.0	37.2	51.0	46.2	55.8
85+	7.3 *	4.1	12.7	33.4	25.7	42.1	59.3	50.6	67.4
18+	**48.6**	**47.1**	**50.1**	**28.7**	**27.3**	**30.0**	**22.8**	**21.6**	**24.0**

Data are age-specific estimates, except for '18+', which are crude estimates (not age-standardised) for Victoria.

LL/UL 95% CI = lower/upper limit of 95 per cent confidence interval.

Estimates that are (statistically) significantly different from the corresponding estimate for Victoria are identified by colour as follows: above or below.

Estimates may not add to 100 per cent due to a proportion of 'don't know' or 'refused to say' responses, not reported here.

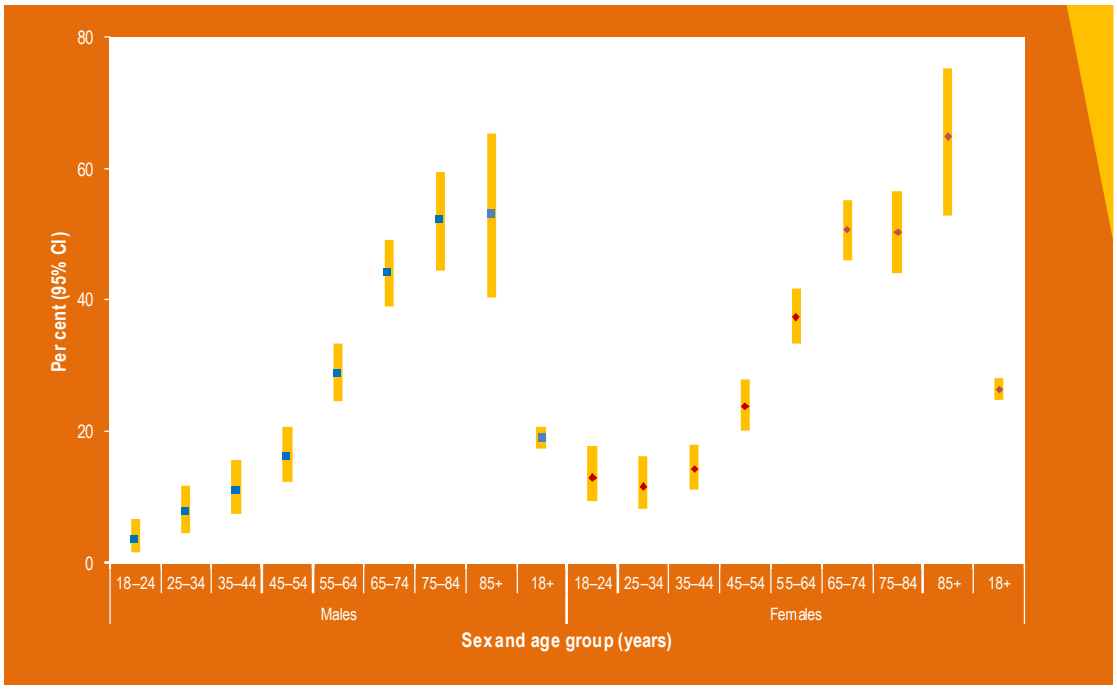
Relative standard error (RSE) = standard error/point estimate * 100; interpretation below:

***** Estimate has a RSE between 25 and 50 per cent and should be interpreted with caution.

****** Estimate has a RSE greater than 50 per cent and is not reported as it is unreliable for general use.

[a] Doctor-diagnosed current asthma, heart disease, stroke, cancer, osteoporosis, arthritis, depression or diabetes

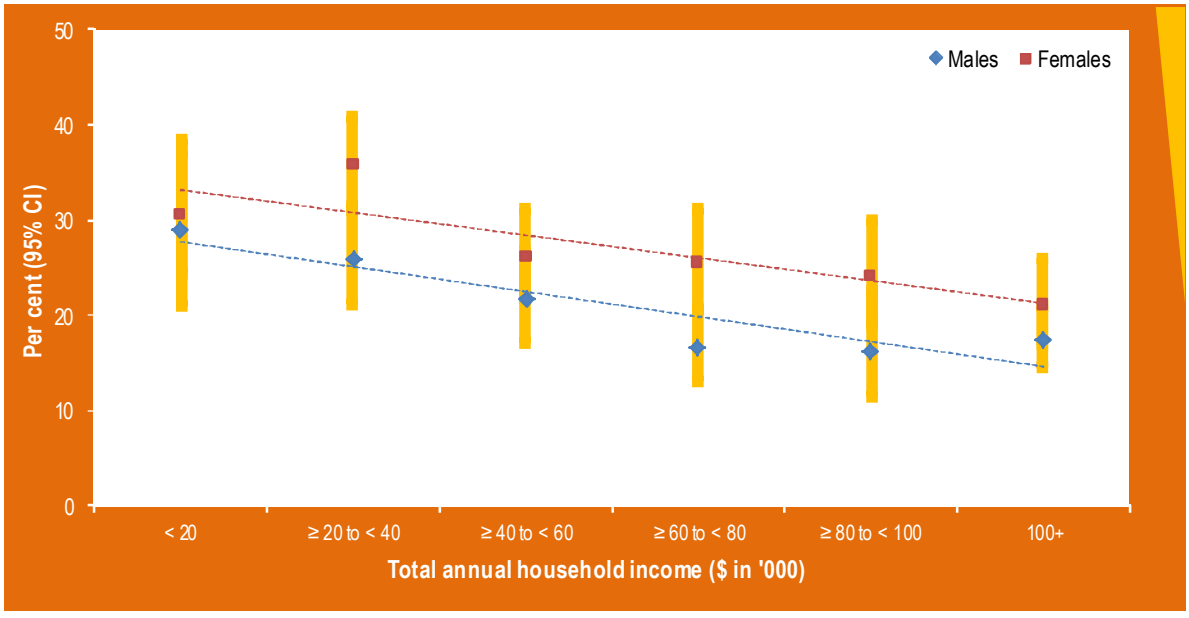
Figure 10.8: Proportion (%) of adults, by morbidity status,[a] age group and sex, Victoria, 2016



Data are age group specific estimates, except for '18+', which are crude estimates (not age-standardised) for Victoria.
95% CI = 95 per cent confidence interval.
[a] Doctor-diagnosed current asthma, heart disease, stroke, cancer, osteoporosis, arthritis, depression or diabetes

Figure 10.9 shows the relationship between the lifetime prevalence of two or more chronic diseases and total annual household income as a measure of SES. The lifetime prevalence of two or more chronic diseases decreased significantly with increasing total annual household income for both males and females.

Figure 10.9: Proportion (%) of adults with two or more chronic diseases,[a] by total annual household income and sex, Victoria, 2016



Data were age-standardised to the 2011 Victorian population.
95% CI = 95 per cent confidence interval.
[a] Doctor-diagnosed current asthma, heart disease, stroke, cancer, osteoporosis, arthritis, depression or diabetes

11. Oral health

Key findings

Oral Health

Self-reported dental health status

2016

- 37.1 per cent of people rated their dental health as ‘excellent’ or ‘very good’, while 30.5 per cent rated their dental health as ‘good’.
- A further 23.9 per cent rated it as ‘fair’ or ‘poor’.
- A statistically significantly higher proportion of women rated their dental health as excellent or very good compared with men.

Visits to a dental professional

2016

- 57.1 per cent of people reported visiting a dental professional within the preceding 12 months.
- A further 17.2 per cent of people reported visiting a dental professional between 12 months and two years prior to the survey.
- Another 13.8 per cent of people reported that it was two to five years since they last visited a dental professional, while 9.9 per cent reported it was five years or more since they last visited a dental professional.
- A statistically significantly higher proportion of women reported that they last visited a dental professional within the preceding 12 months compared with men.

Avoidance or delaying a visit to a dental professional due to cost

2016

- Overall, 33.1 per cent of people avoided or delayed visiting a dental professional due to the cost.
- This proportion was statistically significantly higher in women (35.2 per cent) compared with men (31.0 per cent).

Oral health

Introduction

Oral health is important for overall health and wellbeing. Oral diseases place a considerable burden on individuals, families and the community. The impact of oral disease comes from the four main conditions of tooth decay, gum disease, oral cancer and oral trauma. About 90 per cent of all tooth loss can be attributed to tooth decay and gum disease (AIHW 2011). Tooth decay is amenable to prevention through good nutrition, exposure to fluoride (such as in water and toothpastes), maintenance of adequate oral hygiene and access to regular dental visits.

Oral health is linked to overall health and wellbeing in a number of ways. The ability to chew and swallow our food is essential for obtaining the nutrients we need for good health. Other adverse impacts of poor dental health include problems with speech and low self-esteem. Moreover the impact of poor dental health is not just on the individual but also on the broader community through the health system and high associated economic costs. For example, dental health conditions are the highest cause of avoidable hospital admissions in young people up to 19 years of age in Victoria (Rogers & Morgan 2012).

Questions were included in the survey to measure self-rated dental health, the period of time since the last visit to a dental professional and avoidance or delaying a dental visit because of cost. Analyses of the answers to these questions help identify which Victorians are at higher risk of poorer oral health and what can be done to address this.

Self-reported dental health

Self-reported dental health status by Department of Health and Human Services region and sex is presented in Table 11.1. Overall, 37.1 per cent of people rated their dental health as ‘excellent’ or ‘very good’, while 33.6 per cent rated their dental health as ‘good’ and a further 23.9 per cent as being ‘fair or poor’. The proportion of people who reported having no natural teeth was 5.1 per cent. A significantly lower proportion of women (42.9 per cent) rated their dental health as excellent or very good compared with men (31.1 per cent).

Self-rated dental health was similar between people who lived in rural and metropolitan regions. Similarly, the self-reported dental health status was similar across all departmental regions among men, women and adults.

Table 11.1: Proportion (%) of adults, by self-reported dental health status, Department of Health and Human Services region and sex, Victoria, 2016

Region	Excellent or very good			Good			Fair or poor			Not applicable (has dentures, no natural teeth)		
		95% CI			95% CI			95% CI			95% CI	
	%	LL	UL	%	LL	UL	%	LL	UL	%	LL	UL
Males												
Northern Metropolitan	**29.6**	25.2	34.5	**35.1**	30.4	40.0	**29.4**	24.7	34.6	**5.7**	3.8	8.5
Southern Metropolitan	**29.9**	26.1	34.1	**38.8**	34.6	43.2	**26.9**	23.0	31.3	**4.0**	2.8	5.6
Eastern Metropolitan	**32.4**	27.4	37.9	**35.9**	30.6	41.5	**27.2**	22.3	32.6	**4.4**	2.8	6.9
Western Metropolitan	**31.4**	26.7	36.6	**33.6**	28.7	38.9	**25.3**	21.0	30.2	**9.4**	6.6	13.1
All metropolitan regions	**30.9**	28.6	33.3	**36.3**	33.9	38.8	**27.2**	24.9	29.5	**5.3**	4.4	6.5
Barwon-South Western	**34.1**	26.2	42.9	**35.1**	27.5	43.5	**25.8**	18.4	34.8	**4.7**	3.2	6.7
Gippsland	**35.9**	27.7	45.0	**31.7**	23.8	40.9	**26.4**	19.6	34.7	**6.0**	4.0	8.9
Grampians	**26.8**	19.4	35.6	**35.0**	27.5	43.4	**33.2**	25.1	42.4	**5.0** *	3.1	8.2
Hume	**30.0**	21.1	40.8	**38.1**	28.0	49.4	**27.4**	19.7	36.8	**4.3**	2.7	6.8
Loddon Mallee	**34.0**	24.8	44.6	**34.7**	25.6	45.1	**26.2**	19.5	34.3	**5.1** *	3.0	8.4
All rural regions	**32.6**	28.3	37.3	**34.4**	30.1	39.0	**27.7**	23.8	31.9	**5.2**	4.2	6.3
Victoria	**31.1**	29.1	33.2	**36.0**	33.9	38.2	**27.3**	25.4	29.4	**5.4**	4.6	6.3
Females												
Northern Metropolitan	**41.7**	37.1	46.5	**32.5**	28.1	37.3	**19.5**	16.1	23.3	**5.8**	4.3	7.8
Southern Metropolitan	**46.1**	42.1	50.2	**29.0**	25.5	32.9	**21.2**	18.0	24.8	**3.4**	2.4	4.8
Eastern Metropolitan	**44.2**	39.4	49.0	**30.1**	25.9	34.7	**21.9**	18.1	26.3	**3.7**	2.6	5.3
Western Metropolitan	**40.7**	35.9	45.7	**32.0**	27.5	36.9	**20.7**	17.1	24.9	**5.3**	3.7	7.5
All metropolitan regions	**43.8**	41.5	46.1	**30.8**	28.6	33.0	**20.7**	18.9	22.6	**4.3**	3.6	5.1
Barwon-South Western	**37.5**	30.2	45.3	**37.6**	30.1	45.8	**17.5**	12.6	23.8	**7.3**	5.1	10.4
Gippsland	**45.8**	38.0	53.7	**24.3**	18.3	31.4	**24.4**	18.2	32.0	**5.5**	3.8	8.0
Grampians	**34.0**	25.5	43.5	**37.4**	28.6	47.1	**20.2**	14.0	28.4	**8.4**	5.5	12.5
Hume	**39.1**	30.8	48.1	**35.1**	26.9	44.3	**20.8**	14.5	28.9	**4.9**	3.4	7.0
Loddon Mallee	**44.5**	36.0	53.3	**28.9**	21.3	38.1	**21.2**	14.5	29.9	**5.4** *	3.3	8.7
All rural regions	**40.1**	36.1	44.2	**32.9**	29.0	36.9	**20.7**	17.6	24.3	**6.3**	5.2	7.7
Victoria	**42.9**	40.9	44.9	**31.4**	29.5	33.3	**20.5**	18.9	22.1	**4.9**	4.3	5.5
People												
Northern Metropolitan	**36.0**	32.7	39.5	**33.9**	30.7	37.3	**24.3**	21.3	27.4	**5.5**	4.3	7.0
Southern Metropolitan	**38.1**	35.2	41.1	**33.9**	31.1	36.8	**24.1**	21.5	26.9	**3.7**	2.9	4.7
Eastern Metropolitan	**38.3**	34.7	41.9	**33.3**	29.8	36.9	**24.3**	21.2	27.8	**4.0**	3.0	5.4
Western Metropolitan	**36.3**	32.8	39.9	**32.6**	29.2	36.2	**23.1**	20.2	26.3	**7.2**	5.6	9.3
All metropolitan regions	**37.4**	35.8	39.1	**33.5**	31.8	35.1	**24.0**	22.5	25.5	**4.8**	4.2	5.4
Barwon-South Western	**35.6**	30.0	41.6	**36.8**	31.1	42.9	**21.4**	16.8	26.8	**6.1**	4.6	7.9
Gippsland	**41.3**	35.4	47.5	**27.3**	22.0	33.3	**25.4**	20.6	30.9	**6.0**	4.5	7.9
Grampians	**31.0**	25.0	37.8	**35.2**	29.0	41.9	**26.9**	21.1	33.7	**6.9**	5.0	9.4
Hume	**34.7**	28.2	41.9	**36.1**	29.3	43.5	**24.5**	18.6	31.5	**4.6**	3.4	6.3
Loddon Mallee	**39.8**	33.1	47.0	**31.7**	25.2	38.9	**23.3**	18.3	29.1	**5.2**	3.7	7.4
All rural regions	**36.5**	33.5	39.5	**33.7**	30.8	36.7	**24.0**	21.5	26.7	**5.8**	5.0	6.7
Victoria	**37.1**	35.7	38.5	**33.6**	32.2	35.0	**23.9**	22.7	25.3	**5.1**	4.6	5.6

Metropolitan and rural regions are identified by colour as follows: metropolitan / rural.

Data were age-standardised to the 2011 Victorian population.

LL/UL 95% CI = lower/upper limit of 95 per cent confidence interval.

Estimates that are (statistically) significantly different from the corresponding estimate for Victoria are identified by colour as follows: above or below.

Estimates may not add to 100 per cent due to a proportion of 'don't know' or 'refused to say' responses, not reported here.

Relative standard error (RSE) = standard error / point estimate * 100; interpretation below:

* RSE between 25 and 50 per cent; point estimate (%) should be interpreted with caution.

Table 11.2 shows the proportion of the adult population, by self-reported dental health status, Department of Health and Human Services division and sex. Self-reported dental health status was similar across all departmental divisions among men, women and adults.

Table 11.2: Proportion (%) of adults, by self-reported dental health status, Department of Health and Human Services division and sex, Victoria, 2016

	Excellent or very good			Good			Fair or poor			Not applicable (has dentures, no natural teeth)		
		95% CI			95% CI			95% CI			95% CI	
Division	%	LL	UL	%	LL	UL	%	LL	UL	%	LL	UL
Males												
North	**30.4**	26.4	34.8	**36.0**	31.4	40.7	**28.4**	24.4	32.7	**5.1**	3.6	7.1
South	**30.3**	26.6	34.2	**37.8**	33.9	41.9	**27.0**	23.4	30.9	**4.7**	3.6	6.2
East	**32.1**	27.6	36.9	**36.1**	31.4	41.0	**27.3**	23.0	32.1	**4.4**	3.1	6.3
West	**31.5**	27.8	35.4	**34.1**	30.4	38.1	**26.6**	23.2	30.4	**7.5**	5.7	9.7
Victoria	**31.1**	**29.1**	**33.2**	**36.0**	**33.9**	**38.2**	**27.3**	**25.4**	**29.4**	**5.4**	**4.6**	**6.3**
Females												
North	**42.5**	38.3	46.8	**31.9**	28.0	36.2	**19.6**	16.5	23.1	**5.6**	4.3	7.3
South	**45.8**	42.2	49.5	**28.6**	25.4	32.1	**21.6**	18.7	24.8	**3.8**	2.9	5.0
East	**43.1**	38.9	47.4	**31.2**	27.4	35.3	**21.7**	18.3	25.5	**3.9**	2.9	5.2
West	**39.1**	35.4	42.8	**34.3**	30.7	38.1	**19.3**	16.7	22.3	**6.3**	5.1	7.8
Victoria	**42.9**	**40.9**	**44.9**	**31.4**	**29.5**	**33.3**	**20.5**	**18.9**	**22.1**	**4.9**	**4.3**	**5.5**
People												
North	**36.8**	33.8	39.9	**33.6**	30.7	36.8	**24.0**	21.4	26.8	**5.3**	4.3	6.6
South	**38.1**	35.5	40.9	**33.1**	30.5	35.8	**24.3**	22.0	26.9	**4.2**	3.5	5.1
East	**37.7**	34.6	40.9	**33.8**	30.7	37.0	**24.3**	21.5	27.3	**4.2**	3.3	5.2
West	**35.5**	32.8	38.2	**34.1**	31.5	36.8	**23.0**	20.7	25.5	**6.9**	5.8	8.2
Victoria	**37.1**	**35.7**	**38.5**	**33.6**	**32.2**	**35.0**	**23.9**	**22.7**	**25.3**	**5.1**	**4.6**	**5.6**

Data were age-standardised to the 2011 Victorian population.

LL/UL 95% CI = lower/upper limit of 95 per cent confidence interval.

Estimates that are (statistically) significantly different from the corresponding estimate for Victoria are identified by colour as follows: above or below.

Estimates may not add to 100 per cent due to a proportion of 'don't know' or 'refused to say' responses, not reported here.

Table 11.3 and Figure 11.1 show self-reported dental health status, by age group and sex. A significantly lower proportion of men 75 years of age or older and women 65 years of age or older rated their dental health as excellent or very good compared with the proportion in all Victorian men and women, respectively. In contrast, a significantly higher proportion of 18–24-year-old men, women and people rated their dental health as excellent or very good compared with all Victorian men, women and people, respectively.

Table 11.3: Proportion (%) of adults, by self-reported dental health status, age group and sex, Victoria, 2016

Sex	Excellent or very good			Good			Fair or poor			Not applicable (has dentures, no natural teeth)		
Age group		95% CI			95% CI			95% CI			95% CI	
(years)	%	LL	UL	%	LL	UL	%	LL	UL	%	LL	UL
Males												
18–24	41.9	35.6	48.5	39.0	32.8	45.6	18.8	14.3	24.3	0.0	.	.
25–34	36.6	31.3	42.4	35.5	30.2	41.2	27.1	22.0	32.8	**		
35–44	32.3	27.1	38.0	39.0	33.4	44.8	27.2	22.3	32.8	**		
45–54	30.0	25.4	35.1	37.5	32.6	42.8	30.1	25.4	35.2	2.0 *	1.0	4.0
55–64	25.2	21.3	29.6	34.7	30.2	39.4	34.2	29.8	38.9	5.7	4.1	8.0
65–74	27.5	23.4	32.0	30.1	25.6	34.9	27.2	23.0	31.9	15.2	11.9	19.3
75–84	15.7	11.6	20.9	37.8	30.4	45.7	22.7	17.2	29.3	23.8	18.0	30.8
85+	9.3 *	4.7	17.4	23.1	14.3	35.0	25.4	15.7	38.5	40.8	29.0	53.8
18+	31.5	29.4	33.6	36.0	33.9	38.2	27.3	25.3	29.3	5.1	4.3	6.0
Females												
18–24	55.7	49.4	61.9	30.3	24.9	36.3	13.6	9.7	18.7	0.0	.	.
25–34	46.9	41.3	52.7	39.2	33.8	44.9	12.2	9.2	16.0	**		
35–44	48.3	43.4	53.2	29.7	25.4	34.4	21.8	17.9	26.4	**		
45–54	44.6	40.2	49.1	28.3	24.5	32.6	25.7	21.8	30.1	1.2 *	0.7	2.1
55–64	37.0	32.8	41.4	29.8	26.1	33.9	28.6	24.6	32.9	4.5	3.0	6.5
65–74	30.3	26.5	34.5	31.3	27.1	35.8	21.3	17.9	25.2	16.9	13.5	20.9
75–84	22.9	17.9	28.6	25.0	20.2	30.6	23.6	18.5	29.5	28.1	22.8	34.1
85+	18.5	11.4	28.6	34.2	24.0	46.0	21.0 *	12.3	33.5	26.3	18.3	36.2
18+	42.3	40.3	44.2	31.2	29.4	33.1	20.9	19.4	22.6	5.2	4.6	6.0
People												
18–24	48.5	44.0	53.1	34.9	30.6	39.3	16.3	13.2	20.0	0.0	.	.
25–34	41.3	37.3	45.4	37.2	33.3	41.2	20.3	17.1	24.0	**		
35–44	40.9	37.2	44.6	34.0	30.5	37.6	24.3	21.1	27.8	**		
45–54	37.6	34.4	41.0	32.8	29.6	36.1	27.8	24.7	31.1	1.6	1.0	2.6
55–64	31.5	28.5	34.6	32.1	29.2	35.2	31.2	28.2	34.4	5.1	3.9	6.5
65–74	28.9	26.1	32.0	30.7	27.6	34.0	24.2	21.4	27.2	16.1	13.7	18.9
75–84	19.9	16.5	23.9	30.2	25.9	34.9	23.2	19.4	27.6	26.4	22.3	30.8
85+	14.2	9.5	20.5	28.9	21.8	37.3	23.1	16.2	31.8	33.1	25.7	41.5
18+	37.0	35.6	38.4	33.5	32.1	35.0	24.0	22.8	25.3	5.2	4.6	5.7

Data are age-specific estimates, except for '18+', which are crude estimates (not age-standardised) for Victoria.

LL/UL 95% CI = lower/upper limit of 95 per cent confidence interval.

Estimates that are (statistically) significantly different from the corresponding estimate for Victoria are identified by colour as follows: above or below.

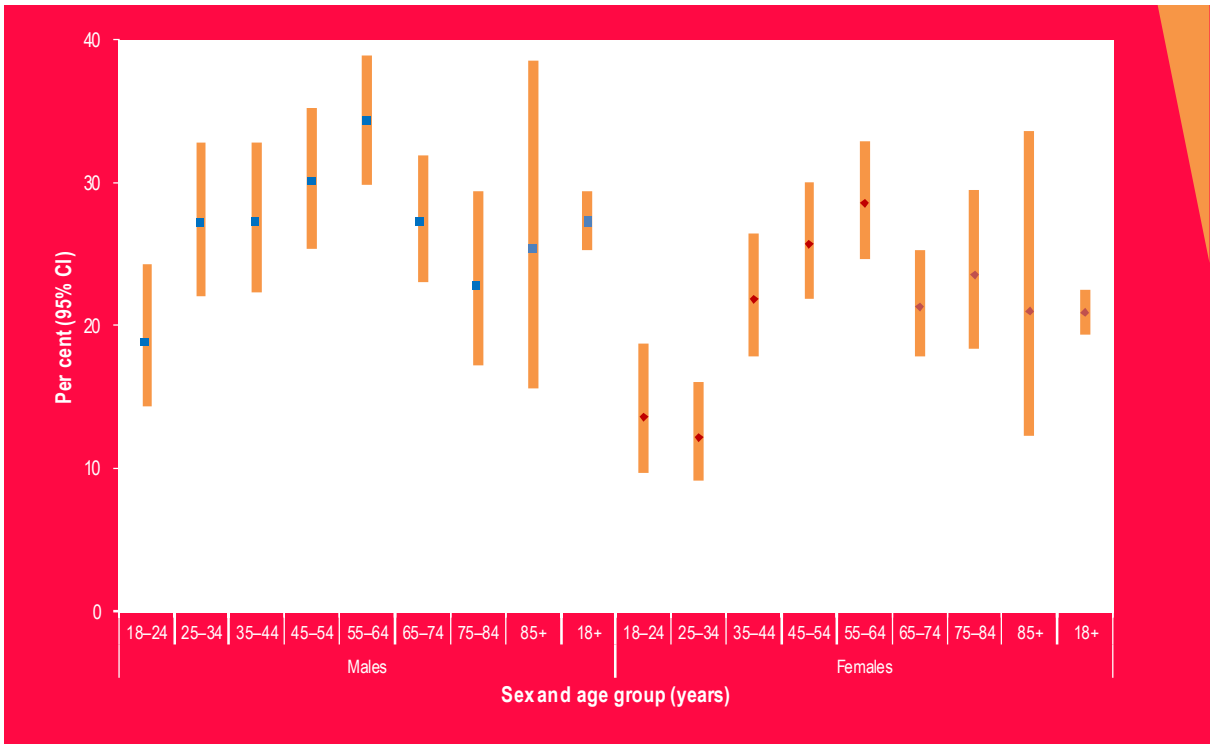
Estimates may not add to 100 per cent due to a proportion of 'don't know' or 'refused to say' responses, not reported here.

Relative standard error (RSE) = standard error/point estimate * 100; interpretation below:

* Estimate has a RSE between 25 and 50 per cent and should be interpreted with caution.

** Estimate has a RSE greater than 50 per cent and is not reported as it is unreliable for general use.

Figure 11.1: Proportion (%) of adults who reported fair, or poor dental health, by age group and sex, Victoria, 2016



Data are age group specific estimates, except for '18+', which are crude estimates (not age-standardised) for Victoria.
95% CI = 95 per cent confidence interval.

Figure 11.2 shows the relationship between self-reported fair or poor dental health and SES, using total annual household income as a measure of SES. In 2016 there was a significant decline in the prevalence of fair or poor self-reported dental health with increasing total annual household income in men and people, but not women.

Figure 11.2: Proportion (%) of adults with self-reported fair or poor dental health, by total annual household income and sex, Victoria, 2016

Data were age-standardised to the 2011 Victorian population.
95% CI = 95 per cent confidence interval.

Table 11.4 shows self-reported dental health status by selected socioeconomic determinants in males. When compared with all Victorian males there was a significantly higher proportion of males who reported fair or poor dental health with the following characteristics:

- not in the labour force
- total annual household income of less than $40,000.

Table 11.4: Proportion (%) of adult males, by self-reported dental health status, selected socioeconomic determinants, Victoria, 2016

	Excellent or very good			Good			Fair or poor			Not applicable (has dentures, no natural teeth)		
		95% CI			95% CI			95% CI			95% CI	
	%	LL	UL	%	LL	UL	%	LL	UL	%	LL	UL
All males	**31.1**	**29.1**	**33.2**	**36.0**	**33.9**	**38.2**	**27.3**	**25.4**	**29.4**	**5.4**	**4.6**	**6.3**
Country of birth												
Australia	**32.3**	29.8	34.9	**34.7**	32.2	37.4	**27.5**	25.0	30.1	**5.4**	4.4	6.6
Overseas	**29.1**	25.8	32.7	**38.4**	34.7	42.1	**26.9**	23.7	30.4	**5.1**	4.0	6.3
Language spoken at home												
English	**30.9**	28.5	33.4	**36.2**	33.7	38.8	**27.5**	25.2	30.0	**5.2**	4.3	6.3
Language other than English	**30.3**	26.7	34.2	**35.3**	31.4	39.4	**27.9**	24.3	31.9	**6.1**	4.6	8.0
Education level												
Did not complete high school	**24.4**	19.1	30.5	**32.4**	26.5	39.0	**35.4**	29.3	42.0	**7.8**	6.4	9.5
Completed high school, or TAFE, or trade certificate, or diploma	**29.8**	27.0	32.7	**36.9**	34.0	40.0	**28.5**	25.7	31.4	**4.7**	3.6	5.9
University, or some other tertiary institute degree	**39.8**	36.5	43.3	**38.0**	34.6	41.5	**19.8**	17.2	22.7	**2.0**	1.3	3.2
Employment status												
Employed	**36.1**	32.8	39.4	**36.4**	33.5	39.5	**24.8**	21.9	27.8	**2.6**	1.7	3.8
Unemployed	**21.9**	16.0	29.2	**29.9**	22.4	38.7	**31.3**	23.5	40.3	**		
Not in labour force	**23.3**	18.3	29.2	**33.2**	27.0	40.0	**36.3**	29.6	43.5	**7.2**	5.2	9.9
Total annual household income												
< $40,000	**24.5**	19.7	30.0	**28.0**	23.4	33.2	**39.7**	34.3	45.3	**7.6**	6.0	9.6
$40,000 to < $100,000	**30.1**	26.6	33.8	**37.1**	33.3	41.0	**29.3**	25.8	33.1	**3.5**	2.4	4.9
≥ $100,000	**39.8**	35.3	44.5	**40.3**	35.7	45.1	**18.4**	15.4	21.7	**1.4** *	0.6	3.3

Data were age-standardised to the 2011 Victorian population.

LL/UL 95% CI = lower/upper limit of 95 per cent confidence interval.

Estimates that are (statistically) significantly different from the corresponding estimate for Victoria are identified by colour as follows: above or below.

Estimates may not add to 100 per cent due to a proportion of 'don't know' or 'refused to say' responses, not reported here.

Relative standard error (RSE) = standard error / point estimate * 100; interpretation below:

* RSE between 25 and 50 per cent; point estimate (%) should be interpreted with caution.

** RSE greater than, or equal to, 50 per cent; point estimate (%) is unreliable, hence not reported.

Table 11.5 shows self-reported dental health status by selected socioeconomic determinants in males. When compared with all Victorian females, there was a significantly higher proportion of females who reported fair or poor dental health who had a total annual household income of less than $40,000.

Table 11.5: Proportion (%) of adult females, by self-reported dental health status, selected socioeconomic determinants, Victoria, 2016

	good			Good			Fair or poor			dentures, no		
		95% CI			95% CI			95% CI			95% CI	
	%	LL	UL	%	LL	UL	%	LL	UL	%	LL	UL
All females	**42.9**	**40.9**	**44.9**	**31.4**	**29.5**	**33.3**	**20.5**	**18.9**	**22.1**	**4.9**	**4.3**	**5.5**
Country of birth												
Australia	**46.9**	44.5	49.3	**28.4**	26.3	30.6	**19.3**	17.5	21.2	**5.0**	4.3	5.7
Overseas	**34.3**	30.9	38.0	**38.2**	34.7	41.9	**22.5**	19.6	25.6	**4.8**	3.7	6.1
Language spoken at home												
English	**46.6**	44.3	48.9	**28.6**	26.5	30.7	**19.8**	18.0	21.7	**4.8**	4.2	5.5
Language other than English	**33.6**	29.9	37.5	**36.5**	32.8	40.5	**24.0**	20.7	27.7	**5.0**	3.6	7.1
Education level												
Did not complete high school	**32.8**	26.3	40.0	**36.1**	29.7	43.0	**24.1**	19.4	29.6	**7.0**	5.8	8.4
Completed high school, or TAFE, or trade certificate, or diploma	**43.2**	40.2	46.2	**30.9**	28.2	33.8	**21.5**	19.2	24.1	**3.8**	3.0	4.7
University, or some other tertiary institute degree	**51.9**	48.7	55.2	**31.4**	28.5	34.5	**15.3**	13.3	17.6	**1.1** *	0.7	1.9
Employment status												
Employed	**45.7**	42.8	48.6	**32.7**	29.1	36.4	**18.3**	15.6	21.3	**2.9** *	1.2	6.5
Unemployed	**25.5**	18.4	34.1	**37.0**	28.6	46.2	**26.7**	18.9	36.3	**5.7** *	2.7	11.8
Not in labour force	**38.2**	34.4	42.1	**31.0**	27.5	34.9	**25.0**	21.7	28.6	**5.7**	4.8	6.7
Total annual household income												
< $40,000	**29.1**	24.7	34.0	**33.5**	28.7	38.6	**30.3**	26.0	34.9	**6.4**	5.2	7.8
$40,000 to < $100,000	**43.3**	39.6	47.2	**33.3**	29.7	37.1	**19.9**	17.0	23.1	**3.2**	2.1	4.9
≥ $100,000	**55.7**	51.4	59.9	**27.9**	23.7	32.6	**15.3**	12.2	19.1	**		

Data were age-standardised to the 2011 Victorian population.

LL/UL 95% CI = lower/upper limit of 95 per cent confidence interval.

Estimates that are (statistically) significantly different from the corresponding estimate for Victoria are identified by colour as follows: above or below.

Estimates may not add to 100 per cent due to a proportion of 'don't know' or 'refused to say' responses, not reported here.

Relative standard error (RSE) = standard error / point estimate * 100; interpretation below:

* RSE between 25 and 50 per cent; point estimate (%) should be interpreted with caution.

** RSE greater than, or equal to, 50 per cent; point estimate (%) is unreliable, hence not reported.

Table 11.6 shows self-reported dental health status in males by selected modifiable risk factors and morbidity status. When compared with all Victorian males, there was a significantly higher proportion of males who reported fair or poor dental health with the following characteristics:

- high or very high levels of psychological distress
- current smoker
- fair or poor self-reported health status
- diagnosed with hypertension by a doctor
- two or more chronic diseases.

Table 11.6: Proportion (%) of adult males, by self-reported dental health status, selected modifiable risk factors and morbidity status, Victoria, 2016

	Excellent or very good			Good			Fair or poor			Not applicable (has dentures, no natural teeth)		
		95% CI			95% CI			95% CI				
	%	LL	UL	%	LL	UL	%	LL	UL	%	LL	UL
All males	**31.1**	**29.1**	**33.2**	**36.0**	**33.9**	**38.2**	**27.3**	**25.4**	**29.4**	**5.4**	**4.6**	**6.3**
Psychological distress [a]												
Low (K10 score < 16)	**38.2**	35.3	41.1	**34.6**	31.9	37.5	**20.9**	18.6	23.4	**6.2**	5.1	7.5
Moderate (K10 score 16–21)	**24.5**	20.9	28.5	**38.0**	33.7	42.4	**32.5**	28.5	36.8	**5.0**	3.5	7.2
High / very high (K10 score 22+)	**16.1**	12.2	21.0	**36.6**	30.9	42.6	**44.7**	38.7	50.9	**2.6** *	1.5	4.6
Physical activity [b]												
Sedentary	**12.9** *	7.5	21.4	**40.0**	31.1	49.7	**36.2**	26.8	46.7	**8.2**	5.1	12.8
Insufficient time (< 150 min) and/or sessions (< 2)	**30.8**	27.7	34.1	**34.0**	30.8	37.2	**29.6**	26.5	32.9	**5.5**	4.0	7.4
Sufficient time (≥ 150 min) and sessions (≥ 2)	**32.5**	29.6	35.6	**37.8**	34.7	41.0	**24.5**	21.7	27.5	**5.0**	3.9	6.3
Met fruit / vegetable guidelines [c]												
Both guidelines	**28.0**	17.3	42.1	**53.4**	40.8	65.6	**15.0** *	7.2	28.6	**3.6** *	1.6	7.9
Vegetable guidelines [d]	**32.3**	20.5	47.0	**44.4**	30.7	59.1	**18.4** *	10.2	31.1	**4.8** *	2.1	10.5
Fruit guidelines [d]	**36.8**	33.4	40.3	**38.3**	34.8	41.9	**21.0**	18.2	24.0	**3.9**	3.0	5.2
Neither	**27.7**	25.2	30.4	**34.5**	31.8	37.3	**31.3**	28.7	34.2	**6.2**	5.0	7.5
Smoking status												
Current smoker	**21.8**	17.9	26.2	**31.0**	26.4	36.0	**35.1**	30.4	40.1	**11.9**	9.2	15.2
Ex-smoker	**29.0**	24.5	34.0	**38.4**	33.3	43.7	**26.4**	21.9	31.3	**6.0**	5.0	7.2
Non-smoker	**35.4**	32.6	38.4	**37.6**	34.7	40.6	**24.2**	21.6	27.1	**2.5**	1.7	3.6
Lifetime risk of alcohol-related harm [e]												
Abstainer / no longer drinks alcohol	**28.1**	23.4	33.3	**36.4**	31.3	41.8	**28.7**	24.1	33.8	**6.4**	4.9	8.4
Reduced risk	**28.5**	22.8	34.9	**36.9**	30.9	43.3	**28.3**	22.8	34.6	**5.8**	3.8	8.8
Increased risk	**32.7**	30.3	35.3	**35.6**	33.1	38.2	**26.6**	24.2	29.1	**4.9**	4.0	6.1
Self-reported health												
Excellent / very good	**45.5**	42.2	48.9	**33.1**	30.0	36.4	**15.8**	13.5	18.5	**5.3**	4.0	6.9
Good	**21.8**	19.0	24.8	**44.0**	40.5	47.6	**29.2**	26.1	32.6	**5.0**	3.9	6.3
Fair/poor	**18.0**	14.0	22.7	**25.0**	20.8	29.8	**50.8**	45.5	56.2	**5.6**	4.3	7.3
Body weight status based on BMI [f]												
Underweight (BMI < 18.5 kg/m^2)	**24.6**	17.3	33.8	**31.1** *	17.0	49.7	**42.6**	27.5	59.2	**		
Normal range (18.5 ≥ BMI < 25 kg/m^2)	**35.1**	31.6	38.8	**36.4**	32.8	40.1	**23.3**	20.2	26.7	**5.1**	3.8	7.0
Pre-obese (25 ≥ BMI < 30 kg/m^2)	**31.5**	28.0	35.1	**36.4**	32.9	40.1	**27.1**	23.8	30.7	**4.5**	3.5	5.8
Obese (BMI ≥ 30 kg/m^2)	**27.9**	23.2	33.2	**34.1**	29.0	39.7	**32.5**	27.6	37.7	**5.5**	4.1	7.3
Blood pressure status												
Doctor diagnosed hypertension	**26.6**	21.5	32.4	**31.9**	26.6	37.6	**35.6**	29.8	41.8	**5.2**	4.2	6.4
Normal range	**32.2**	29.8	34.6	**36.5**	34.0	39.0	**25.8**	23.5	28.2	**5.4**	4.3	6.7
Morbidity status												
No chronic disease	**34.7**	32.0	37.6	**37.1**	34.1	40.1	**23.4**	20.9	26.2	**4.4**	3.2	6.1
One chronic disease	**28.4**	24.7	32.4	**35.5**	31.4	39.8	**31.5**	27.4	35.9	**4.2**	3.1	5.6
Two, or more chronic diseases	**19.1**	14.0	25.6	**35.1**	27.4	43.6	**39.6**	31.7	48.2	**6.2**	4.9	7.8

Data were age-standardised to the 2011 Victorian population.

LL/UL 95% CI = lower/upper limit of 95 per cent confidence interval.

Estimates that are (statistically) significantly different from the corresponding estimate for Victoria are identified by colour as follows: above or below.

Estimates may not add to 100 per cent due to a proportion of 'don't know' or 'refused to say' responses, not reported here.

Relative standard error (RSE) = standard error / point estimate * 100; interpretation below:

***** RSE between 25 and 50 per cent; point estimate (%) should be interpreted with caution.

****** RSE greater than, or equal to, 50 per cent; point estimate (%) is unreliable, hence not reported.

[a] Based on the Kessler 10 scale for psychological distress.

[b] DoH (2014) guidelines.

[c] NHMRC (2013) guidelines.

[d] Includes those meeting both guidelines.

[e] NHMRC (2009) guidelines.

[f] Body mass index (BMI) = Weight (kg) / Height (m^2).

Table 11.7 shows self-reported dental health status in females by selected modifiable risk factors and morbidity status. When compared with all Victorian females, there was a significantly higher proportion of females who reported fair or poor dental health with the following characteristics:

- high or very high levels of psychological distress

- sedentary
- current smoker
- fair or poor self-reported health status
- two or more chronic diseases.

Table 11.7: Proportion (%) of adult females, by self-reported dental health status, selected modifiable risk factors and morbidity status, Victoria, 2016

	Excellent or very good			Good			Fair or poor			Not applicable (has dentures, no natural teeth)		
		95% CI			95% CI			95% CI			95% CI	
	%	LL	UL	%	LL	UL	%	LL	UL	%	LL	UL
All females	**42.9**	**40.9**	**44.9**	**31.4**	**29.5**	**33.3**	**20.5**	**18.9**	**22.1**	**4.9**	**4.3**	**5.5**
Psychological distress [a]												
Low (K10 score < 16)	**49.5**	46.7	52.3	**30.7**	28.2	33.4	**15.4**	13.5	17.4	**4.3**	3.6	5.2
Moderate (K10 score 16–21)	**39.3**	35.5	43.1	**33.1**	29.4	37.1	**22.4**	19.3	25.9	**5.2**	4.0	6.7
High / very high (K10 score 22+)	**25.5**	21.4	30.2	**30.1**	25.7	34.9	**36.9**	32.2	41.9	**6.6**	4.7	9.1
Physical activity [b]												
Sedentary	**18.8**	12.1	28.0	**27.1** *	15.8	42.3	**46.4**	32.7	60.7	**7.4**	4.8	11.2
Insufficient time (< 150 min) and/or sessions (< 2)	**39.3**	36.4	42.2	**32.9**	30.2	35.8	**23.0**	20.6	25.6	**4.2**	3.3	5.3
Sufficient time (≥ 150 min) and sessions (≥ 2)	**48.7**	45.8	51.6	**29.8**	27.2	32.6	**16.7**	14.7	19.0	**4.4**	3.7	5.3
Met fruit / vegetable guidelines [c]												
Both guidelines	**60.8**	53.0	68.1	**20.4**	15.1	27.0	**15.9**	10.7	23.0	**2.8** *	1.5	5.3
Vegetable guidelines [d]	**57.7**	50.3	64.7	**23.6**	17.9	30.3	**15.4**	11.1	21.1	**3.3** *	2.0	5.5
Fruit guidelines [d]	**48.6**	45.7	51.6	**30.2**	27.5	33.0	**16.8**	14.8	19.0	**4.3**	3.5	5.2
Neither	**37.9**	35.3	40.7	**32.3**	29.7	35.0	**23.6**	21.3	26.1	**5.5**	4.6	6.6
Smoking status												
Current smoker	**29.9**	24.9	35.5	**27.8**	23.2	32.9	**31.8**	27.3	36.7	**9.3**	6.8	12.7
Ex-smoker	**45.6**	40.4	50.9	**32.2**	27.3	37.4	**16.8**	14.0	20.1	**4.9**	3.9	6.1
Non-smoker	**45.1**	42.6	47.5	**31.7**	29.4	34.1	**19.3**	17.4	21.3	**3.8**	3.2	4.5
Lifetime risk of alcohol-related harm [e]												
Abstainer / no longer drinks alcohol	**33.6**	29.8	37.7	**34.7**	30.8	38.8	**24.0**	20.6	27.7	**7.4**	6.2	8.9
Reduced risk	**44.1**	39.2	49.1	**32.0**	27.4	37.0	**19.2**	16.2	22.8	**4.2**	3.3	5.3
Increased risk	**47.6**	44.9	50.4	**30.1**	27.5	32.7	**18.8**	16.7	21.2	**3.1**	2.3	4.3
Self-reported health												
Excellent / very good	**59.8**	57.0	62.6	**26.5**	23.9	29.2	**9.8**	8.3	11.5	**3.7**	2.9	4.6
Good	**32.7**	29.6	35.9	**39.0**	35.7	42.3	**23.4**	20.6	26.6	**4.6**	3.7	5.8
Fair/poor	**20.4**	16.7	24.7	**29.6**	25.2	34.5	**41.6**	36.9	46.4	**7.3**	5.9	9.0
Body weight status based on BMI [f]												
Underweight (BMI < 18.5 kg/m^2)	**36.7**	28.8	45.3	**39.5**	30.0	50.0	**21.9**	14.8	31.2	**		
Normal range (18.5 ≥ BMI < 25 kg/m^2)	**46.3**	43.4	49.2	**29.7**	27.0	32.6	**20.1**	17.8	22.6	**3.7**	2.9	4.9
Pre-obese (25 ≥ BMI < 30 kg/m^2)	**44.2**	39.5	49.0	**32.2**	27.9	36.9	**18.2**	15.0	21.9	**5.1**	4.0	6.5
Obese (BMI ≥ 30 kg/m^2)	**37.4**	32.3	42.9	**33.2**	28.3	38.5	**23.0**	19.2	27.3	**4.9**	3.8	6.3
Blood pressure status (including pregnancy induced hypertension)												
Doctor diagnosed hypertension	**41.2**	36.1	46.4	**31.5**	26.8	36.6	**21.6**	18.1	25.5	**5.5**	4.7	6.5
Normal range	**44.3**	42.0	46.6	**31.3**	29.2	33.5	**20.0**	18.1	22.0	**4.0**	3.2	5.0
Morbidity status												
No chronic disease	**47.6**	44.6	50.6	**33.3**	30.4	36.3	**15.2**	13.1	17.7	**3.8**	2.6	5.6
One chronic disease	**43.5**	39.9	47.2	**30.3**	27.0	33.8	**21.2**	18.3	24.5	**4.2**	3.3	5.4
Two, or more chronic diseases	**34.7**	29.9	39.8	**29.0**	24.4	34.2	**29.2**	25.2	33.6	**6.1**	5.1	7.3

Data were age-standardised to the 2011 Victorian population.

LL/UL 95% CI = lower/upper limit of 95 per cent confidence interval.

Estimates that are (statistically) significantly different from the corresponding estimate for Victoria are identified by colour as follows: above or below.

Estimates may not add to 100 per cent due to a proportion of 'don't know' or 'refused to say' responses, not reported here.

Relative standard error (RSE) = standard error / point estimate * 100; interpretation below:

***** RSE between 25 and 50 per cent; point estimate (%) should be interpreted with caution.

****** RSE greater than, or equal to, 50 per cent; point estimate (%) is unreliable, hence not reported.

[a] Based on the Kessler 10 scale for psychological distress.

[b] DoH (2014) guidelines.

[c] NHMRC (2013) guidelines.

[d] Includes those meeting both guidelines.

[e] NHMRC (2009) guidelines.

[f] Body mass index (BMI) = Weight (kg) / Height (m^2).

Visits to a dental professional

The proportion of the population visiting a dental professional, by duration of time since the respondent's last visit, Department of Health and Human Services region and sex is presented in Table 11.8.

Almost 57 per cent of people reported visiting a dental professional within the preceding 12 months. A further 17.2 per cent of people reported visiting a dental professional between 12 months and two years prior to the survey. Another 13.8 per cent of people reported that it was two to five years since they last visited a dental professional, while 9.9 per cent reported it was five years or more since they last visited a dental professional. A significantly higher proportion of women reported that they last visited a dental professional within the preceding 12 months compared with men.

A significantly higher proportion of women in Grampians Region reported that it was five years or more since they last visited a dental professional compared with all Victorian women.

Table 11.8: Proportion (%) of adults visiting a dental professional, by duration of time since last visit, Department of Health and Human Services region and sex, Victoria, 2016

Region	< 1 year			1 to < 2 years			2 to < 5 years			≥ 5 years		
		95% CI			95% CI			95% CI			95% CI	
	%	LL	UL	%	LL	UL	%	LL	UL	%	LL	UL
Males												
Northern Metropolitan	**51.6**	46.4	56.7	**19.1**	15.4	23.5	**15.0**	11.6	19.2	**12.2**	9.2	16.2
Southern Metropolitan	**53.9**	49.5	58.4	**17.6**	14.5	21.3	**14.3**	11.4	17.8	**11.0**	8.5	14.0
Eastern Metropolitan	**55.4**	49.6	61.1	**18.3**	14.3	23.1	**14.7**	11.0	19.5	**10.3**	7.2	14.5
Western Metropolitan	**52.1**	46.8	57.4	**15.4**	12.1	19.3	**13.7**	10.6	17.7	**16.0**	12.2	20.6
All metropolitan regions	**53.5**	51.0	56.1	**17.5**	15.6	19.5	**14.5**	12.8	16.5	**12.1**	10.5	14.0
Barwon-South Western	**52.7**	44.1	61.0	**20.4**	14.3	28.1	**12.3** *	7.1	20.6	**12.3**	7.6	19.4
Gippsland	**58.0**	48.0	67.4	**17.5**	10.9	26.7	**12.5**	8.0	18.9	**8.8**	5.7	13.3
Grampians	**50.1**	41.5	58.7	**18.1**	12.1	26.4	**16.8**	11.4	24.0	**12.7**	8.7	18.2
Hume	**49.4**	38.3	60.5	**21.3**	13.0	32.8	**14.4**	9.7	21.0	**13.6** *	7.5	23.5
Loddon Mallee	**46.3**	36.4	56.5	**22.2**	14.6	32.1	**14.2**	8.9	22.1	**13.1**	8.2	20.4
All rural regions	**51.9**	47.2	56.5	**20.1**	16.5	24.2	**13.5**	11.0	16.6	**11.9**	9.4	14.9
Victoria	**52.9**	**50.7**	**55.2**	**18.0**	**16.4**	**19.8**	**14.5**	**13.0**	**16.2**	**12.1**	**10.7**	**13.7**
Females												
Northern Metropolitan	**60.3**	55.5	65.0	**18.5**	14.9	22.6	**10.2**	7.7	13.4	**9.6**	6.9	13.2
Southern Metropolitan	**65.4**	61.3	69.3	**15.2**	12.4	18.4	**12.1**	9.6	15.1	**6.7**	4.8	9.1
Eastern Metropolitan	**63.7**	58.8	68.2	**16.2**	13.1	19.8	**12.6**	9.5	16.4	**5.3**	3.5	7.9
Western Metropolitan	**58.8**	53.7	63.7	**15.5**	12.2	19.6	**15.3**	12.0	19.5	**7.7**	5.4	10.9
All metropolitan regions	**62.4**	60.1	64.7	**16.3**	14.6	18.1	**12.5**	11.0	14.2	**7.1**	6.0	8.5
Barwon-South Western	**56.4**	48.5	64.0	**18.7**	13.1	26.0	**17.6**	12.0	25.0	**6.3**	4.0	9.7
Gippsland	**56.7**	48.2	64.8	**14.0**	10.3	18.7	**17.6**	11.5	25.9	**10.5** *	6.2	17.2
Grampians	**54.0**	44.8	62.8	**11.3**	7.4	16.9	**18.1**	11.7	26.8	**15.7**	9.9	23.9
Hume	**56.8**	48.2	65.0	**17.9**	11.8	26.2	**14.6**	10.3	20.4	**9.8** *	5.9	15.8
Loddon Mallee	**62.0**	53.1	70.1	**19.8**	13.7	27.6	**9.0** *	5.3	14.7	**8.7** *	5.1	14.2
All rural regions	**57.7**	53.5	61.7	**17.0**	14.0	20.5	**14.8**	12.2	17.9	**9.6**	7.7	11.9
Victoria	**61.1**	**59.1**	**63.1**	**16.5**	**15.1**	**18.1**	**13.1**	**11.8**	**14.6**	**7.7**	**6.7**	**8.9**
People												
Northern Metropolitan	**56.2**	52.7	59.7	**18.8**	16.1	21.7	**12.7**	10.5	15.3	**10.6**	8.6	13.1
Southern Metropolitan	**59.8**	56.7	62.8	**16.4**	14.2	18.8	**13.1**	11.2	15.4	**8.8**	7.2	10.7
Eastern Metropolitan	**59.8**	56.0	63.5	**17.0**	14.4	19.9	**13.7**	11.2	16.7	**7.7**	5.8	10.1
Western Metropolitan	**55.4**	51.7	59.1	**15.4**	12.9	18.1	**14.7**	12.2	17.5	**11.8**	9.5	14.6
All metropolitan regions	**58.1**	56.3	59.8	**16.8**	15.6	18.2	**13.5**	12.3	14.8	**9.6**	8.6	10.7
Barwon-South Western	**55.0**	49.0	60.9	**19.5**	15.0	24.9	**14.6**	10.6	19.6	**9.2**	6.2	13.4
Gippsland	**57.2**	50.6	63.5	**16.0**	12.1	20.9	**15.0**	11.0	20.1	**9.6**	6.7	13.5
Grampians	**54.9**	48.6	61.1	**14.8**	11.0	19.7	**16.3**	12.1	21.5	**12.3**	9.2	16.2
Hume	**53.6**	46.5	60.5	**19.7**	14.1	26.7	**14.4**	10.9	18.8	**11.2**	7.6	16.2
Loddon Mallee	**54.0**	46.9	61.0	**20.8**	15.4	27.3	**11.1**	7.8	15.5	**11.3**	7.7	16.2
All rural regions	**55.0**	51.8	58.0	**18.4**	16.1	21.0	**14.1**	12.2	16.2	**10.6**	9.0	12.5
Victoria	**57.1**	**55.6**	**58.6**	**17.2**	**16.1**	**18.4**	**13.8**	**12.8**	**14.8**	**9.9**	**9.0**	**10.8**

Metropolitan and rural regions are identified by colour as follows: metropolitan / rural.

Data were age-standardised to the 2011 Victorian population.

LL/UL 95% CI = lower/upper limit of 95 per cent confidence interval.

Estimates that are (statistically) significantly different from the corresponding estimate for Victoria are identified by colour as follows: above or below.

Estimates may not add to 100 per cent due to a proportion of 'don't know' or 'refused to say' responses, not reported here.

Relative standard error (RSE) = standard error / point estimate * 100; interpretation below:

* RSE between 25 and 50 per cent; point estimate (%) should be interpreted with caution.

Table 11.9 shows the proportion of the population visiting a dental professional, by duration of time since last visit, Department of Health and Human Services division and sex. The duration of time since last visit was similar across all departmental divisions among men, women and adults.

Table 11.9: Proportion (%) of adults visiting a dental professional, by duration of time since last visit, Department of Health and Human Services division and sex, Victoria, 2016

	< 1 year			1 to < 2 years			2 to < 5 years			≥ 5 years		
		95% CI			95% CI			95% CI			95% CI	
Division	%	LL	UL	%	LL	UL	%	LL	UL	%	LL	UL
Males												
North	**50.2**	45.4	54.9	**19.6**	16.1	23.6	**15.5**	12.3	19.4	**12.4**	9.7	15.6
South	**54.3**	50.2	58.4	**17.8**	14.8	21.2	**14.1**	11.5	17.2	**10.7**	8.5	13.4
East	**54.2**	49.1	59.2	**18.8**	15.1	23.1	**14.9**	11.6	18.9	**10.7**	8.0	14.4
West	**52.4**	48.3	56.4	**16.5**	13.9	19.6	**13.9**	11.4	16.9	**14.5**	11.8	17.7
Victoria	**52.9**	**50.7**	**55.2**	**18.0**	**16.4**	**19.8**	**14.5**	**13.0**	**16.2**	**12.1**	**10.7**	**13.7**
Females												
North	**60.5**	56.2	64.7	**18.9**	15.6	22.6	**10.0**	7.8	12.7	**9.5**	7.1	12.5
South	**63.9**	60.2	67.4	**15.2**	12.7	18.0	**13.0**	10.6	15.8	**7.2**	5.5	9.4
East	**62.2**	57.9	66.3	**16.5**	13.7	19.9	**13.0**	10.3	16.3	**6.1**	4.4	8.5
West	**57.3**	53.4	61.1	**16.0**	13.3	19.0	**16.3**	13.5	19.5	**8.4**	6.6	10.6
Victoria	**61.1**	**59.1**	**63.1**	**16.5**	**15.1**	**18.1**	**13.1**	**11.8**	**14.6**	**7.7**	**6.7**	**8.9**
People												
North	**55.5**	52.4	58.7	**19.2**	16.8	21.8	**12.6**	10.6	14.9	**10.8**	9.0	13.0
South	**59.2**	56.4	61.9	**16.5**	14.5	18.7	**13.5**	11.7	15.5	**8.9**	7.4	10.6
East	**58.5**	55.1	61.7	**17.5**	15.1	20.1	**14.0**	11.8	16.5	**8.4**	6.7	10.5
West	**55.1**	52.3	57.8	**16.2**	14.2	18.3	**15.0**	13.1	17.1	**11.4**	9.7	13.3
Victoria	**57.1**	**55.6**	**58.6**	**17.2**	**16.1**	**18.4**	**13.8**	**12.8**	**14.8**	**9.9**	**9.0**	**10.8**

Data were age-standardised to the 2011 Victorian population.

LL/UL 95% CI = lower/upper limit of 95 per cent confidence interval.

Table 11.10 and Figure 11.3 show the proportion of the population visiting a dental professional, by duration of time since last visit, age group and sex. A significantly higher proportion of men and women aged 75 years of age or older reported that it was five years or more since they last visited a dental professional compared with the proportion in all Victorian men and women, respectively.

Table 11.10: Proportion (%) of adults visiting a dental professional, by duration of time since last visit, age group and sex, Victoria, 2016

Sex	< 1 year			1 to < 2 years			2 to < 5 years			≥ 5 years		
Age group		95% CI			95% CI			95% CI			95% CI	
(years)	%	LL	UL	%	LL	UL	%	LL	UL	%	LL	UL
Males												
18–24	**59.4**	52.8	65.6	**18.1**	13.7	23.5	**9.9**	6.6	14.5	**5.6** *	3.3	9.4
25–34	**48.3**	42.5	54.1	**18.5**	14.6	23.2	**15.1**	11.4	19.7	**15.0**	11.1	20.0
35–44	**52.8**	47.0	58.6	**19.9**	15.5	25.2	**17.0**	13.0	21.9	**9.0**	6.2	12.9
45–54	**58.1**	52.8	63.2	**15.2**	11.8	19.4	**14.3**	11.0	18.4	**11.5**	8.6	15.1
55–64	**55.4**	50.6	60.1	**18.8**	15.4	22.8	**14.6**	11.5	18.4	**9.7**	7.4	12.5
65–74	**49.5**	44.5	54.5	**18.6**	14.8	23.0	**14.3**	10.8	18.7	**16.5**	13.1	20.6
75–84	**48.3**	40.8	55.9	**13.9**	9.6	19.6	**17.6**	12.4	24.2	**19.5**	14.3	26.0
85+	**34.5**	23.6	47.4	**21.7** *	12.1	35.8	**14.1** *	7.8	24.1	**25.1**	16.1	37.0
18+	**53.0**	**50.8**	**55.2**	**18.0**	**16.4**	**19.8**	**14.5**	**13.0**	**16.2**	**12.0**	**10.6**	**13.5**
Females												
18–24	**62.4**	56.1	68.3	**20.5**	15.8	26.2	**12.7**	9.2	17.3	**2.9** *	1.4	6.0
25–34	**58.1**	52.4	63.6	**17.6**	13.7	22.3	**13.9**	10.3	18.3	**8.0**	5.5	11.5
35–44	**62.0**	57.1	66.8	**17.6**	14.1	21.9	**13.2**	10.2	17.0	**6.4**	4.2	9.5
45–54	**65.8**	61.4	69.9	**15.0**	12.1	18.4	**13.2**	10.3	16.8	**5.0**	3.4	7.3
55–64	**63.4**	59.0	67.6	**12.8**	10.4	15.6	**13.1**	10.4	16.5	**10.1**	7.4	13.7
65–74	**61.7**	57.0	66.1	**15.7**	12.4	19.7	**10.9**	8.3	14.1	**10.9**	8.2	14.4
75–84	**47.8**	41.6	54.2	**16.8**	12.7	21.9	**16.1**	12.2	20.8	**15.2**	11.1	20.5
85+	**55.7**	44.3	66.5	**8.9** *	4.5	17.0	**11.2** *	6.0	19.9	**18.7**	11.9	28.1
18+	**61.2**	**59.2**	**63.1**	**16.3**	**14.9**	**17.9**	**13.1**	**11.8**	**14.5**	**7.9**	**6.9**	**9.1**
People												
18–24	**60.8**	56.3	65.2	**19.3**	15.9	23.1	**11.2**	8.7	14.4	**4.3**	2.8	6.6
25–34	**52.8**	48.6	56.8	**18.1**	15.3	21.4	**14.5**	11.8	17.7	**11.8**	9.3	14.9
35–44	**57.8**	54.0	61.5	**18.7**	15.8	21.9	**15.0**	12.4	17.9	**7.6**	5.7	10.0
45–54	**62.1**	58.7	65.4	**15.1**	12.8	17.7	**13.7**	11.5	16.4	**8.1**	6.4	10.2
55–64	**59.7**	56.4	62.8	**15.6**	13.5	18.0	**13.8**	11.7	16.3	**9.9**	8.0	12.1
65–74	**55.8**	52.4	59.2	**17.1**	14.6	20.0	**12.5**	10.3	15.2	**13.6**	11.4	16.2
75–84	**48.0**	43.2	52.9	**15.6**	12.5	19.3	**16.7**	13.5	20.5	**17.0**	13.6	21.0
85+	**45.7**	37.3	54.4	**15.0**	9.4	22.9	**12.6**	8.2	18.7	**21.7**	15.9	29.0
18+	**57.2**	**55.7**	**58.7**	**17.2**	**16.1**	**18.3**	**13.8**	**12.8**	**14.9**	**9.9**	**9.0**	**10.8**

Data are age-specific estimates, except for '18+', which are crude estimates (not age-standardised) for Victoria.

LL/UL 95% CI = lower/upper limit of 95 per cent confidence interval.

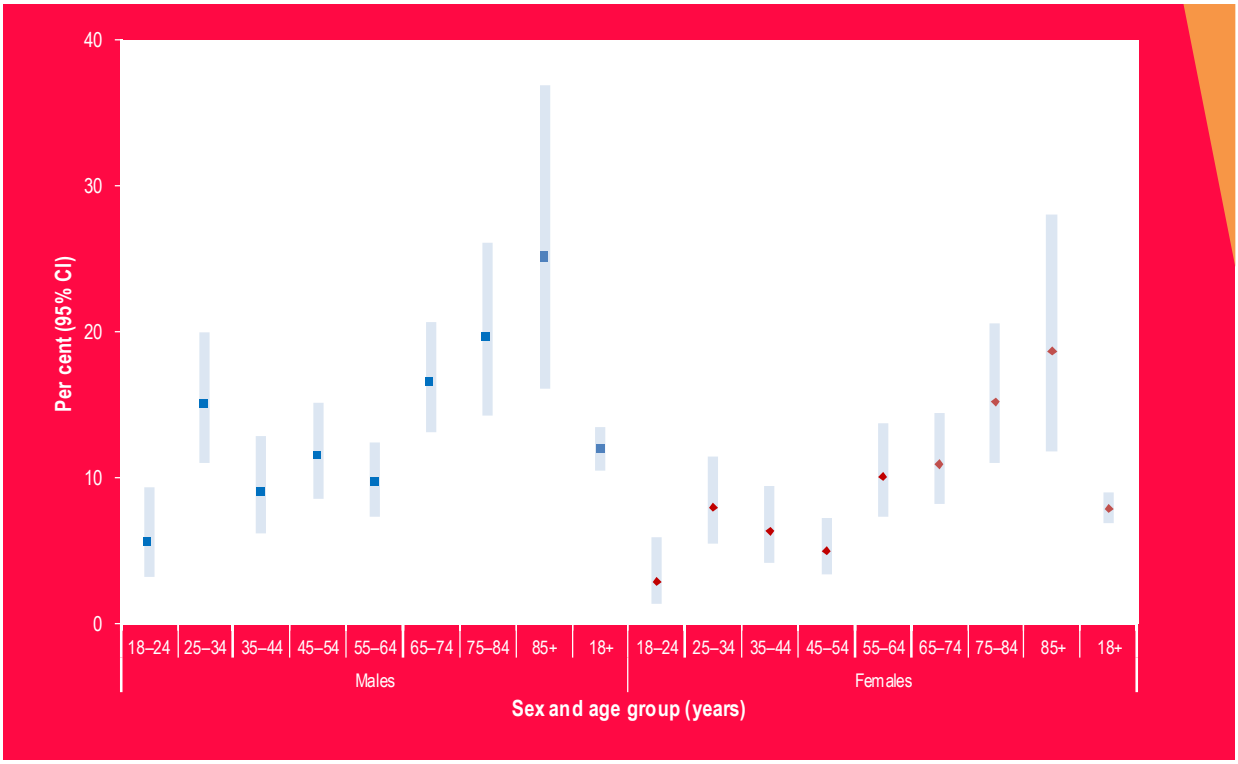
Estimates that are (statistically) significantly different from the corresponding estimate for Victoria are identified by colour as follows: above or below.

Estimates may not add to 100 per cent due to a proportion of 'don't know' or 'refused to say' responses, not reported here.

Relative standard error (RSE) = standard error/point estimate * 100; interpretation below:

***** Estimate has a RSE between 25 and 50 per cent and should be interpreted with caution.

Figure 11.3: Proportion (%) of adults who visited a dental professional five or more years ago, by duration of time since last visit, age group and sex, Victoria, 2016



Data are age group specific estimates, except for '18+', which are crude estimates (not age-standardised) for Victoria.
95% CI = 95 per cent confidence interval.

Avoidance or delaying a visit to a dental professional due to cost

Table 11.11 shows the proportion of the population who avoided or delayed visiting a dental professional due to cost, by Department of Health and Human Services region and sex.

Overall, 33.1 per cent of people avoided or delayed visiting a dental professional due to the cost. This proportion was significantly higher in women (35.2 per cent) compared with men (31.0 per cent). There were no significant differences in the proportion of men, women and people living in the various departmental regions who had avoided or delayed visiting a dental professional due to cost compared with the proportion in all Victorian men, women and people, respectively.

Table 11.11: Proportion (%) of adults who avoided or delayed visiting a dental professional because of the cost, by Department of Health and Human Services region and sex, Victoria, 2016

	Males			Females			People		
		95% CI			95% CI			95% CI	
Region	%	LL	UL	%	LL	UL	%	LL	UL
Northern Metropolitan	**35.2**	30.3	40.4	**36.2**	31.7	40.9	**35.5**	32.2	39.0
Southern Metropolitan	**31.0**	26.9	35.4	**34.0**	30.2	38.1	**32.6**	29.7	35.6
Eastern Metropolitan	**30.3**	25.2	35.9	**34.2**	29.6	39.1	**32.1**	28.6	35.8
Western Metropolitan	**26.8**	22.3	32.0	**37.4**	32.7	42.3	**32.0**	28.7	35.6
All metropolitan regions	**30.6**	28.3	33.1	**35.1**	32.9	37.4	**33.0**	31.4	34.7
Barwon-South Western	**25.6**	18.8	33.8	**37.3**	29.9	45.4	**30.6**	25.5	36.3
Gippsland	**27.0**	19.6	35.9	**29.7**	22.7	37.9	**27.9**	22.6	33.9
Grampians	**39.2**	30.4	48.9	**39.6**	30.7	49.3	**40.2**	33.5	47.2
Hume	**33.6**	23.8	45.1	**32.2**	24.6	40.9	**33.6**	26.9	41.1
Loddon Mallee	**34.7**	25.9	44.5	**34.7**	26.8	43.5	**36.0**	29.4	43.2
All rural regions	**31.6**	27.4	36.2	**35.6**	31.6	39.8	**33.6**	30.6	36.6
Victoria	**31.0**	**28.9**	**33.1**	**35.2**	**33.2**	**37.2**	**33.1**	**31.7**	**34.6**

Metropolitan and rural regions are identified by colour as follows: metropolitan / rural.

Data were age-standardised to the 2011 Victorian population.

LL/UL 95% CI = lower/upper limit of 95 per cent confidence interval.

Table 11.12 shows the proportion of the population who avoided or delayed visiting a dental professional due to cost, by Department of Health and Human Services division and sex. There were no significant differences in the proportion of men, women and people living in the various departmental divisions who had avoided or delayed visiting a dental professional due to cost compared with the proportion in all Victorian men, women and people, respectively.

Table 11.12: Proportion (%) of adults who avoided or delayed visiting a dental professional because of the cost, by Department of Health and Human Services division and sex, Victoria, 2016

	Males			Females			People		
		95% CI			95% CI			95% CI	
Division	%	LL	UL	%	LL	UL	%	LL	UL
North	**34.7**	30.5	39.3	**36.4**	32.3	40.7	**35.9**	32.9	39.1
South	**30.5**	26.7	34.6	**33.4**	29.9	37.1	**32.0**	29.4	34.7
East	**31.3**	26.7	36.3	**33.8**	29.7	38.1	**32.4**	29.3	35.7
West	**28.4**	24.9	32.3	**37.4**	33.7	41.2	**32.7**	30.1	35.4
Victoria	**31.0**	**28.9**	**33.1**	**35.2**	**33.2**	**37.2**	**33.1**	**31.7**	**34.6**

Data were age-standardised to the 2011 Victorian population.

LL/UL 95% CI = lower/upper limit of 95 per cent confidence interval.

Table 11.13 and Figure 11.4 show the proportion of the population who avoided or delayed visiting a dental professional due to cost, by age group and sex. There were significantly higher proportions of 25–34-year-old men and people who had avoided or delayed visiting a dental professional due to the cost compared with all Victorian men and people, respectively. In contrast, a significantly lower proportion of men, women and people aged 65 years of age or older avoided or delayed visiting a dental professional due to the cost compared with all Victorian men, women and people, respectively.

Table 11.13: Proportion (%) of adults who avoided, or delayed, visiting a dental professional because of the cost, by age group and sex, Victoria, 2016

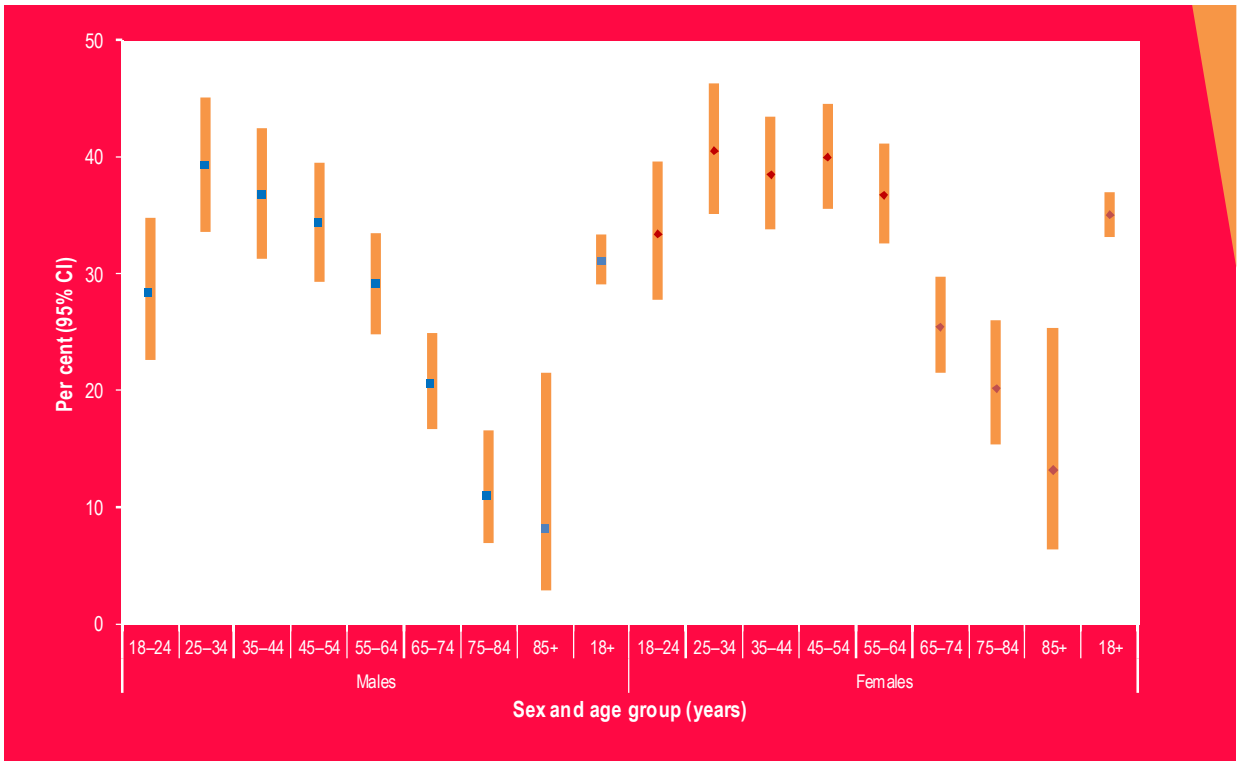
Sex	Males			Females			People		
Age group		95% CI			95% CI			95% CI	
(years)	%	LL	UL	%	LL	UL	%	LL	UL
18–24	**28.3**	22.5	34.8	**33.4**	27.7	39.6	**30.7**	26.6	35.2
25–34	**39.2**	33.7	45.0	**40.5**	35.0	46.2	**39.8**	35.9	43.9
35–44	**36.7**	31.3	42.5	**38.5**	33.7	43.4	**37.7**	34.0	41.4
45–54	**34.3**	29.3	39.6	**40.0**	35.6	44.5	**37.2**	33.9	40.7
55–64	**28.9**	24.7	33.5	**36.7**	32.5	41.1	**33.1**	30.1	36.2
65–74	**20.5**	16.7	24.9	**25.4**	21.6	29.7	**23.1**	20.3	26.1
75–84	**10.9**	7.0	16.5	**20.2**	15.4	26.0	**16.4**	13.0	20.5
85+	**			**13.2** *	6.4	25.4	**10.9** *	6.0	19.0
18+	**31.1**	**29.0**	**33.3**	**35.0**	**33.1**	**37.0**	**33.1**	**31.7**	**34.6**

Data are age-specific estimates, except for '18+', which are crude estimates (not age-standardised) for Victoria.
LL/UL 95% CI = lower/upper limit of 95 per cent confidence interval.
Estimates that are (statistically) significantly different from the corresponding estimate for Victoria are identified by colour as follows: above or below.
Estimates may not add to 100 per cent due to a proportion of 'don't know' or 'refused to say' responses, not reported here.
Relative standard error (RSE) = standard error/point estimate * 100; interpretation below:

* Estimate has a RSE between 25 and 50 per cent and should be interpreted with caution.

** Estimate has a RSE greater than 50 per cent and is not reported as it is unreliable for general use.

Figure 11.4: Proportion (%) of adults who avoided, or delayed, visiting a dental professional because of the cost, by age group and sex, Victoria, 2016



Data are age group specific estimates, except for '18+', which are crude estimates (not age-standardised) for Victoria.
95% CI = 95 per cent confidence interval.

Figure 11.5 shows the relationship between the proportion of adults who avoided, or delayed, visiting a dental professional due to cost and total annual household income as a measure of SES. There was a significant decline in the proportion of the adults who avoided, or delayed, visiting a dental professional due to cost with increasing total annual household income in males, females and people.

Figure 11.5: Proportion (%) of adults who avoided, or delayed, visiting a dental professional because of the cost, by total annual household income and sex, Victoria, 2016

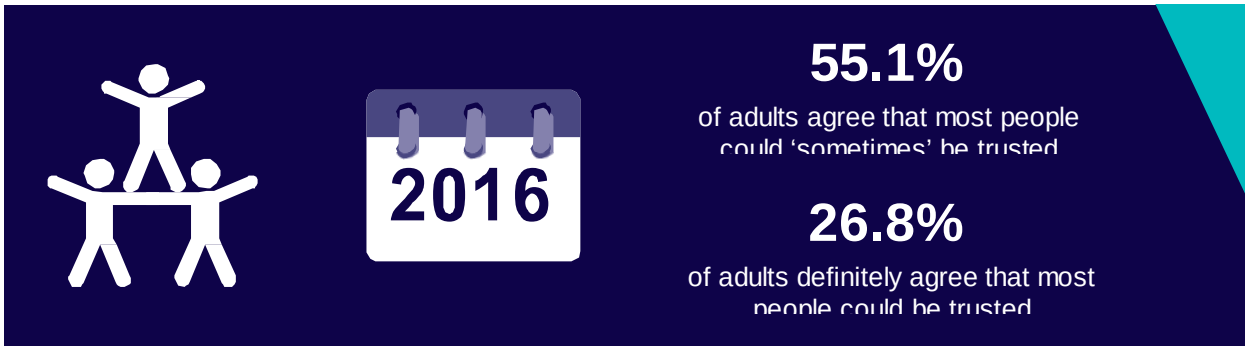
Data were age-standardised to the 2011 Victorian population.
95% CI = 95 per cent confidence interval.

12. Social capital

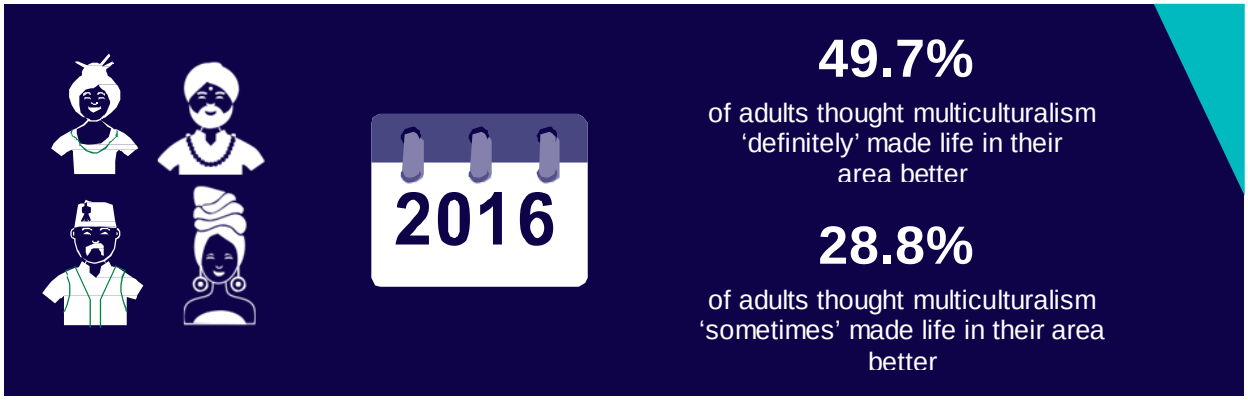
Key findings

Social capital

Trusting others



Diversity



Introduction

Social capital describes the benefits obtained from the links that bind and connect people within and between groups (OECD 2001). The extent of social connectedness and the degree to which individuals form close bonds with relations, friends and acquaintances has been in some cases associated with lower morbidity and increased life expectancy (Kawachi et al. 1997), although not consistently (Pearce & Smith 2003). It can provide sources of resilience against poor health through social support which is critical to physical and mental wellbeing, and through networks that help people find work, or cope with economic and material hardship.

Social capital is thought to impact on health in four ways: more cohesive groups are better placed to take collective action; groups can enforce and maintain social norms; reciprocity of exchanges; and the diffusion of information across social networks (Steptoe et al. 2010).

Many studies have been conducted to investigate the impact of different levels of social capital on various diseases and their outcomes (Steptoe et al. 2010). Stronger social networks have consistently been shown to be associated with a lower incidence and mortality due to cardiovascular disease, as well as a better prognosis when survival is the endpoint being considered. There is also strong evidence of a protective effect of social networks on cognitive decline. The findings with cancer are mixed, however, with some studies showing a protective effect and others not. Overall, a dose–response relationship between all-cause mortality and the degree of social connectedness has been observed.

Social and civic trust

Trust has been defined as a set of socially learnt and confirmed expectations that people have of each other, of the organisations and institutions in which they live, and of the natural and moral social orders that set the fundamental understandings for their lives (Kramer 1999). Conversely, distrust has been defined as a lack of confidence in another, a concern that the other may act so as to harm one, that he/she does not care about one's welfare or intends to act harmfully, or is hostile (Kramer 1999). Trust is essential within social systems to enable cooperative and altruistic behaviours that enhance collective wellbeing and the attainment of collective goals. Trust in our civic institutions and the people who run them, such as our healthcare system, is therefore essential in order to maximise an individual's health and wellbeing.

Trust underpins the concept of the 'norm of reciprocity' – that is, the expectation that people will respond favourably to each other by returning benefits for benefits, and not responding with either indifference or hostility. Whether individuals take up opportunities for social interaction and community engagement may depend on the level and extent of both social and civic trust.

Social trust refers to trust among casual acquaintances or strangers in everyday social interactions, while civic trust refers to trust in public institutions and the respect that citizens are accorded in their relationships with those institutions.

The Victorian Population Health Survey 2016 asked each respondent whether he/she agreed that most people could be trusted, as this is one component of social capital.

Table 12.1 shows the proportion of the adult population, by feelings of trust, Department of Health and Human Services region and sex. Overall, 26.8 per cent of Victorian adults agreed that most people could be trusted; there was no difference between men and women. A further 55.1 per cent agreed that most people could 'sometimes' be trusted; again, there was no difference between men and women. Conversely, 6.8 per cent of Victorian adults disagreed that most people could be trusted. There were no significant differences across Department of Health and Human Services regions for men and women who agreed that most people could be trusted. A significantly higher proportion of women who lived in

Northern Metropolitan Region disagreed that most people could be trusted compared with all Victorian women.

Table 12.1: Proportion (%) of adults, by feelings of trust, Department of Health and Human Services region and sex, Victoria, 2016

	No, not at all			Not often			Sometimes			Yes, definitely		
		95% CI			95% CI			95% CI			95% CI	
Region	%	LL	UL	%	LL	UL	%	LL	UL	%	LL	UL
Males												
Northern Metropolitan	**8.4**	6.1	11.6	**11.2**	8.2	15.0	**54.4**	49.2	59.6	**23.0**	19.0	27.5
Southern Metropolitan	**7.6**	5.4	10.7	**10.9**	8.3	14.2	**56.2**	51.8	60.6	**22.7**	19.5	26.4
Eastern Metropolitan	**3.6** *	2.0	6.4	**9.6**	6.5	13.9	**55.6**	50.0	61.2	**28.8**	24.1	33.9
Western Metropolitan	**8.8**	6.2	12.3	**8.4**	5.9	11.8	**53.2**	47.8	58.5	**27.7**	23.2	32.8
All metropolitan regions	**7.0**	5.8	8.4	**9.6**	8.2	11.3	**55.3**	52.8	57.8	**25.5**	23.4	27.7
Barwon-South Western	**7.9** *	3.4	17.1	**8.0** *	4.6	13.5	**54.3**	45.6	62.8	**27.6**	21.2	35.2
Gippsland	**6.9** *	3.5	13.1	**8.4** *	4.6	14.9	**57.5**	48.0	66.5	**26.7**	19.4	35.6
Grampians	**10.7**	6.5	17.0	**9.0** *	4.4	17.7	**51.7**	42.4	60.9	**27.7**	20.8	35.8
Hume	**10.1** *	4.3	21.9	**8.0**	4.9	12.9	**51.3**	41.2	61.3	**28.4**	19.5	39.3
Loddon Mallee	**4.0** *	1.9	7.9	**8.3** *	3.8	17.3	**56.4**	45.7	66.5	**30.8**	22.2	41.0
All rural regions	**7.6**	5.4	10.8	**8.7**	6.3	11.9	**53.8**	49.2	58.4	**28.4**	24.4	32.8
Victoria	**7.1**	**6.1**	**8.4**	**9.5**	**8.2**	**11.0**	**54.9**	**52.6**	**57.0**	**26.2**	**24.3**	**28.1**
Females												
Northern Metropolitan	**10.2**	7.8	13.4	**7.8**	5.5	10.9	**55.6**	50.8	60.2	**24.2**	20.5	28.3
Southern Metropolitan	**6.0**	4.3	8.3	**10.6**	8.2	13.5	**55.0**	50.9	59.0	**26.1**	22.7	29.7
Eastern Metropolitan	**3.5**	2.2	5.4	**7.8**	5.5	11.0	**53.8**	49.0	58.5	**33.1**	28.7	37.7
Western Metropolitan	**6.8**	4.4	10.2	**10.6**	7.9	14.1	**55.4**	50.3	60.3	**24.2**	20.3	28.6
All metropolitan regions	**6.6**	5.5	7.9	**9.5**	8.1	11.0	**54.6**	52.3	56.9	**27.0**	25.0	29.0
Barwon-South Western	**8.5** *	4.6	15.1	**4.6** *	2.5	8.1	**59.7**	51.8	67.2	**26.4**	20.5	33.3
Gippsland	**4.5** *	1.9	10.2	**4.0**	2.5	6.4	**65.6**	58.6	72.0	**24.0**	18.3	30.7
Grampians	**6.0** *	2.2	15.2	**11.5** *	6.2	20.2	**53.5**	44.0	62.9	**28.2**	20.9	36.9
Hume	**3.7** *	1.8	7.3	**5.7** *	3.3	9.7	**57.3**	48.6	65.5	**31.7**	23.9	40.7
Loddon Mallee	**5.7** *	2.6	12.4	**7.0** *	3.3	14.4	**54.4**	45.9	62.6	**29.9**	23.1	37.7
All rural regions	**6.1**	4.1	8.9	**6.1**	4.5	8.1	**58.4**	54.4	62.3	**27.8**	24.5	31.5
Victoria	**6.4**	**5.4**	**7.6**	**8.7**	**7.6**	**10.0**	**55.4**	**53.4**	**57.4**	**27.2**	**25.5**	**29.0**
People												
Northern Metropolitan	**9.5**	7.7	11.7	**8.6**	6.8	10.8	**55.0**	51.5	58.5	**24.3**	21.4	27.3
Southern Metropolitan	**6.8**	5.3	8.6	**10.8**	9.0	12.9	**55.6**	52.6	58.6	**24.3**	21.9	26.8
Eastern Metropolitan	**3.6**	2.5	5.1	**8.9**	6.8	11.5	**54.7**	51.0	58.4	**30.8**	27.6	34.3
Western Metropolitan	**7.6**	5.8	9.8	**9.5**	7.6	11.8	**54.3**	50.5	57.9	**26.1**	23.0	29.5
All metropolitan regions	**6.8**	6.0	7.7	**9.6**	8.6	10.7	**54.9**	53.2	56.6	**26.3**	24.8	27.8
Barwon-South Western	**8.8**	5.4	13.9	**6.1**	4.1	9.0	**56.6**	50.5	62.4	**27.1**	22.5	32.3
Gippsland	**5.5** *	3.2	9.3	**6.2**	4.0	9.4	**61.7**	55.7	67.3	**25.4**	20.6	30.9
Grampians	**7.7**	4.8	12.2	**11.0** *	6.6	17.7	**53.3**	46.3	60.0	**27.2**	22.2	32.8
Hume	**6.6** *	3.5	12.1	**7.1**	4.9	10.2	**54.2**	47.2	61.0	**30.2**	23.8	37.4
Loddon Mallee	**4.8** *	2.8	8.2	**7.2** *	4.0	12.4	**54.3**	47.1	61.3	**31.9**	25.4	39.1
All rural regions	**6.9**	5.3	8.9	**7.3**	5.9	9.2	**55.9**	52.8	58.9	**28.4**	25.7	31.2
Victoria	**6.8**	**6.0**	**7.6**	**9.1**	**8.3**	**10.1**	**55.1**	**53.6**	**56.6**	**26.8**	**25.5**	**28.1**

Metropolitan and rural regions are identified by colour as follows: metropolitan / rural.

Data were age-standardised to the 2011 Victorian population.

LL/UL 95% CI = lower/upper limit of 95 per cent confidence interval.

Estimates that are (statistically) significantly different from the corresponding estimate for Victoria are identified by colour as follows: above or below.

Estimates may not add to 100 per cent due to a proportion of 'don't know' or 'refused to say' responses, not reported here.

Relative standard error (RSE) = standard error / point estimate * 100; interpretation below:

* RSE between 25 and 50 per cent; point estimate (%) should be interpreted with caution.

Table 12.2 shows the proportion of the adult population, by feelings of trust, Department of Health and Human Services division and sex. A significantly lower proportion of women who lived in East Division disagreed that most people could be trusted compared with all Victorian women.

Table 12.2: Proportion (%) of adults, by feelings of trust, Department of Health and Human Services division and sex, Victoria, 2016

	No, not at all			Not often			Sometimes			Yes, definitely		
		95% CI			95% CI			95% CI			95% CI	
Division	%	LL	UL	%	LL	UL	%	LL	UL	%	LL	UL
Males												
North	**7.4**	5.4	9.9	**9.9**	7.2	13.3	**55.3**	50.7	59.8	**25.1**	21.2	29.4
South	**7.6**	5.5	10.4	**10.5**	8.2	13.4	**56.5**	52.4	60.5	**23.2**	20.2	26.5
East	**4.7**	2.9	7.5	**9.8**	7.1	13.4	**54.2**	49.2	59.2	**28.9**	24.7	33.6
West	**8.7**	6.6	11.4	**8.5**	6.4	11.2	**52.8**	48.7	56.9	**28.0**	24.6	31.8
Victoria	**7.1**	**6.1**	**8.4**	**9.5**	**8.2**	**11.0**	**54.9**	**52.6**	**57.0**	**26.2**	**24.3**	**28.1**
Females												
North	**9.0**	6.8	11.7	**7.6**	5.5	10.4	**55.1**	50.9	59.3	**25.8**	22.4	29.5
South	**5.8**	4.2	7.9	**9.7**	7.6	12.2	**56.4**	52.7	60.0	**25.9**	22.9	29.1
East	**3.6**	2.4	5.2	**7.4**	5.4	10.1	**54.4**	50.1	58.6	**32.8**	28.9	36.9
West	**7.1**	5.0	9.9	**9.5**	7.4	12.1	**56.1**	52.3	59.8	**25.2**	22.3	28.4
Victoria	**6.4**	**5.4**	**7.6**	**8.7**	**7.6**	**10.0**	**55.4**	**53.4**	**57.4**	**27.2**	**25.5**	**29.0**
People												
North	**8.3**	6.8	10.2	**8.2**	6.6	10.3	**54.8**	51.7	58.0	**26.1**	23.4	28.9
South	**6.7**	5.3	8.4	**10.1**	8.5	12.0	**56.4**	53.7	59.1	**24.5**	22.3	26.8
East	**4.1**	3.0	5.7	**8.7**	6.9	10.9	**54.4**	51.0	57.6	**30.8**	27.9	33.9
West	**7.7**	6.2	9.5	**9.0**	7.5	10.9	**54.5**	51.7	57.3	**26.7**	24.4	29.2
Victoria	**6.8**	**6.0**	**7.6**	**9.1**	**8.3**	**10.1**	**55.1**	**53.6**	**56.6**	**26.8**	**25.5**	**28.1**

Data w ere age-standardised to the 2011 Victorian population.

LL/UL 95% CI = low er/upper limit of 95 per cent confidence interval.

Estimates that are (statistically) significantly different from the corresponding estimate for Victoria are identified by colour as follows: above or below.

Estimates may not add to 100 per cent due to a proportion of 'don't know ' or 'refused to say' responses, not reported here.

Table 12.3 and Figure 12.1 show the proportion of the adult population, by feelings of trust, age group and sex. A significantly higher proportion of women 85 years of age or older agreed that most people could be trusted compared with all Victorian women, respectively. By contrast 25–34-year-old women were significantly less likely to agree that most people could be trusted compared with all Victorian women.

Table 12.3: Proportion (%) of adults, by feelings of trust, age group and sex, Victoria, 2016

Sex	No, not at all			Not often			Sometimes			Yes, definitely		
Age group		95% CI			95% CI			95% CI			95% CI	
(years)	%	LL	UL	%	LL	UL	%	LL	UL	%	LL	UL
Males												
18–24	**5.4** *	3.2	9.1	**12.7**	8.9	17.9	**59.0**	52.4	65.3	**22.7**	17.6	28.7
25–34	**5.2**	3.2	8.4	**9.2**	6.4	13.2	**62.7**	57.0	68.1	**21.8**	17.6	26.8
35–44	**9.1**	5.9	13.6	**10.1**	6.9	14.5	**53.4**	47.5	59.2	**25.6**	21.0	30.9
45–54	**8.5**	5.9	12.0	**7.7**	5.0	11.7	**54.5**	49.1	59.7	**26.5**	22.1	31.5
55–64	**6.3**	4.3	9.2	**9.2**	6.7	12.5	**49.6**	44.8	54.4	**31.4**	27.2	35.9
65–74	**8.9**	6.2	12.6	**8.5**	6.1	11.9	**51.3**	46.3	56.3	**28.4**	24.2	32.9
75–84	**7.6** *	4.3	13.1	**12.6**	8.1	19.1	**45.3**	37.9	52.8	**30.7**	24.2	38.2
85+	**5.9** *	2.4	14.2	**			**46.6**	34.4	59.3	**33.8**	23.1	46.5
18+	**7.1**	**6.0**	**8.4**	**9.5**	**8.3**	**11.0**	**55.1**	**52.9**	**57.3**	**26.0**	**24.2**	**28.0**
Females												
18–24	**5.0** *	3.1	8.2	**8.9**	6.1	12.9	**62.3**	56.0	68.2	**22.7**	17.6	28.6
25–34	**8.1**	5.1	12.6	**11.0**	7.7	15.3	**58.6**	52.8	64.1	**21.1**	17.1	25.8
35–44	**5.0**	3.2	7.9	**7.9**	5.6	10.9	**60.5**	55.7	65.2	**25.7**	21.8	30.1
45–54	**6.6**	4.6	9.3	**8.5**	6.1	11.8	**50.8**	46.3	55.3	**32.0**	28.0	36.3
55–64	**5.2**	3.5	7.7	**8.1**	6.0	10.7	**55.0**	50.5	59.4	**27.7**	24.0	31.7
65–74	**7.2**	5.1	10.1	**8.2**	5.9	11.4	**50.0**	45.4	54.5	**32.3**	28.3	36.6
75–84	**11.0**	7.1	16.5	**7.3**	4.9	10.8	**43.0**	37.0	49.3	**33.0**	27.3	39.2
85+	**3.5** *	1.3	8.8	**8.4** *	4.4	15.4	**33.2**	23.7	44.2	**47.0**	35.7	58.7
18+	**6.5**	**5.5**	**7.6**	**8.7**	**7.6**	**9.9**	**55.0**	**53.1**	**57.0**	**27.6**	**25.9**	**29.3**
People												
18–24	**5.3**	3.6	7.5	**10.9**	8.4	14.1	**60.6**	56.0	64.9	**22.7**	19.0	26.8
25–34	**6.5**	4.7	9.1	**10.0**	7.8	12.8	**60.8**	56.8	64.7	**21.5**	18.5	24.9
35–44	**6.9**	5.1	9.4	**8.9**	6.9	11.4	**57.2**	53.4	60.9	**25.7**	22.6	29.0
45–54	**7.5**	5.8	9.6	**8.1**	6.2	10.5	**52.6**	49.1	56.0	**29.4**	26.4	32.6
55–64	**5.7**	4.3	7.5	**8.6**	7.0	10.6	**52.5**	49.2	55.7	**29.4**	26.6	32.4
65–74	**8.0**	6.2	10.2	**8.4**	6.6	10.6	**50.6**	47.2	54.0	**30.4**	27.5	33.5
75–84	**9.6**	6.8	13.4	**9.5**	7.0	12.7	**43.9**	39.2	48.7	**32.1**	27.7	36.8
85+	**4.6** *	2.4	8.9	**5.9** *	3.4	10.0	**39.5**	31.6	48.0	**40.8**	32.6	49.6
18+	**6.8**	**6.0**	**7.6**	**9.1**	**8.3**	**10.0**	**55.1**	**53.6**	**56.5**	**26.8**	**25.6**	**28.1**

Data are age-specific estimates, except for '18+', which are crude estimates (not age-standardised) for Victoria.

LL/UL 95% CI = lower/upper limit of 95 per cent confidence interval.

Estimates that are (statistically) significantly different from the corresponding estimate for Victoria are identified by colour as follows: above or below.

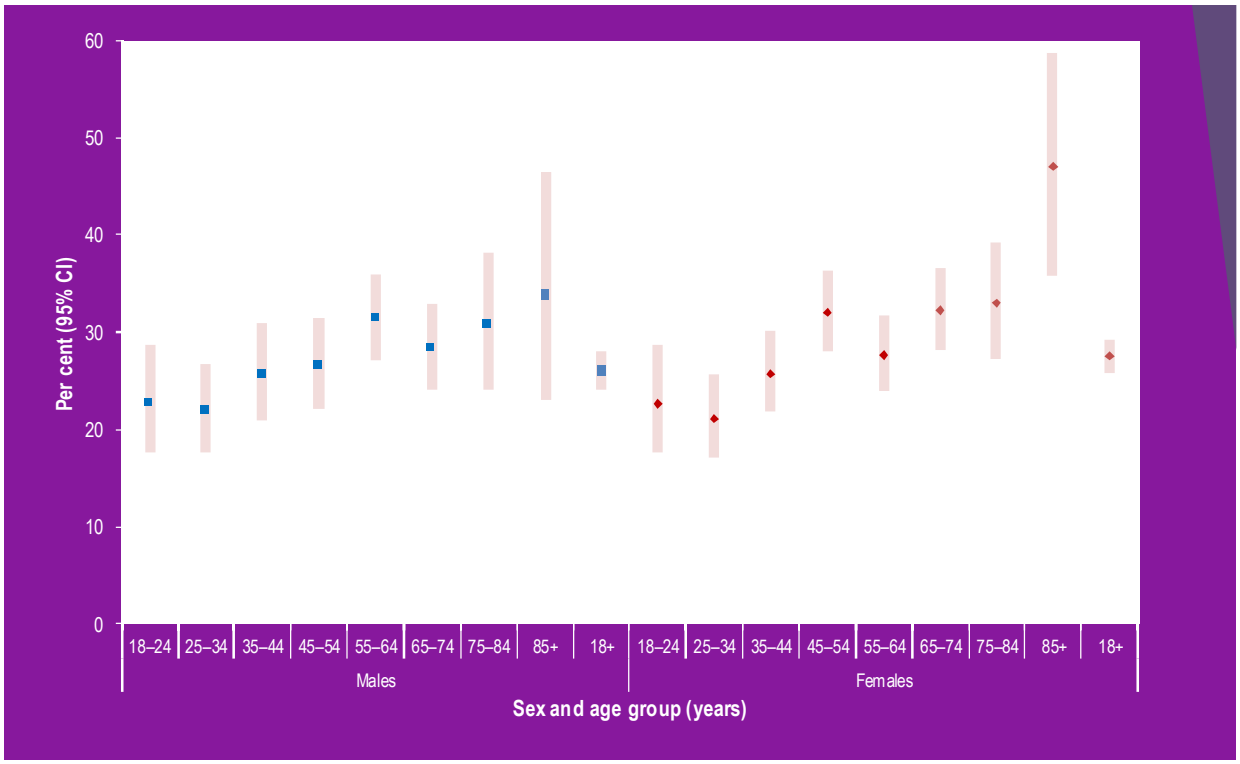
Estimates may not add to 100 per cent due to a proportion of 'don't know' or 'refused to say' responses, not reported here.

Relative standard error (RSE) = standard error/point estimate * 100; interpretation below:

* Estimate has a RSE between 25 and 50 per cent and should be interpreted with caution.

** Estimate has a RSE greater than 50 per cent and is not reported as it is unreliable for general use.

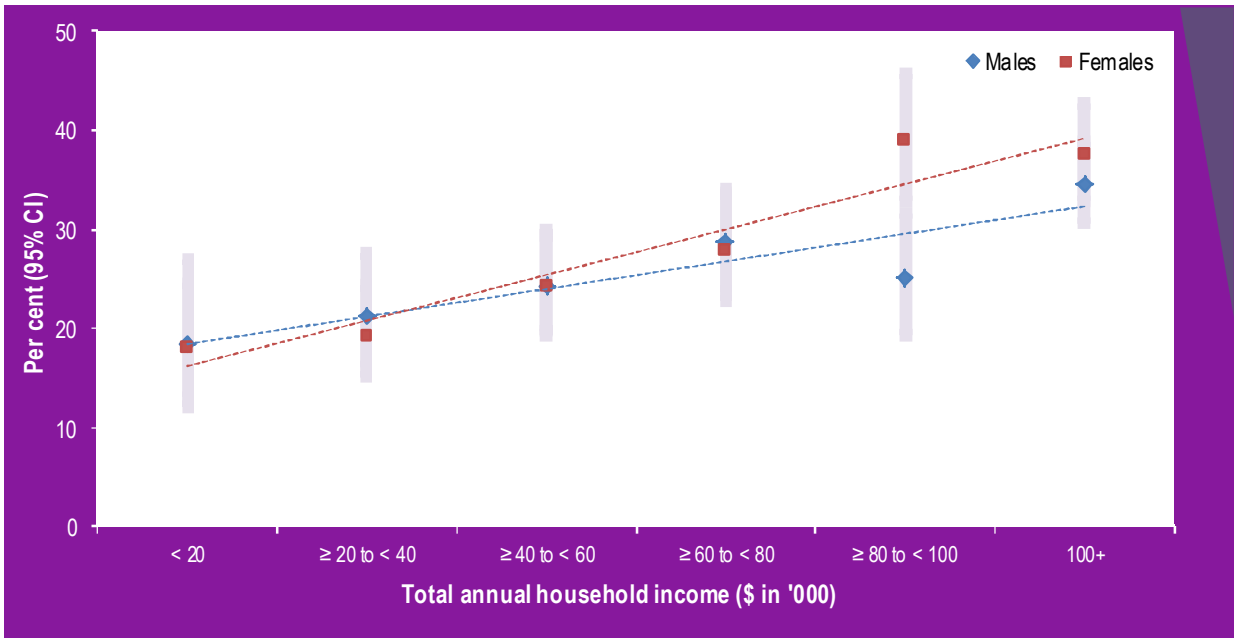
Figure 12.1: Proportion (%) of adults who definitely feel that most people can be trusted, by age group and sex, Victoria, 2016



Data are age group specific estimates, except for '18+', which are crude estimates (not age-standardised) for Victoria.
95% CI = 95 per cent confidence interval.

Figure 12.2 shows the relationship between the proportion of men and women who definitely felt that most people could be trusted, by total annual household income as a measure of SES. In 2016 there was a significant increase in the proportion of men and women who definitely felt that most people could be trusted in line with increasing total annual household income.

Figure 12.2: Proportion (%) of adults who definitely feel that most people can be trusted, by total annual household income and sex, Victoria, 2016



Data were age-standardised to the 2011 Victorian population.
95% CI = 95 per cent confidence interval.

Table 12.4 shows the proportion of adult males, by feelings of trust and selected socioeconomic determinants. When compared with all Victorian men, there was a significantly higher proportion of men who definitely felt that most people could be trusted who had the following characteristics:

- completed a university or other tertiary education degree
- had a total household income of $100,000 or more.

Table 12.4: Proportion (%) of men, by feelings of trust and selected socioeconomic determinants, Victoria, 2016

	No, not at all			Not often			Sometimes			Yes, definitely		
		95% CI			95% CI			95% CI			95% CI	
	%	LL	UL	%	LL	UL	%	LL	UL	%	LL	UL
All males	**7.1**	**6.1**	**8.4**	**9.5**	**8.2**	**11.0**	**54.9**	**52.6**	**57.0**	**26.2**	**24.3**	**28.1**
Country of birth												
Australia	**6.4**	5.2	8.0	**9.2**	7.6	11.0	**56.1**	53.4	58.8	**26.4**	24.2	28.8
Overseas	**8.1**	6.3	10.4	**10.0**	7.8	12.6	**52.3**	48.5	56.1	**26.4**	23.2	29.9
Language spoken at home												
English	**6.0**	4.9	7.4	**8.8**	7.3	10.5	**56.2**	53.6	58.8	**27.1**	24.9	29.5
Language other than English	**10.7**	8.2	13.7	**12.5**	9.9	15.7	**50.3**	46.2	54.5	**23.1**	19.8	26.8
Education level												
Did not complete high school	**14.6**	10.5	20.0	**16.0**	11.6	21.6	**51.5**	44.9	58.0	**16.1**	12.0	21.3
Completed high school, or TAFE, or trade certificate, or diploma	**6.3**	5.0	8.0	**8.8**	7.1	10.8	**57.6**	54.5	60.6	**25.3**	22.7	28.1
University, or some other tertiary institute degree	**3.3**	2.2	4.8	**6.9**	5.3	9.1	**50.6**	47.2	54.0	**36.7**	33.5	39.9
Employment status												
Employed	**6.7**	4.8	9.2	**10.2**	8.0	12.9	**56.7**	53.3	60.0	**24.9**	22.5	27.4
Unemployed	**12.4** *	7.1	20.5	**8.7** *	5.1	14.6	**49.3**	40.8	57.7	**16.2**	10.7	23.7
Not in labour force	**11.5**	7.3	17.7	**8.8** *	5.3	14.3	**48.9**	42.3	55.5	**26.7**	21.4	32.7
Total annual household income												
< $40,000	**11.8**	8.3	16.3	**12.4**	9.0	17.0	**53.2**	47.3	58.9	**20.2**	16.0	25.1
$40,000 to < $100,000	**5.4**	3.8	7.5	**9.4**	7.4	12.0	**58.8**	54.9	62.6	**25.2**	22.0	28.6
≥ $100,000	**3.6**	2.3	5.5	**7.5**	5.4	10.4	**51.8**	47.8	55.9	**34.6**	30.6	38.8

Data were age-standardised to the 2011 Victorian population.
LL/UL 95% CI = lower/upper limit of 95 per cent confidence interval.
Estimates that are (statistically) significantly different from the corresponding estimate for Victoria are identified by colour as follows: above or below.
Estimates may not add to 100 per cent due to a proportion of 'don't know' or 'refused to say' responses, not reported here.
Relative standard error (RSE) = standard error / point estimate * 100; interpretation below:
* RSE between 25 and 50 per cent; point estimate (%) should be interpreted with caution.

Table 12.5 shows the proportion of adult females, by feelings of trust and selected socioeconomic determinants. When compared with all Victorian women, there was a significantly higher proportion of women who definitely felt that most people could be trusted who had the following characteristics:

- completed a university or other tertiary education degree
- employed
- total annual household income of $100,000 or more.

When compared with all Victorian women, there was a significantly higher proportion of women who did not feel that most people could be trusted who had the following characteristics:

- spoke a language other than English at home
- total annual household income of less than $40,000.

Table 12.5: Proportion (%) of women, by feelings of trust and selected socioeconomic determinants, Victoria, 2016

	No, not at all			Not often			Sometimes			Yes, definitely		
		95% CI			95% CI			95% CI			95% CI	
	%	LL	UL	%	LL	UL	%	LL	UL	%	LL	UL
All females	**6.4**	**5.4**	**7.6**	**8.7**	**7.6**	**10.0**	**55.4**	**53.4**	**57.4**	**27.2**	**25.5**	**29.0**
Country of birth												
Australia	**4.8**	3.8	6.1	**7.7**	6.4	9.2	**57.3**	54.9	59.7	**28.6**	26.6	30.7
Overseas	**9.4**	7.5	11.9	**10.8**	8.9	13.1	**50.9**	47.2	54.5	**25.4**	22.4	28.7
Language spoken at home												
English	**4.0**	3.1	5.0	**7.6**	6.4	9.1	**56.9**	54.6	59.2	**29.8**	27.7	31.9
Language other than English	**13.4**	10.6	16.7	**12.4**	10.1	15.2	**51.4**	47.3	55.5	**18.5**	15.7	21.7
Education level												
Did not complete high school	**11.1**	7.2	16.8	**12.1**	8.1	17.6	**54.4**	47.5	61.1	**19.9**	15.5	25.3
Completed high school, or TAFE, or trade certificate, or diploma	**6.2**	4.9	7.9	**9.4**	7.8	11.4	**57.3**	54.3	60.3	**25.4**	23.0	28.1
University, or some other tertiary institute degree	**3.5**	2.3	5.3	**6.0**	4.7	7.7	**51.3**	48.2	54.4	**36.8**	33.8	39.8
Employment status												
Employed	**4.6**	3.4	6.1	**7.7**	6.3	9.4	**53.6**	50.1	57.1	**32.3**	29.2	35.7
Unemployed	**11.5** *	6.6	19.3	**11.5** *	6.3	20.3	**50.9**	41.6	60.2	**15.9**	9.7	25.0
Not in labour force	**7.6**	5.6	10.3	**9.6**	7.5	12.3	**56.2**	52.2	60.0	**24.8**	21.7	28.2
Total annual household income												
< $40,000	**13.0**	9.7	17.3	**12.8**	9.6	16.9	**52.0**	47.0	57.0	**20.0**	16.4	24.2
$40,000 to < $100,000	**4.3**	3.0	6.1	**7.2**	5.5	9.4	**58.2**	54.4	61.9	**27.9**	24.8	31.3
≥ $100,000	**2.7** *	1.4	4.9	**3.6**	2.5	5.3	**53.9**	49.0	58.8	**37.6**	32.8	42.6

Data were age-standardised to the 2011 Victorian population.

LL/UL 95% CI = lower/upper limit of 95 per cent confidence interval.

Estimates that are (statistically) significantly different from the corresponding estimate for Victoria are identified by colour as follows: above or below.

Estimates may not add to 100 per cent due to a proportion of 'don't know' or 'refused to say' responses, not reported here.

Relative standard error (RSE) = standard error / point estimate * 100; interpretation below:

* RSE between 25 and 50 per cent; point estimate (%) should be interpreted with caution.

Comparison with previous survey

The prevalence of feelings of trust among men and women was compared with the previous Victorian Population Health Survey (2015) (Table 12.6 and Figure 12.3). This is the first time that trend over time data has been reported after the introduction of dual-frame sampling in 2015. There was no statistically significant difference between 2015 and 2016 in the proportions of men and women for all categories of feelings of trust.

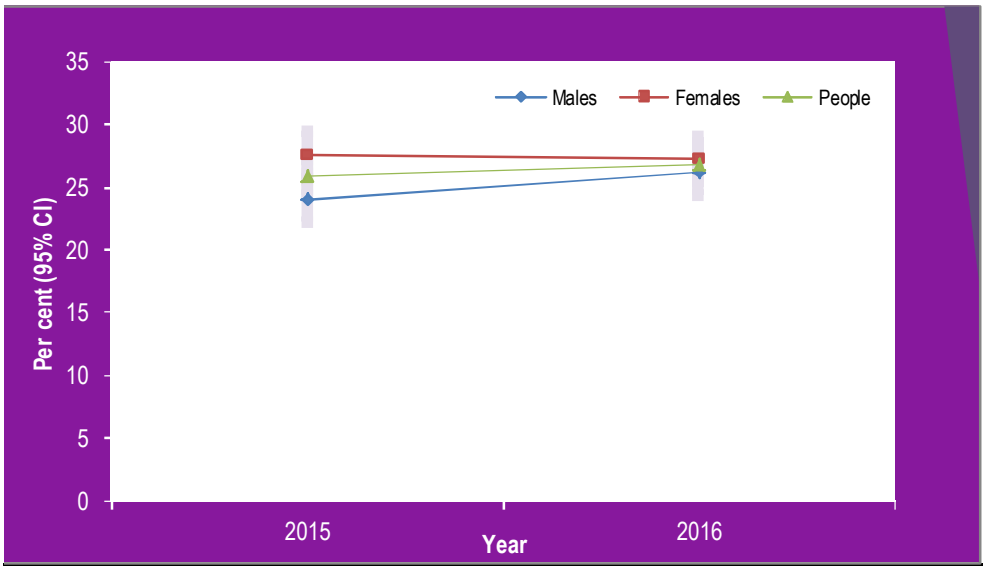
Table 12.6: Proportion (%) of women, by feelings of trust and selected socioeconomic determinants, Victoria, 2015–2016

		Most people can be trusted											
		No, not at all			Not often			Sometimes			Yes, definitely		
		95% CI			95% CI			95% CI			95% CI		
	Year	%	LL	UL	%	LL	UL	%	LL	UL	%	LL	UL
Males	2015	7.0	5.8	8.4	10.3	8.9	11.9	56.2	53.8	58.5	24.1	22.2	26.0
	2016	7.1	6.1	8.4	9.5	8.2	11.0	54.9	52.6	57.0	26.2	24.3	28.1
Females	2015	5.5	4.5	6.7	8.8	7.6	10.1	56.4	54.2	58.5	27.5	25.6	29.5
	2016	6.4	5.4	7.6	8.7	7.6	10.0	55.4	53.4	57.4	27.2	25.5	29.0
People	2015	6.2	5.5	7.1	9.5	8.6	10.5	56.3	54.7	57.9	25.8	24.5	27.2
	2016	6.8	6.0	7.6	9.1	8.3	10.1	55.1	53.6	56.6	26.8	25.5	28.1

Data w ere age-standardised to the 2011 Victorian population.

LL/UL 95% CI = low er/upper limit of 95 per cent confidence interval.

Figure 12.3: Proportion (%) of adults who felt most people could definitely be trusted, by sex, Victoria, 2015–2016



Data w ere age-standardised to the 2011 Victorian population.

LL/UL 95% CI = low er/upper limit of 95 per cent confidence interval.

Diversity

Tolerance of diversity, or an ability to get along with individuals of different cultural and social backgrounds, is a key aspect of social cohesion and may give an indication of the level of bridging social capital. The 2016 survey asked respondents whether they thought multiculturalism (as a general concept) made life in their area better. Table 12.7 shows tolerance of diversity, by Department of Health and Human Services region and sex.

About half (49.7 per cent) of Victorian people thought multiculturalism definitely made life in their area better, and a further 28.8 per cent thought it made life in their area better sometimes. On average, 5.4 per cent of the population thought multiculturalism was not applicable to their area, 3.9 per cent thought multiculturalism did not often make life better in their area and 6.7 per cent thought multiculturalism did not make life better at all in their area. There were no significant differences across Department of Health and Human Services regions for men and women who thought multiculturalism made life in their area better.

Table 12.7: Proportion (%) of adults who felt multiculturalism made life better in their area, by Department of Health and Human Services region and sex, Victoria, 2016

Region	No, not at all			Not often			Sometimes			Yes, definitely			Not applicable		
		95% CI			95% CI			95% CI			95% CI			95% CI	
	%	LL	UL	%	LL	UL	%	LL	UL	%	LL	UL	%	LL	UL
Males															
Northern Metropolitan	**9.1**	6.5	12.6	**3.9** *	2.3	6.6	**23.3**	19.1	28.0	**52.4**	47.4	57.3	**4.0** *	2.2	7.2
Southern Metropolitan	**9.5**	7.1	12.6	**3.6**	2.4	5.6	**32.0**	27.9	36.4	**45.9**	41.5	50.4	**3.6**	2.3	5.6
Eastern Metropolitan	**5.7**	3.6	8.9	**4.9** *	2.8	8.5	**29.7**	24.7	35.3	**48.3**	42.8	54.0	**4.7**	2.8	7.5
Western Metropolitan	**8.9**	6.1	12.8	**3.4** *	1.8	6.3	**29.5**	24.9	34.6	**52.0**	46.7	57.3	**		
All metropolitan regions	**8.2**	6.9	9.8	**3.9**	2.9	5.0	**28.8**	26.5	31.2	**49.7**	47.1	52.2	**3.4**	2.6	4.4
Barwon-South Western	**8.2**	5.2	12.7	**2.9** *	1.3	6.3	**25.5**	19.2	33.2	**49.0**	41.4	56.7	**8.3**	5.4	12.7
Gippsland	**6.7**	4.3	10.3	**4.7** *	2.1	9.9	**30.7**	22.0	41.0	**44.0**	33.8	54.8	**10.2** *	5.5	18.3
Grampians	**9.0**	5.5	14.2	**7.6** *	4.2	13.5	**31.4**	23.9	40.1	**39.3**	30.4	49.0	**7.4**	4.6	11.8
Hume	**12.9**	8.0	20.3	**6.6** *	2.8	14.8	**24.2**	16.3	34.3	**42.3**	32.5	52.7	**10.2** *	4.9	19.9
Loddon Mallee	**9.1** *	5.2	15.3	**3.5** *	1.6	7.6	**27.3**	20.4	35.4	**45.7**	36.9	54.8	**9.3**	6.0	14.2
All rural regions	**9.3**	7.2	11.9	**4.5**	3.3	6.3	**27.6**	23.7	31.9	**45.0**	40.5	49.6	**8.5**	6.6	11.0
Victoria	**8.5**	**7.4**	**9.8**	**4.0**	**3.2**	**4.9**	**28.3**	**26.4**	**30.4**	**48.6**	**46.4**	**50.8**	**4.8**	**4.0**	**5.7**
Females															
Northern Metropolitan	**5.5**	3.8	8.0	**3.6** *	2.1	6.1	**26.2**	22.1	30.8	**55.5**	50.7	60.1	**4.1**	2.6	6.5
Southern Metropolitan	**6.3**	4.4	8.8	**3.6**	2.3	5.5	**29.2**	25.6	33.1	**48.1**	44.1	52.2	**6.7**	4.8	9.2
Eastern Metropolitan	**3.9**	2.4	6.1	**2.7**	1.6	4.3	**31.2**	26.8	35.9	**54.5**	49.7	59.3	**4.2**	2.7	6.6
Western Metropolitan	**6.1**	4.0	9.0	**5.0**	3.1	7.8	**30.6**	26.0	35.6	**49.5**	44.6	54.5	**0.7** *	0.3	1.8
All metropolitan regions	**5.6**	4.6	6.8	**3.7**	2.9	4.7	**28.9**	26.8	31.2	**51.8**	49.4	54.1	**4.3**	3.4	5.4
Barwon-South Western	**3.5** *	1.7	6.9	**3.5** *	1.6	7.5	**29.5**	22.6	37.6	**48.7**	41.1	56.5	**9.8**	7.0	13.5
Gippsland	**4.5** *	2.7	7.5	**1.7** *	0.7	4.4	**32.8**	25.2	41.3	**41.6**	33.5	50.1	**14.0**	9.5	20.4
Grampians	**3.2** *	1.8	5.6	**6.9** *	3.3	14.0	**29.1**	21.2	38.5	**47.0**	37.9	56.4	**11.3**	7.8	16.1
Hume	**2.4** *	1.4	4.2	**5.1** *	2.3	10.9	**32.6**	25.5	40.6	**46.4**	38.1	55.0	**8.7**	5.9	12.6
Loddon Mallee	**2.9** *	1.3	6.2	**3.6** *	1.6	8.3	**29.4**	21.3	39.0	**47.9**	39.1	56.8	**12.3**	8.1	18.3
All rural regions	**3.4**	2.4	4.7	**4.2**	2.8	6.2	**30.2**	26.6	34.1	**47.0**	43.0	51.1	**11.1**	9.3	13.2
Victoria	**5.0**	**4.2**	**6.0**	**3.8**	**3.1**	**4.6**	**29.2**	**27.3**	**31.1**	**50.7**	**48.7**	**52.7**	**6.1**	**5.3**	**7.0**
People															
Northern Metropolitan	**7.2**	5.6	9.3	**3.6**	2.5	5.2	**24.8**	21.8	28.0	**54.5**	51.0	57.9	**4.0**	2.8	5.7
Southern Metropolitan	**7.8**	6.3	9.8	**3.6**	2.7	4.9	**30.6**	27.8	33.5	**47.0**	43.9	50.0	**5.2**	4.0	6.8
Eastern Metropolitan	**4.8**	3.4	6.7	**3.8**	2.5	5.7	**30.1**	26.7	33.8	**52.0**	48.2	55.7	**4.3**	3.1	6.0
Western Metropolitan	**7.3**	5.5	9.6	**4.3**	2.9	6.2	**30.1**	26.8	33.7	**50.8**	47.2	54.4	**0.6** *	0.3	1.3
All metropolitan regions	**6.9**	6.0	7.8	**3.8**	3.1	4.5	**28.9**	27.3	30.5	**50.7**	49.0	52.5	**3.8**	3.2	4.5
Barwon-South Western	**5.7**	3.9	8.5	**3.0** *	1.8	4.9	**25.8**	21.1	31.0	**51.1**	45.4	56.7	**8.8**	6.8	11.4
Gippsland	**5.5**	3.9	7.6	**3.2** *	1.7	5.8	**32.0**	26.0	38.7	**42.8**	36.2	49.6	**12.0**	8.5	16.6
Grampians	**6.0**	4.1	8.8	**6.7**	4.2	10.5	**31.9**	25.9	38.5	**42.3**	35.9	49.0	**9.4**	7.1	12.3
Hume	**7.4**	4.6	11.9	**6.0** *	3.4	10.6	**28.2**	22.7	34.5	**45.6**	38.8	52.6	**8.5**	5.6	12.6
Loddon Mallee	**6.5** *	3.9	10.7	**3.6** *	2.0	6.4	**27.5**	22.0	33.7	**47.7**	41.0	54.6	**10.8**	7.8	14.6
All rural regions	**6.3**	5.1	7.7	**4.3**	3.3	5.5	**28.7**	26.0	31.5	**46.4**	43.4	49.5	**9.8**	8.5	11.3
Victoria	**6.7**	**6.0**	**7.5**	**3.9**	**3.3**	**4.5**	**28.8**	**27.4**	**30.2**	**49.7**	**48.2**	**51.2**	**5.4**	**4.8**	**6.1**

Metropolitan and rural regions are identified by colour as follows: metropolitan / rural.

Data were age-standardised to the 2011 Victorian population.

LL/UL 95% CI = lower/upper limit of 95 per cent confidence interval.

Estimates that are (statistically) significantly different from the corresponding estimate for Victoria are identified by colour as follows: above or below.

Estimates may not add to 100 per cent due to a proportion of 'don't know' or 'refused to say' responses, not reported here.

Relative standard error (RSE) = standard error / point estimate * 100; interpretation below:

* RSE between 25 and 50 per cent; point estimate (%) should be interpreted with caution.

** Estimate has a RSE greater than 50 per cent and is not reported as it is unreliable for general use.

Table 12.8 shows tolerance of diversity, by Department of Health and Human Services division and sex. There were no significant differences across Department of Health and Human Services division for men and women who thought multiculturalism made life in their area better.

Table 12.8: Proportion (%) of adults who felt multiculturalism made life better in their area, by Department of Health and Human Services division and sex, Victoria, 2016

	No, not at all			Not often			Sometimes			Yes, definitely			Not applicable		
		95% CI			95% CI			95% CI			95% CI			95% CI	
Division	%	LL	UL	%	LL	UL	%	LL	UL	%	LL	UL	%	LL	UL
Males															
North	**8.8**	6.6	11.6	**3.7**	2.4	5.7	**24.6**	21.0	28.7	**50.3**	46.0	54.6	**5.8**	3.9	8.6
South	**9.1**	7.0	11.8	**3.7**	2.5	5.4	**31.8**	28.0	35.9	**45.5**	41.4	49.6	**4.7**	3.3	6.8
East	**7.2**	5.1	10.2	**5.1**	3.2	8.1	**28.6**	24.2	33.5	**47.7**	42.8	52.7	**5.3**	3.6	7.7
West	**9.1**	7.0	11.8	**3.8**	2.6	5.7	**28.2**	24.6	32.0	**49.6**	45.5	53.6	**3.8**	2.8	5.1
Victoria	**8.5**	**7.4**	**9.8**	**4.0**	**3.2**	**4.9**	**28.3**	**26.4**	**30.4**	**48.6**	**46.4**	**50.8**	**4.8**	**4.0**	**5.7**
Females															
North	**4.9**	3.4	6.9	**3.5**	2.2	5.5	**26.9**	23.1	31.1	**53.9**	49.7	58.1	**6.3**	4.6	8.6
South	**5.9**	4.3	8.1	**3.3**	2.2	5.0	**29.6**	26.3	33.1	**47.2**	43.6	50.9	**7.7**	6.0	10.0
East	**3.6**	2.4	5.4	**3.1**	2.1	4.7	**31.3**	27.4	35.5	**53.1**	48.8	57.3	**5.1**	3.7	7.0
West	**5.2**	3.8	7.2	**4.9**	3.4	6.9	**29.4**	25.9	33.1	**49.4**	45.6	53.2	**4.9**	4.0	6.1
Victoria	**5.0**	**4.2**	**6.0**	**3.8**	**3.1**	**4.6**	**29.2**	**27.3**	**31.1**	**50.7**	**48.7**	**52.7**	**6.1**	**5.3**	**7.0**
People															
North	**6.9**	5.4	8.7	**3.5**	2.5	4.8	**25.5**	22.9	28.4	**52.6**	49.6	55.7	**6.0**	4.7	7.6
South	**7.5**	6.1	9.1	**3.5**	2.7	4.6	**30.7**	28.1	33.4	**46.3**	43.6	49.1	**6.3**	5.1	7.7
East	**5.3**	4.0	7.0	**4.2**	3.0	5.8	**29.7**	26.7	32.9	**50.8**	47.5	54.1	**5.1**	4.0	6.6
West	**6.9**	5.6	8.5	**4.3**	3.3	5.6	**28.8**	26.2	31.4	**49.7**	46.9	52.5	**4.4**	3.7	5.2
Victoria	**6.7**	**6.0**	**7.5**	**3.9**	**3.3**	**4.5**	**28.8**	**27.4**	**30.2**	**49.7**	**48.2**	**51.2**	**5.4**	**4.8**	**6.1**

Data were age-standardised to the 2011 Victorian population.

LL/UL 95% CI = lower/upper limit of 95 per cent confidence interval.

Estimates may not add to 100 per cent due to a proportion of 'don't know' or 'refused to say' responses, not reported here.

Table 12.9 and Figure 12.4 show tolerance of diversity, by age group and sex. Of the men and women who thought that multiculturalism definitely made life in their area better, the proportions declined with age. Both men and women 65 years of age or older showed the least tolerance of multiculturalism. A significantly higher proportion of 18–34-year-old men, women and adults thought that multiculturalism definitely made life in their area better compared with all Victorian men, women and adults, respectively.

Table 12.9: Proportion (%) of adults who felt that multiculturalism made life better in their area, by age group and sex, Victoria, 2016

Sex	No, not at all			Not often			Sometimes			Yes, definitely			Not applicable		
Age group		95% CI			95% CI			95% CI			95% CI			95% CI	
(years)	%	LL	UL	%	LL	UL	%	LL	UL	%	LL	UL	%	LL	UL
Males															
18–24	**4.9** *	2.6	9.0	**2.0** *	0.9	4.5	**29.0**	23.5	35.2	**59.8**	53.3	66.0	**		
25–34	**5.4** *	3.2	8.9	**2.2** *	1.2	4.0	**26.7**	21.6	32.4	**60.2**	54.3	65.9	**1.7** *	0.7	4.0
35–44	**8.4**	5.5	12.7	**5.3** *	2.9	9.2	**29.5**	24.5	35.0	**48.9**	43.1	54.7	**3.8** *	2.1	6.9
45–54	**9.8**	7.0	13.5	**5.2**	3.3	8.2	**34.0**	29.2	39.3	**43.1**	37.9	48.4	**3.0** *	1.6	5.5
55–64	**9.3**	7.0	12.3	**4.7**	2.9	7.3	**28.6**	24.6	33.0	**44.7**	40.0	49.5	**5.1**	3.4	7.4
65–74	**11.6**	8.9	15.0	**4.3**	2.8	6.7	**26.7**	22.6	31.2	**39.7**	35.0	44.6	**8.4**	6.0	11.6
75–84	**12.9**	8.6	18.7	**6.9** *	4.0	11.8	**23.1**	17.3	30.2	**31.7**	25.2	38.9	**18.3**	12.8	25.6
85+	**19.9**	12.1	30.9	**			**9.9** *	5.1	18.4	**26.0**	16.4	38.5	**17.7** *	9.2	31.2
18+	**8.4**	**7.3**	**9.7**	**4.0**	**3.2**	**4.9**	**28.5**	**26.5**	**30.6**	**49.0**	**46.8**	**51.3**	**4.5**	**3.8**	**5.4**
Females															
18–24	**			**3.4** *	1.7	6.8	**23.0**	18.3	28.5	**67.7**	61.6	73.2	**3.4** *	1.8	6.5
25–34	**3.0** *	1.5	6.0	**3.2** *	1.7	5.8	**29.6**	24.4	35.4	**58.8**	53.0	64.4	**2.1** *	1.0	4.4
35–44	**4.4** *	2.5	7.6	**4.1**	2.5	6.6	**29.9**	25.5	34.7	**52.2**	47.2	57.2	**5.1** *	3.1	8.3
45–54	**5.4**	3.6	8.0	**4.1**	2.7	6.2	**30.8**	26.8	35.2	**48.9**	44.4	53.4	**5.6**	3.9	8.1
55–64	**5.1**	3.5	7.5	**4.1**	2.7	6.1	**35.0**	30.8	39.4	**44.9**	40.5	49.3	**6.5**	4.9	8.5
65–74	**8.2**	6.0	11.2	**3.6** *	2.1	6.2	**27.9**	23.9	32.3	**38.1**	33.9	42.4	**13.6**	10.6	17.2
75–84	**12.1**	8.4	17.3	**3.8** *	1.9	7.3	**25.1**	19.9	31.2	**27.4**	22.3	33.1	**13.1**	10.0	17.2
85+	**11.7** *	5.5	23.2	**			**24.4**	16.0	35.3	**31.9**	22.5	43.1	**13.7** *	7.1	24.7
18+	**5.2**	**4.4**	**6.2**	**3.8**	**3.1**	**4.6**	**29.3**	**27.5**	**31.2**	**49.8**	**47.9**	**51.8**	**6.4**	**5.5**	**7.3**
People															
18–24	**3.3** *	1.9	5.6	**2.7** *	1.6	4.5	**26.1**	22.4	30.2	**63.6**	59.1	67.8	**2.4** *	1.4	4.2
25–34	**4.3**	2.8	6.5	**2.6**	1.7	4.1	**28.0**	24.3	32.0	**59.6**	55.4	63.6	**1.9** *	1.1	3.3
35–44	**6.2**	4.4	8.7	**4.6**	3.2	6.7	**29.7**	26.4	33.3	**50.7**	46.9	54.5	**4.5**	3.1	6.6
45–54	**7.5**	5.8	9.6	**4.6**	3.4	6.3	**32.4**	29.2	35.7	**46.1**	42.7	49.5	**4.4**	3.2	6.0
55–64	**7.1**	5.7	8.9	**4.3**	3.2	5.9	**32.0**	29.0	35.1	**44.8**	41.6	48.1	**5.8**	4.6	7.3
65–74	**9.8**	8.0	12.0	**4.0**	2.8	5.6	**27.3**	24.4	30.5	**38.9**	35.7	42.1	**11.0**	9.1	13.4
75–84	**12.4**	9.5	16.1	**5.0**	3.3	7.7	**24.3**	20.3	28.8	**29.1**	25.1	33.6	**15.3**	12.2	19.0
85+	**15.5**	10.2	22.9	**3.8** *	1.7	8.4	**17.5**	12.2	24.5	**29.1**	22.1	37.3	**15.6**	9.8	23.7
18+	**6.8**	**6.0**	**7.6**	**3.9**	**3.4**	**4.5**	**28.9**	**27.6**	**30.3**	**49.4**	**48.0**	**50.9**	**5.5**	**4.9**	**6.1**

Data are age-specific estimates, except for '18+', which are crude estimates (not age-standardised) for Victoria.

LL/UL 95% CI = lower/upper limit of 95 per cent confidence interval.

Estimates that are (statistically) significantly different from the corresponding estimate for Victoria are identified by colour as follows: above or below.

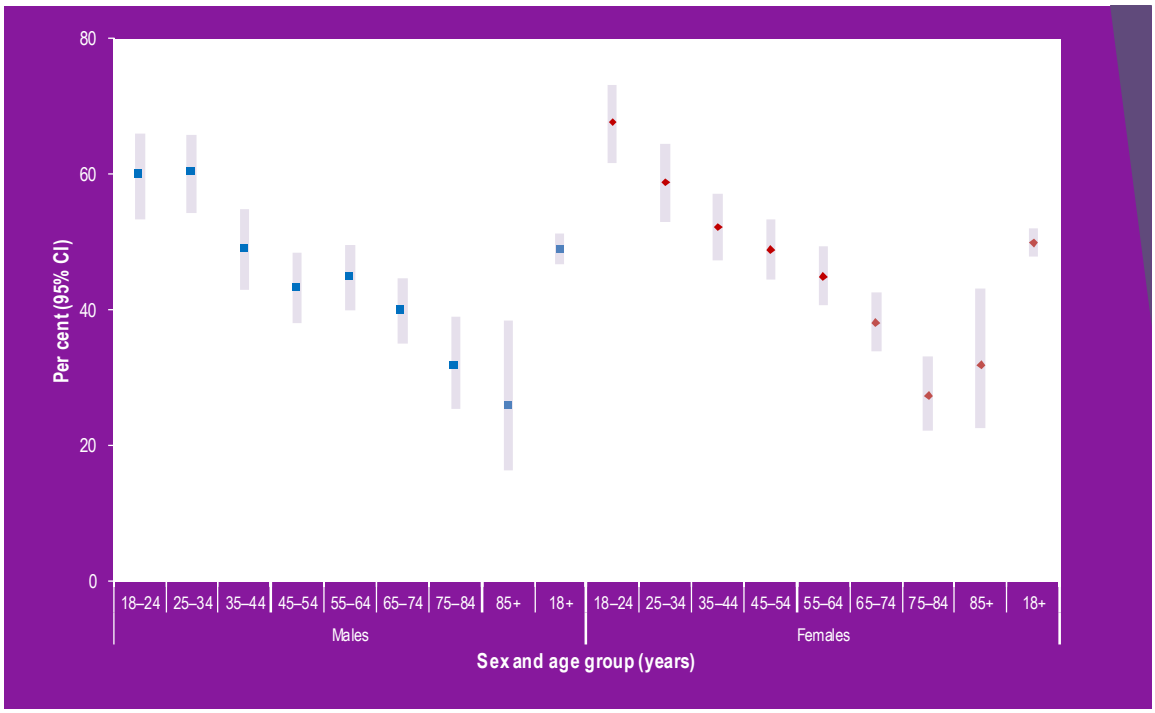
Estimates may not add to 100 per cent due to a proportion of 'don't know' or 'refused to say' responses, not reported here.

Relative standard error (RSE) = standard error/point estimate * 100; interpretation below:

* Estimate has a RSE between 25 and 50 per cent and should be interpreted with caution.

** Estimate has a RSE greater than 50 per cent and is not reported as it is unreliable for general use.

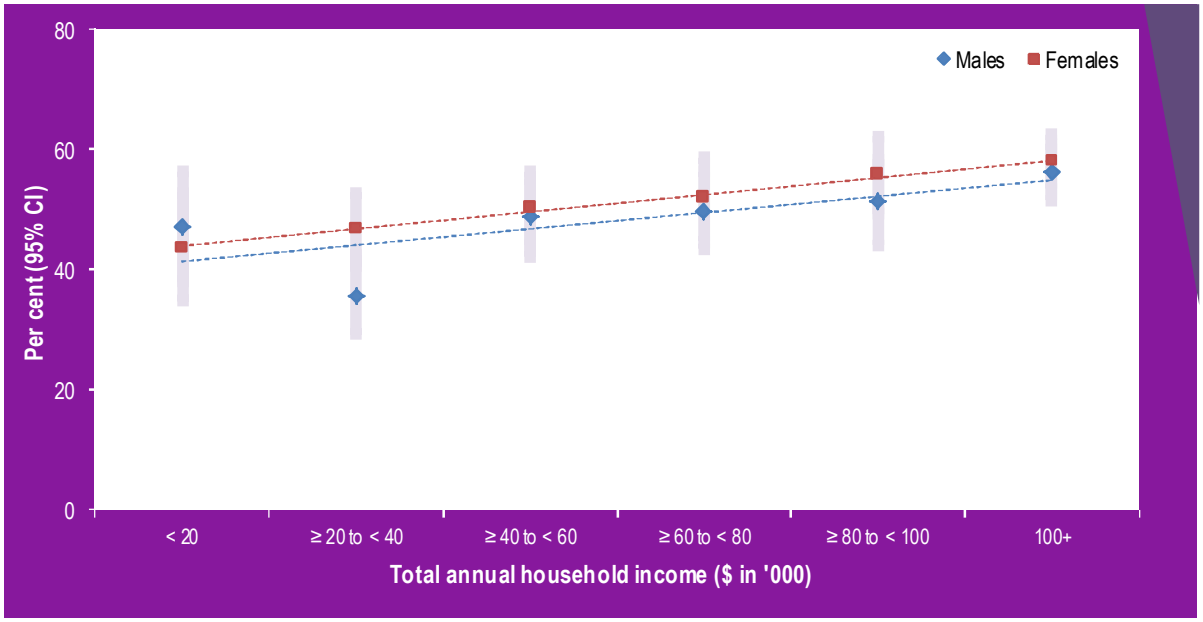
Figure 12.4: Proportion (%) of adults who definitely felt that multiculturalism made life better in their area, by age group and sex, Victoria, 2016



Data are age group specific estimates, except for '18+', w hich are crude estimates (not age-standardised) for Victoria.
95% CI = 95 per cent confidence interval.

Figure 12.5 shows the relationship between the proportion of men and women who definitely felt that multiculturalism made life better, by total annual household income as a measure of SES. In 2016 there was a significant increase in the proportion who definitely felt that multiculturalism made life in their area better among men, women and people, with increasing total annual household income.

Figure 12.5: Proportion (%) of adults who definitely felt that multiculturalism made life better in their area, by total annual household income and sex, Victoria, 2016



Data w ere age-standardised to the 2011 Victorian population.
95% CI = 95 per cent confidence interval.

Table 12.10 shows the proportion of adult males who felt multiculturalism made life better in their area, by tolerance of diversity and selected socioeconomic determinants. When compared with all Victorian men, there was a significantly higher proportion of men who felt multiculturalism definitely made life better who had the following characteristics:

- born overseas
- spoke a language other than English at home
- total annual household income of $100,000 or more.

Table 12.10: Proportion (%) of men who felt multiculturalism made life better in their area, by selected socioeconomic determinants, Victoria, 2016

	No, not at all			Not often			Sometimes			Yes, definitely			Not applicable		
		95% CI			95% CI			95% CI			95% CI			95% CI	
	%	LL	UL	%	LL	UL	%	LL	UL	%	LL	UL	%	LL	UL
All males	**8.5**	**7.4**	**9.8**	**4.0**	**3.2**	**4.9**	**28.3**	**26.4**	**30.4**	**48.6**	**46.4**	**50.8**	**4.8**	**4.0**	**5.7**
Country of birth															
Australia	**10.6**	9.0	12.4	**4.6**	3.6	5.9	**30.2**	27.7	32.8	**43.5**	40.9	46.3	**5.0**	4.0	6.1
Overseas	**4.7**	3.4	6.7	**2.9**	2.0	4.4	**24.6**	21.5	28.0	**57.9**	54.2	61.5	**4.4**	3.2	6.1
Language spoken at home															
English	**9.8**	8.3	11.5	**4.2**	3.2	5.3	**29.9**	27.5	32.4	**44.2**	41.6	46.8	**5.8**	4.8	7.0
Language other than English	**5.4**	3.7	7.8	**3.7**	2.4	5.6	**24.7**	21.3	28.5	**59.5**	55.4	63.5	**1.9** *	0.9	3.7
Education level															
Did not complete high school	**15.5**	11.1	21.1	**5.4** *	3.0	9.6	**34.0**	27.8	40.8	**33.9**	27.9	40.4	**5.3**	3.3	8.4
Completed high school, or TAFE, or trade certificate, or diploma	**9.0**	7.5	10.8	**4.1**	3.1	5.6	**30.1**	27.3	33.0	**45.7**	42.7	48.8	**4.8**	3.7	6.1
University, or some other tertiary institute degree	**3.1**	2.2	4.4	**3.2**	2.3	4.5	**20.7**	18.1	23.7	**65.2**	61.9	68.4	**4.0**	2.8	5.7
Employment status															
Employed	**8.5**	6.5	11.1	**4.1**	3.1	5.4	**28.4**	25.9	31.0	**48.9**	45.7	52.0	**3.7**	2.8	5.0
Unemployed	**6.4** *	3.3	12.1	**			**32.5**	24.5	41.6	**41.0**	33.1	49.4	**2.1** *	0.8	5.3
Not in labour force	**13.5**	9.1	19.6	**5.0** *	2.5	9.8	**19.4**	15.4	24.2	**49.9**	43.2	56.7	**4.9**	3.3	7.2
Total annual household income															
< $40,000	**12.5**	9.0	17.1	**2.9** *	1.8	4.8	**34.6**	29.4	40.3	**39.2**	34.1	44.6	**5.8**	3.9	8.5
$40,000 to < $100,000	**8.7**	6.7	11.2	**4.7**	3.3	6.6	**29.0**	25.5	32.8	**49.3**	45.3	53.3	**4.1**	2.9	5.7
≥ $100,000	**5.2**	3.7	7.4	**3.0**	2.0	4.6	**25.9**	22.6	29.5	**56.4**	51.6	61.0	**3.4**	2.2	5.2

Data were age-standardised to the 2011 Victorian population.

LL/UL 95% CI = lower/upper limit of 95 per cent confidence interval.

Estimates that are (statistically) significantly different from the corresponding estimate for Victoria are identified by colour as follows: above or below.

Estimates may not add to 100 per cent due to a proportion of 'don't know' or 'refused to say' responses, not reported here.

Relative standard error (RSE) = standard error / point estimate * 100; interpretation below:

* RSE between 25 and 50 per cent; point estimate (%) should be interpreted with caution.

** RSE greater than, or equal to, 50 per cent; point estimate (%) is unreliable, hence not reported.

Table 12.11 shows the proportion of adult females who felt multiculturalism made life better in their area, by tolerance of diversity and selected socioeconomic determinants. When compared with all Victorian women, there was a significantly higher proportion of women who felt multiculturalism definitely made life better who had the following characteristics:

- completed university or some other tertiary institution degree
- had a total household income of $100,000 or more.

Table 12.11: Proportion (%) of women who felt multiculturalism made life better in their area, by selected socioeconomic determinants, Victoria, 2016

	No, not at all			Not often			Sometimes			Yes, definitely			Not applicable		
		95% CI			95% CI			95% CI			95% CI			95% CI	
	%	LL	UL	%	LL	UL	%	LL	UL	%	LL	UL	%	LL	UL
All females	**5.0**	**4.2**	**6.0**	**3.8**	**3.1**	**4.6**	**29.2**	**27.3**	**31.1**	**50.7**	**48.7**	**52.7**	**6.1**	**5.3**	**7.0**
Country of birth															
Australia	**5.5**	4.4	6.7	**4.0**	3.2	5.0	**30.5**	28.2	32.8	**48.8**	46.4	51.2	**7.0**	6.0	8.2
Overseas	**4.2**	3.0	5.8	**3.4**	2.2	5.1	**25.8**	22.7	29.1	**55.3**	51.8	58.7	**4.2**	3.1	5.7
Language spoken at home															
English	**5.2**	4.3	6.4	**3.6**	2.9	4.6	**29.7**	27.6	32.0	**49.3**	47.0	51.7	**7.4**	6.4	8.7
Language other than English	**4.9**	3.1	7.4	**3.8**	2.5	5.6	**28.1**	24.5	32.1	**53.6**	49.6	57.5	**1.9** *	1.1	3.3
Education level															
Did not complete high school	**10.2**	6.7	15.2	**5.2** *	3.1	8.8	**29.7**	24.1	35.9	**39.2**	32.7	46.1	**9.8**	6.7	14.1
Completed high school, or TAFE, or trade certificate, or diploma	**5.2**	4.0	6.7	**4.1**	3.1	5.4	**33.0**	30.1	35.9	**46.9**	43.9	49.9	**5.7**	4.6	7.1
University, or some other tertiary institute degree	**2.1**	1.3	3.3	**2.6**	1.7	4.0	**20.5**	18.0	23.2	**68.9**	65.9	71.8	**4.2**	3.0	5.7
Employment status															
Employed	**5.5**	3.5	8.5	**3.1**	2.4	4.2	**29.9**	26.5	33.6	**53.2**	49.6	56.8	**5.5**	4.2	7.2
Unemployed	**6.2** *	2.8	13.2	**4.0** *	1.6	9.5	**34.8**	25.6	45.3	**45.4**	35.9	55.3	**		
Not in labour force	**5.7**	4.1	7.9	**4.4**	2.9	6.5	**28.7**	25.2	32.4	**47.5**	43.6	51.5	**7.1**	5.2	9.6
Total annual household income															
< $40,000	**7.2**	5.2	9.9	**6.4**	4.3	9.6	**30.0**	25.4	35.0	**45.4**	40.4	50.5	**5.7**	4.4	7.4
$40,000 to < $100,000	**5.0**	3.4	7.4	**4.4**	3.0	6.4	**28.7**	25.2	32.3	**51.6**	47.7	55.5	**6.4**	4.7	8.5
≥ $100,000	**3.2** *	1.6	6.2	**1.6** *	0.9	2.8	**28.1**	23.8	32.7	**58.1**	53.4	62.6	**7.2**	4.7	10.9

Data were age-standardised to the 2011 Victorian population.

LL/UL 95% CI = lower/upper limit of 95 per cent confidence interval.

Estimates that are (statistically) significantly different from the corresponding estimate for Victoria are identified by colour as follows: above or below.

Estimates may not add to 100 per cent due to a proportion of 'don't know' or 'refused to say' responses, not reported here.

Relative standard error (RSE) = standard error / point estimate * 100; interpretation below:

* RSE between 25 and 50 per cent; point estimate (%) should be interpreted with caution.

** RSE greater than, or equal to, 50 per cent; point estimate (%) is unreliable, hence not reported.

Comparison with previous survey

The proportion of men and women who felt multiculturalism made life better in their area was compared with the previous Victorian Population Health Survey (2015) (Table 12.12 and Figure 12.6). This is the first time that trend over time data has been reported after the introduction of dual-frame sampling in 2015. There was no statistically significant difference between 2015 and 2016 in the proportions of men and women who felt multiculturalism made life better in their area.

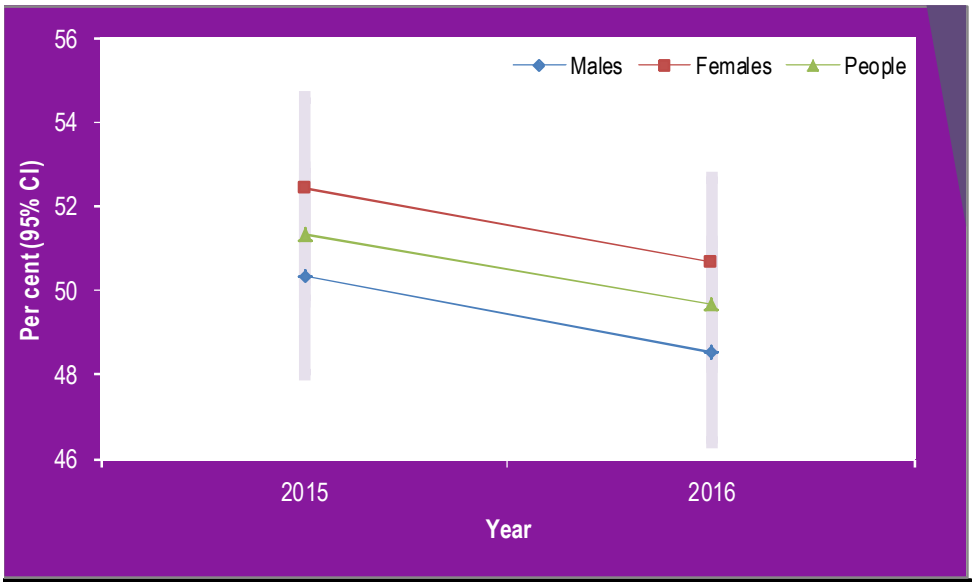
Table 12.12: Proportion (%) of women who felt multiculturalism made life better in their area, Victoria, 2015–2016

		No, not at all			Not often			Sometimes			Yes, definitely			Not applicable		
		95% CI			95% CI			95% CI			95% CI			95% CI		
	Year	%	LL	UL	%	LL	UL	%	LL	UL	%	LL	UL	%	LL	UL
Males	2015	**6.3**	5.3	7.5	**3.5**	2.8	4.4	29.6	27.5	31.8	50.3	48.0	52.7	5.2	4.3	6.3
	2016	**8.5**	7.4	9.8	**4.0**	3.2	4.9	28.3	26.4	30.4	48.6	46.4	50.8	4.8	4.0	5.7
Females	2015	**4.3**	3.5	5.2	**3.7**	2.9	4.7	27.1	25.2	29.2	52.4	50.3	54.6	7.1	6.1	8.2
	2016	**5.0**	4.2	6.0	**3.8**	3.1	4.6	29.2	27.3	31.1	50.7	48.7	52.7	6.1	5.3	7.0
People	2015	**5.2**	4.6	6.0	**3.7**	3.1	4.3	28.4	26.9	29.8	51.4	49.8	52.9	6.2	5.5	7.0
	2016	**6.7**	6.0	7.5	**3.9**	3.3	4.5	28.8	27.4	30.2	49.7	48.2	51.2	5.4	4.8	6.1

Data were age-standardised to the 2011 Victorian population.

LL/UL 95% CI = lower/upper limit of 95 per cent confidence interval.

Figure 12.6: Proportion (%) of women who felt multiculturalism definitely made life better in their area, by sex, Victoria, 2015–2016



Data were age-standardised to the 2011 Victorian population.

LL/UL 95% CI = lower/upper limit of 95 per cent confidence interval.

Appendices

Appendix 1: Improvement to the sampling frame of the Victorian Population Health Survey from 2015 onwards

Background

The Victorian Population Health Survey data have been collected annually at the statewide level using computer-assisted telephone interviews (CATI) and employing random digit dialling (RDD) of telephone numbers within a landline telephone sampling frame.

For surveys up to and including 2009, a 'list-assisted' form of RDD was used to generate the sampling frame. While list-assisted RDD approaches provided a good contemporary coverage of households with a landline telephone connection, they tended to under represent phone numbers in new exchanges and generated a higher proportion of non-working telephone numbers.

A switch to an 'exchange-based' approach to RDD was introduced in 2010. This move coincided with an increase in mobile phone usage and steadily increasing numbers of households disconnecting their landline telephones.

Adoption of a dual-frame sampling design

Following the conduct of a dual-frame pilot survey in 2014, the first statewide dual-frame CATI survey was conducted in 2015. An overlapping dual-frame design was used, with half of the total interviews obtained from an RDD landline frame and the other half from an RDD mobile frame (a majority of interviews obtained were from households with both a landline and mobile phone).

Given that the distribution of interviews from the mobile frame reflected the population distribution (75 per cent in metropolitan regions), and that the historical statewide Victorian Population Health Survey design was based on 40 per cent of the target number of interviews in metropolitan regions, it was understood that a large majority of interviews in the department's metropolitan regions would be from the mobile frame.

The maintenance of data quality in the face of technological change brought about by the move to mobile phone usage has led to improvements to the sampling frame of the Victorian Population Health Survey by including people who only use a mobile phone (and not a landline).

Age distribution of sample between 2010 and 2015

Between 2010 and 2015 these changes in phone usage were associated with a pronounced decline in younger respondents to the survey as shown in Table A1.

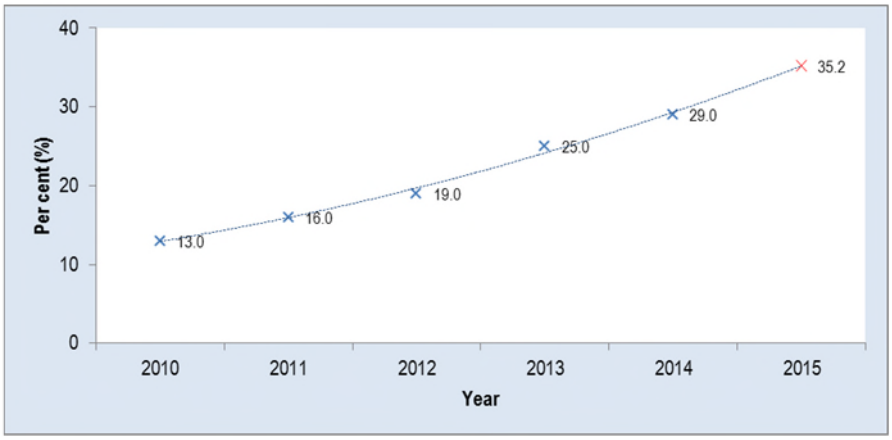
Each year the survey sample has become progressively older, with a marked decline in the proportion of respondents who are under 55 years of age. The proportion of the sample who were 18–24 years of age and 25–34 years of age was particularly affected, declining by 48.9 and 58.5 per cent, respectively. While the proportion of those who were 35–44 and 45–54 years of age also declined by 36.5 and 15.3 per cent, respectively. In contrast, the proportion of those who were 55–64 and 65+ years of age increased by 5.2 and 56.4 per cent respectively over this period.

Table A1: Age distribution of the Victorian Population Health Survey sample, by survey year, Victoria, 2010–15 (based on exchange-based approach to RDD and single-frame CATI).

Age group	Survey year					
(years)	2010	2011	2012	2013	2014	2015
18–24	4.7	3.4	3.4	2.8	2.4	5.9
25–34	9.4	6.2	5.7	5.3	3.9	11.1
35–44	17	14.6	14	14.4	10.8	13.6
45–54	19.6	19.5	19.3	18.3	16.6	16.5
55–64	21.3	22.6	21.9	22.2	22.4	19.8
65+	28	33.7	35.7	36.9	43.8	33.1

The proportion of adults who only used a mobile phone in the adult Victorian population steadily increased from 13 per cent in 2010 to 29 per cent in 2014, based on data from the Australian Communication and Media Authority (ACMA 2014). Based on the extrapolation of this trend in Figure A1, the proportion of adult mobile-only phone users in 2015 was estimated to be 35.2 per cent, which is very similar to the estimated proportion (33.2 per cent) in the 2015 Victorian Population Health Survey.

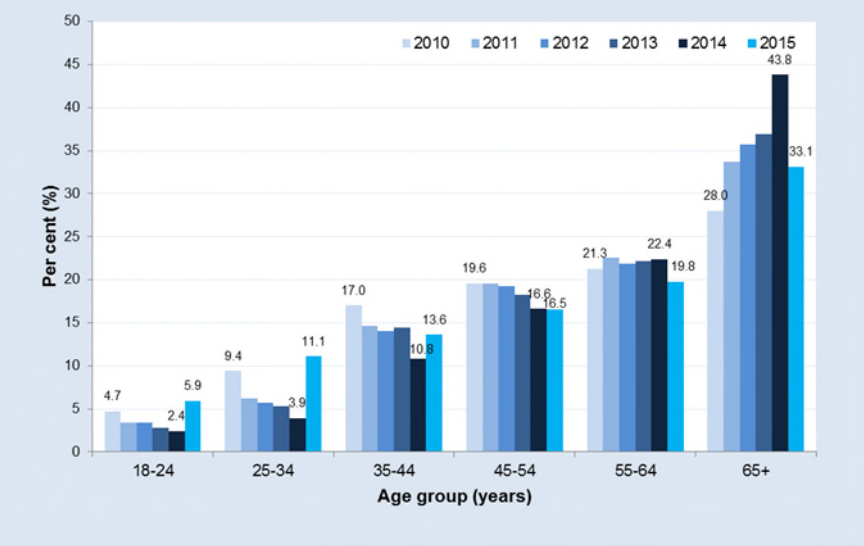
Figure A1: Estimated proportion of adult mobile-only phone users (2010–2014) extrapolated to 2015, Australia



Base: People 18 years of age or older.
Note: Mobile-only phone users are those who own/use a mobile phone, and who do not have a fixed-line telephone.
Source: http://www.acma.gov.au/theACMA/engage-blogs/engage-blogs/Research-snapshots/Australians-get-mobile

Figure A2 shows that the adoption of an overlapping dual-frame ('mobile-only', 'landline-only' and 'landline or mobile' phone users) sampling methodology in 2015 has resulted in the inclusion of a substantially larger proportion of respondents in the 18–44 age group and a decline in those 55 years or older. The 'mobile-only' respondents were predominantly younger, in contrast to the older 'landline-only' survey respondents.

Figure A2: Age distribution of Victorian Population Health Survey sample, by survey year, Victoria, 2010–2015



Impact of dual-frame sampling by mobile and landline phone user

The move from an RDD landline survey to a dual-frame survey has implications for both response rates and time series comparisons of prevalence estimates. Given the improved coverage from the incorporation of a mobile sample, such differences are likely to be indicative of the gap in coverage of the legacy RDD landline design but may also indicate differences in the mobile-only or landline-only subpopulations, and so a break in the time series is to be expected.

Type of phone user

The adoption of an overlapping dual-frame ('mobile-only', 'landline-only' and 'landline or mobile' phone users) sampling methodology in 2015 resulted in the inclusion of a substantially larger proportion of respondents in the 18–44 age group and a decline in those 55 years or older. The 'mobile-only' respondents were predominantly younger, in contrast to the older 'landline-only' survey respondents (Tables A2 and A3).

Table A2: Unweighted proportion of the Victorian Population Health Survey sample, by type of phone used and age group, Victoria, 2015

Age group	Phone owner		
(years)	Landline-only	Mobile-only	Both
18–24	1.3	40.7	58.0
25–34	0.8	53.7	45.5
35–44	1.7	30.3	67.9
45–54	3.6	15.0	81.4
55–64	6.0	11.2	82.8
65+	21.0	3.6	75.4
Total	**9.2**	**18.4**	**72.5**

This age difference in phone usage persisted even after the sample was appropriately weighted to the Victorian population (Table A3).

Table A3: Proportion of adults, by type of phone used and age group, Victoria, 2015

Age group	Phone owner		
(years)	**Landline-only**	**Mobile-only**	**Both**
18–24	1.1	44.3	54.6
25–34	0.4	59.0	40.6
35–44	0.8	39.0	60.2
45–54	1.6	24.7	73.7
55–64	2.2	20.6	77.2
65+	9.5	10.8	79.7
Total	**2.7**	**33.2**	**64.1**

Appendix 2: Impact of the change to the sampling frame on trends in estimated prevalence over time

Mobile phone ownership rose to 84 per cent in 2016, compared with 79 per cent in 2015; 94 per cent of mobile consumers aged 18-24 have a mobile phone (increasing from 91 per cent in 2015). Australian mobile phone penetration rates are higher than the global average of 81 per cent, with only a few countries in the global survey having higher ownership (Deloitte 2016).

The limited available data suggests a divide in the ownership and use of mobile phones, by age and socioeconomic circumstances, both factors that are likely to impact estimates of some, but not all, indicators included in the Victorian Population Health Survey.

These changes in phone usage were associated with a pronounced decline in younger respondents to the Victorian Population Health Survey, between 2010–2014. It therefore became necessary to review the survey methodology to include mobile phone numbers in the sampling frame and to determine the impact of this change on the various time series of prevalence estimates.

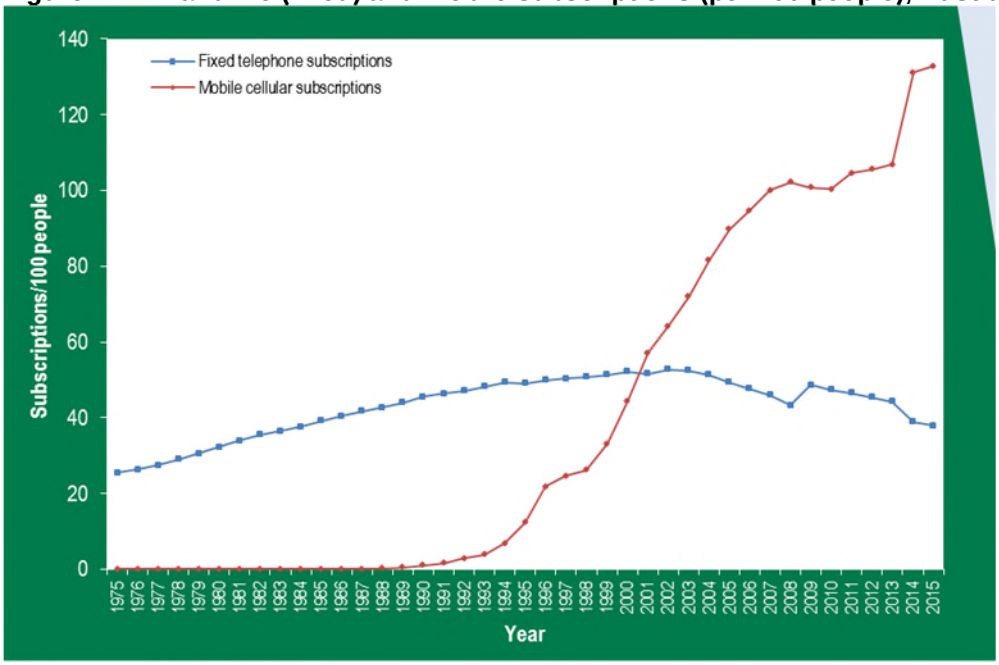
As discussed in Appendix 1 a dual-frame (mobile and landline) pilot survey was conducted in 2014 and the first state-wide dual-frame computer assisted telephone interview (CATI) survey was conducted in 2015. An overlapping dual-frame design was used, with half of the total interviews obtained from a RDD landline frame, and the other half from RDD mobile frame (a majority of interviews obtained were from households with both a landline and a mobile phone). This dual-frame sampling methodology was repeated for the Victorian Population Health Survey in 2016.

The ideal approach to assessing changes in prevalence estimates of a time series is to accept that the period-to-period change, after implementing a redesign to the survey methodology (move to dual-frame sampling) which is biased differently in the two periods (i.e. single-frame landline sampling vs. overlapping dual-frame sampling); and to make no further attempt to disentangle real change from this alteration in measurement bias (van den Brakel et al 2017). In other words, terminate the old time series, based on the previous methodology and start afresh with estimates based on the new survey methodology.

We have used Victorian Population Health Survey estimates from 2003-2005 (2005-2007 in the case of self-reported health status, as data for 2003-2004 were not collected), when the landline sampling frame was still appropriate, and estimates from 2015-2016, which included mobile phones in the sampling frame, to determine trends over time, using ordinary least squares (OLS) regression analysis over this period.

Data for Australia, from the World Bank, indicate that landline subscription rates peaked in 2002, while the uptake of mobile phone subscriptions is still growing, particularly after the introduction of smart phones (Figure A2.1). This data supported our assumption that prevalence estimates for the period 2003-2005, based on a landline sampling frame, were likely to be unbiased.

Figure A2.1. Landline (fixed) and mobile subscriptions (per 100 people), Australia, 1975–2015.



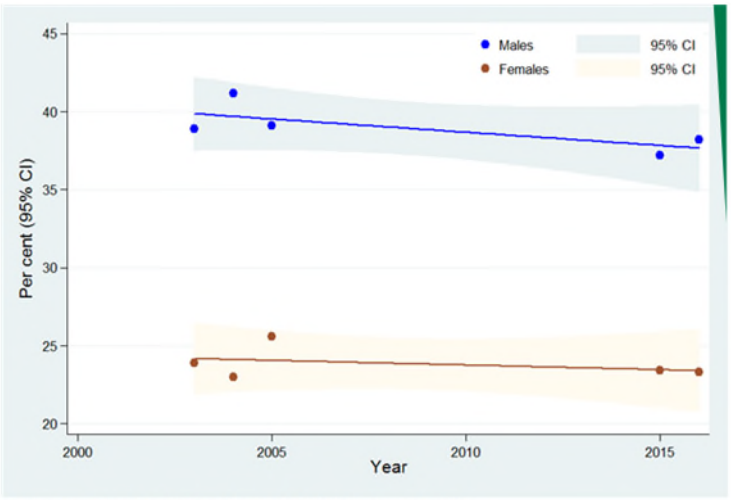
Source: The World Bank

We also computed prevalence estimates and 95 per cent confidence intervals (95% CI) computed from the standard error of the linear prediction, for the intervening period, 2006-14, for most indicators (the exception being self-reported health status: 2008-14) using the relevant OLS regression equations, to provide unbiased estimates. However, we have not computed estimates for some indicators when the guidelines underpinning them changed during the 2006-14 period, e.g. alcohol consumption (new NHMRC guidelines released in 2009), fruit and vegetable consumption (new NHMRC guidelines released in 2013) and physical activity (new NHMRC guidelines released in 2014).

Body mass index

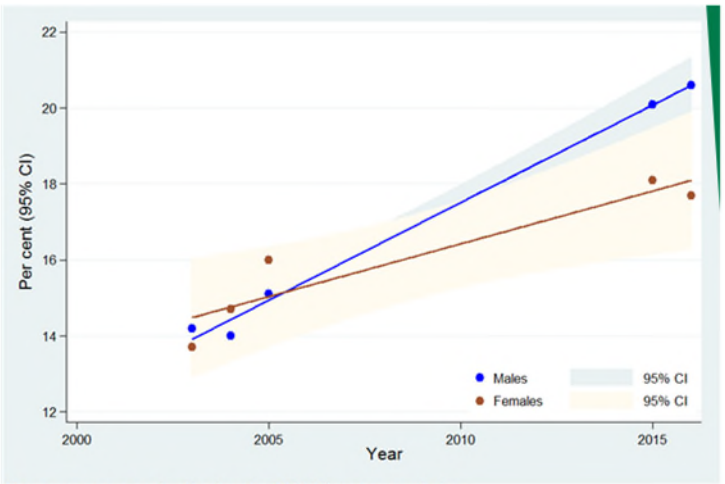
There was no significant change in the prevalence of those under-weight, based on body mass index (BMI), during the period 2003–16, in males, females or people. However, there was a significant decrease in prevalence of those with a normal body weight in males, females and people, during the same period (Table A2.1). There was no significant change in the prevalence of pre-obesity (overweight) during the period 2003–16, in males, females or people (Figure A2.2 and Table A2.1). However, there was a significant increase in prevalence of obesity in males, females and people, during the same period (Figure A2.3 and Table A2.1).

Figure A2.2. Proportion (%) of adult population who were pre-obese[a,b], by sex, Victoria, 2003-16.



Data were age-standardised to the 2011 Victorian population.
95% CI = 95 per cent confidence interval.
[a] Computed from self-reported height and weight [BMI = weight (kg) / height squared (m^2)]
[b] Estimates for 2006-14 are based on OLS regression of prevalence (%) data, from 2003-05 and 2015-16, on time (years).

Figure A2.3. Proportion (%) of adult population who were obese[a,b], by sex, Victoria, 2003-16.



Data were age-standardised to the 2011 Victorian population.
95% CI = 95 per cent confidence interval.
[a] Computed from self-reported height and weight [BMI = weight (kg) / height squared (m^2)]
[b] Estimates for 2006-14 are based on OLS regression of prevalence (%) data, from 2003-05 and 2015-16, on time (years).

Table A2.1. Proportion (%) of adult (18 years or older) population, by body mass index[a,b] category and sex, Victoria, 2003-16.

	Underweight (< 18.5 kg/m²)			Normal (18.5–24.9 kg/m²)			Pre-obese (25.0–29.9 kg/m²)			Obese (≥ 30.0 kg/m²)		
		95% CI			95% CI			95% CI			95% CI	
Year	%	LL	UL	%	LL	UL	%	LL	UL	%	LL	UL
Males												
2003	**1.8**	1.2	2.6	**42.6**	40.3	44.9	**38.9**	36.7	41.2	**14.2**	12.7	15.8
2004	**1.6**	1.1	2.5	**40.6**	38.3	42.9	**41.2**	38.9	43.6	**14.0**	12.5	15.6
2005	**1.6**	1.1	2.3	**41.2**	38.8	43.7	**39.1**	36.8	41.4	**15.1**	13.5	16.8
2006	***1.6***	*1.3*	*1.8*	**40.3**	*39.1*	*41.4*	**39.4**	*38.2*	*40.5*	***15.5***	*15.2*	*15.8*
2007	***1.5***	*1.3*	*1.8*	**39.6**	*38.6*	*40.7*	**39.2**	*38.1*	*40.3*	***16.0***	*15.7*	*16.3*
2008	***1.5***	*1.3*	*1.7*	**39.0**	*38.0*	*40*	**39.0**	*38.0*	*40.0*	***16.5***	*16.2*	*16.8*
2009	***1.5***	*1.2*	*1.7*	**38.4**	*37.4*	*39.4*	**38.9**	*37.8*	*39.9*	***17.0***	*16.7*	*17.3*
2010	***1.4***	*1.2*	*1.7*	**37.8**	*36.7*	*38.8*	**38.7**	*37.6*	*39.7*	***17.5***	*17.2*	*17.8*
2011	***1.4***	*1.1*	*1.6*	**37.1**	*36.0*	*38.2*	**38.5**	*37.4*	*39.6*	***18.0***	*17.7*	*18.3*
2012	***1.3***	*1.1*	*1.6*	**36.5**	*35.3*	*37.7*	**38.3**	*37.2*	*39.5*	***18.5***	*18.2*	*18.9*
2013	***1.3***	*1.0*	*1.6*	**35.9**	*34.6*	*37.2*	**38.2**	*36.9*	*39.5*	***19.1***	*18.7*	*19.4*
2014	***1.3***	*0.9*	*1.6*	**35.3**	*33.9*	*36.7*	**38.0**	*36.6*	*39.4*	***19.6***	*19.2*	*19.9*
2015	**0.9**	0.6	1.5	**35.9**	33.8	38.1	**37.2**	34.9	39.4	**20.1**	18.3	22.0
2016	**1.5**	0.9	2.3	**32.9**	30.8	35.0	**38.2**	36.0	40.3	**20.6**	18.9	22.5
Females												
2003	**5.0**	4.1	6.0	**51.9**	50.0	53.9	**23.9**	22.3	25.6	**13.7**	12.4	15.0
2004	**5.3**	4.4	6.3	**49.2**	47.3	51.1	**23.0**	21.5	24.5	**14.7**	13.5	16.1
2005	**3.6**	2.9	4.6	**48.6**	46.6	50.6	**25.6**	24.0	27.4	**16.0**	14.6	17.5
2006	***4.5***	*3.8*	*5.2*	**48.5**	*47.5*	*49.6*	**24.0**	*22.9*	*25.1*	***15.3***	*14.6*	*16.1*
2007	***4.4***	*3.7*	*5.0*	**47.9**	*46.8*	*48.9*	**23.9**	*22.9*	*24.9*	***15.6***	*14.9*	*16.3*
2008	***4.3***	*3.6*	*4.9*	**47.2**	*46.2*	*48.1*	**23.9**	*22.9*	*24.9*	***15.9***	*15.2*	*16.6*
2009	***4.2***	*3.5*	*4.8*	**46.5**	*45.5*	*47.4*	**23.8**	*22.8*	*24.8*	***16.2***	*15.5*	*16.8*
2010	***4.1***	*3.4*	*4.7*	**45.8**	*44.8*	*46.8*	**23.8**	*22.8*	*24.8*	***16.4***	*15.7*	*17.1*
2011	***4.0***	*3.3*	*4.6*	**45.1**	*44.0*	*46.1*	**23.7**	*22.6*	*24.8*	***16.7***	*16.0*	*17.4*
2012	***3.8***	*3.1*	*4.6*	**44.4**	*43.2*	*45.5*	**23.6**	*22.5*	*24.8*	***17.0***	*16.2*	*17.8*
2013	***3.7***	*2.9*	*4.5*	**43.7**	*42.5*	*44.9*	**23.6**	*22.3*	*24.8*	***17.3***	*16.4*	*18.1*
2014	***3.6***	*2.8*	*4.5*	**43.0**	*41.6*	*44.3*	**23.5**	*22.2*	*24.9*	***17.5***	*16.6*	*18.5*
2015	**3.9**	3.1	4.9	**41.6**	39.5	43.8	**23.4**	21.6	25.4	**18.1**	16.5	19.9
2016	**3.2**	2.5	4.0	**42.4**	40.5	44.5	**23.3**	21.6	25.0	**17.7**	16.3	19.2
People												
2003	**3.4**	2.9	4.1	**47.4**	45.9	48.9	**31.1**	29.7	32.6	**13.9**	12.9	15.0
2004	**3.4**	2.9	4.1	**45.0**	43.5	46.5	**31.8**	30.4	33.3	**14.4**	13.4	15.5
2005	**2.6**	2.2	3.2	**45.0**	43.4	46.6	**32.2**	30.7	33.6	**15.6**	14.5	16.8
2006	***3.0***	*2.7*	*3.3*	**44.5**	*43.8*	*45.2*	***31.4***	*30.9*	*32.0*	***15.4***	*15.0*	*15.8*
2007	***2.9***	*2.6*	*3.2*	**43.9**	*43.2*	*44.5*	***31.3***	*30.8*	*31.9*	***15.8***	*15.4*	*16.2*
2008	***2.9***	*2.6*	*3.2*	**43.2**	*42.5*	*43.9*	***31.2***	*30.7*	*31.8*	***16.2***	*15.8*	*16.6*
2009	***2.8***	*2.5*	*3.1*	**42.5**	*41.9*	*43.2*	***31.1***	*30.6*	*31.6*	***16.6***	*16.2*	*17.0*
2010	***2.7***	*2.4*	*3.0*	**41.9**	*41.2*	*42.6*	***31.0***	*30.5*	*31.6*	***17.0***	*16.6*	*17.4*
2011	***2.6***	*2.3*	*3.0*	**41.2**	*40.5*	*41.9*	***30.9***	*30.3*	*31.5*	***17.4***	*16.9*	*17.8*
2012	***2.6***	*2.2*	*2.9*	**40.6**	*39.8*	*41.3*	***30.8***	*30.2*	*31.4*	***17.8***	*17.3*	*18.2*
2013	***2.5***	*2.1*	*2.9*	**39.9**	*39.1*	*40.7*	***30.7***	*30.0*	*31.4*	***18.1***	*17.7*	*18.6*
2014	***2.4***	*2.0*	*2.8*	**39.2**	*38.3*	*40.1*	***30.6***	*29.9*	*31.3*	***18.5***	*18.0*	*19.1*
2015	**2.4**	2.0	3.0	**38.9**	37.4	40.4	**30.1**	28.6	31.6	**19.1**	17.9	20.4
2016	**2.3**	1.9	2.9	**37.7**	36.3	39.2	**30.6**	29.2	32.0	**19.1**	18.0	20.3

Data were age-standardised to the 2011 Victorian population.

LL/UL 95% CI = lower/upper limit of 95 per cent confidence interval.

Estimates may not add to 100 per cent due to a proportion of 'don't know' or 'refused to say' responses, not reported here.

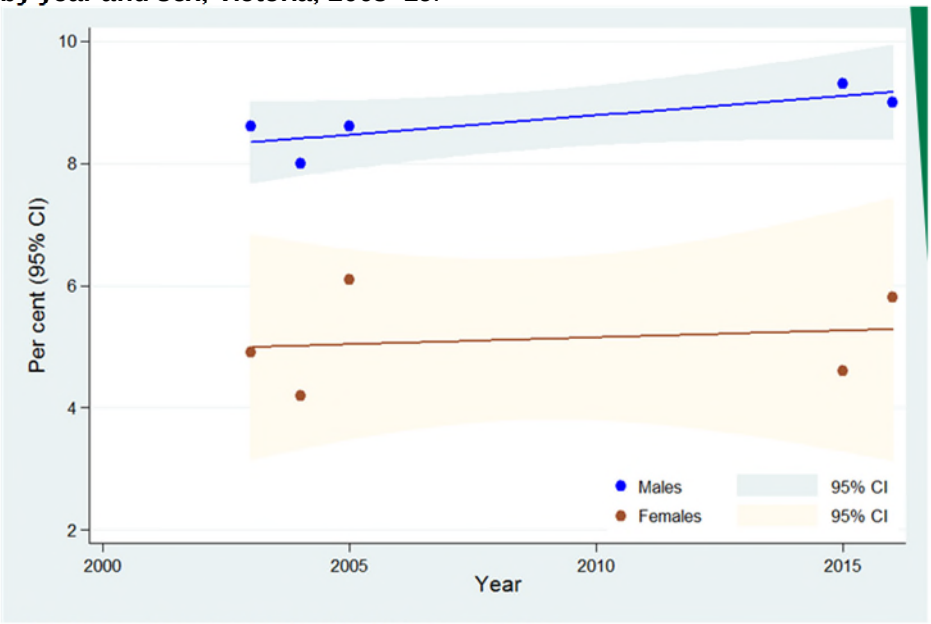
[a] Computed from self-reported height and weight [BMI = weight (kg) / height squared (m²)]

[b] Estimates for 2006-14 are based on OLS regression of prevalence (%) data, from 2003-05 and 2015-16, on time (years).

Heart disease

There was no significant change in the prevalence of a diagnosis of heart disease, during the period 2003–16, in males, females or people (Figure A2.4 and Table A2.2).

Figure A2.4: Proportion (%) of adult (18 years or older) population diagnosed with heart disease[a], by year and sex, Victoria, 2003–16.



Data are age-standardised to the 2011 Victorian population.
95% CI = 95 per cent confidence interval.
[a] Estimates for 2006-14 are based on OLS regression of prevalence (%) data, from 2003-05 and 2015-16, on time (years).

Table A2.2: Proportion (%) of adult (18 years or older) population diagnosed with heart disease[a], by year and sex, Victoria, 2003–16.

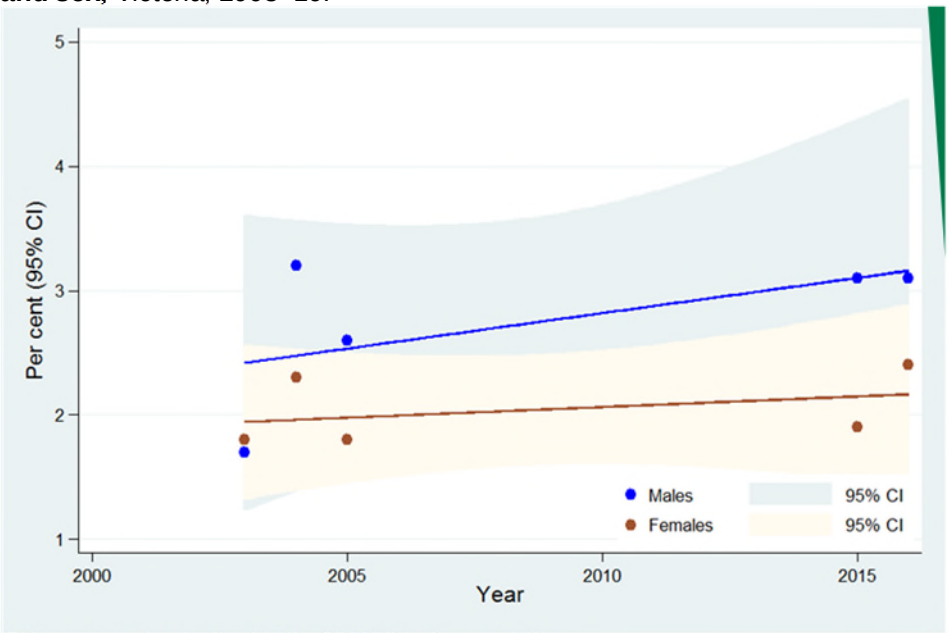
	Males			Females			People		
		95% CI			95% CI			95% CI	
Year	%	LL	UL	%	LL	UL	%	LL	UL
2003	**8.6**	7.4	10.0	**4.9**	4.1	5.7	**6.5**	5.8	7.2
2004	**8.0**	7.0	9.3	**4.2**	3.5	5.0	**5.8**	5.2	6.5
2005	**8.6**	7.6	9.8	**6.1**	5.3	7.1	**7.3**	6.6	8.0
2006	***8.5***	*8.0*	*9.0*	***5.1***	*3.6*	*6.5*	***6.6***	*5.7*	*7.6*
2007	***8.6***	*8.1*	*9.1*	***5.1***	*3.7*	*6.4*	***6.7***	*5.8*	*7.6*
2008	***8.7***	*8.2*	*9.1*	***5.1***	*3.8*	*6.4*	***6.7***	*5.9*	*7.6*
2009	***8.7***	*8.3*	*9.2*	***5.1***	*3.8*	*6.4*	***6.8***	*5.9*	*7.6*
2010	***8.8***	*8.3*	*9.3*	***5.2***	*3.8*	*6.5*	***6.8***	*5.9*	*7.7*
2011	***8.9***	*8.4*	*9.4*	***5.2***	*3.8*	*6.6*	***6.9***	*6.0*	*7.8*
2012	***8.9***	*8.4*	*9.5*	***5.2***	*3.7*	*6.7*	***6.9***	*5.9*	*8.0*
2013	***9.0***	*8.4*	*9.6*	***5.2***	*3.6*	*6.9*	***7.0***	*5.9*	*8.1*
2014	***9.0***	*8.4*	*9.7*	***5.2***	*3.4*	*7.0*	***7.1***	*5.9*	*8.2*
2015	**9.3**	8.1	10.6	**4.6**	3.8	5.6	**6.9**	6.2	7.7
2016	**9.0**	8.1	10.1	**5.8**	5.0	6.6	**7.3**	6.7	7.9

Data are age-standardised to the 2011 Victorian population.
LL/UL 95% CI = lower/upper limit of 95 per cent confidence interval.
[a] Estimates for 2006-14 are based on OLS regression of prevalence (%) data, from 2003-05 and 2015-16, on time (years).

Stroke

There was no significant change in the prevalence of a diagnosis of stroke, during the period 2003–16, in males, females or people (Figure A2.5 and Table A2.3).

Figure A2.5: Proportion (%) of adult (18 years or older) population diagnosed with stroke[a], by year and sex, Victoria, 2003–16.



Data are age-standardised to the 2011 Victorian population.
95% CI = 95 per cent confidence interval.
[a] Estimates for 2006-14 are based on OLS regression of prevalence (%) data, from 2003-05 and 2015-16, on time (years).

Table A2.3: Proportion (%) of adult (18 years or older) population diagnosed with stroke[a], by year and sex, Victoria, 2003–16.

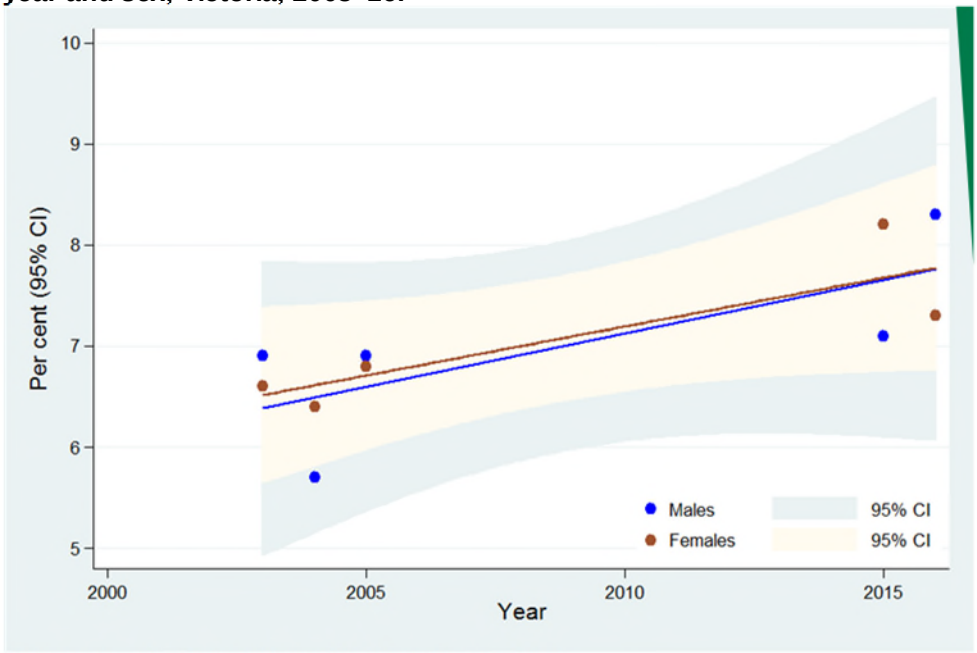
	Males			Females			People		
		95% CI			95% CI			95% CI	
Year	%	LL	UL	%	LL	UL	%	LL	UL
2003	**1.7**	1.2	2.3	**1.8**	1.4	2.3	**1.8**	1.4	2.2
2004	**3.2**	2.4	4.3	**2.3**	1.8	2.9	**2.7**	2.3	3.3
2005	**2.6**	2.0	3.3	**1.8**	1.4	2.2	**2.2**	1.8	2.6
2006	***2.6***	*1.7*	*3.5*	***2.0***	*1.5*	*2.5*	***2.3***	*1.7*	*2.9*
2007	***2.6***	*1.8*	*3.5*	***2.0***	*1.6*	*2.5*	***2.3***	*1.8*	*2.9*
2008	***2.7***	*1.9*	*3.6*	***2.0***	*1.6*	*2.5*	***2.4***	*1.8*	*2.9*
2009	***2.8***	*1.9*	*3.6*	***2.0***	*1.6*	*2.5*	***2.4***	*1.9*	*2.9*
2010	***2.8***	*2.0*	*3.7*	***2.1***	*1.6*	*2.5*	***2.4***	*1.9*	*3.0*
2011	***2.9***	*2.0*	*3.8*	***2.1***	*1.6*	*2.6*	***2.5***	*1.9*	*3.0*
2012	***2.9***	*2.0*	*3.9*	***2.1***	*1.6*	*2.6*	***2.5***	*1.9*	*3.1*
2013	***3.0***	*1.9*	*4.1*	***2.1***	*1.6*	*2.7*	***2.5***	*1.9*	*3.2*
2014	***3.0***	*1.9*	*4.2*	***2.1***	*1.5*	*2.7*	***2.6***	*1.9*	*3.3*
2015	**3.1**	2.4	4.0	**1.9**	1.4	2.6	**2.5**	2.0	3.0
2016	**3.1**	2.5	4.0	**2.4**	1.9	3.0	**2.7**	2.3	3.2

Data are age-standardised to the 2011 Victorian population.
LL/UL 95% CI = lower/upper limit of 95 per cent confidence interval.
[a] Estimates for 2006-14 are based on OLS regression of prevalence (%) data, from 2003-05 and 2015-16, on time (years).

Cancer

There was no significant change in prevalence of a diagnosis of cancer, during the period 2003–16, in males or females, but a significant increase in people (Figure A2.6 and Table A2.4).

Figure A2.6: Proportion (%) of adult (18 years or older) population diagnosed with cancer[a], by year and sex, Victoria, 2003–16.



Data are age-standardised to the 2011 Victorian population.
95% CI = 95 per cent confidence interval.
[a] Estimates for 2006-14 are based on OLS regression of prevalence (%) data, from 2003-05 and 2015-16, on time (years).

Table A2.4: Proportion (%) of adult (18 years or older) population diagnosed with cancer[a], by year and sex, Victoria, 2003–16.

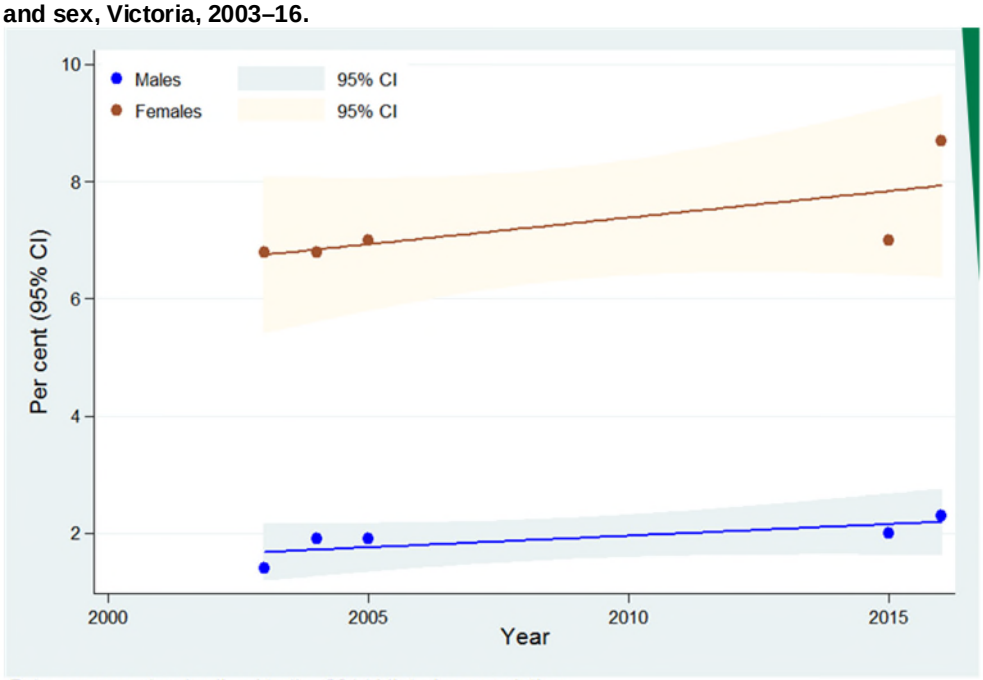
	Males			Females			People		
		95% CI			95% CI			95% CI	
Year	%	LL	UL	%	LL	UL	%	LL	UL
2003	**6.9**	5.8	8.3	**6.6**	5.8	7.6	**6.6**	5.9	7.3
2004	**5.7**	4.7	6.9	**6.4**	5.6	7.4	**6.0**	5.3	6.7
2005	**6.9**	5.9	8.0	**6.8**	6.0	7.7	**6.7**	6.1	7.4
2006	***6.7***	*5.6*	*7.8*	***6.8***	*6.1*	*7.5*	***6.7***	*6.2*	*7.1*
2007	***6.8***	*5.7*	*7.9*	***6.9***	*6.3*	*7.5*	***6.8***	*6.3*	*7.2*
2008	***6.9***	*5.9*	*8.0*	***7.0***	*6.4*	*7.6*	***6.9***	*6.4*	*7.3*
2009	***7.0***	*6.0*	*8.1*	***7.1***	*6.5*	*7.7*	***7.0***	*6.5*	*7.4*
2010	***7.1***	*6.1*	*8.2*	***7.2***	*6.6*	*7.8*	***7.1***	*6.6*	*7.6*
2011	***7.2***	*6.1*	*8.4*	***7.3***	*6.6*	*8.0*	***7.2***	*6.7*	*7.7*
2012	***7.3***	*6.1*	*8.5*	***7.4***	*6.7*	*8.1*	***7.3***	*6.8*	*7.8*
2013	***7.4***	*6.1*	*8.8*	***7.5***	*6.7*	*8.3*	***7.4***	*6.9*	*8.0*
2014	***7.6***	*6.1*	*9.0*	***7.6***	*6.7*	*8.4*	***7.5***	*6.9*	*8.1*
2015	**7.1**	6.1	8.3	**8.2**	7.1	9.4	**7.6**	6.9	8.5
2016	**8.3**	7.4	9.4	**7.3**	6.5	8.2	**7.8**	7.2	8.4

Data are age-standardised to the 2011 Victorian population.
LL/UL 95% CI = lower/upper limit of 95 per cent confidence interval.
[a] Estimates for 2006-14 are based on OLS regression of prevalence (%) data, from 2003-05 and 2015-16, on time (years).

Osteoporosis

There was no significant change in the prevalence of a diagnosis of osteoporosis, during the period 2003–16, in males, females or people (Figure A2.7 and Table A2.5).

Figure A2.7: Proportion (%) of adult (18 years or older) population diagnosed with osteoporosis[a], by year and sex, Victoria, 2003–16.



Data are age-standardised to the 2011 Victorian population.
95% CI = 95 per cent confidence interval.
[a] Estimates for 2006-14 are based on OLS regression of prevalence (%) data, from 2003-05 and 2015-16, on time (years).

Table A2.5: Proportion (%) of adult (18 years or older) population diagnosed with osteoporosis[a], by year and sex, Victoria, 2003–16.

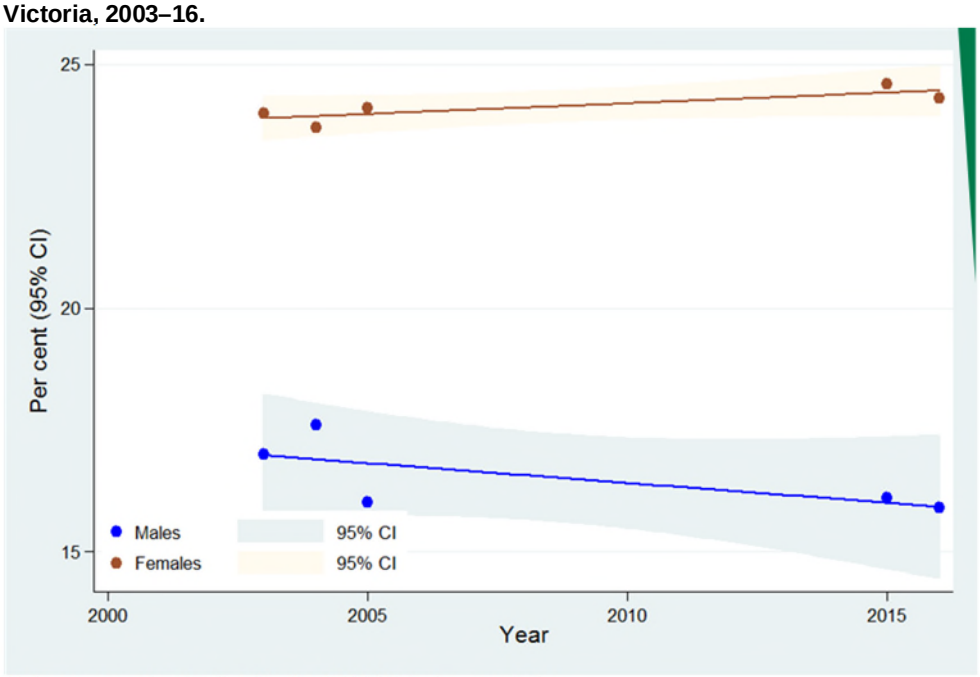
	Males			Females			People		
		95% CI			95% CI			95% CI	
Year	%	LL	UL	%	LL	UL	%	LL	UL
2003	**1.4**	0.9	2.0	**6.8**	5.9	7.9	**4.3**	3.8	5.0
2004	**1.9**	1.4	2.6	**6.8**	6.0	7.8	**4.7**	4.1	5.3
2005	**1.9**	1.4	2.6	**7.0**	6.2	7.9	**4.7**	4.2	5.2
2006	***1.8***	*1.4*	*2.2*	***7.0***	*6.0*	*8.1*	***4.7***	*3.8*	*5.5*
2007	***1.8***	*1.5*	*2.2*	***7.1***	*6.1*	*8.1*	***4.7***	*3.9*	*5.5*
2008	***1.9***	*1.5*	*2.2*	***7.2***	*6.3*	*8.1*	***4.8***	*4.0*	*5.5*
2009	***1.9***	*1.6*	*2.3*	***7.3***	*6.4*	*8.2*	***4.8***	*4.1*	*5.6*
2010	***2.0***	*1.6*	*2.3*	***7.4***	*6.4*	*8.4*	***4.9***	*4.1*	*5.7*
2011	***2.0***	*1.6*	*2.4*	***7.5***	*6.5*	*8.5*	***4.9***	*4.1*	*5.8*
2012	***2.0***	*1.6*	*2.4*	***7.6***	*6.5*	*8.7*	***5.0***	*4.1*	*5.9*
2013	***2.1***	*1.7*	*2.5*	***7.7***	*6.5*	*8.8*	***5.0***	*4.1*	*6.0*
2014	***2.1***	*1.7*	*2.6*	***7.7***	*6.5*	*9.0*	***5.1***	*4.1*	*6.1*
2015	**2.0**	1.5	2.6	**7.0**	6.0	8.0	**4.5**	4.0	5.2
2016	**2.3**	1.8	2.9	**8.7**	7.9	9.6	**5.8**	5.3	6.4

Data are age-standardised to the 2011 Victorian population.
LL/UL 95% CI = lower/upper limit of 95 per cent confidence interval.
[a] Estimates for 2006-14 are based on OLS regression of prevalence (%) data, from 2003-05 and 2015-16, on time (years).

Arthritis

There was no significant change in the prevalence of a diagnosis of arthritis, during the period 2003–16, in males, females or people (Figure A2.8 and Table A2.6).

Figure A2.8: Proportion (%) of adult (18 years or older) population diagnosed with arthritis[a], by year and sex, Victoria, 2003–16.



Data are age-standardised to the 2011 Victorian population.
95% CI = 95 per cent confidence interval.
[a] Estimates for 2006-14 are based on OLS regression of prevalence (%) data, from 2003-05 and 2015-16, on time (years).

Table A2.6: Proportion (%) of adult (18 years or older) population diagnosed with arthritis[a], by year and sex, Victoria, 2003–16.

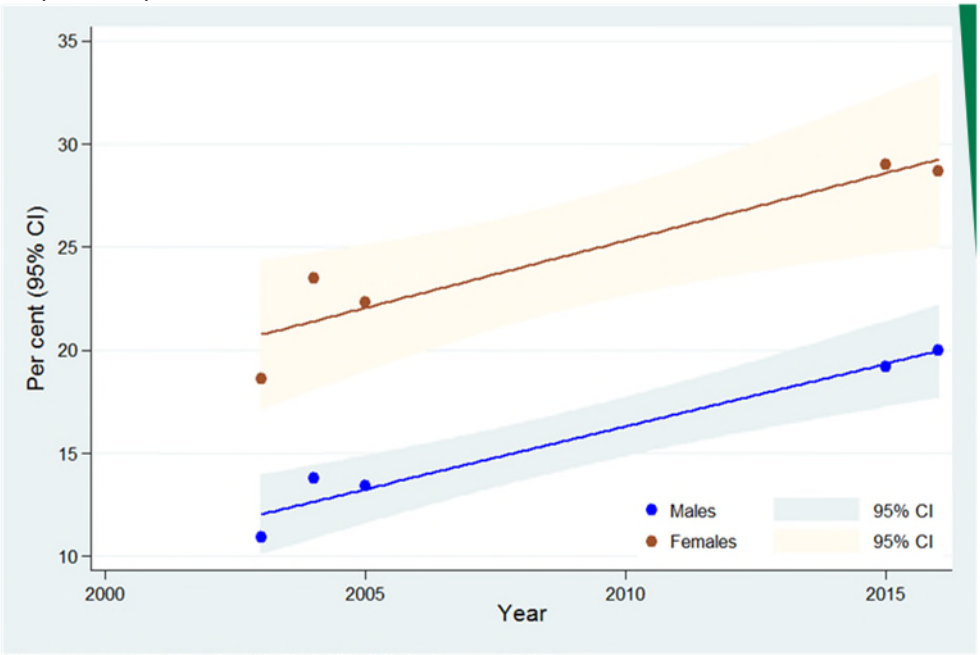
	Males			Females			People		
		95% CI			95% CI			95% CI	
Year	%	LL	UL	%	LL	UL	%	LL	UL
2003	**17.0**	15.4	18.6	**24.0**	22.6	25.4	**20.8**	19.8	21.9
2004	**17.6**	16.1	19.2	**23.7**	22.3	25.1	**21.0**	20.0	22.0
2005	**16.0**	14.7	17.5	**24.1**	22.8	25.4	**20.2**	19.2	21.2
2006	***16.7***	*15.8*	*17.7*	***24.0***	*23.7*	*24.4*	***20.6***	*20.1*	*21.1*
2007	***16.6***	*15.7*	*17.6*	***24.1***	*23.7*	*24.4*	***20.6***	*20.1*	*21.1*
2008	***16.6***	*15.7*	*17.5*	***24.1***	*23.8*	*24.4*	***20.6***	*20.1*	*21.0*
2009	***16.5***	*15.6*	*17.4*	***24.2***	*23.8*	*24.5*	***20.5***	*20.1*	*21.0*
2010	***16.4***	*15.5*	*17.3*	***24.2***	*23.9*	*24.5*	***20.5***	*20.0*	*21.0*
2011	***16.3***	*15.4*	*17.3*	***24.2***	*23.9*	*24.6*	***20.5***	*20.0*	*21.0*
2012	***16.2***	*15.2*	*17.3*	***24.3***	*23.9*	*24.6*	***20.5***	*19.9*	*21.0*
2013	***16.2***	*15.0*	*17.3*	***24.3***	*23.9*	*24.7*	***20.4***	*19.9*	*21.0*
2014	***16.1***	*14.9*	*17.3*	***24.4***	*24.0*	*24.8*	***20.4***	*19.8*	*21.1*
2015	**16.1**	14.7	17.7	**24.6**	23.0	26.2	**20.4**	19.3	21.5
2016	**15.9**	14.6	17.2	**24.3**	23.0	25.8	**20.4**	19.4	21.3

Data are age-standardised to the 2011 Victorian population.
LL/UL 95% CI = lower/upper limit of 95 per cent confidence interval.
[a] Estimates for 2006-14 are based on OLS regression of prevalence (%) data, from 2003-05 and 2015-16, on time (years).

Depression

There was a significant increase in the prevalence of a diagnosis of anxiety or depression, during the period 2003–16, in males, females and people (Figure A2.9 and Table A2.7).

Figure A2.9: Proportion (%) of adult (18 years or older) population diagnosed with depression[a], by year and sex, Victoria, 2003–16.



Data are age-standardised to the 2011 Victorian population.
95% CI = 95 per cent confidence interval.
[a] Estimates for 2006-14 are based on OLS regression of prevalence (%) data, from 2003-05 and 2015-16, on time (years).

Table A2.7: Proportion (%) of adult (18 years or older) population diagnosed with anxiety or depression[a], by year and sex, Victoria, 2003–16.

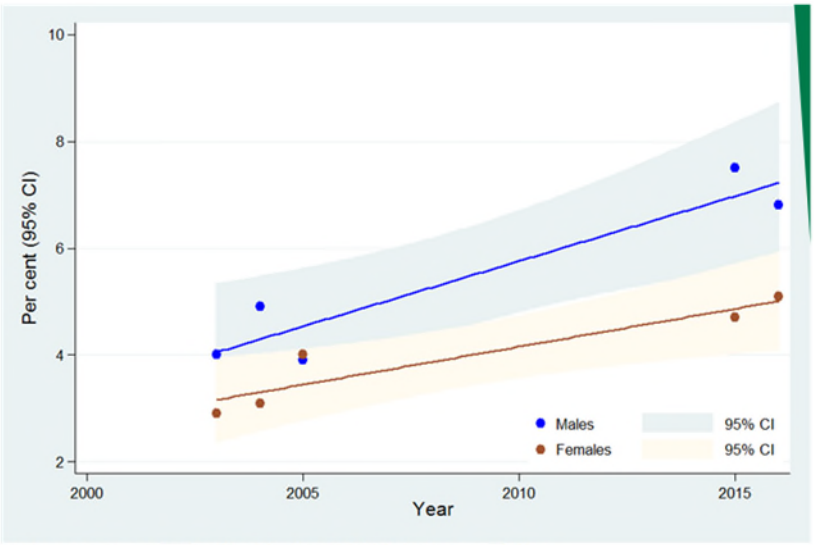
	Males			Females			People		
		95% CI			95% CI			95% CI	
Year	%	LL	UL	%	LL	UL	%	LL	UL
2003	**10.9**	9.5	12.4	**18.6**	17.2	20.2	**14.7**	13.7	15.8
2004	**13.8**	12.3	15.5	**23.5**	21.9	25.1	**18.6**	17.5	19.7
2005	**13.4**	11.8	15.2	**22.3**	20.7	24.0	**17.8**	16.6	19.0
2006	***13.9***	*12.4*	*15.4*	***22.7***	*19.9*	*25.5*	***18.3***	*16.2*	*20.4*
2007	***14.5***	*13.1*	*15.9*	***23.4***	*20.7*	*26*	***18.9***	*16.9*	*20.9*
2008	***15.1***	*13.7*	*16.4*	***24.0***	*21.5*	*26.6*	***19.6***	*17.7*	*21.5*
2009	***15.7***	*14.4*	*17.0*	***24.7***	*22.1*	*27.2*	***20.2***	*18.3*	*22.1*
2010	***16.3***	*14.9*	*17.7*	***25.3***	*22.7*	*27.9*	***20.9***	*18.9*	*22.8*
2011	***16.9***	*15.5*	*18.4*	***26.0***	*23.2*	*28.7*	***21.5***	*19.4*	*23.6*
2012	***17.5***	*16.0*	*19.1*	***26.6***	*23.7*	*29.6*	***22.2***	*19.9*	*24.4*
2013	***18.1***	*16.4*	*19.8*	***27.3***	*24.1*	*30.5*	***22.8***	*20.4*	*25.2*
2014	***18.7***	*16.9*	*20.6*	***28.0***	*24.4*	*31.5*	***23.5***	*20.8*	*26.1*
2015	**19.2**	17.5	21.1	**29.0**	27.1	31.1	**24.2**	22.8	25.6
2016	**20.0**	18.2	22.0	**28.7**	26.8	30.5	**24.5**	23.2	25.8

Data are age-standardised to the 2011 Victorian population.
LL/UL 95% CI = lower/upper limit of 95 per cent confidence interval.
[a] Estimates for 2006-14 are based on OLS regression of prevalence (%) data, from 2003-05 and 2015-16, on time (years).

Type 2 diabetes

There was a significant increase in prevalence of a diagnosis of type 2 diabetes, during the period 2003-16, in males, females and people (Figure A2.10 and Table A2.8).

Figure A2.10: Proportion (%) of adult (18 years or older) population diagnosed with type 2 diabetes[a], by sex, Victoria, 2003-16



Data were age-standardised to the 2011 Victorian population.
95% CI = 95 per cent confidence interval.
[a] Estimates for 2006-14 are based on OLS regression of prevalence (%) data, from 2003-05 and 2015-16, on time (years).

Table A2.8: Proportion (%) of adult (18 years or older) population diagnosed with type 2 diabetes[a], by sex, Victoria, 2003-16

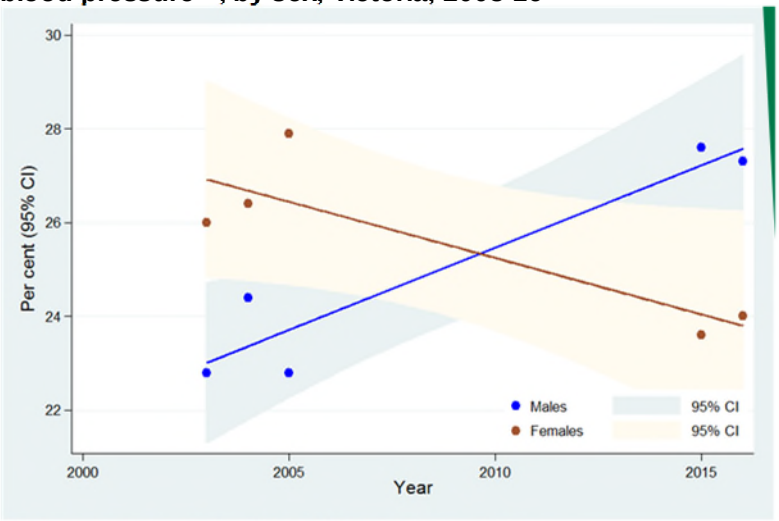
	Males			Females			People		
		95% CI			95% CI			95% CI	
Year	%	LL	UL	%	LL	UL	%	LL	UL
2003	**4.0**	3.1	5.0	**2.9**	2.4	3.5	**3.4**	2.9	4.0
2004	**4.9**	3.9	6.2	**3.1**	2.6	3.8	**3.9**	3.4	4.6
2005	**3.9**	3.2	4.6	**4.0**	3.2	4.9	**4.0**	3.4	4.6
2006	***4.8***	*3.8*	*5.8*	***3.6***	*3.0*	*4.2*	***4.1***	*3.9*	*4.4*
2007	***5.0***	*4.1*	*6.0*	***3.7***	*3.2*	*4.3*	***4.3***	*4.1*	*4.6*
2008	***5.3***	*4.4*	*6.2*	***3.9***	*3.3*	*4.4*	***4.5***	*4.3*	*4.8*
2009	***5.5***	*4.6*	*6.4*	***4.0***	*3.5*	*4.6*	***4.7***	*4.5*	*5.0*
2010	***5.8***	*4.8*	*6.7*	***4.2***	*3.6*	*4.7*	***4.9***	*4.6*	*5.2*
2011	***6.0***	*5.0*	*7.0*	***4.3***	*3.7*	*4.9*	***5.1***	*4.8*	*5.4*
2012	***6.2***	*5.2*	*7.3*	***4.4***	*3.8*	*5.1*	***5.3***	*5.0*	*5.6*
2013	***6.5***	*5.3*	*7.6*	***4.6***	*3.9*	*5.3*	***5.5***	*5.2*	*5.8*
2014	***6.7***	*5.5*	*8.0*	***4.7***	*4.0*	*5.5*	***5.7***	*5.3*	*6.0*
2015	**7.5**	6.4	8.8	**4.7**	3.9	5.7	**6.0**	5.3	6.8
2016	**6.8**	5.9	7.7	**5.1**	4.4	5.9	**5.9**	5.3	6.5

Data were age-standardised to the 2011 Victorian population.
LL/UL 95% CI = lower/upper limit of 95 per cent confidence interval.
[a] Estimates for 2006-14 are based on OLS regression of prevalence (%) data, from 2003-05 and 2015-16, on time (years).

Hypertension

There was a significant increase in the prevalence of high blood pressure (hypertension), during the period 2003–16 in males, but no change in females or people (Figure A2.11 and Table A2.9).

Figure A2.11: Proportion (%) of adult (18 years or older) population with doctor-diagnosed high blood pressure[a,b], by sex, Victoria, 2003-16



Data were age-standardised to the 2011 Victorian population.
95% CI = 95 per cent confidence interval.
[a] Excludes pregnancy induced high blood pressure
[b] Estimates for 2006-14 are based on OLS regression of prevalence (%) data, from 2003-05 and 2015-16, on time (years).

Table A2.9: Proportion (%) of adult (18 years or older) population with doctor-diagnosed high blood pressure[a,b], by sex, Victoria, 2003-16

	Males			Females			People		
		95% CI			95% CI			95% CI	
Year	%	LL	UL	%	LL	UL	%	LL	UL
2003	**22.8**	21.0	24.7	**26.0**	24.5	27.6	**24.7**	23.5	25.9
2004	**24.4**	22.5	26.3	**26.4**	25.0	28.0	**25.7**	24.6	27.0
2005	**22.8**	21.2	24.5	**27.9**	26.5	29.4	**25.6**	24.5	26.7
2006	***24.1***	*22.7*	*25.4*	***26.2***	*24.6*	*27.8*	***25.4***	*24.7*	*26.0*
2007	***24.4***	*23.2*	*25.7*	***26.0***	*24.4*	*27.5*	***25.4***	*24.7*	*26.0*
2008	***24.8***	*23.6*	*26*	***25.7***	*24.2*	*27.2*	***25.4***	*24.8*	*26.0*
2009	***25.1***	*23.9*	*26.3*	***25.5***	*24.0*	*27.0*	***25.4***	*24.8*	*26.1*
2010	***25.5***	*24.2*	*26.7*	***25.2***	*23.7*	*26.8*	***25.5***	*24.8*	*26.1*
2011	***25.8***	*24.5*	*27.1*	***25.0***	*23.4*	*26.6*	***25.5***	*24.8*	*26.2*
2012	***26.2***	*24.8*	*27.6*	***24.8***	*23.0*	*26.5*	***25.5***	*24.8*	*26.2*
2013	***26.5***	*25.0*	*28.1*	***24.5***	*22.6*	*26.4*	***25.5***	*24.7*	*26.3*
2014	***26.9***	*25.2*	*28.5*	***24.3***	*22.2*	*26.3*	***25.5***	*24.7*	*26.4*
2015	**27.6**	25.8	29.5	**23.6**	22.1	25.3	**25.6**	24.4	26.8
2016	**27.3**	25.6	29.0	**24.0**	22.6	25.4	**25.5**	24.5	26.7

Data were age-standardised to the 2011 Victorian population.
LL/UL 95% CI = lower/upper limit of 95 per cent confidence interval.
[a] Excludes pregnancy induced high blood pressure
[b] Estimates for 2006-14 are based on OLS regression of prevalence (%) data, from 2003-05 and 2015-16, on time (years).

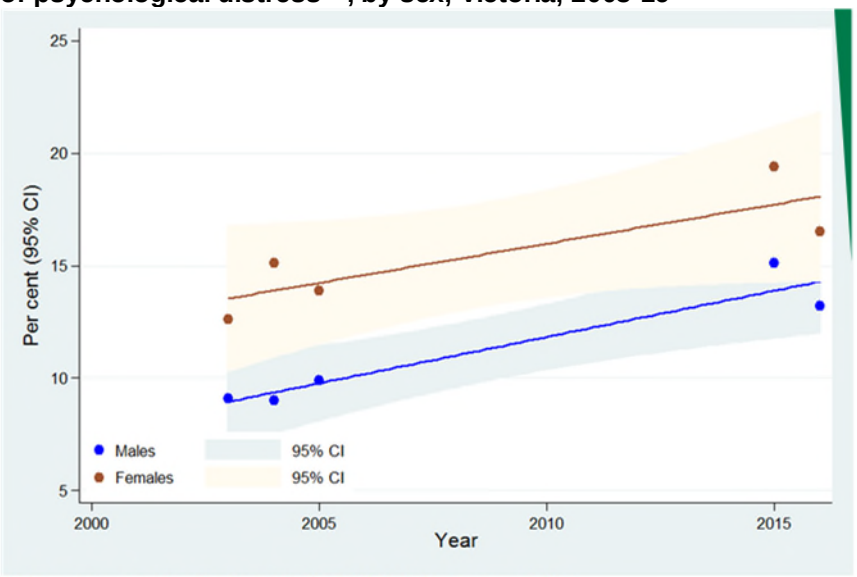
Psychological distress

There was a significant decrease in prevalence of low levels of psychological distress, as measured using the Kessler 10 scale, during the period 2003–16, in males and people, but not females,.

There was no significant change in prevalence of moderate levels of psychological distress, during the period 2003–16, in males, females and people.

There was a significant increase in prevalence of high, or very high, levels of psychological distress, during the period 2003-16, in males and people, but not females (Figure A2.12 and Table A2.10).

Figure A2.12: Proportion (%) of adult (18 years or older) population with high, or very high, levels of psychological distress[a,b], by sex, Victoria, 2003-16



Data w ere age-standardised to the 2011 Victorian population.

95% CI = 95 per cent confidence interval.

[a] Based on the Kessler 10 psychological distress scale.

[b] Estimates for 2006-14 are based on OLS regression of prevalence (%) data, from 2003-05 and 2015-16, on time (years).

Table A2.10. Proportion (%) of adult (18 years or older) population, by level of psychological distress[a,b], and sex, Victoria, 2003-16

Year	Low (K10:< 16)			Moderate (K10:16–21			High / very high (K10:22+)		
		95% CI			95% CI			95% CI	
	%	LL	UL	%	LL	UL	%	LL	UL
Males									
2003	**70.1**	67.9	72.2	**19.2**	17.4	21.2	**9.1**	7.9	10.5
2004	**68.8**	66.5	71.0	**19.8**	17.9	21.7	**9.0**	7.7	10.6
2005	**63.9**	61.5	66.3	**23.3**	21.2	25.6	**9.9**	8.5	11.6
2006	***65.3***	*60.4*	*70.3*	***21.4***	*18.3*	*24.6*	***10.2***	*8.7*	*11.7*
2007	***64.2***	*59.5*	*68.8*	***21.8***	*18.8*	*24.8*	***10.6***	*9.2*	*12*
2008	***63.0***	*58.5*	*67.5*	***22.1***	*19.2*	*25.0*	***11.0***	*9.6*	*12.4*
2009	***61.9***	*57.4*	*66.4*	***22.5***	*19.6*	*25.4*	***11.4***	*10.0*	*12.8*
2010	***60.7***	*56.1*	*65.3*	***22.8***	*19.9*	*25.8*	***11.8***	*10.4*	*13.3*
2011	***59.6***	*54.7*	*64.4*	***23.2***	*20.1*	*26.3*	***12.2***	*10.7*	*13.8*
2012	***58.4***	*53.2*	*63.6*	***23.5***	*20.2*	*26.9*	***12.7***	*11.0*	*14.3*
2013	***57.2***	*51.6*	*62.9*	***23.9***	*20.3*	*27.5*	***13.1***	*11.3*	*14.8*
2014	***56.1***	*49.9*	*62.3*	***24.2***	*20.3*	*28.2*	***13.5***	*11.6*	*15.4*
2015	**51.8**	49.5	54.2	**26.1**	24.1	28.2	**15.1**	13.5	16.9
2016	**57.0**	54.7	59.2	**23.3**	21.4	25.2	**13.2**	11.7	14.9
Females									
2003	**63.7**	61.7	65.6	**21.9**	20.2	23.6	**12.6**	11.3	14.0
2004	**61.4**	59.5	63.3	**21.0**	19.4	22.6	**15.1**	13.7	16.6
2005	**57.9**	55.9	59.9	**25.8**	24.0	27.7	**13.9**	12.5	15.4
2006	***59.1***	*53.3*	*65.0*	***23.4***	*19.7*	*27.2*	***14.6***	*12.1*	*17.1*
2007	***58.2***	*52.7*	*63.7*	***23.7***	*20.2*	*27.3*	***14.9***	*12.6*	*17.3*
2008	***57.3***	*51.9*	*62.6*	***24.0***	*20.6*	*27.4*	***15.3***	*13.0*	*17.6*
2009	***56.4***	*51.0*	*61.7*	***24.3***	*20.9*	*27.7*	***15.6***	*13.3*	*17.9*
2010	***55.4***	*50.0*	*60.9*	***24.6***	*21.1*	*28.1*	***16.0***	*13.6*	*18.3*
2011	***54.5***	*48.7*	*60.3*	***24.9***	*21.3*	*28.6*	***16.3***	*13.9*	*18.8*
2012	***53.6***	*47.4*	*59.8*	***25.2***	*21.3*	*29.2*	***16.7***	*14.0*	*19.4*
2013	***52.7***	*45.9*	*59.4*	***25.5***	*21.2*	*29.8*	***17.0***	*14.1*	*19.9*
2014	***51.7***	*44.4*	*59.1*	***25.8***	*21.1*	*30.5*	***17.4***	*14.2*	*20.5*
2015	**46.7**	44.5	48.9	**27.8**	25.9	29.8	**19.4**	17.7	21.3
2016	**54.0**	51.9	56.0	**24.6**	22.9	26.5	**16.5**	14.9	18.1
People									
2003	**66.7**	65.3	68.2	**20.6**	19.4	21.9	**10.8**	9.9	11.8
2004	**65.0**	63.5	66.5	**20.5**	19.2	21.8	**12.1**	11.1	13.2
2005	**60.9**	59.3	62.4	**24.6**	23.2	26.1	**11.9**	10.9	13.0
2006	***62.2***	*56.9*	*67.4*	***22.5***	*19.1*	*25.8*	***12.4***	*10.5*	*14.3*
2007	***61.1***	*56.1*	*66.1*	***22.8***	*19.6*	*26.0*	***12.8***	*10.9*	*14.6*
2008	***60.1***	*55.3*	*64.9*	***23.1***	*20.1*	*26.2*	***13.2***	*11.4*	*14.9*
2009	***59.1***	*54.3*	*63.9*	***23.4***	*20.4*	*26.5*	***13.5***	*11.8*	*15.3*
2010	***58.0***	*53.1*	*63.0*	***23.8***	*20.6*	*26.9*	***13.9***	*12.1*	*15.7*
2011	***57.0***	*51.8*	*62.2*	***24.1***	*20.8*	*27.4*	***14.3***	*12.4*	*16.2*
2012	***56.0***	*50.4*	*61.6*	***24.4***	*20.9*	*28.0*	***14.7***	*12.6*	*16.7*
2013	***55.0***	*48.9*	*61.0*	***24.7***	*20.9*	*28.6*	***15.1***	*12.8*	*17.3*
2014	***53.9***	*47.3*	*60.6*	***25.0***	*20.8*	*29.3*	***15.4***	*13.0*	*17.9*
2015	**49.3**	47.7	50.9	**26.9**	25.5	28.4	**17.3**	16.1	18.6
2016	**55.5**	54.0	57.0	**24.0**	22.7	25.3	**14.8**	13.7	16.0

Data were age-standardised to the 2011 Victorian population.

LL/UL 95% CI = lower/upper limit of 95 per cent confidence interval.

Estimates may not add to 100 per cent due to a proportion of 'don't know' or 'refused to say' responses, not reported here.

[a] Based on the Kessler 10 psychological distress scale.

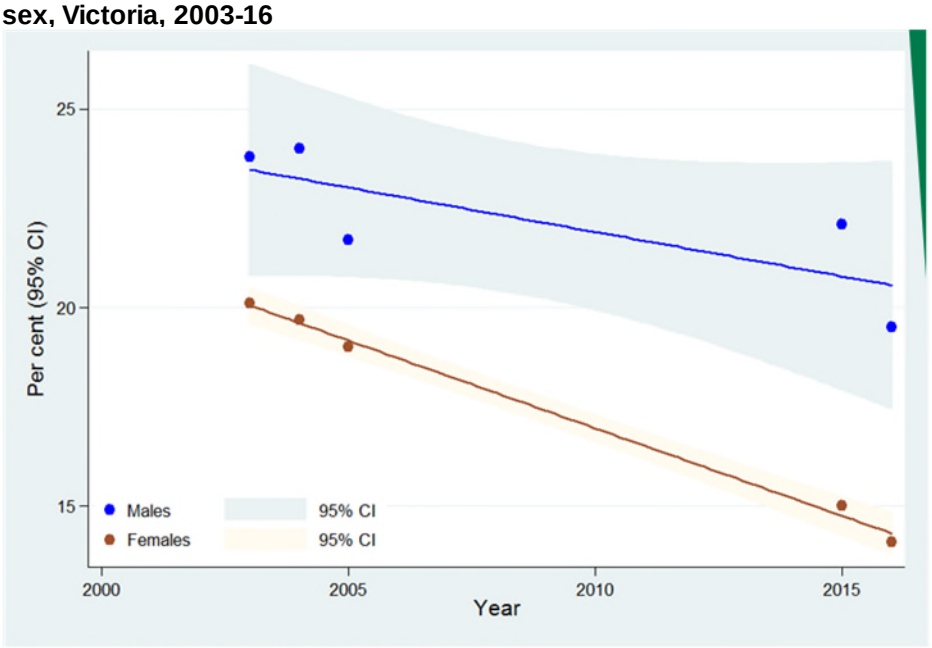
[b] Estimates for 2006-14 are based on OLS regression of prevalence (%) data, from 2003-05 and 2015-16, on time (years).

Smoking

There was no significant change in the prevalence of current smokers (which include both daily and occasional smokers), during the period 2003–16, in males, but a significant decrease in females and people (Figure A2.13 and Table A2.11).

However, there was a significant decrease in the prevalence of daily smokers, during the period 2003–16, in males, females and people (Figure A2.14 and Table A2.12).

Figure A2.13: Proportion (%) of adult population who were current smokers[a], by survey year and sex, Victoria, 2003-16



Data are age-standardised to the 2011 Victorian population.

95% CI = 95 per cent confidence interval.

[a] Estimates for 2006-14 are based on OLS regression of prevalence (%) data, from 2003-05 and 2015-16, on time (years).

Table A2.11: Proportion (%) of adult population who were current smokers[a], by survey year and sex, Victoria, 2003-16

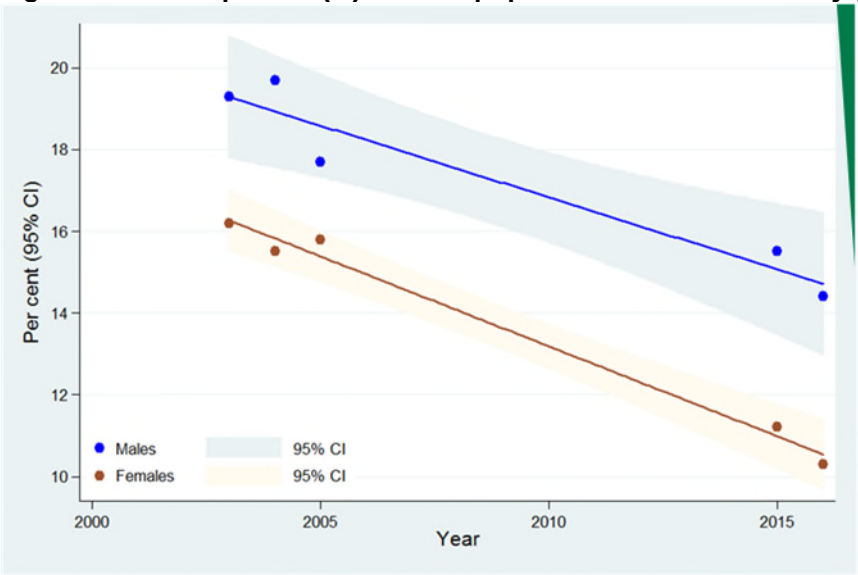
	Males			Females			People		
		95% CI			95% CI			95% CI	
Year	%	LL	UL	%	LL	UL	%	LL	UL
2003	**23.8**	21.9	25.8	**20.1**	18.6	21.7	**21.9**	20.7	23.2
2004	**24.0**	22.1	26.1	**19.7**	18.3	21.3	**21.9**	20.7	23.2
2005	**21.7**	19.7	23.8	**19.0**	17.5	20.7	**20.4**	19.1	21.7
2006	***22.8***	*20.7*	*24.9*	***18.7***	*18.4*	*19.1*	***20.8***	*19.6*	*22.0*
2007	***22.6***	*20.6*	*24.5*	***18.3***	*18.0*	*18.6*	***20.4***	*19.3*	*21.6*
2008	***22.4***	*20.5*	*24.3*	***17.8***	*17.5*	*18.2*	***20.1***	*19.0*	*21.2*
2009	***22.1***	*20.2*	*24.0*	***17.4***	*17.1*	*17.7*	***19.7***	*18.6*	*20.8*
2010	***21.9***	*20.0*	*23.9*	***17.0***	*16.6*	*17.3*	***19.4***	*18.3*	*20.5*
2011	***21.7***	*19.6*	*23.7*	***16.5***	*16.2*	*16.9*	***19.1***	*17.9*	*20.3*
2012	***21.5***	*19.3*	*23.7*	***16.1***	*15.7*	*16.4*	***18.7***	*17.4*	*20.0*
2013	***21.2***	*18.8*	*23.6*	***15.6***	*15.2*	*16.0*	***18.4***	*17.0*	*19.8*
2014	***21.0***	*18.4*	*23.6*	***15.2***	*14.8*	*15.6*	***18.0***	*16.5*	*19.6*
2015	**22.1**	20.2	24.1	**15.0**	13.5	16.7	**18.5**	17.2	19.8
2016	**19.5**	17.7	21.5	**14.1**	12.6	15.6	**16.7**	15.6	18.0

Data are age-standardised to the 2011 Victorian population.

LL/UL 95% CI = low er/upper limit of 95 per cent confidence interval.

[a] Estimates for 2006-14 are based on OLS regression of prevalence (%) data, from 2003-05 and 2015-16, on time (years).

Figure A2.14: Proportion (%) of adult population who smoked daily[a], by sex, Victoria, 2003-16



Data w ere age-standardised to the 2011 Victorian population.

95% CI = 95 per cent confidence interval.

[a] Estimates for 2006-14 are based on OLS regression of prevalence (%) data, from 2003-05 and 2015-16, on time (years).

Table A2.12: Proportion (%) of adult population who smoked daily[a], by sex, Victoria, 2003-16

	Males			Females			People		
		95% CI			95% CI			95% CI	
Year	%	LL	UL	%	LL	UL	%	LL	UL
2003	**19.3**	17.6	21.2	**16.2**	14.8	17.7	**17.7**	16.6	18.9
2004	**19.7**	17.8	21.6	**15.5**	14.2	16.9	**17.6**	16.5	18.8
2005	**17.7**	15.9	19.6	**15.8**	14.3	17.3	**16.7**	15.5	17.9
2006	***18.2***	*17.1*	*19.4*	***14.9***	*14.4*	*15.5*	***16.6***	*16.0*	*17.1*
2007	***17.9***	*16.8*	*19.0*	**14.5**	*14.0*	*15.0*	***16.2***	*15.7*	*16.6*
2008	***17.5***	*16.5*	*18.6*	**14.1**	*13.5*	*14.6*	***15.8***	*15.3*	*16.2*
2009	***17.2***	*16.1*	*18.2*	**13.6**	*13.1*	*14.1*	***15.4***	*14.9*	*15.8*
2010	***16.8***	*15.7*	*17.9*	**13.2**	*12.7*	*13.7*	***15.0***	*14.5*	*15.4*
2011	***16.5***	*15.3*	*17.6*	**12.7**	*12.2*	*13.3*	***14.6***	*14.1*	*15.1*
2012	***16.1***	*14.9*	*17.4*	**12.3**	*11.7*	*12.9*	***14.2***	*13.6*	*14.7*
2013	***15.8***	*14.4*	*17.1*	**11.9**	*11.2*	*12.5*	***13.8***	*13.2*	*14.4*
2014	***15.4***	*14.0*	*16.9*	**11.4**	*10.7*	*12.1*	***13.4***	*12.7*	*14.0*
2015	**15.5**	13.8	17.3	**11.2**	9.8	12.7	**13.3**	12.2	14.4
2016	**14.4**	12.8	16.1	**10.3**	9.1	11.7	**12.3**	11.3	13.4

Data were age-standardised to the 2011 Victorian population.

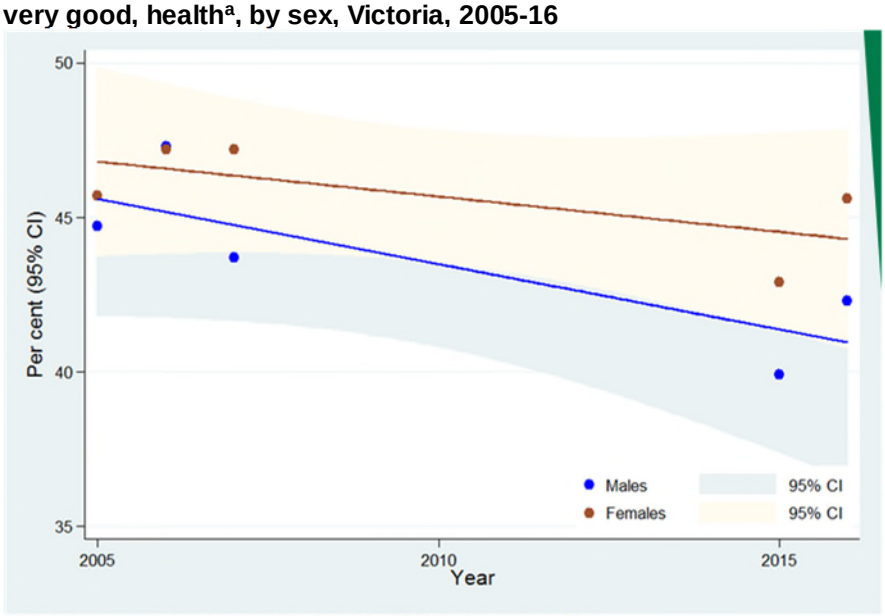
LL/UL 95% CI = lower/upper limit of 95 per cent confidence interval.

[a] Estimates for 2006-14 are based on OLS regression of prevalence (%) data, from 2003-05 and 2015-16, on time (years).

Self-reported health

There was no significant change in the prevalence of those reporting excellent or very good health (Figure A2.15 and Table A2.13) or those reporting fair or poor health (Figure A2.16 and Table A2.13), in males, females or people, during the period 2005-16.

Figure A2.15: Proportion (%) of adult (18 years or older) population who reported excellent, or very good, health[a], by sex, Victoria, 2005-16

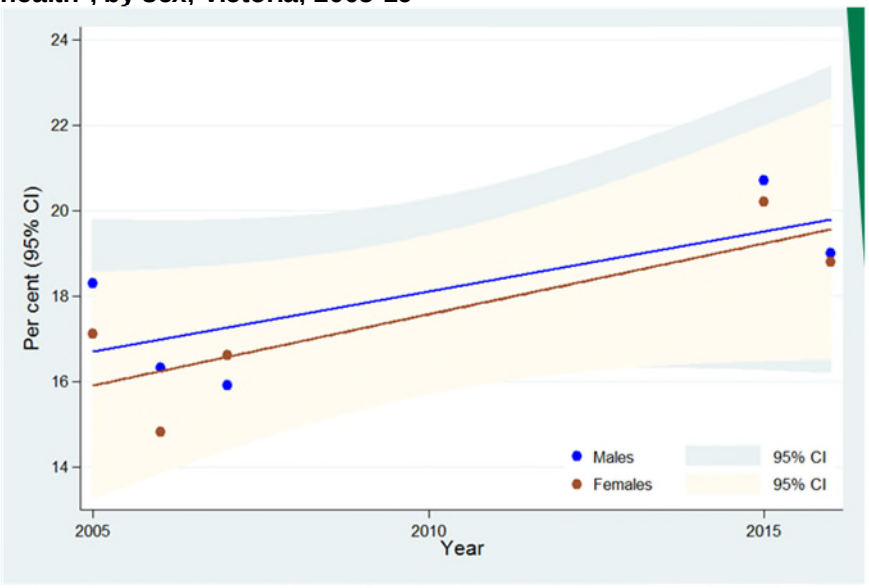


Data were age-standardised to the 2011 Victorian population.

95% CI = 95 per cent confidence interval.

[a] Estimates for 2008-14 are based on OLS regression of prevalence (%) data, from 2005-07 and 2015-16, on time (years).

Figure A2.16: Proportion (%) of adult (18 years or older) population who reported fair, or poor, health[a], by sex, Victoria, 2005-16



Data were age-standardised to the 2011 Victorian population.

95% CI = 95 per cent confidence interval.

[a] Estimates for 2008-14 are based on OLS regression of prevalence (%) data, from 2005-07 and 2015-16, on time (years).

Table A2.13: Proportion (%) of adult (18 years or older) population, by self-reported health status[a] and sex, Victoria, 2005-16

	Excellent / very good			Fair/poor		
		95% CI			95% CI	
Year	%	LL	UL	%	LL	UL
Males						
2005	**44.7**	42.2	47.1	**18.3**	16.6	20.3
2006	**47.3**	44.7	49.8	**16.3**	14.6	18.1
2007	**43.7**	41.1	46.2	**15.9**	14.2	17.8
2008	***44.3***	*41.5*	*47.2*	***17.5***	*15.2*	*19.8*
2009	***43.9***	*41.2*	*46.6*	***17.8***	*15.6*	*20.0*
2010	***43.5***	*40.8*	*46.2*	***18.1***	*15.9*	*20.3*
2011	***43.1***	*40.3*	*45.8*	***18.4***	*16.1*	*20.6*
2012	***42.6***	*39.7*	*45.6*	***18.7***	*16.3*	*21.0*
2013	***42.2***	*39.0*	*45.4*	***18.9***	*16.3*	*21.6*
2014	***41.8***	*38.2*	*45.4*	***19.2***	*16.3*	*22.1*
2015	**39.9**	37.6	42.2	**20.7**	18.8	22.7
2016	**42.3**	40.1	44.5	**19.0**	17.3	20.8
Females						
2005	**45.7**	43.7	47.7	**17.1**	15.6	18.6
2006	**47.2**	45.2	*49.2*	**14.8**	13.4	16.3
2007	**47.2**	45.2	49.3	**16.6**	15.1	18.2
2008	***46.1***	*43.9*	*48.4*	***16.9***	*14.9*	*18.9*
2009	***45.9***	*43.7*	*48.1*	***17.2***	*15.4*	*19.1*
2010	***45.7***	*43.6*	*47.8*	***17.6***	*15.7*	*19.4*
2011	***45.4***	*43.3*	*47.6*	***17.9***	*16.0*	*19.8*
2012	***45.2***	*42.9*	*47.6*	***18.2***	*16.2*	*20.3*
2013	***45.0***	*42.4*	*47.6*	***18.6***	*16.3*	*20.8*
2014	***44.8***	*41.9*	*47.6*	***18.9***	*16.4*	*21.4*
2015	**42.9**	40.8	45.1	**20.2**	18.4	22.1
2016	**45.6**	43.6	47.6	**18.8**	17.3	20.3
People						
2005	**45.2**	43.7	46.8	**17.7**	16.5	18.9
2006	**47.2**	45.6	48.9	**15.5**	14.4	16.7
2007	**45.5**	43.9	47.1	**16.3**	15.1	17.5
2008	***45.3***	*42.9*	*47.6*	***17.2***	*15.2*	*19.2*
2009	***44.9***	*42.7*	*47.2*	***17.5***	*15.6*	*19.4*
2010	***44.6***	*42.5*	*46.8*	***17.8***	*15.9*	*19.7*
2011	***44.3***	*42.1*	*46.6*	***18.1***	*16.2*	*20.1*
2012	***44.0***	*41.6*	*46.4*	***18.4***	*16.4*	*20.5*
2013	***43.7***	*41.1*	*46.3*	***18.7***	*16.5*	*21.0*
2014	***43.4***	*40.5*	*46.3*	***19.0***	*16.5*	*21.6*
2015	**41.5**	40.0	43.1	**20.4**	19.1	21.7
2016	**44.1**	42.6	45.6	**18.9**	17.8	20.1

Data were age-standardised to the 2011 Victorian population.

LL/UL 95% CI = lower/upper limit of 95 per cent confidence interval.

Estimates may not add to 100 per cent due to a proportion of 'don't know' or 'refused to say' responses, not reported here.

[a] Estimates for 2008-14 are based on OLS regression of prevalence (%) data, from 2005-07 and 2015-16, on time (years).

Appendix 3: Questionnaire items for the Victorian Population Health Survey 2016

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

Blood pressure

High blood pressure status

Body weight status

Self-reported height and weight

Chronic diseases

Diabetes

Asthma

Heart disease

Stroke

Cancer

Osteoporosis

Arthritis

Demographics

Age

Sex

Marital status

Household composition

Country of birth

Country of birth of mother

Country of birth of father

Main language spoken at home

Highest level of education

Employment status

Main field of occupation

Household income

Housing tenure

Whether have private health insurance

Aboriginal status

Area of state (Department of Health and Human Services region)

Dental care

Self-rated dental health

Last visit to a dental health professional

Avoidance or delaying a visit to a dental professional due to cost

Mental health

Psychological distress (Kessler 10 Psychological Distress Scale)

Depression and/or anxiety

Nutrition

Daily vegetable consumption

Daily fruit consumption

Physical activity

Frequency and amount of vigorous physical activity in past week

Time spent sitting on an average weekday

Time spent sitting on an average weekend

Health and wellbeing

Self-reported health status

Satisfaction with life

Feeling of life being worthwhile

Smoking

Smoking status

Frequency of smoking

Social capital

Trust in people

Tolerance of diversity

Years lived in local area

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